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EXAMINING THE PSYCHOSOCIAL IMPACT OF LONELINESS ON MENTAL HEALTH: A THEORETICAL EXPLORATION

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ABSTRACT

This paper highlights the complex interrelationship between loneliness and mental health examines the psychosocial dimensions underpinning this widespread but elusive phenomenon. In an age of unprecedented connectivity, loneliness has emerged as a serious concern across age, gender and cultural boundaries. Synthesizing existing theoretical frameworks and empirical evidence, this exploration uncovers the complex threads linking loneliness to mental health outcomes. Loneliness, beyond mere loneliness, encompasses the subtle complexities of social relationships and the human psyche. By drawing from social psychology, attachment theory, and social cognitive frameworks, the paper establishes a foundation for understanding the dynamic relationship between loneliness and mental health. As individuals enter an increasingly digital world, there is a need to carefully examine the impact of social isolation on psychological well-being. This paper explores multidimensional aspects of loneliness, including cognitive processes, emotional regulation, social functioning, and potential biological mechanisms. Cognitive processes affected by loneliness, such as attention biases and cognitive appraisal, contribute to negative self-perception and impaired social interactions. Emotional regulation, closely linked to loneliness, impairs coping strategies, potentially leading to increased stress, anxiety, and depressive symptoms. Social functioning is impaired, thereby affecting interpersonal behavior and relationships. Beyond psychosocial dimensions this study highlights its profound impact on mental health, paving the way for informed interventions and therapeutic strategies.

KEYWORDS – Psychosocial, Loneliness, Mental Health, Well-being

INTRODUCTION

Loneliness is the state of being alone without company or companionship. While many people find comfort in being surrounded by friends and family, some prefer to spend their time alone. This may be for a variety of reasons, including personal preferences, mental health issues or simply a need for introspection. In this article, we will explore the advantages and disadvantages of loneliness and how it can affect a person's life. In an era characterized by unprecedented connectivity, the paradoxical rise of loneliness has emerged as a critical concern, transcending age, gender, and cultural boundaries. This theoretical paper embarks on an exploration of the intricate interplay between loneliness and mental health, delving into the psychosocial dimensions that underlie this pervasive yet elusive phenomenon. Loneliness, often perceived as a subjective and deeply personal experience, extends beyond mere solitude, encompassing the nuanced intricacies of social relationships and the human psyche. By synthesizing existing theoretical frameworks and empirical evidence, this paper seeks to unravel the complex threads linking loneliness to mental health outcomes. As individuals navigate an increasingly digitized world, the implications of social isolation on psychological well-being warrant meticulous examination. Unraveling the intricate tapestry of loneliness can provide valuable insights into preventive interventions and therapeutic strategies, fostering a holistic understanding that transcends the boundaries of clinical disciplines. Through this theoretical exploration, we aim to contribute to the evolving discourse on loneliness, illuminating its profound impact on mental health and paving the way for informed interventions in the pursuit of collective well-being. Loneliness is a multidimensional phenomenon that includes cognitive, emotional, and behavioral aspects. Affordance models suggest that loneliness may arise from a gap between a person's desired and actual social roots. This paper explores what relationships loneliness may have by reviewing the books listed to understand its relationship with mental health. Drawing from social psychology, attachment theory, and social cognitive frameworks, it shows how to provide a foundation for understanding the dynamic relationship between loneliness and mental health.



Cognitive Processes

Loneliness interacts with cognitive processes, influencing thought patterns and perceptions. The cognitive aspect of loneliness involves the individual's interpretation of social situations and self-perceptions. Negative biases can increase feelings of alienation, while positive cognitive restructuring can reshape these perceptions. Addressing cognitive processes, such as challenging distorted thoughts and promoting realistic social expectations may reduce the effects of loneliness. By developing a more balanced cognitive framework, individuals empower themselves to navigate social relationships more positively and reduce the emotional toll of isolation.

Emotional Regulation

Loneliness is closely linked to emotional regulation, which affects the experience and expression of emotions. Theoretical explorations will examine how loneliness may disrupt emotional regulation strategies, potentially leading to increased stress, anxiety, and depressive symptoms. Emotional regulation serves as an important factor in combating loneliness, empowering individuals to effectively manage and navigate their emotional state. By building self-awareness and developing healthy coping mechanisms, individuals can reduce the negative effects of isolation. Emotional regulation allows for a better understanding of loneliness, fostering resilience and promoting adaptive responses to challenging emotions. This self-regulatory capacity enhances emotional well-being, helps individuals build internal resources to cope with loneliness and ultimately promotes a more balanced and fulfilling emotional life.

Social Functioning

Loneliness can affect social functioning, affecting interpersonal behavior and social interaction. The theoretical framework will be used to explore how loneliness plays an important role in reducing social isolation, as it involves individuals' ability to connect and engage with others. Meaningful social interactions, supportive relationships, and a sense of belonging contribute to mental well-being by reducing the effects of loneliness. Strong social functioning fosters a network of connections that provide emotional support, companionship, and shared experiences, addressing the fundamental human need for social connection and reducing feelings of isolation.

Biological Mechanism

The biological mechanisms underlying loneliness involve complex interactions between the brain and body. Chronic loneliness can lead to up-regulation of stress-related hormones such as cortisol, which can affect the neuroendocrine system. Additionally, loneliness can lead to inflammation and changes in the immune system, potentially affecting overall health and well-being. These biological responses highlight the overall impact of loneliness on both mental and physical health.

Psychosocial refers to the complex interplay between psychological and social factors that shape an individual's mental well-being and social functioning. It involves the dynamic relationship between one's thoughts, feelings, and behaviors and the way they interact with social structures, relationships, and cultural influences. Psychosocial factors play an important role in determining how individuals perceive, adapt, and cope with life's challenges. This holistic concept recognizes the inseparable relationship between a person's psychological state and the social context in which they exist, emphasizing the importance of considering both aspects for a comprehensive understanding of mental health and overall quality of life. Social cohesion, often dismissed as a feeling, has a deep psychosocial impact that goes beyond its fleeting nature. In an increasingly connected but paradoxically isolated world, the consequences of loneliness are far-reaching, impacting mental and emotional well-being. Loneliness is more than just physical isolation. It is a pervasive feeling of disconnection from others. Psychologically, individuals experiencing loneliness may struggle with increased stress levels, anxiety, and deep feelings of sadness. Lack of meaningful social interactions can lead to low self-esteem, increasing feelings of worthlessness. Social relationships serve as an important buffer against life's challenges, providing emotional support and understanding. When loneliness sets in, these support systems falter, leaving individuals vulnerable to a myriad of psychosocial issues. These studies link loneliness to an increased risk of depression and other mental health disorders, emphasizing the deep impact of isolation on the human psyche. Furthermore, the consequences of loneliness extend beyond mental health, into one's physical well-being. This study suggests that chronic loneliness may contribute to increased cardiovascular risks due to decreased immune function. In short, the psychosocial impact of loneliness is a silent aggressor, affecting both the mind and body. As we grapple with the complexities of modern life, it becomes imperative to recognize and address the psychosocial impacts of loneliness. Fostering meaningful relationships, whether through face-to-face interactions or virtual means, is important. Community engagement, social inclusivity and initiatives that promote mental health awareness are essential components of reducing the adverse effects of loneliness. Loneliness was cited as a significant factor in causing adverse health outcomes in people with mental illness. Understanding the relationship between loneliness, mental illness, and recovery provides mental health practitioners with the opportunity to identify existing barriers to successful social relationships and the propensity for loneliness to improve the quality of life in people with mental illness.



Loneliness and Mental Health

While there is a need to understand the extent to which loneliness is associated with young people, it is also important to highlight the variation in that relationship. To develop effective intervention strategies or public health policies, there is a need to understand the contextual factors that lead to loneliness that impairs mental development. To date, there has been little research examining the factors that contribute to loneliness in young people. Whereas this is an issue which is very important in today's time, our young generation has so much work pressure due to which today's youth spend more time alone to do their work or go from home for job. Those who live outside also suffer from being alone. By staying alone for a long time, loneliness becomes a part of their life due to which they have to face mental problems. Loneliness is having a negative impact on the mental health of the young generation and young adolescents that explores loneliness and aspects of personal well-being, such as mental health and life satisfaction, supports the findings of work with older adults, showing that loneliness is linked to peer relationship difficulties and how it acts as a mediator between poor mental health. In the workplace, there is limited evidence of contextual factors that may mitigate the negative effects of loneliness on young people's personal well-being.

Managing loneliness and personal well-being

Loneliness is generally understood as the discrepancy between a person's preferred and actual level of social interaction. Loneliness is distinguished from related concepts such as being alone, isolation and social isolation. At its most basic level, social isolation is defined as an objective state of having minimal social contact with other individuals, while loneliness refers to the subjective state of lacking desired affection and closeness to a significant others. Additionally, sometimes considered synonymous with being alone, loneliness and being alone are related but not overlapping categories. Similarly, loneliness is distinguished from isolation or the experience of isolation. The latter refers to a state of social isolation that involves voluntary distance from one's social network, whereas loneliness is involuntary and more closely associated with a reduction in the perceived quality of one's social interactions.

REVIEW OF LITERATURE

- Vanessa Caple, Phil Maude, Ruby Walter, and Alistair Ross given by the An exploration of loneliness experienced by people living with mental illness and the impact on their recovery journey: An integrative review. This study shows loneliness as a significant health issue, associated with adverse outcomes. Despite considerable research on loneliness among the general population and older individuals (>65), there is a notable dearth of information regarding its nature and impact on individuals aged 18–65 undergoing mental health recovery. Bridging this gap is imperative for a comprehensive understanding and effective intervention strategies in this specific population.
- Raheel Mushtaq, Sheikh Shoib, Tabindah Shah, and Sahil Mushtaq, given by Relationship Between Loneliness, Psychiatric Disorders and Physical Health ? A Review on the Psychological Aspects of Loneliness. This study show Loneliness, a pervasive global phenomenon, stems from impaired social relationships and poses risks to mental and physical health. Associations with psychiatric disorders such as depression and alcohol abuse, as well as physical ailments like cardiovascular diseases and diabetes, highlight the far-reaching impact of loneliness. Timely interventions are crucial to prevent and mitigate these consequences, safeguarding the overall health of individuals.
- Ami Rokach given by Loneliness, its effect on mental and physical health, and the dying. The study show Research in palliative care aims to comprehend and tackle end-of-life loneliness. Carers, both family and paid, require awareness of this issue, prompting the need for research on effective interventions and early preparations.
- Olujoke A. Fakoya, Noleen K. McCorry & Michael Donnelly given by Loneliness and social isolation interventions for older adults: a scoping review of reviews, This study shows comprising 33 studies, assessed interventions for older individuals in various settings. Inconsistencies arose in categorizing intervention components, with authors using similar terms without clear definitions. Common categorization criteria included delivery mode, intervention goal, and type, often replicated from previous reviews, highlighting conceptual challenges.
- Rosalba Moreseco and Sara Palermo given by Feelings of loneliness and isolation: Social brain and social cognition in the elderly and Alzheimer's disease this study shows his literature review emphasizes attachment theory's role in shaping human relationships, particularly in times of crisis. It explores how early experiences influence internal working models, impacting social interactions and influencing elderly individuals' ability to trust caregivers. Loneliness in old age is linked to attachment styles and expectations, contributing to psychophysical health issues. The paper advocates for a social neuroscience perspective to prevent isolation-related iatrogenic effects on neurodegeneration.
- Lee Greenblatt-Kimron, Miri Kestler-Peleg, Ahuva Even-Zohar, and Osnat Lavenda given by Death Anxiety and Loneliness among Older Adults: Role of Parental Self-Efficacy. This study shows literature review investigates the nexus between death anxiety, parental self-efficacy, and loneliness in older adults. Examining 362 Israeli parents aged 65 and above, the study reveals a positive association between death anxiety and loneliness, mitigated by parental self-efficacy. This underscores the importance



of intergenerational relationships and parental self-efficacy in addressing loneliness among older individuals. Mental health professionals are urged to prioritize these factors in supporting the well-being of older adults.

- Aina Gabarrell-Pascuet, Helena Garcia – Mieres, Iago Gine-Vazquez, Maria Victoria Moneta, Ai Koyanagi, Josep Maria Haro and Joan Domenech-Abella given by The Association of Social Support and Loneliness with Symptoms of Depression, Anxiety, and Posttraumatic stress during the COVID-19 Pandemic: A Meta- Analysis. This study investigates the impact of social support and loneliness on mental health during COVID-19. Results from a meta-analysis of 73 studies suggest a moderate association between loneliness and mental disorder symptoms, while social support exhibits a weak association. Sociodemographic and methodological factors influence these associations. Addressing loneliness may effectively mitigate the pandemic's impact on mental health.

CONCLUSION

This theoretical exploration reveals the complex relationship between loneliness and mental health, and it emphasizes its multidimensional nature. Loneliness, often considered subjectively, goes beyond loneliness itself, to include cognitive, emotional, and behavioral aspects. The theoretical models discussed highlight the profound impact of loneliness on cognitive processes, emotional regulation, and social functioning, affecting the interpretation of social signals and disrupting emotional well-being. This exploration also sheds light on potential biological mechanisms linking loneliness to mental health outcomes, expanding our understanding beyond psychosocial dimensions. The psychosocial concept outlines the inseparable relationship between an individual's mental well-being and their social context, acknowledging the interplay between psychological and social factors. As we live in an increasingly connected but paradoxically isolated world, the consequences of loneliness on mental and emotional well-being cannot be underestimated. Loneliness acts as a silent aggressor, affecting both the mind and body. The psychosocial impact extends beyond mental health to physical well-being, with decreased immune function leading to increased cardiovascular risks due to chronic loneliness. Recognizing the adverse effects of loneliness, it becomes imperative to address its psychosocial impacts. Fostering meaningful relationships, whether in person or virtually, along with community engagement and mental health awareness initiatives, emerges as an essential component in reducing the harmful effects of loneliness. This exploration contributes to the emerging discourse on loneliness, providing valuable insights for preventive interventions and therapeutic strategies that consider the overall well-being of individuals.

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ADDRESSING LEAST MASTERED SKILLS ON EARTH AND LIFE SCIENCE OF SBUR SHS STUDENTS THROUGH SCAFFOLDED TECHNOLOGY-ASSISTED ASYNCHRONOUS ACTIVITIES

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ABSTRACT

Strategies about addressing Least Mastered Skills of the students are necessary because of the effect of Covid 19 Pandemic. Many schools are subscribing to different platforms to maximize the time they must implement the curriculum and address the least mastered skills brought by pandemic and other classes interruptions. The study sought to assess the effect of Scaffolding Technology – assisted Asynchronous Activities to address the Least Mastered Skills of SBUR SHS students in Earth and Life Science. Based on the results of the 1st quarter exams in Earth and Life Science, most of the students of SBUR got very low scores in the topic Minerals and Rocks wherein majority of the students got the wrong answers consisting of 11 items. These items were considered by the researchers as Least Mastered Skills. An intervention called Scaffolding Technology – assisted Asynchronous Activities was developed following the Scaffolding Framework by (Hattie, 2019) consisting of modeling, guided practice, and independent practice. The intervention was developed by the researcher and the science teachers of San Beda University Rizal (SBUR). After the validation process, it was given to the students who are taking Earth and Life Science subject and were given two weeks to complete the activities. After two weeks, students were given a Post Test parallel to the test they encountered during the 1st quarter examination. Students who have not completed the intervention activities are not considered as participants of the study. The mean percentage of 11 items of the Least Mastered Skills is 0.33 while the mean percentage of these items during the Post Test is 0.54. When paired – sample T Test is used, the computed value is 0.003 which is lower than the critical value of $\alpha=0.05$, which means there is a significant difference between the scores in the 1st quarter exams and the Post Test results of the participants. This implies that the Scaffolding Technology – assisted Asynchronous Activities are effective in addressing the Least Mastered Skills of SBUR SHS students in Earth and Life Science.

KEYWORDS: *least mastered skills, scaffolding technology – assisted asynchronous activities, mean percentage, paired T-test, earth and life science, minerals and rocks*

INTRODUCTION

Educational research continually strives to address the diverse needs of learners, striving for equitable academic achievement. An essential aspect of this endeavor is the identification and amelioration of "least mastered skills" among students. These skills represent the specific competencies, concepts, or knowledge areas in which students exhibit pronounced deficits or struggle to achieve proficiency. Understanding and addressing these least mastered skills are vital for improving learning outcomes and fostering academic success.

Based on the current practice of San Beda University Senior High School, least mastered skills are identified based on the collaboration of teachers, results of diagnostic assessments necessary before the start of the new lessons. However, least mastered skills after major assessments like quarterly examinations are not given priorities because the focus of the school is the students who failed in the quarter which usually given remedial program. The least mastered skills of the students as a batch or as a group are not directly addressed.

The focus of this study is to provide interventions to the least mastered skills identified after the results of the 1st quarter examinations. However, since at the end of the 1st quarter examinations, the school proceed immediately to the skills and lessons assigned for the 2nd quarter to meet the requirements of the Department of Education, the intervention will be implemented asynchronously so the second quarter time frame will not be affected.



As education endeavors to be more inclusive and responsive to the unique requirements of students, recognizing the existence of least mastered skills and their impact on overall performance is paramount. This study delves into the identification and remediation of these skills, seeking to shed light on the challenges that students face and the potential strategies to overcome them. By conducting a comprehensive analysis, this research contributes to the ongoing dialogue surrounding the improvement of educational practices and policies, ensuring that all students can reach their fullest academic potential.

BACKGROUND OF THE STUDY

Identifying the least mastered skills among students is a critical aspect of educational research, as it helps educators target specific areas for improvement and design targeted interventions. Numerous studies have focused on assessing the least mastered skills across various subjects and grade levels to inform instructional strategies and curriculum development.

Based on the study conducted by the National Assessment of Educational Progress (NAEP) in the United States regularly identifies the least mastered skills in subjects such as mathematics and reading. The NAEP assessments provide a comprehensive overview of students' proficiency levels and highlight specific areas where students struggle the most (National Center for Education Statistics, 2021). By pinpointing these least mastered skills, educators and policymakers gain insights into where educational resources and support are most needed.

Additionally, research by Darling-Hammond and Ifill-Lynch (2006) emphasizes the importance of formative assessment and ongoing diagnostic evaluation to identify specific learning gaps and least mastered skills. This approach allows for a more dynamic and responsive educational system, where teachers can adapt their instruction based on real-time data about students' understanding and performance. The study underscores the value of continuous assessment practices in addressing least mastered skills and fostering student success.

Understanding the background and context of studies on least mastered skills is crucial for developing evidence-based strategies to enhance educational outcomes. Educators can tailor their instructional approaches to meet the diverse needs of students, ultimately fostering a more equitable and effective learning environment if they can be able to identify and address these specific challenges. To address the least mastered skills among the learners, educators are exploring different ways to solve this problem. One of these is the use of scaffolding activities in teaching and the utilization of technology-based activities.

The term 'scaffolding' was used to describe the type of assistance offered by a teacher or peer to support learning. Wherein the teacher helps the student master a task or concept that the student is initially unable to grasp independently. The teacher helps with only those skills that are beyond the student's capability. The scaffolding framework allows the student to complete as much of the task as possible, unassisted... Student errors are expected, but, with teacher feedback and prompting, the student can achieve the task or goal (Hattie, 2009).

In mathematics education scaffolding activities are essential for helping students develop problem-solving skills and a deeper understanding of mathematical concepts. This refers to the instructional support and guidance provided to students as they engage with increasingly complex tasks. Research by Wood, Bruner, and Ross (1976) highlighted the importance of scaffolding in the Zone of Proximal Development (ZPD), where students can accomplish tasks with assistance that they would not be able to complete independently. Effective scaffolding activities in math involve providing just enough support to allow students to make progress while challenging them to think critically.

A study by Yackel and Cobb (1996) explored scaffolding in the context of mathematical discussions. They found that teacher scaffolding could help students articulate their mathematical reasoning, engage in meaningful dialogue, and collectively build a deeper understanding of mathematical concepts. This research underscores the role of teacher facilitation in scaffolding activities, emphasizing the importance of a supportive and collaborative learning environment in mathematics classrooms.

Scaffolding activities can take various forms, such as providing prompts, asking probing questions, or offering concrete examples. In a study by Sfard (1991), it was shown that the choice of scaffolding strategies can significantly impact students' ability to internalize mathematical concepts and move toward more independent problem-solving. This research underscores the importance of tailoring scaffolding approaches to match the specific needs of students and the mathematical content being taught. Overall, scaffolding activities in math are a powerful tool for guiding students toward a deeper understanding of mathematical concepts and promoting mathematical thinking and problem-solving skills.



Scaffolding activities in science education are critical for facilitating students' development of scientific inquiry skills and a comprehensive understanding of complex scientific concepts. Scaffolding involves providing instructional support that helps students address the gap between their existing knowledge and the intended learning outcomes. Vygotsky's Zone of Proximal Development (ZPD) theory highlights the use of scaffolding to challenge students while providing necessary guidance. In a study by Reiser and Tabak (2014), scaffolding in science was found to be effective in promoting students' science learning, particularly in the context of collaborative learning environments.

One important aspect of scaffolding activities in science education is the use of conceptual frameworks, visual representations, and inquiry-based learning. A research study by Minstrell (2003) focused on the use of scaffolded inquiry activities to support students' understanding of scientific concepts. The findings suggested that carefully designed scaffolded inquiry tasks could help students make meaningful connections between their prior knowledge and new scientific information. This research underscores the value of structured scaffolding to guide students through the inquiry process and enhance their scientific reasoning and problem-solving abilities.

Furthermore, the implementation of formative assessment strategies as part of scaffolding activities in science has been explored in research. Black and Wiliam (1998) highlighted in their study the significance of formative assessment in providing ongoing feedback to both teachers and learners. Formative assessments can be a valuable tool within the scaffolding process, enabling teachers to adjust their support based on students' progress and needs, ultimately leading to improved scientific understanding and achievement. In essence, scaffolding activities in science education play a pivotal role in helping students engage in scientific practices, develop critical thinking skills, and deepen their understanding of scientific concepts.

The use of technology in teaching has become a fundamental aspect of modern education, providing educators with tools to enhance pedagogy and engage students effectively. Research has shown that technology can significantly improve teaching and learning. The integration of technology in the classroom had a positive effect on student achievement, with an average effect size of 0.41 (Frey and Hattie, 2017). This research underlines the use of technology to facilitate more effective teaching strategies and improve academic performance.

The combination of traditional in-person teaching with online components is considered blended learning which is another area of extensive research. In a meta-analysis of research conducted by U.S. Department of Education found that students in blended learning environments outperformed those in traditional face-to-face classes, with an effect size of 0.35 (Means et al., 2013). This research highlights the idea that technology can be used to personalize instruction and provide students with more control over their learning, leading to improved outcomes.

Furthermore, technology can play a crucial role in addressing educational inequalities. Warschauer and Matuchniak (2010) emphasized in their study the importance of technology in reducing the digital divide and providing access to educational resources for all students. With these teachers can create inclusive learning environments that cater to diverse student needs. In summary, research consistently demonstrates the positive effect of technology on teaching, learning, and educational equity, making it a valuable tool in modern education.

This study will focus on addressing the least mastered skills based on the results of the 1st quarter exams of the Senior High School Students using technology - based activities following the scaffolding framework of modelling, guided practice, and independent practice which will be given to students asynchronously.

Research Objectives

1. Design scaffolded activities to address the least mastered skills in Earth and Life Science.
2. Test the impact of Scaffolded Technology-assisted Asynchronous Activities on the academic performance of SBU SHS students particularly in Earth and Life Science.

Conceptual Model and Operational Framework

This study will make use of the Input – Process – Output (IPO) conceptual model. It is a structured approach that identifies the impact of strategy to enhance students' academic achievement (Smith & Johnson, 2019).



In this study the inputs include least mastered skills of the students in Earth and Life Science subject based on the results of the 1st quarter examinations. The processes involve the implementation of asynchronous technology – based activities following the scaffolding framework. The outputs are measured through post-test given to students after doing the intervention.

Figure 1



Input

There are many ways to determine the least mastered skills of the students. Some educators conduct formative assessments, analyze student performance data, collect feedback, or collaborate with peers.

Use formative assessments, quizzes, tests, or standardized assessments to gauge students' understanding of different skills. According to (Black & Wiliam, 1998), formative assessment is a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes.

Utilize data analysis tools to identify patterns and trends in students' performance. Consider using statistical methods or educational data mining techniques to uncover insights from the assessment results (Romero, et al., 2008).

Understand the typical progression of skills within a subject or course to identify areas where students might be struggling. Learning progressions help educators understand the sequence of skills that students should master at different stages of their education (Pellegrino, et al., 2001).

Solicit feedback from students through surveys or interviews to understand their perceptions of challenging areas. Feedback from students can provide valuable insights into their learning experiences (Hattie & Timperley, 2007).

Review existing educational research and literature to identify common challenges and least mastered skills in specific subjects or courses. Identify key studies or meta-analyses relevant to your subject area to gain insights into areas where students commonly struggle (Bryk & Schneider, 2002).

Engage in collaborative discussions with other educators to share insights and experiences regarding students' challenges. Collaborative efforts can provide a broader perspective on common areas of difficulty (Bryk & Schneider, 2002).

For this study, the researchers will utilize the results of the 1st quarter examinations in Earth and Life Science subject of San Beda University - Rizal Senior High School students.

PROCESS

Educators have different ways to improve the least mastered skills, some are utilizing differentiated instruction, formative assessments and feedback, peer – assisted learning, individualized learning plans, technology – enhanced learning, active learning strategies, or explicit instruction. However, most of these strategies require contact time with the students which is considered as major factor in choosing the strategies.

Teachers may implement differentiated instruction to meet the diverse learning needs of students. Tailor teaching methods, materials, and assessments to address individual strengths and weaknesses (Tomlinson & Allan, 2000).



Use formative assessments regularly to check on student progress. Provide timely and immediate feedback to guide students in understanding and correcting their mistakes (Hattie & Timperley, 2007).

Incorporate peer-assisted learning strategies where students work together to reinforce and explain concepts. Peer tutoring and collaborative activities can enhance understanding (Topping, 2005).

Develop individualized learning plans for students, identifying specific learning goals and strategies tailored to their needs (Guskey & Bailey, 2001).

Integrate technology into the curriculum to provide interactive and engaging learning experiences. Educational apps, online resources, and interactive simulations can support skill development (Spire, et al., 2012).

Apply active learning strategies including problem-solving activities, case studies, and hands-on experiments, to enhance student engagement and deepen understanding (Prince, 2004).

Use explicit instruction methods that provide clear explanations, modeling, and guided practice to ensure students understand and master specific skills (Archer & Hughes, 2011).

Since the least mastered skills belong to the 1st quarter and 2nd quarter has different sets of lessons to discuss, the researchers will be utilizing the technology – based intervention activities following the scaffolding framework which will be implemented asynchronously so that the allotted time for the second quarter will not be affected.

Output

Once the students have accomplished the activities, a post test will be given which is parallel to the items in the 1st quarter exams which are the least mastered skills. The results of the post test will determine whether the intervention is effective or not.

Specifically, this study sought to answer the following questions:

1. What are the least mastered skills of the SBUR SHS students in Earth and Life Science?
2. How did the Scaffolded Technology-assisted Asynchronous Activities on Earth and Life Science develop?
3. What is the effect of the Scaffolded Technology-assisted Asynchronous Activities in the performance of SBUR SHS students in Earth and Life Science?

METHODOLOGY

Research Design

This study used quantitative research design. According to (Creswell, 2014), quantitative research design is appropriate when researchers aim to gather numerical data that can be analyzed statistically to draw conclusions and generalize about a population. Use quantitative research when the goal is to measure and quantify variables objectively. This approach is suitable for situations where numerical data provide a clear and precise representation of the phenomena under study.

Participants

A total of 397 male and female grade 11 senior high school students currently enrolled in San Beda University Rizal Campus. These students are currently taking Earth and Life Science subject. All students were considered participants of the study.

Procedures

Ethical approval was secured from the university's Research Ethics Board before the conduct of the study. The researchers requested permission from the Principal of the Integrated Basic Education Department of San Beda University Rizal campus as regards the conduct of the study and the materials and documents that will be utilized. Participants were informed about the conduct of the study.

Measures

Baseline Data. The results of the 1st quarter examinations of the Grade 11 SBU SHS students was used as a basis for identifying the least mastered skills. The quarterly examinations undergone a process of validation. These are standardized tests since every implementation item analysis was conducted and good items go to item bank. Item analysis of the 1st quarter exam was used to determine the least mastered skills.

Scaffolded Technology-assisted asynchronous activities. Using the least mastered skills, the teacher assigned for Earth and Life Science and the researchers developed a Scaffolded Technology-assisted Asynchronous Activities. Teachers are trained in doing these activities since this was part of their In-service training. The created activities undergone validation process to ensure that they meet its purpose. It was given to experts for validation purposes. After the validation process, the activities were given to students and asked them to do the activities within two weeks. The assigned teacher monitored the submission and provided feedback when necessary.



Post Test. A posttest was constructed which questions are parallel to the least mastered skills. The items for the posttest were taken from the item bank of the teachers. For validity and reliability tests, it was given first to a small group of Grade 12 students and item analysis was conducted. Items were revised and improved. When the students have completed the intervention activities, posttest was administered.

Data Analysis

To determine the least mastered skills of the participants, the researchers utilized the results of the item analysis of the 1st quarter examination on Earth and Life Science, items where most of the students got the wrong answers are least mastered skills.

To develop the Scaffolded Technology-assisted Asynchronous Activities, the researchers utilized the results of the 1st quarter examination in Earth and Life Science. There were five (5) lessons in this subject, the researchers selected 1 lesson with the greatest number of items which are least mastered skills.

To determine the effect of Scaffolded Technology-assisted Asynchronous Activities on the performance of SBU SHS students in Earth and Life Science the researchers utilized the mean comparison test and paired sample t – test.

RESULTS AND DISCUSSION

The study intended to determine the least mastered skills of the SBUR SHS students in Earth and Life Science based on the results of the 1st Quarter Examination. Develop a Scaffolded Technology-assisted Asynchronous Activities to address the least mastered skills to minimize the possible learning gaps in Earth and Life Science subject.

Based on the results of the 1st Quarter Examination on Earth and Life Science subject, the researchers found out that the least mastered skills focused on the lessons on Minerals and Rocks where most of the students failed to answer the items correctly. With these results, the researchers developed the Scaffolded Technology-assisted Asynchronous Activities on Earth and Life Science focusing on Rocks and Minerals. After giving the intervention, it turned out that the mean of the percentages of scores has improved from 0.33 to 0.54. This also means that before the intervention only 33% of the students got the items on Rocks and Minerals correctly but after the intervention 54% of the students got the items correctly. When the Paired Samples T Test was applied it has a computed value of 0.003 which is less than the critical value of 0.05, so there is a significant difference between the results of the Quarterly Exams (Least Mastered Skills) and the Post Test Result. This means that the intervention given to the students has significantly increased the performance of the students.

CONCLUSION

The findings of the study revealed that the least mastered skills in Earth and Life Science of SBUR SHS students focused more on Rocks and Minerals. The Scaffolded Technology-assisted Asynchronous Activities focused more on these topics. The activities are varied consisting of modelled, guided, and independent activities (Frey and Hattie, 2017). After allowing the students to work on the intervention activities for 2 weeks they took the Post Test. The result of the Post Test turned out that the mean average of the Post Test is higher than the results of the items in the Quarterly Exams. When the paired sample T test is applied, the Quarterly Exams and the Post Test results have significant difference which implies that the intervention used to address the least mastered skills of SBUR SHS students in Earth and Life Science is effective.

Recommendations

It is highly recommended to dig deeper by conducting FGD to the students who took the intervention to determine what can be improved and sustained for other subjects. Future researchers may also conduct similar studies using different subjects and populations.

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DEUTSCHE SPRACHE AN EINER NICHTSPRACHIGEN UNIVERSITÄT – STUDIERMÖGLICHKEITEN, PROBLEME UND PERSPEKTIVEN (AM BEISPIEL DES CHEMISCH-TECHNOLOGISCHEN INSTITUT TASCHKENT)

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ANNOTATION

The purpose of this article is to analyze the state of affairs with teaching German at a non-linguistic university by identifying problems, opportunities and prospects for its study using the example of the Tashkent Institute of Chemical Technology.

To achieve this goal, the author of the article used observation, description and comparison methods, as well as a statistical method.

The article is based on materials from our own observations, as well as reporting and statistical data of recent years on the use of the German language in the scientific and educational space of the named non-linguistic university.

KEY WORDS: *German language, curricula, problems, solutions, teaching methods, projects, promising directions.*

Немецкий язык в неязыковом вузе – возможности изучения, проблемы и перспективы (на примере Ташкентского химико-технологического института)

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Аннотация

Целью данной статьи является анализ состояния дел с преподаванием немецкого языка в неязыковом вузе путем выявления проблем, возможностей и перспектив его изучения на примере Ташкентского химико-технологического института.

Для достижения поставленной цели автор статьи использовал методы наблюдения, описания и сопоставления, а также статистический метод.

Статья основана на материалах собственных наблюдений, а также отчетно-статистических данных последних лет об использовании немецкого языка в научно-образовательном пространстве названного неязыкового вуза.

Ключевые слова: *немецкий язык, учебные программы, проблемы, решения, методики обучения, проекты, перспективные направления.*

Wie bekannt ist, hat sich der Status der deutschen Sprache, wie auch einer Reihe anderer Fremdsprachen, in den letzten Jahrzehnten im wissenschaftlichen und pädagogischen Raum erheblich verändert, was zu einer Verringerung der Möglichkeiten für das Studium und die Anwendung ihrer Sprache sowohl im sprachlichen als auch im nichtwissenschaftlichen Bereich geführt hat -linguistische Universitäten. Aus unserer Sicht gewinnt die Problematik der Verdrängung der deutschen Sprache aus dem Bildungsbereich an außersprachlichen Universitäten jedoch besondere Relevanz, da diese Disziplin zu den sogenannten Randfächern zählt.



So wird laut Lehrplan an der von uns genannten Hochschule die deutsche Sprache derzeit neben Englisch, Französisch und einer Reihe weiterer Sprachen überwiegend als erste Fremdsprache studiert. Statistiken aus den letzten Jahren zeigen jedoch, dass die Zahl der Studierenden, die Deutsch als erste Fremdsprache studieren, an unserer Universität, wie auch an vielen anderen Universitäten, einen deutlichen Rückgang aufweist: Sie ist in der Regel 13-15-mal geringer als die Zahl der Studierenden, die Englisch studieren als solche. Darüber hinaus sprechen Studienbewerber, die mit Deutsch als Sprache an einer Hochschule zugelassen werden, diese Sprache in der Regel auf dem A1-Niveau, während der Anteil der Studienbewerber, die mit Englisch auf dem A1-Niveau an einer Hochschule zugelassen werden, bei etwa 60 % liegt. Die restlichen Studierenden mit Englisch verfügen über höhere Niveaus – in der Regel A2 und B1, in manchen Fällen B2. Deutschkenntnisse auf den Niveaustufen B1 und B2 sind deutlich seltener. In der Regel handelt es sich nur um einzelne Schüler, die an Schulen in Usbekistan Deutsch gelernt haben und über die Zentralstelle für Auslandsschulwesen der Bundesrepublik Deutschland Projekte zum Deutschunterricht und zur Vorbereitung auf internationale Prüfungen durchführen.

Da es aufgrund der geringen Zahl der Studierenden nicht möglich ist, für diese Studierenden Lerngruppen zu bilden, kann eine Unterstützung bei der Verbesserung ihrer Deutschkenntnisse nur individuell erfolgen. Da die Dauer der Studiengänge im Fremdsprachenstudium an unserer nichtsprachlichen Hochschule, wie auch an vielen anderen, derzeit jedoch in der Regel 2-4 Semester beträgt, ist nach Abschluss der Studiengangsausbildung eine Interaktion mit solchen Studierenden erforderlich gewisse zusätzliche Anstrengungen seitens der Lehrenden und seitens der Studierenden, und dies scheint nur möglich, wenn auf beiden Seiten ausreichend Motivation vorhanden ist.

Spracholympiaden, internationale Studierendenkonferenzen innerhalb und außerhalb der Universität sowie der Studiengang „Übersetzer im Bereich der beruflichen Kommunikation“ im Rahmen der Zusatzausbildung bieten gewisse Möglichkeiten, das Interesse an der Sprache bei Studierenden mit fortgeschrittenem Niveau aufrechtzuerhalten Deutschkenntnisse. Dabei ist jedoch zu beachten, dass Studierende mit Deutsch als Erstsprache die englische Sprache in der Regel auf das erforderliche Niveau verbessern müssen, wenn sie diese als Übersetzer ausbilden, da die Ausbildung von Übersetzern überwiegend auf der Grundlage der englischen Sprache erfolgt Zweitsprache, was ebenfalls zusätzlichen Aufwand und Zeit erfordert. Aus organisatorischen und finanziellen Gründen erscheint die Ausbildung von Übersetzern für die deutsche Sprache nur in Ausnahmefällen möglich.

Der zweite alarmierende Trend im Bereich des Deutschunterrichts an vielen nichtsprachlichen (sowie sprachlichen) Universitäten ist in den letzten Jahren mit einer deutlichen Reduzierung der Lehrstunden für das Studium verbunden. Natürlich gilt die Stundenverkürzung nicht nur für die deutsche Sprache, sondern auch für andere Fremdsprachen, aber die Folgen einer solchen Reduzierung sind in Bezug auf die deutsche Sprache am deutlichsten: Die Besonderheiten ihres Aufbaus sind so, dass die Erreichung der Studierende, die Deutsch lernen, benötigen bei gleichem Sprachniveau deutlich mehr Zeit als Studierende, die Englisch lernen.

Während man Probleme im Bereich des Deutschunterrichts an einer nichtsprachlichen Universität identifiziert, sollte man gleichzeitig auf eine Reihe von Bereichen hinweisen, die bestimmte Perspektiven im Bereich der Lehre und Anwendung eröffnen. Diese Aussichten sind aus unserer Sicht vor allem mit den hohen Chancen verbunden, den Status der führenden zweiten Fremdsprache für die deutsche Sprache (häufig wird auch die Bezeichnung erste zweite Fremdsprache verwendet) zu behalten. Am Tashkent Institute of Chemical Technology wird wie an vielen anderen Universitäten Deutsch in den allermeisten Fällen als zweite Fremdsprache nach dem ersten Englisch gelehrt.

Es ist anzumerken, dass Deutsch in dieser Eigenschaft aufgrund seiner typologischen Ähnlichkeit mit Englisch einerseits und der traditionell starken Stellung der deutschen Sprache in Bereichen wie Wirtschaft, Wissenschaft, Technologie und Logistik sowie die sich erfolgreich entwickelnde Zusammenarbeit zwischen Usbekistan und Deutschland bei der Umsetzung von Projekten im Technologiebereich andererseits.

Darüber hinaus wird die Stellung der deutschen Sprache in dieser Funktion derzeit durch die Aufnahme einer zweiten Fremdsprache als Pflichtfach in die Lehrpläne usbekischer Schulen ab Herbst 2023 gestärkt. Dies bedeutet, dass die Universität in den kommenden Jahren beginnen wird, einen bestimmten Kontingent an Bewerbern mit Grundkenntnissen in Deutsch als zweiter Fremdsprache aufzunehmen. Wie die Praxis zeigt, hat dieser Umstand großen Einfluss auf die Wahl einer zweiten Fremdsprache an der Universität. Die Verfügbarkeit einer Ausbildung in einer zweiten Fremdsprache ist ein wichtiger Faktor, da die Anzahl der Stunden, die für das Erlernen dieser Sprache an einer Universität vorgesehen sind, ebenso begrenzt ist wie die Anzahl der Stunden, die für das Erlernen der ersten Fremdsprache vorgesehen sind.

Ein gewisser Optimismus hinsichtlich der Aussichten für das Studium von Deutsch als zweiter Fremdsprache wird jedoch durch die jüngsten Änderungen im Lehrplan der genannten Universität in Richtung einer Erhöhung der Anzahl der Stunden für sogenannte zweite Fremdsprachen geweckt.



Angesichts der Tatsache, dass die deutsche Sprache zunehmend den Status einer zweiten Fremdsprache erlangt, eröffnet aus unserer Sicht das sogenannte Konzept des mehrsprachigen Unterrichts gewisse Perspektiven hinsichtlich der Möglichkeiten, sie zu studieren ermöglicht die Optimierung der Methodik des Fremdsprachenunterrichts unter den Bedingungen der modernen Universitätspolyglossie. Erinnern wir uns daran, dass die mehrsprachige Methodik das Unterrichten von Fremdsprachen in einem einheitlichen System des Sprachenlernens beinhaltet, das auf den sprachlichen, kognitiven, pragmatischen und soziokulturellen Erfahrungen basiert, die die Studierenden beim Erlernen früherer Fremdsprachen sowie ihrer Muttersprache erworben haben [1; 2].

Wie Sie wissen, begann diese Technik um die Jahrhundertwende in den Ländern der Europäischen Union an Popularität zu gewinnen. Seine Entstehung ist mit dem Verlust ihrer früheren Stellung vor allem durch Sprachen wie Deutsch und Französisch vor dem Hintergrund der Ausweitung der englischen Sprache im Bereich internationaler Kontakte, Wissenschaft und Bildung sowie mit dem Versuch, diese zu bewahren, verbunden diese Sprachen zumindest als zweite Fremdsprachen [3].

Der Einsatz mehrsprachiger Lehrmethoden, die Förderung der Entwicklung einer funktionalen Mehrsprachigkeit bei den Studierenden und die Bildung effektiver Ansätze zum Erlernen jeder weiteren Sprache, schafft die Grundlage für eine weitere, auch selbstständige, erfolgreiche Verbesserung der Sprechfähigkeiten der Studierenden. Letzterer Umstand wird insbesondere für Sprachen wie Deutsch relevant, da für deren Studium nur eine begrenzte Studienzeit zur Verfügung steht.

An der Universität vertreten wir – das Tashkent Institute of Chemical Technology – durch den gleichzeitigen Unterricht mehrerer Sprachen (Deutsch, Englisch, Französisch, Chinesisch usw.) als erste und zweite Fremdsprache sowie Russisch als Mutter- und Fremdsprache haben sich Voraussetzungen für die Umsetzung mehrsprachiger Lehrmethoden entwickelt. Dieses Projekt wird seit 2023 am Fachbereich Fremdsprachen und Interkulturelle Kommunikation umgesetzt. In diesem Rahmen führen Lehrende des Fachbereichs seit vier Jahren wissenschaftliche Untersuchungen zur Identifizierung sprachlicher (im Bereich Grammatik, Wortschatz/Phraseologie etc.), pragmatischer und soziokultureller Zusammenhänge vor allem auf der Grundlage von Englisch und Deutsch durch. sowie andere Sprachen studierende Studierende zu Themen im Rahmen der aktuellen Lehrpläne. Daten aus solchen Studien sind vor allem für die Erstellung verschiedener vergleichender Lehrmittel notwendig, ohne die die praktische Umsetzung eines mehrsprachigen Ansatzes im Sprachunterricht nicht möglich ist. So sind bislang bereits mehrere Lehrbücher dieser Art erschienen, darunter Vergleichshandbücher zur Grammatik des Englischen und Deutschen sowie zur Entwicklung des mündlichen Sprechens für Studierende der deutschen Sprache nach dem Englischen [4; 5].

Lehrende des Fachbereichs führen im Rahmen des Erfahrungsaustauschs Informationsveranstaltungen für Fremdsprachenabteilungen anderer Universitäten durch, die Interesse an dieser Methodik zeigen, nehmen an internationalen wissenschaftlichen Konferenzen mit Berichten zu Themen im Zusammenhang mit der Problematik des mehrsprachigen Lernens teil und veröffentlichen wissenschaftliche Artikel zu relevanten Themen [3; 7].

Neben traditionellen sprachwissenschaftlichen Handbüchern ist im Rahmen des mehrsprachigen Projekts des Fachbereichs in den kommenden Jahren geplant, eine Reihe wissenschaftlicher Artikel und vergleichender Lehrmittel im soziokulturellen Bereich, auch im Bereich verglichener Phänomene, zur Veröffentlichung vorzubereiten die kulturellen Besonderheiten der Länder der untersuchten Sprache, einschließlich Deutschland. Es muss darauf hingewiesen werden, wie wichtig die Erstellung dieser Art von Lehrmitteln ist, da dieser Bereich traditionell Disziplinen wie interkultureller Kommunikation, Sprachkulturologie usw. vorbehalten ist, deren Studium jedoch nicht in den Programmen nichtsprachlicher Universitäten enthalten ist, Fragen der Unterschiede im soziokulturellen Bereich bleiben in der Regel für Lehrer und Schüler außer Sichtweite oder werden im Prozess des Unterrichts einer bestimmten Sprache nur indirekt berührt.

Mittlerweile erfordert der Bereich der internationalen Zusammenarbeit im Allgemeinen und die intensive Zusammenarbeit zwischen Usbekistan und Deutschland im Bereich der Schuh- und Ölindustrie im Besonderen die Kenntnis solcher Unterschiede. Andernfalls sind Probleme vorprogrammiert, da bekannt ist, dass Vertreter verschiedener Kulturen einander Sprachfehler recht leicht verzeihen, Fehler, die mit der Unkenntnis der Verhaltensregeln, Bräuche und Grundlagen einer bestimmten Kultur verbunden sind, die Kommunikation jedoch erheblich erschweren können [2].

Ich möchte auch darauf aufmerksam machen, dass die Umsetzung des mehrsprachigen Bildungsprojekts, das den Trend der letzten Jahrzehnte zur Mehrsprachigkeit und Multikulturalität im Wissenschafts- und Bildungsbereich widerspiegelt, das Interesse an der Erforschung des sogenannten zweiten, dritten, usw. Fremdsprachen nicht nur von Studierenden. Die Teilnahme an diesem Projekt führt zu einem Bewusstsein für die Notwendigkeit, dass Fremdsprachenlehrer relevante Kenntnisse erwerben und verbessern müssen. Im Zusammenhang mit der Betrachtung der Probleme und Perspektiven der deutschen Sprache an einer nichtsprachlichen Universität können wir feststellen, dass auch bei Lehrkräften mit ersten Englischkenntnissen, die den Studierenden Englisch beibringen, ein gewisses Interesse an der Verbesserung der Deutschkenntnisse besteht eine zweite Fremdsprache neben Deutsch im



Rahmen von Bildungsprogrammen, sowie in Fremdsprachen im Rahmen von Zusatzausbildungsprogrammen. Zur Umsetzung dieser Aufgaben haben die Lehrkräfte des Fachbereichs ein entsprechendes Lehrbuch herausgegeben [4.11].

Es ist zu beachten, dass unter den Bedingungen begrenzter Zeit für das Erlernen der deutschen Sprache als erste und zweite Fremdsprache im Rahmen von Bildungsprogrammen den Fragen der Motivation der Studierenden zum weiteren eigenständigen Erlernen der Sprache eine besondere Bedeutung zukommt. In diesem Zusammenhang bietet der Bereich der internationalen Zusammenarbeit, der mit der Einbindung von Studierenden mit Deutsch als erster und zweiter Fremdsprache in die Umsetzung verschiedener Projekte und Programme verbunden ist, eine große Motivationsressource.

Wir sprechen insbesondere über das deutsch-usbekische Kooperationsprojekt zwischen dem Tashkent Institute of Chemical Technology und der Wildau University of Technology (Deutschland), das akademische und interkulturelle Aspekte der interuniversitären Interaktion erfolgreich vereint.

Der akademische Aspekt der Zusammenarbeit ist somit insbesondere mit der Durchführung des Austauschs von Lehrenden zwischen diesen Universitäten verbunden, um Vorlesungen zu halten, an Konferenzen und Videokonferenzen teilzunehmen, gemeinsame Veröffentlichungen von Artikeln, Lehrbüchern, mehrsprachigen Glossaren (z. B., im Bereich Transportlogistik), sowie Austauschstudierendengruppen zum Hören von Vorlesungen und Bildung gemischter Studierendengruppen zur gemeinsamen Bearbeitung von Projekten im Bereich Bahntechnik, Ökologie, Logistik, Management etc. Anschließend erfolgt eine Präsentation der Ergebnisse inklusive öffentlicher Diskussion.

Allerdings müssen wir leider feststellen, dass im Bereich der interuniversitären Partnerschaften immer noch Englisch die Hauptkommunikationssprache ist, da die Mehrheit der Studierenden an unserer Universität Englisch lernt. Letzterer Umstand ermöglicht es, aus ihnen eine ausreichende Anzahl von Teilnehmern auszuwählen, die die Sprache auf dem erforderlichen Niveau beherrschen, um Veranstaltungen wie das Hören von Vorlesungen und die gemeinsame Verteidigung von Projekten durch Studierende der Partneruniversitäten durchzuführen. Das bedeutet, dass die Einbindung von Studierenden mit deutscher Erstsprache in solche Aktivitäten nur dann möglich ist, wenn sie über ausreichende Englischkenntnisse als zweite Fremdsprache verfügen. In diesem Fall können sie die deutsche Sprache entweder für die persönliche Kommunikation mit Studierenden und Lehrenden einer Partnerhochschule in Deutschland oder bei einem Besuch in diesem Land im Rahmen eines Austauschs nutzen.

Es ist jedoch zu beachten, dass die Teilnahme an einer Hochschulpartnerschaft mit Deutschland gleichzeitig eine Motivation für englischsprachige Studierende schafft, Deutsch als zweite Fremdsprache zu lernen, was durch einen Besuch in Deutschland und das Kennenlernen seiner reichen kulturellen Traditionen und Errungenschaften erleichtert wird im Bereich Wissenschaft und Technik.

Schlussfolgerungen.

Auf dieser Grundlage können folgende Schlussfolgerungen gezogen werden:

Die Herabstufung des Status der deutschen Sprache an der vorgestellten nichtsprachlichen Hochschule ist auf einen starken Rückgang der Zahl der Bewerber für das Studium Deutsch als erste Fremdsprache, einen Rückgang des Gesamtniveaus ihrer Sprachausbildung in diesem Fach, u. a. zurückzuführen erhebliche Reduzierung der für das Studium vorgesehenen Lehrstunden durch Programme nichtsprachlicher Universitäten in den letzten Jahren sowie Aufrechterhaltung und Stärkung der beherrschenden Stellung der englischen Sprache im wissenschaftlichen und pädagogischen Bereich.

Aus den oben genannten Gründen sind die Möglichkeiten, Deutsch als erste Fremdsprache im Rahmen des Lehrplans zu studieren, am Tashkent Institute of Chemical Technology begrenzt. Dieser Umstand erfordert die Konzentration auf die Stärkung der Motivationskomponente des Lernens, um die Aktivitäten der Studierenden im Bereich des selbstständigen Sprachenlernens zu entwickeln, unter anderem durch den Einsatz von Fernunterrichtsinstrumenten, den Besuch von Sprachkursen im Rahmen zusätzlicher Bildungsprogramme usw. Die Einbindung von Studierenden in die Teilnahme an Programmen und Veranstaltungen der interuniversitären internationalen Zusammenarbeit dient als wirksame Motivationsressource.

Vielsprechende Richtungen im Bereich des Deutschunterrichts an der oben genannten nichtlinguistischen Hochschule sind derzeit vor allem mit der Aufrechterhaltung des Status als führende zweite Fremdsprache sowie mit der Suche und Umsetzung optimaler Lehrmethoden verbunden, darunter auch Natürlich ist die Methode des mehrsprachigen Unterrichts.

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CURRENT ISSUES IN TEACHING ESP AT UNIVERSITY

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ANNOTATION

The work reveals the specifics of professionally oriented training for university students, which is implemented in the process of organizing foreign language training, in particular English for special purposes.

KEY WORDS: *English for specific purposes, communicative needs, absolute characteristics, variable characteristics, teaching English, specifics of vocational training.*

АКТУАЛЬНЫЕ ПРОБЛЕМЫ ПРЕПОДАВАНИЯ ESP В ВУЗЕ

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Аннотация

В работе раскрыта специфика профессионально ориентированного обучения студентов вуза, которая реализуется в процессе организации обучения иностранному языку, в частности английскому для специальных целей.

Ключевые слова: *английский язык для специальных целей, коммуникативные потребности, абсолютные характеристики, переменные характеристики, преподавание английского языка, специфика профессионального обучения.*

INTRODUCTION

Modernity places increasingly high demands on the teaching and practical mastery of foreign languages in everyday communication and the professional sphere. Due to the globalization of professional communication processes, the English language is becoming increasingly widespread and important in almost all areas of specialized knowledge, as it is widely used as a means of communication in areas of interaction between people of different nationalities. Communication skills in English are in demand in almost all areas of human activity. English is widely used in professional discourse, being the official language of most international conferences, symposia, and meetings. The ESP course expands the goals of teaching English and necessitates an effective approach to the learning process, creating a model of language education that integrates linguistic, cultural and social aspects. Taking into account all the listed requirements and challenges that reality puts forward to us, the need to rethink some aspects of teaching English for special purposes is becoming increasingly urgent. Only the complete mastery of competencies that ensure high-quality communication between future specialists and their foreign colleagues in various academic and professional situations is a key factor in the productivity and success of specialists' work activities. That is, a specialist must have knowledge and skills of a foreign language (in our case, English), not only spoken (General Language - GE), but also a language for special purposes (English for Special Purposes - ESP). Moreover, now that English is increasingly seen not as a foreign language, but as a means of international communication, we need to learn to think in English, and not just speak it.

Proficiency in English for specific purposes determines success in overcoming both language and cultural barriers in the field of professional communication. Therefore, issues related to teaching English for specific purposes in a modern university are the focus of attention of researchers and practitioners of foreign language teaching. It can be said that today English is the basis of international communication and an integral component of a successful professional career, promoting effective cooperation in science and various fields of production in the modern world.



METHODOLOGY OF THE PROBLEM

At the beginning of the last century, scientists came to the conclusion that it was necessary to teach a “functional language” that included terminology for description and use in certain areas and situations. At the same time, attention was focused on the communicative role of language and its stylistic functionality (Prague Circle, L.V. Shcherba).

Later, in the 60s, with the growing influence of the English language in the international arena, the term appeared in English-speaking countries: English for Special/Specific Purposes—ESP (English for Special Purposes). This term simultaneously defined both the scientific direction and the type of English language teaching that met the needs of students. Currently, the direction of specialized English language training (ESP) is rapidly developing in accordance with the specific needs of professional activity; English has become the generally accepted international language of technology and economics [8, p. 6]. The development of applied linguistics has given impetus to the development of new methodological and didactic approaches to organizing the process of learning English for a certain group of students, taking into account the specifics of their professional activities. New developments in the field of educational psychology determined the development of ESP; the students themselves and their attitude to learning were brought to the fore [13, p. 34], as well as their needs and interests, which influence the degree of motivation and the level of learning effectiveness [8, p. 8]. All these factors determine the need for targeted specialization when learning a language [8, p. 8]. The ESP course itself is presented as a teaching system for which the curriculum and materials are determined depending on a preliminary analysis of the student’s communicative needs [11, p. 2]. This learning process is characterized by its own emphasis and priorities. Being a way of teaching a foreign language, it is at the same time a separate specialized discipline or academic subject [10, c. 18; 11 p. 2]. ESP is an approach to teaching a foreign language in which all aspects of teaching, such as content and methods, are based on the students' motives for learning a foreign language" [8, p. 19]. Thus, the focus of teaching a foreign language is the goal for which students learn the language, and not the linguistic features [9, p. 3].

In practice, in the process of learning a foreign language, it is sometimes difficult to clearly distinguish between GE and ESP. It should be noted that with all its specificity, ESP cannot but rely on the common and scientific base of the English language.

Therefore, for effective teaching of ESP, it is necessary to identify its specifics, which consists, first of all, in the fact that the basic language skills (speaking, reading, listening, writing) of students are updated, expanded and deepened based on the material of the specialty. Hence, the teacher of the ESP course must not only be an English language specialist, but also have knowledge in the field of special disciplines that underlie the students’ future profession. From this we can conclude that the problems of language for special purposes are very multifaceted and limitless. It includes a synthesis of various methodological and linguodidactic aspects: lexicology, the theory of intercultural communication, functional stylistics of speech, interdisciplinarity and, of course, the availability of trainees.

STUDY

The study is based on the author's more than 30 years of experience teaching English at a university level; The leading research method was the general scientific descriptive method, which includes such components as observation, generalization, interpretation, and comparison.

When developing the structure and content of ESP for a particular specialty, certain parameters that underlie the organization of this course are certainly taken into account. According to the majority of scientists (Dudley-Evans T., St John M., Foster P., McDonough J., Robinson P., Chilingaryan K.P., Panferova I.V.), they are divided into two groups, one of which characterized by absolute characteristics, the other by variables. The first (absolute) includes the development of an ESP course taking into account the professional needs of students, methodological, linguistic and communication skills, as well as the discursive specifics of the English language (grammar, vocabulary, registers) corresponding to the chosen professional field. Most researchers include the following as absolute characteristics: 1) ESP is aimed at meeting the specific needs of the student; 2) ESP implies the use of a certain methodology, taking into account the specific professional orientation of the discipline within which ESP is studied; 3) ESP is focused on linguistic phenomena (grammatical, lexical, stylistic), on speech skills and abilities (listening, reading, writing, speaking), on the features of discourse, styles and genres corresponding to certain professional activities. In the second group, scientists include variable (variable) characteristics that are influenced by specific disciplines of the professional cycle, features of the ESP methodology, the age of students, and the level of knowledge of the general practical English language course. Variable characteristics usually include:

1) Direct connection of ESP with specific disciplines of the specialty; 2) the use of a specific methodology different from the general principles of GE training; 3) age of the trainees. ESP training is mainly designed for students with an intermediate or advanced level of knowledge of a foreign language, that is, most ESP courses assume some basic knowledge of the language system when students have already mastered the GE course (Dudley-Evans T., St John M., Parfenova I.V., Chiligeryan K.P.). However, in some cases, an ESP course can be created for the entry-level, if it is necessary to prepare “beginner” students for professional communication in English [5, p. 4–5]. Based on my experience, I can say that such training is not very effective, since students do not have sufficient



knowledge and skills of general basic English. They have a poor vocabulary and a low level of grammatical knowledge and skills, which significantly impedes communication, including on professional topics.

At the same time, we take the position that ESP is not a special variety of English, although it certainly differs from GE. General English content must be integrated into the ESP course throughout the course, since the target language cannot function without General English content. The ESP course aims to prepare students for specific situations in their professional communication using relevant industry vocabulary, including terms, professionalisms, and jargon. The goal of teaching ESP is more specific, takes into account the needs of students, and corresponds to the nature of the focus of the educational process on future professional activity, in contrast to the goal of studying GE, which implies mastering language skills and abilities for communicative needs at a conversational everyday level. It is the analysis of the goals and needs of students, as well as the features of the formation of professional foreign language competence that should be taken into account when creating training programs. Moreover, the optimization of the ESP course is facilitated by the use of the latest methodological developments, as well as the use of modern information communication technologies to create learning situations.

The widespread introduction of information technology into the process of teaching ESP accompanies its optimization and creates additional opportunities for searching for professionally oriented materials and integrating them into the educational process. The use of information technology reveals the enormous potential of the computer as a teaching tool. Its use allows you to intensify the educational process, increases the efficiency of the learning process, promotes the growth of creative activity of students and provides opportunities for quickly updating educational materials for professionally oriented training. The computer has a number of advantages: it combines video and audio information, the ability to record your own voice and further correct pronunciation. It also provides enormous opportunities for testing, repetition of material, and practicing missed material [1, p. 12]. A teacher can use a computer to optimize learning, increase the efficiency and objectivity of the educational process, while significantly saving time and organizing teamwork. The creation of a worldwide computer network, called the Internet, is of great importance for the educational process.

As practice shows, multimedia programs best fit the ESP structure. They bring the process of learning a foreign language as close as possible to real conditions. Multimedia technologies combine various methods of learning: texts, graphics, music, video in an interactive mode. They ensure the quality of training, increase visibility, intensify the work of students, and contribute to the organization of independent work of students. However, in our opinion, computers and multimedia technologies should serve as auxiliary teaching aids; they are only teaching methods, the effectiveness of which depends on the teacher's ability to use them to achieve certain pedagogical goals. The computer in the educational process is not a mechanical teacher, not an analogue to the teacher, but a means that enhances and expands the capabilities of his teaching activities. The advantages of Information Technology include access to worldwide information data banks; the opportunity to participate in real intercultural communication; creating a learning environment with visual presentation of information; the ability to register and save the results of students' educational activities.

In modern conditions of the rapid development of science and rapid updating of information, it is impossible to teach a person for life; it is important to develop in him an interest in accumulating knowledge and continuous self-education. Self-educational competence is the ability to maintain and increase the level of professional language proficiency in the process of self-education. The need to solve the problem of self-educational competence is directly related to the issues of organizing students' independent work, its improvement and systematization.

The main system-forming factors, generally accepted, are the learning goals, which, in turn, are: achieving the appropriate level of foreign language communicative professional competence; preparing graduates to conduct effective self-educational work on a foreign language even after graduation. In the course of practical implementation of ESP goals, the course includes a whole range of tasks:

- ◆ Tasks aimed at developing students' English speaking skills (discussions, debates and round tables);
- ◆ Tasks that expand students' industry vocabulary (industry vocabulary, terminological units and expressions);
- ◆ Speech tasks that develop communication skills in English using appropriate grammatical structures, vocabulary and communicative formulas;
- ◆ Tasks for various types of reading;
- ◆ Role-Playing games and cases simulating situations during which students solve certain professional problems and improve communication skills in English. Of course, when preparing and completing the tasks listed above, the level of English language proficiency of students should be taken into account.

Thus, in classes with students whose knowledge of English corresponds to level B1 (or pre-intermediate), more attention should be paid to the development of everyday informal English communication skills, reading authentic texts in English and listening. Over



the next year of study, it is necessary to develop students' communication skills at this starting level in a professional environment, expand their industry vocabulary and create conditions for its use in speech practice. With students with a B2 (or upper-intermediate) level of English proficiency, already from the first year of study at a university, it is advisable to practice communicative situations characteristic of professional communication, discuss issues related to their future field of activity, while simultaneously expanding the students' industry vocabulary in relevant grammatical contexts and genres of professional discourse by expanding areas of professional knowledge. It is important to note that the effectiveness of the ESP course largely depends on how much it overlaps with the disciplines of the professional cycle of the entire educational program. Of particular interest at this stage is the work with terminological units (vocabulary and set expressions) of professional discourse, which were formed thanks to such cognitive mechanisms as conceptual metaphor and metonymy. Studying such a layer of industrial vocabulary with the help of conceptual schemes significantly improves the results of students' mastery of it [4, p. 191].

Certain difficulties in working with students studying a foreign language for special purposes may also be associated with updating the English language in the field of highly specialized professional communication. This state of affairs often requires the teacher to develop original materials that would fully meet the academic needs of students. Solving such problems caused by the specifics of the professional field and the individualization of approaches in education is possible through the use of various authentic materials in English on the specialty profile, the use of English-language websites, television shows, and feature films in English on professional topics. All of these resources appear to be extremely valuable for developing an appropriate ESP course. Starting from the first year, the Department of Foreign Languages conducts tests to determine the level of English language competence of students; based on the test results, students are distributed to the appropriate programs. Depending on the level of the group(s), the department chooses the "pace" of teaching, both general English and ESP. The course content also includes certification (measuring what students know and what they can do) and evaluation (an indicator of the productivity of the work performed) [2, p. 36].

CONCLUSION

Taking into account all the above definitions of ESP, we can come to the conclusion that, firstly, despite their versatility, they all show that ESP is part of ELT (English language teaching); secondly, in the process of teaching ESP it is necessary to use a certain methodology, developed taking into account the specifics of future professional activity. The ESP course poses new challenges for the teacher: not only to know a practical foreign language, but also to be sufficiently competent in the professional field of the course. The creation of an ESP course focused on the set educational objectives contributes to the formation of conditions favorable for the development and strengthening of foreign language professional communication skills of future specialists. Specifically selected tasks allow students to simultaneously deepen their knowledge in the professional field and develop professionally oriented speech skills, taking into account the structural, semantic and pragmatic aspects of the English language, as well as in accordance with their communicative goals.

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CHANGING THE VECTOR OF EDUCATIONAL STRATEGIES WHEN TEACHING FOREIGN LANGUAGES AT A TECHNOLOGICAL UNIVERSITY

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ANNOTATION

In this article, the issue of autonomy of students learning a foreign language and their responsibility for the result of their learning acquires special significance.

Strategies for studying the subject will help students become more independent, increase their personal interest in learning, and teach the processes of self-assessment and self-correction.

KEY WORDS: *foreign language; techniques; learning strategies; autonomy.*

ИЗМЕНЕНИЕ ВЕКТОРА ОБРАЗОВАТЕЛЬНЫХ СТРАТЕГИЙ ПРИ ОБУЧЕНИИ ИНОСТРАННЫХ ЯЗЫКОВ В ТЕХНОЛОГИЧЕСКОМ ВУЗЕ

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Аннотация

В данной статье особое значение приобретает вопрос автономности обучающихся при изучении иностранного языка и их ответственности за результат изучения.

Стратегии изучения предмета помогут обучающимся стать более самостоятельными, увеличат их личную заинтересованность в обучении, научат процессам самооценки и самокоррекции.

Ключевые слова: *иностраннный язык; методики; стратегии изучения; автономность.*

In the modern world, today there is a clear need to revise approaches to the training of qualified specialists in universities. In modern higher education, a foreign language is considered as an integral component of the professional training of a future specialist of any profile. The goal of teaching foreign languages in non-linguistic departments at universities is to achieve a level sufficient for the practical use of a foreign language in future professional activities. In faculties where a foreign language is not a major subject, the issue of choosing teaching strategies remains relevant.

The process of learning a foreign language is organized in an intensive mode due to the short duration of language acquisition, therefore, in recent years, the issue of autonomy of students when studying the subject and their responsibility for the result of the study has become of particular importance. A modern qualified specialist must be able to learn language autonomously, be able to effectively solve assigned tasks, and language learning contributes to this.

In the second half of the 20th century, in the methodology of teaching a foreign language, in parallel with various approaches, theories and teaching technologies, a new subject area began to form, in which the emphasis is not on the personality of the teacher and the teaching process, but on the learner and the learning process. The focus here is on language teaching strategies aimed at improving the quality of teaching, at finding more effective ways and means of developing foreign language communication. They become the subject of lively discussion, different criteria for their identification are taken as a basis.



Learning strategies provide another approach to viewing the learner's role in language learning. Some teaching methods prescribe the types of strategies that the learners themselves are interested in using. The question of definitions and classifications of language teaching strategies still remains open. Researchers have made a number of attempts to establish a common terminology and description of such strategies, but have not reached consensus. Weinstein and Mayer, for example, understood learning strategies as models of behavior and way of thinking that students demonstrate during the learning process and that should influence the information processing process [4; With. 320]. D. Richards and D. Platt consider a learning strategy as purposeful thinking and behavior with the aim of remembering and understanding new information during the learning process. [2; With. 231] Cohen argues that language learning strategies can be defined as thoughts and actions consciously chosen by learners to assist them in learning and using language in general and in performing specific language tasks. [1; With. 28] One way or another, most scientists understand learning strategies as special actions, behaviors, steps and techniques that students use (often intentionally) to improve their language skills. These strategies can make it easier to use the target language. In other words, strategies are learning tools aimed at the learning subject. They are necessary for the development of communication skills. At the same time, the intensity of the educational process suggests that the emphasis shifts from teaching strategies to learning strategies, that is, from teaching to learning.

Thus, learning strategies play a broader role in language learning and involve learners' active role in directing their own learning - they can be used in conjunction with or independently of the techniques used by the teacher. The concept of learning strategy is sometimes seen as an aspect of learner autonomy.

Earlier discussions about the role of strategies in language learning were often associated with the work of J. Rubin, devoted to the characteristics that a learner must have to better learn a foreign language. [3; With. 8] J. Rubin identified 7 characteristics that, in her opinion, students should have to obtain maximum effect when learning a language:

1. They guess diligently and diligently, without experiencing discomfort from uncertainty.
2. They have a strong desire to communicate or learn through communication and a desire to go to great lengths to communicate their messages clearly.
3. There is little that can stop them, and they are not afraid to make language mistakes and appear stupid if the communication is effective.
4. They are ready to pay special attention to dialects, constantly looking for examples in the language.
5. They constantly practice skills and seek opportunities to do so.
6. They monitor their own speech and the speech of others, constantly paying attention to how their speech is received and whether their performance meets the standards they have learned.
7. They pay attention to meaning, realizing that to understand a message it is not enough to pay attention only to grammar or superficial linguistic form.

The relevance of strategy theory to foreign language teaching is that some strategies are very likely to be more effective than others. And as a result of understanding the differences between them, foreign language learning and teaching strategies can be improved. Methods and techniques implicitly or explicitly require the use of specific learning strategies, but the focus of most research is on self-management strategies that may be independent of those appropriate to a particular method.

Many studies distinguish four different types of strategies according to their functions: cognitive, metacognitive, social and emotive strategies.

Cognitive strategies refer to the processes that learners use to better understand or remember learning material or new information, such as making mental associations, understanding key phrases in text, creating word lists, etc.

Metacognitive strategies are the ways in which learners control their language learning by planning what they will do, carrying out ongoing testing, and then evaluating the final presented solution to the problem [1; With. 125], for example, a student can focus on the following types of questions to the listening text that the teacher uses during the lesson:

- “What approach should I take with this listening text?” (planning)
- “Which parts of the text should I pay closer attention to?” (planning)
- “Am I focusing my attention on the right part of the text?” (monitoring)
- “Did I understand the words the author used correctly?” (monitoring)
- “Did I do a good job?” (assessment)
- “What caused me to misunderstand the text?” (assessment).



Social strategies are means used by learners to interact with other learners or native speakers, such as asking questions to clarify the role of communicators in society and their relationships, asking questions to obtain explanations or confirmation, and interacting with other communicators to complete a task. [1].

Emotive strategies are actions that students take in order to manage the emotions that they experience in the process of learning a foreign language or when they try to use the knowledge that they have already acquired in real communication. For example, it may be less stressful for a learner to first test out their language skills in conversation with a more linguistically advanced non-native speaker than with one who is a native speaker of English, for example.

Of course, research into learning strategies is necessary to obtain reliable knowledge that can be used both in teaching a foreign language and in developing student independence. Therefore, in the process of teaching a foreign language, students should be exposed to the nature of these strategies and help them develop effective skills in their use. To this end, in our opinion, it is important to provide students with a variety of opportunities for the practical use of language in order to help students independently apply strategies by gradually abandoning the help of a teacher. Moreover, it is necessary to create conditions in which students can evaluate the effectiveness of the strategies they use and other attempts they have made, in order to subsequently transfer the most successful strategies to new tasks.

Among teaching strategies, both direct and indirect strategies are used. In the direct approach, the teaching strategy is the hallmark of the language lesson, while the teaching session includes five steps: preparation, presentation, practice, assessment and development. Strategies are initially modeled by the teacher, after which students are given practical tasks and the use of teaching strategies turns them into learning strategies.

Teachers and students reflect throughout their training on the choice and effectiveness of the strategies used to solve assigned problems. As a result, learners apply the strategies they have been taught to learning the language and performing language tasks. In this way, responsibility for making strategic decisions gradually shifts from the teacher to the students, while the instructions given in the classroom change step by step to full responsibility of the students in choosing strategies and using them for the rest of the training. The concept of learning strategies adds important insight into what we mean. under foreign language teaching, because since techniques and methods have generally been conceptualized as instructional modeling instructions, they are in reality models for language learning, and the use of appropriate strategies is often the key to successful language learning. Each teacher, in our opinion, in his teaching practice should ask the following important questions that relate to the techniques and methods of learning a foreign language: What learning strategies should this method develop? What learning strategies do my learners use? What other learning strategies would be helpful for my learners? Since learning strategies can be considered as an aspect of learner autonomy, as already mentioned, flexible techniques and methods can also be borrowed to develop foreign language learning strategies.

Every foreign language teacher today faces a difficult task, since it is very difficult to teach language learning strategies. They are accumulated, analyzed and transformed by the student himself. These are the stages that he goes through in the entire process of language learning. Each student can develop his own individual effective model of strategies, the formation of which will depend on various factors. Teachers who in their work use methods for developing strategies for learning a foreign language are focused on the needs of the student; they do not manipulate students, but stimulate them to form and use their own strategies. Focused attention on strategies for learning a foreign language and methods of their formation will help students in the implementation of the educational process and will provide more opportunities for a conscious approach to the process of mastering a foreign language, will allow students to become more independent, will increase their personal interest in learning, will teach the processes of self-assessment and self-correction, and will increase the importance of the role of the teacher. Moreover, such strategies are most often problem-oriented, which is very important for a future specialist, and include several aspects at once, and not just cognitive activity. The implementation of just such strategies in the educational process creates favorable conditions for the active, creative and productive activities of future specialists in higher education and forms effective teaching and learning of a foreign language.

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NAVIGATING THE SKILLS SYMPHONY: CRAFTING HARMONIES BETWEEN ACADEMIA AND INDUSTRY DEMANDS

Harshith Divakar

ABSTRACT

Purpose: This advanced research paper seeks to enhance our understanding of industry engagement in education by synthesizing insights from diverse research papers. The primary objective is to develop an advanced and comprehensive framework that can optimize student placements and improve academic outcomes. By building upon existing studies, the paper aims to contribute to the evolution of effective strategies for fostering collaboration between educational institutions and industries.

Design/Methodology/Approach: The research employs a meta-analysis approach, synthesizing findings from a diverse range of existing research papers on industry engagement in education. A systematic review methodology is employed to identify, analyze, and integrate relevant insights. The research also incorporates case studies and interviews with key stakeholders, providing a qualitative dimension to the synthesis process. This multifaceted approach ensures a comprehensive understanding of the intricate dynamics between academia and industry.

Findings/Result: The synthesis of insights reveals key patterns and trends in industry engagement, emphasizing the pivotal role of collaborative initiatives in optimizing student placements and enhancing academic outcomes. The research identifies successful strategies employed by industries and educational institutions alike, shedding light on effective models for mutual benefit. Furthermore, the findings highlight areas for improvement and suggest actionable recommendations for stakeholders involved in industry-education partnerships.

Originality/Value: This research contributes to the field by providing an advanced and comprehensive framework derived from the synthesis of diverse research papers. The originality lies in the integration of varied perspectives, resulting in a nuanced understanding of the complex dynamics between academia and industry. The developed framework offers practical insights for optimizing student placements and improving academic outcomes, thereby adding significant value to the ongoing discourse on industry engagement in education.

Paper Type: Conceptual Research.

KEYWORDS: Industry engagement, education, student placements, academic outcomes, collaborative initiatives, meta-analysis, systematic review, case studies, stakeholders, partnership models, Industry engagement, education, student placements, academic outcomes, collaborative initiatives, meta-analysis, systematic review, case studies, stakeholders, partnership models.

1. INTRODUCTION

The narrative of education and industry unfolds as a tale of mutual evolution and symbiosis, intricately woven through history. This dynamic relationship, initially a response to societal needs, has transformed into a nuanced partnership shaping both realms. Born out of necessity, this convergence gained prominence during the Industrial Revolution when a rapidly mechanizing world necessitated a workforce with specialized skills.

In the modern educational landscape, industry support becomes a linchpin, offering more than just financial aid. It serves as a dynamic force shaping educational pursuits and holds a multifaceted impact on students and academic institutions. Industry support acts as a bridge, connecting theoretical foundations with practical demands, providing real-world insights through internships, projects, and mentorship programs.

Crucially, industry support catalyzes the evolution of academic curricula, ensuring agility and responsiveness to technological advancements. Industry insights play a pivotal role in shaping curricula, aligning student competencies with industry demands. In this symphony of progress, where education and industry harmonize, industry support emerges as the conductor, orchestrating a cadence propelling students toward enriched careers and academic institutions toward enduring relevance in the evolving tapestry of education and industry.



2. LITERATURE REVIEW

The literature review in academia and industry collaboration functions as a guiding compass, navigating through diverse collaborative models and strategies. Utilizing a meta-analysis approach, this section delves into scholarly works to unveil successful partnerships that bridge the academia-industry divide.

The exploration focuses on scrutinizing case studies spanning various geographical locations and academic disciplines. These narratives, woven into the fabric of academic discourse, are dissected to unravel common themes and innovative approaches harmonizing academia and industry.

Through a meta-analysis dance with literature, the section discerns patterns, identifies outliers, and extracts collective wisdom from scholarly documentation of collaborative initiatives. Geographical and disciplinary diversity are crucial dimensions, aiming to uncover contextual variations and universal principles transcending cultural and field-specific boundaries.

Internships and experiential learning emerge as linchpins, offering practical insights to students and a glimpse into potential talent for industry partners. Collaborative research initiatives bridge academic prowess with industry innovation needs. Entrepreneur-in-residence programs and industry-sponsored hackathons break down traditional barriers, fostering symbiotic environments.

Themes crystallize, with a focus on innovative approaches that illuminate successful models. The meta-analysis not only highlights achievements but critically examines potential pitfalls and challenges, offering insights into factors influencing collaborative initiative success.

In conclusion, the literature review serves as a forward-looking guide, distilling collective wisdom for harmonious collaboration. Unveiling insights paves the way for an environment where the symphony of knowledge creation and practical application resonates with enduring impact, fostering a more harmonious collaboration between academia and industry.

3. SKILL LANDSCAPE ANALYSIS

The contemporary landscape of skills in the professional realm is rapidly evolving, necessitating a nuanced analysis to bridge the existing gap between academic preparation and industry demands. This section delves into a comprehensive examination of the current skills landscape, building upon the earlier research's insights into the skills lacuna. The focus is on identifying specific competencies demanded by industries and exploring strategies for academic institutions to tailor their programs effectively, ensuring that graduates possess enhanced employability.

3.1 Contextualizing the Skills Landscape

The skills landscape today is marked by unprecedented dynamism. Technological advancements, changes in global economic structures, and evolving business models have reshaped the requirements of the job market. Identifying these shifts is crucial for academic institutions to align their offerings with the contemporary needs of industries.

3.2 Mapping Industry Demands

To bridge the gap effectively, it is imperative to discern the specific competencies and skills that industries currently demand. This involves conducting surveys, engaging with industry professionals, and analyzing market trends. The goal is to create a detailed map of the skills landscape, highlighting key areas where graduates often fall short.

3.3 Critical Competencies in Demand

Industries across sectors consistently express a need for certain core competencies. These may include but are not limited to, critical thinking, problem-solving, effective communication, adaptability, and digital literacy. Additionally, industry-specific technical skills and domain knowledge are increasingly becoming prerequisites for entry into various professions.

3.4 Technology-Driven Skills

In an era dominated by technological advancements, proficiency in emerging technologies is a key differentiator. Analyzing the technology landscape and understanding the skills associated with artificial intelligence, data analytics, cyber security, and digital transformation becomes pivotal in crafting relevant academic programs.



3.5 Soft Skills and Interpersonal Competencies

Beyond technical expertise, industries underscore the significance of soft skills and interpersonal competencies. Teamwork, leadership, emotional intelligence, and cultural awareness are considered as valuable assets. Recognizing and integrating the development of these skills into academic curricula becomes imperative for holistic employability.

4. GOVERNMENT INITIATIVES AND POLICY IMPLICATIONS: NURTURING INDUSTRY-ACADEMIA COLLABORATIONS IN INDIA

In the Indian context, the government's role in fostering robust industry-academia collaborations is pivotal. This section evaluates existing policies, draws inspiration from successful international models, and proposes strategic enhancements to create an ecosystem conducive to collaborative synergy.

4.1 Assessment of Existing Policies

A critical examination of current government policies reveals both commendable initiatives and areas for improvement. While initiatives like the Atal Innovation Mission, Make in India, and Skill India showcase a commitment to fostering collaborations, persistent bureaucratic hurdles hinder the seamless execution of joint projects. Streamlining approval processes and introducing more focused funding mechanisms are imperative for overcoming these challenges and fostering an environment conducive to collaborative endeavors.

4.2 Identification of Successful International Models

Successful international models offer valuable insights for shaping effective policies in India. Germany's Fraunhofer Society serves as a shining example of how dedicated research institutions seamlessly bridge the gap between academia and industries. The UK's Knowledge Transfer Partnerships showcase effective mechanisms for technology transfer, encouraging collaboration between businesses and academic institutions. Adapting these successful models to the Indian landscape involves the creation of collaborative hubs, fostering knowledge exchange programs, and aligning initiatives with national priorities.

4.3 Proposing Policy Enhancements

Tailored policy enhancements are proposed for the Indian government to strengthen industry-academia partnerships and address existing challenges.

4.4 Financial Incentives and Research Funding

A strategic focus on financial incentives and research funding is essential to propel collaborative initiatives forward. Offering substantial tax benefits to industries actively engaged in joint ventures with academic institutions serves as a powerful catalyst for collaboration. Specific research funds earmarked for collaborative projects ensure sustained support, especially when aligned with national priorities. Encouraging risk-taking in research and development and boosting public-private partnerships through preferential tax treatment further stimulate collaboration, creating an environment where innovation thrives.

4.5 Industry-Academia Liaison Offices

The introduction of industry-academia liaison offices within academic institutions represents a paradigm shift in catalyzing collaboration. These offices act as central coordination hubs, strategically positioned to streamline communication channels between academia and industries. Facilitating effective communication, matchmaking industry needs with academic expertise, promoting proactive engagement, and ensuring alignment with academic and industrial objectives are key functions of these liaison offices. Their role is instrumental in creating a collaborative ecosystem where academia and industries thrive together.

4.6 Continuous Monitoring and Adaptation

The policy assessment emphasizes the need for continuous monitoring and adaptation. Given the dynamic nature of collaborative landscapes, regular evaluations of policy efficacy are crucial. This involves seeking feedback from stakeholders, identifying emerging challenges, and adapting policies to align with evolving industry-academia dynamics.

5. TECHNOLOGICAL INNOVATIONS: ADAPTING TO THE 21ST CENTURY

In this section, we explore how emerging technologies like artificial intelligence (AI) and virtual collaboration platforms reshape industry support in placements and academics.

5.1 Seamless Skill Matching

AI ensures precise skill matching, efficiently connecting students to opportunities aligned with their capabilities.



5.2 Predictive Analytics for Informed Decision-Making

Predictive analytics from AI offer insights into future job trends, guiding informed decisions for curriculum development and enhancing graduate employability.

5.3 Tailoring Curricula to Industry Demands

Educational institutions dynamically tailor curricula based on AI insights, ensuring programs stay relevant and adaptive to industry needs.

5.4 AI-Driven Chatbots and Virtual Assistants

Chatbots and virtual assistants powered by AI redefine the placement process, offering personalized guidance and facilitating seamless communication.

5.5 Enhanced Communication and Collaboration

AI expedites communication through virtual assistants, creating a dynamic and interactive interface for proactive stakeholder engagement.

5.6 Virtual Collaboration Platforms for Academics

These platforms revolutionize academic collaboration, fostering seamless communication and immersive learning experiences.

5.6.1 Seamless Communication and Collaboration

Virtual platforms act as dynamic hubs, breaking down barriers and fostering real-time communication among students, educators, and industry professionals.

5.6.2 Immersive Learning Experiences

Empowered by interactive technologies, virtual classrooms redefine learning, providing multimedia-rich environments for real-time discussions and collaborative problem-solving.

5.6.3 Global Connectivity in Education

Virtual collaboration extends to global connectivity, allowing students and educators to connect with industry experts worldwide, enriching academic discourse.

5.6.4 Industry Integration in Real Time

Virtual platforms bridge the gap between academia and industries, enabling industry professionals to participate in lectures and offer real-world insights.

5.6.5 Collaborative Research beyond Boundaries

These platforms serve as catalysts for collaborative research projects, fostering a sense of shared purpose and knowledge exchange.

5.7 Tailoring Curricula to Industry Demands

Educational institutions, armed with AI-driven insights, dynamically tailor curricula, ensuring alignment with industry needs and enhancing graduates' employability.

In conclusion, harnessing technological innovations, from AI-driven processes to virtual collaboration platforms, creates a symbiotic ecosystem where academia and industries thrive in mutual collaboration and advancement.

6. Industry-Academia Synergy Framework

Building upon existing collaboration models, this section proposes a synergetic framework envisioning a reciprocal relationship between industry and academia. Strategies for sustainable collaborations include integrating industry perspectives into curricula, dynamic curriculum development, joint research initiatives, and mentorship programs.

6.1 Reciprocal Integration in Curricula:

At the core is intentional integration of industry perspectives into academic curricula, dismantling silos between theoretical learning and practical application. Industry practitioners contribute real-world relevance, fostering a symbiotic learning environment.



6.1.1 Breaking down Silos

Reciprocal integration dismantles barriers, allowing theoretical concepts to intertwine seamlessly with practical applications. This holistic learning experience mirrors the interconnected professional landscape.

6.1.2 Industry Perspectives at the Forefront

Incorporating industry perspectives into the curriculum ensures courses align with practical realities. Industry practitioners, involved in curriculum development, provide nuanced insights, enriching students' understanding of challenges.

6.1.3 Symbiotic Learning Environment

Industry-integrated curricula create a symbiotic learning environment, enriching students with practical knowledge and offering industry practitioners insights into academic foundations.

6.1.4 Curriculum Agility and Responsiveness

Reciprocal integration advocates for agile curricula, adapting swiftly to industry dynamics. Regular industry consultations, feedback mechanisms, and iterative updates enhance graduate employability.

6.2 Dynamic Curriculum Development

The framework champions agile curricula, swiftly adapting to evolving industry demands through regular consultations, ensuring graduates possess current skills.

6.2.1 Agility as a Cornerstone

Dynamic curriculum development embraces agility, allowing swift adjustments to remain relevant and responsive to evolving industry demands.

6.2.2 Swift Adaptation to Industry Dynamics

Recognizing industry's dynamic nature, direct communication channels and consultations with stakeholders enable institutions to adapt swiftly, aligning programs with industry needs.

6.2.3 Enhancing Employability

Dynamic curriculum development aims to enhance employability by keeping academic programs in sync with industry demands, preparing graduates for real-world challenges.

6.3 Joint Research Initiatives

Fostering collaboration, these initiatives bridge theoretical and practical realms, contributing to knowledge advancement and addressing real-world challenges.

6.3.1 Bridging Theoretical and Practical Realms

Joint research dissolves boundaries, connecting theoretical research with real-world applications, fostering a holistic understanding.

6.3.2 Collaborative Crucibles for Innovation

Initiatives become spaces for diverse perspectives to converge, sparking innovative ideas and solutions to real-world challenges, propelling academia and industries toward innovation frontiers.

6.3.3 Advancement of Knowledge

Collaborative research contributes significantly to knowledge advancement, combining theoretical insights and practical experience in a richer tapestry.

6.3.4 Addressing Real-World Challenges

Joint research actively contributes to industry-specific problem-solving, ensuring outcomes address practical needs and integrate seamlessly into innovation pipelines.



6.4 Addressing Real-World Challenges

Joint research initiatives, operating as proactive problem-solving engines, produce outcomes with tangible applications, actively shaping and improving industry practices.

6.4.1 Proactive Problem Solving

Initiatives identify and tackle challenges industries face daily, actively contributing to real-world problem-solving and becoming a proactive force for innovation.

6.4.2 Industry-Relevant Outcomes

Outcomes resonate with industry needs, providing concrete solutions, tools, or methodologies that are immediately valuable, fostering a symbiotic relationship.

6.4.3 Tangible Applications beyond Academia

Research outcomes manifest in tangible applications beyond academia, shaping and improving industry practices with real-world impact.

6.4.4 Bridging the Gap between Theory and Practice

By addressing real-world challenges, joint research initiatives bridge the gap between theory and practice, translating theoretical knowledge into actionable insights.

6.4.5 Symbiotic Relationship between Academia and Industries

Fostering a two-way collaboration, this relationship ensures industry challenges inspire academic research, and outcomes actively contribute to industry advancement. It's a reciprocal dance where both entities thrive.

7. CONCLUSION

The proposed framework signifies a transformative paradigm, uniting industry support in placements and academics. It envisions a dynamic educational ecosystem, fostering a symbiotic relationship between academia and industries that is both responsive and future-oriented.

Acknowledging the historical interplay between education and industry, the framework integrates industry collaboration, technological advancements, and strategic policy enhancements. This synthesis forms a robust foundation, steering toward a collaborative approach that transcends traditional paradigms.

The literature synthesis serves as the intellectual bedrock, offering a nuanced understanding of industry integration. "Impact Dynamics on Placement Efficacy" provides real-world examples, bridging theory and practice by showcasing how industry collaboration optimizes student placement paradigms.

The "Skills Landscape Analysis" identifies competencies in demand, guiding academic institutions to tailor programs that enhance graduates' employability, positioning education as a dynamic force meeting industry needs.

"Collaborative Models and Strategies" distills success factors from diverse models, guiding institutions toward impactful industry-academia partnerships. The "Synergetic Framework" envisions reciprocal integration, dismantling silos between theory and practice through intentional industry infusion into curricula.

"Government Initiatives and Policy Implications" evaluates the role of governments in fostering collaboration, proposing enhancements and recommendations for financial incentives and streamlined processes.

Exploring financial incentives, liaison offices, and technological innovations, the subsequent sections offer a holistic view. "Future Prospects and Emerging Trends" anticipates industry needs, emphasizing proactive adaptation in an educational ecosystem where graduates contribute significantly to industry innovation.

In essence, the framework represents a paradigm shift, preparing students for the future while catalyzing industry competitiveness. Grounded in collaboration, technology, and policy enhancements, it positions education as a dynamic force, shaping the future



workforce and contributing meaningfully to innovation.

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REVITALIZING ACADEMIA: UNPACKING THE NATIONAL EDUCATION POLICY 2020

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ABSTRACT

Purpose: This study aims to delve into the intricate connections between India's National Education Policy 2020 (NEP) and the future of learning, offering a comprehensive analysis of the policy's objectives, challenges, and transformative potential in reshaping higher education institutions. By exploring the academic nuances influenced by the NEP, the research seeks to contribute valuable insights into the evolving educational landscape. Through a multidimensional approach encompassing literature review, policy analysis, and stakeholder interviews, the study endeavors to provide a nuanced understanding of how the NEP is poised to redefine educational paradigms, fostering innovation, inclusivity, and global competitiveness. Ultimately, the purpose is to shed light on the broader implications of the NEP, offering a foundation for informed discourse and strategic decision-making in the realm of Indian higher education.

Design/Methodology/Approach: Employing a comprehensive review of literature, policy analysis, and stakeholder interviews, the study synthesizes diverse perspectives to construct a holistic understanding of the NEP's influence.

Findings/Result: The NEP acts as a transformative force, catalyzing an educational metamorphosis marked by heightened innovation, enhanced inclusivity, and bolstered global competitiveness. This study, drawing from extensive research, underscores the policy's pivotal role in reshaping higher education institutions. The NEP's influence is discerned through its capacity to instigate positive changes that align with the evolving needs of a dynamic academic landscape, positioning India on a trajectory of educational excellence and global relevance.

Originality/Value: This research uniquely explores NEP's impact on Indian higher education, offering valuable insights for informed decision-making.

Paper Type: Conceptual Research.

KEYWORDS: This research uniquely explores NEP's impact on Indian higher education, offering valuable insights for informed decision-making.

1. INTRODUCTION

The National Education Policy (NEP) 2020, spearheaded by the Ministry of Human Resource Development, has ushered in a transformative wave in India's educational landscape. This journal serves as a compass, navigating the uncharted territories of academic evolution ignited by the NEP, delving into the intricate dimensions that shape its progressive vision.

The NEP 2020 marks a paradigm shift, redefining the fabric of education with a focus on holistic development and adaptability. This journal explores the multifaceted facets of this educational revolution, scrutinizing structural changes, skill development emphasis, and technology integration, forming the pillars of this renaissance.

In scholarly exploration, the journal sifts through research papers, testifying to the depth of thought and foresight in the policy. It examines the shift from rote learning to experiential approaches, fostering critical thinking and problem-solving skills for individuals navigating the complexities of the modern world.

The historical interweaving of education and industry, born out of necessity, is explored. From the Industrial Revolution onwards, education became crucial for societal advancement, empowering individuals and contributing to economic participation. Industries, in turn, relied on educated minds for innovation and economic progress.

A key highlight is the policy's focus on a seamless, interconnected educational journey from school to university, promoting inclusivity



and equal opportunities for learners across diverse backgrounds. The journal contemplates the ripple effect of the NEP on higher education, envisioning a brighter and more equitable future for Indian students.

As we embark on this intellectual journey propelled by the NEP 2020, this journal serves as a compass, guiding us through the unexplored territories of educational reform. It stands as a testament to the commitment to excellence, innovation, and inclusivity heralded by this policy.

2. OBJECTIVES

The objectives of the National Education Policy (NEP) 2020 are designed to bring about a comprehensive and transformative overhaul of the education system in India. Unraveling the NEP's ambitious objectives reveals a multifaceted approach aimed at addressing various facets of academia. Let's delve into the key objectives and explore their potential impact on academia, highlighting how the NEP's vision aligns with the evolving needs of education in India.

2.1 Holistic Development

The National Education Policy (NEP) underscores a fundamental shift in educational paradigms by prioritizing holistic development as a core objective. It acknowledges that academic excellence alone is insufficient in preparing students for the challenges of the modern world. The NEP advocates for an education system that transcends traditional rote learning methodologies, emphasizing the cultivation of critical thinking, creativity, and a comprehensive personality.

This holistic approach recognizes the multifaceted nature of human development, aiming to nurture not only cognitive abilities but also social, emotional, and practical skills. By fostering analytical thinking and problem-solving capabilities, the NEP seeks to empower students to navigate a rapidly evolving global landscape. It acknowledges that success in the 21st century requires more than memorization; it demands the ability to adapt, innovate, and collaboratively address complex issues.

In promoting a well-rounded education, the NEP envisions students who not only excel academically but also possess the resilience, creativity, and adaptability to thrive in diverse real-world scenarios. By aligning with the evolving needs of education, the policy lays the foundation for producing individuals capable of contributing meaningfully to society, driving innovation, and addressing the dynamic challenges of the contemporary world.

2.2 Flexible Curriculum and Choice-based Learning

The National Education Policy (NEP) introduces a transformative approach by endorsing a flexible and multidisciplinary curriculum, underlining the significance of choice-based learning. Departing from conventional rigid structures, the NEP empowers students to select subjects aligned with their individual interests and aptitudes. This departure from a one-size-fits-all model recognizes the diversity of student abilities and preferences, fostering a more personalized and engaging learning experience.

This emphasis on flexibility not only dismantles the traditional silos within education but also acknowledges the dynamic nature of the contemporary job market. By providing students with the autonomy to choose their areas of study, the NEP seeks to equip them with a diverse skill set that goes beyond specialized knowledge. This adaptability is crucial in a world where interdisciplinary skills are increasingly valued, promoting a workforce capable of addressing complex, real-world challenges.

The choice-based learning advocated by the NEP is designed to instill a sense of ownership and passion for learning, encouraging students to explore their interests deeply. This approach not only enhances academic engagement but also cultivates critical thinking and problem-solving skills. Ultimately, the flexible curriculum aligns education with the evolving demands of the 21st century, preparing students to navigate a rapidly changing landscape and contribute meaningfully to a variety of professional domains.

2.3 Quality Education Accessible to All

The National Education Policy (NEP) underscores a crucial commitment to making quality education accessible to all, irrespective of socio-economic backgrounds. This fundamental goal is a response to the imperative of addressing issues of equity and inclusivity within the educational landscape. By ensuring that educational opportunities are not confined by socio-economic factors, the NEP strives to create a more level playing field for students from diverse backgrounds, fostering a society where talent and potential are the primary determinants of success.



This objective aligns seamlessly with the evolving needs of education by acknowledging that quality education is not only a privilege but a fundamental right. Recognizing education as a powerful catalyst for social and economic progress, the NEP aims to break down barriers that hinder equal access. By doing so, it aspires to empower individuals, irrespective of their socio-economic status, to contribute meaningfully to the nation's development.

In its pursuit of accessible and quality education, the NEP emphasizes inclusive policies that cater to the unique needs of various communities. This approach is not only socially just but also economically astute, as it taps into the diverse talents and perspectives of a broad spectrum of the population. Ultimately, the NEP positions education as a cornerstone of societal advancement, ensuring that the benefits of learning are shared equitably across all segments of society.

2.4 Technological Integration

The National Education Policy (NEP) embraces a forward-looking perspective by emphasizing the integration of technology into education, recognizing its transformative potential. This objective underscores the importance of leveraging technology to enhance the overall learning experience, making it more engaging, accessible, and relevant for students. In doing so, the NEP aligns with the evolving needs of education in a rapidly advancing digital age.

By incorporating technology, the NEP acknowledges that modern educational practices must evolve to prepare students for a digital future. Technology serves as a catalyst for innovation in pedagogy, providing dynamic tools and platforms that cater to diverse learning styles. The integration of digital resources not only enriches the educational content but also fosters interactive and collaborative learning environments.

Moreover, technology in education extends beyond traditional classrooms, breaking geographical barriers and increasing accessibility. Online resources, interactive multimedia content, and virtual learning platforms contribute to a more inclusive educational landscape. The NEP's recognition of technology's role in education aligns with the broader societal shift towards digital literacy and ensures that students are equipped with the skills necessary for success in an increasingly technology-driven world.

2.5 Teacher Training and Professional Development

The National Education Policy (NEP) prioritizes the training and professional development of teachers as a cornerstone for the successful implementation of its objectives. This strategic emphasis aligns seamlessly with the evolving needs of education, as it recognizes the pivotal role that teachers play in shaping the educational landscape. Well-trained educators are not only essential for the effective delivery of curriculum but also act as catalysts for innovation and adaptation within the classroom.

Investing in teacher training acknowledges the dynamic nature of educational practices and the diverse needs of students. It enables educators to stay abreast of evolving pedagogical approaches, incorporate technology effectively, and tailor their teaching methods to address the unique learning styles of their students. By fostering a culture of continuous professional development, the NEP aims to create a cadre of educators who are not only well-versed in subject matter but are also equipped with the skills to create engaging and inclusive learning environments.

Furthermore, teacher training is integral to cultivating a collaborative and supportive educational ecosystem. It empowers teachers to share best practices, collaborate on innovative teaching methodologies, and collectively contribute to the improvement of the education system. Ultimately, the NEP's focus on teacher training recognizes that investing in the professional development of educators is an investment in the quality and sustainability of education, ensuring that teachers are well-prepared to navigate the evolving landscape of education and guide students toward success.

3. INSTRUCTIONAL METAMORPHOSIS

3.1 Fostering Inclusive Learning Environments

The National Education Policy (NEP) 2020 prioritizes inclusivity, marking a fundamental shift in education. This transformation involves dismantling barriers in instructional methods to create an educational landscape accommodating the unique needs of each learner. Departing from the conventional one-size-fits-all model, the NEP advocates personalized learning experiences, recognizing the diverse spectrum of learning styles and requirements.

The policy acknowledges that each learner possesses distinct strengths, weaknesses, and preferences influencing their educational journey. Educators are empowered to tailor instructional methods to individual needs, fostering a more inclusive and supportive learning



environment. Inclusivity goes beyond academic capabilities, considering socio-economic backgrounds, cultural differences, and learning paces. The NEP aims to create an academically enriching, socially, and emotionally supportive educational ecosystem.

This emphasis benefits students with diverse learning needs, fostering a culture of empathy, understanding, and collaboration among students and educators. By breaking down barriers, the NEP envisions a learning environment where every student feels valued and empowered to reach their full potential, heralding a new era in collaborative and personalized education.

3.2 Encouraging Interdisciplinary Exploration

The National Education Policy (NEP) 2020 envisions education beyond traditional subject silos, advocating for interdisciplinary exploration. This shift moves away from compartmentalizing knowledge, encouraging students to seamlessly integrate insights from diverse disciplines. The aim is to cultivate individuals with a comprehensive and interconnected understanding of the world.

The NEP intentionally dismantles disciplinary boundaries, inviting students to engage in learning experiences that bridge the gaps between subjects. This fosters a dynamic comprehension of real-world issues, recognizing their inherent complexity and the need for a collaborative approach. Students actively participate in constructing knowledge from various fields, such as integrating history, ethics, and environmental studies into a science lesson. This approach enhances cognitive flexibility, nurturing critical thinking skills as students synthesize information and make connections between disparate ideas. Beyond academics, interdisciplinary exploration prepares students for the modern workforce, where problem-solving often requires a multidisciplinary approach. The NEP envisions education as a tapestry of interconnected disciplines, laying the groundwork for well-rounded individuals capable of navigating the complexities of the world with a holistic perspective.

3.3 Cultivating Lifelong Learning Skills

The National Education Policy (NEP) initiates a profound shift, prioritizing lifelong learning skills over traditional subject-specific knowledge. This transformative approach recognizes the paramount importance of adaptability, critical thinking, and problem-solving in the rapidly changing global landscape.

Critical thinking takes center stage, with the NEP emphasizing the inadequacy of memorization alone. Students are encouraged to analyze and apply information in diverse contexts, fostering a discerning and analytical mindset. Problem-solving becomes a cornerstone, equipping students with practical skills to address real-world challenges and instilling a proactive attitude.

Adaptability is a focal point, acknowledging the inevitability of change. The NEP aims to cultivate a mindset that embraces new ideas and approaches, preparing students to navigate diverse fields with resilience and agility.

Prioritizing these lifelong learning skills, the NEP envisions an education system that extends beyond the classroom, preparing individuals for continuous intellectual growth and professional development. By committing to critical thinking, problem-solving, and adaptability, the NEP aims to shape individuals not just well-versed in specific subjects but equipped with versatile skills for success in the complexities of the 21st-century landscape.

3.4 Embracing Cultural and Ethical Dimensions

The National Education Policy (NEP) initiates a transformative era by integrating cultural and ethical dimensions into the instructional framework. This departure from convention acknowledges that education shapes individuals beyond knowledge accumulation, emphasizing identity and ethical responsibility.

Cultural integration is central to the NEP, offering a broader understanding of heritage and fostering cultural identity in a globalized context. Ethical considerations are seamlessly woven into instructional methods, emphasizing moral reasoning and responsible decision-making. The policy recognizes education's role in instilling not just technical proficiency but also a strong ethical foundation.

This emphasis spans disciplines, ensuring cultural and ethical perspectives are integral to the educational experience. The NEP aspires to nurture well-rounded individuals who excel academically and contribute positively to society. By fostering identity and ethical responsibility, it envisions a generation of empathetic, culturally aware, and ethically conscious global citizens, aligning with the evolving needs of society.



3.5 Strategic Use of Assessments

The National Education Policy (NEP) introduces a significant shift in student assessment, advocating a strategic approach. Departing from reliance on high-stakes exams, the NEP emphasizes continuous and comprehensive assessments for a nuanced understanding of a student's overall development.

Continuous assessment, a key feature, encourages consistent evaluation throughout the academic year, offering real-time insights and personalized support. This approach reduces pressure associated with singular exams, creating a more conducive learning environment.

Comprehensive assessments, as per the NEP, move beyond rote memorization, encompassing project work, presentations, and practical demonstrations. This diversified approach evaluates not just knowledge but also critical thinking, creativity, and practical application.

The strategic use of assessments aligns with the NEP's goal of nurturing well-rounded individuals, considering cognitive, emotional, and social aspects. It supports a learner-centric approach, recognizing each student's uniqueness and fostering inclusivity through tailored assessments. In essence, the NEP's emphasis on continuous and comprehensive assessments reflects a commitment to a holistic and student-friendly evaluation system, contributing to a dynamic and effective learning experience.

4. CHALLENGES OF NEP IMPLEMENTATION

The National Education Policy (NEP) of a country serves as a guiding framework for the development and reform of its education system. In the case of India, the NEP 2020 aims to bring about significant changes in the higher education landscape. However, the implementation of such policies is not without its challenges. This essay explores the hurdles that institutions face in embracing the NEP and delves into strategies needed to navigate these challenges.

4.1 Resistance to Change

One of the primary challenges in implementing the NEP is the resistance to change, inherent in any large-scale educational reform. Institutions, educators, and even students may find it challenging to adapt to new methodologies, curriculum structures, and assessment systems. The established norms and practices in higher education may be deeply ingrained, making it difficult for stakeholders to embrace the transformative vision outlined in the NEP.

To navigate this challenge, institutions must prioritize comprehensive faculty development programs. These programs should not only focus on updating the knowledge and skills of educators but also on fostering a mindset open to innovation and change. Workshops, seminars, and collaborative forums can create spaces for dialogue and shared experiences, gradually breaking down resistance to change.

4.2 Infrastructure and Resource Constraints

Many higher education institutions in India grapple with inadequate infrastructure and resource constraints. The NEP envisions a shift towards a multidisciplinary approach, technology integration, and research-oriented learning. However, the lack of funds, outdated facilities, and insufficient technological infrastructure pose significant barriers to the effective implementation of these reforms.

To address this challenge, strategic planning and resource mobilization are imperative. Institutions can collaborate with government bodies, private enterprises, and international organizations to secure funding for infrastructure development. Furthermore, prioritizing resource allocation for the acquisition of modern educational technology and research facilities is crucial to align with the NEP's vision.

4.3 Faculty Capacity and Training

The NEP emphasizes the importance of quality education and research, necessitating a competent and research-oriented faculty. However, many institutions face challenges related to faculty capacity and training. There may be a gap in the number of qualified faculty members needed to implement the proposed reforms, and existing faculty may require training to align with the new pedagogical approaches.

In response to this challenge, institutions should invest in faculty recruitment drives, attracting educators with diverse expertise and a commitment to research. Simultaneously, ongoing professional development programs should be instituted to equip existing faculty with the necessary skills and knowledge. Collaboration with industry experts and research organizations can enhance the quality of faculty training programs.

4.4 Student-Centric Approaches

The NEP emphasizes a student-centric approach, aiming to foster critical thinking, creativity, and holistic development. However,



traditional educational models may not readily align with this paradigm shift. Students, accustomed to rote learning and examination-oriented systems, may find it challenging to adapt to the new methodologies that prioritize experiential learning, interdisciplinary studies, and skill development.

To navigate this challenge, institutions should initiate orientation programs for students, introducing them to the benefits and objectives of the NEP. Moreover, incorporating feedback mechanisms and involving students in the decision-making process can create a sense of ownership and engagement. Academic counselling services should also be strengthened to support students in navigating the evolving educational landscape.

4.5 Assessment and Evaluation Practices

The NEP advocates for a holistic and continuous assessment model that moves away from the conventional examination-centric evaluation. However, redefining assessment practices poses a significant challenge, as it requires a fundamental shift in institutional norms and the development of alternative evaluation methods.

Institutions need to design and implement new assessment models that align with the NEP's objectives. This may include project-based assessments, portfolios, and continuous evaluation processes. Training for faculty on designing and implementing these assessments is crucial to ensure a smooth transition. Additionally, communication with stakeholders, including students and parents, is essential to garner support for these new evaluation practices.

5. CONCLUSION

In conclusion, the National Education Policy 2020 (NEP) stands as a beacon of transformative change in the academic landscape of India. As we traverse through the various dimensions outlined in this journal, it becomes evident that the NEP is not merely a policy document but a dynamic force poised to reshape the future of education in the country.

The objectives set forth by the NEP reflect a visionary approach to address the evolving needs of education. The emphasis on holistic learning, multidisciplinary education, and flexibility in curriculum design signals a departure from conventional paradigms. By aligning with the dynamic requirements of the 21st century, the NEP paves the way for a more relevant and inclusive educational experience for students.

The instructional metamorphosis highlighted in the research papers is a particularly noteworthy facet. The NEP envisions a fundamental shift in the teaching-learning process, emphasizing experiential learning, critical thinking, and skill development. This transformative approach has the potential to empower students with the tools necessary for real-world challenges, fostering a generation of agile and adaptable learners.

In essence, this journal invites stakeholders to embrace the transformative potential of the NEP. It underscores the need for collaboration, innovation, and strategic planning to navigate the challenges and leverage the opportunities presented by this visionary policy. As we conclude, it is evident that the NEP is not a static document but a catalyst for change, ushering in an era where academia evolves dynamically, aligning with the aspirations of a progressive and knowledge-driven society.

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EMPIRICAL ANALYSIS OF THE MATRIX OF INTERNATIONAL ACTIONS FOR SAFETY AND SECURITY IN THE GULF OF GUINEA

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ABSTRACT

The maritime economy has been and still is the trigger and main catalyst for the realistic development of powerful economies of the world. However, this natural endowment has not been effectively and efficiently managed; and converted into the magic wand for the realistic and people-oriented development of the coastal countries of the Gulf of Guinea region; that have been in self-rule for the past sixty years. The lackluster performance of the Gulf of Guinea maritime economy; has been blamed on activities of criminal gangs on the high seas of the region. The truth however is that, the GoG region is very unfortunate not have selfless and visionary leaders at the helms of affairs of the individual countries, that should direct all instruments of coercion in stamping out crimes and criminality in the maritime domain. The study focuses on how to make the best out of all the matrix of international collaborations and actions towards ensuring a safe, secure and prosperous GoG maritime domain. The study adopted qualitative method in generating data through secondary sources such as academic journals, books, policy reports, magazines and internet materials. The data was analyzed through descriptive and discourse methods.

KEYWORDS: *Maritime, Matrix, Safety, Security, Empirical, Piracy*

INTRODUCTION

Maritime safety and security is a global concern not just, because the oceans connect many nation states and continents; but because the oceans are very crucial for transportation, trade, commerce, communication and general exchanges. Specifically the increasing tempo of international trade with its concomitant challenges in a globalised world, put maritime safety and security on the front burner of security studies, domestic policies and foreign policy of state actors. This study examines the matrix of international actions towards maintaining sustainable maritime safety and security in the GoG. All these immediate and trans-regional international actions revolve around safety of ocean going vessels and maritime environmental safety. State actors, building on their strong national securities, deploy their foreign policy in collaborations with other countries to ensure the protection of their sea-ports and ocean going vessels, by checkmating terrorism, piracy, criminal gang activities, drug and child trafficking, and other related crimes at sea. All these form the general focus of maritime safety and security management. The empirical analysis is focused more on incidences of attacks, hijack, kidnap, arrest and fatality caused by pirates in the GoG and how the Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), the Gulf of Guinea Commission (GGC); and all EU funded organizations are managing the safety and security of the Gulf region. (Kamal-Deen, 2015; Onuoha, 2013; Denton & Haris, 2022).

MARITIME SAFETY

Maritime space worldwide gives special attention to safety and security. State actors of coastal regions attach so much importance to their maritime space, primarily ensuring that there should be no trespass by other nations, then putting in place adequate legislations needed for administering the maritime space as part of the sovereign territory. Appropriate governmental actions are wont to ensure safe and secure maritime space; minimizing international boundary disputes, promoting trade / commerce and reducing conflicts. This in turn reduces the involvement of international organizations in mediating and resolving disputes and conflicts. However, there is the need for regular communication and collaboration with international organizations and foreign governments in resolving maritime space disputes, as well as ensuring the standardization of safety and security of the international maritime environment (Sartire, 2014; Broohm, et-al, 2020).

Environmental safety also embraces the safety of the Maritime environment. The issue of safety of the Maritime environment covers pollution of the port, the ship and the water. The goal of environmental safety is to ensure safety of navigation, passengers, cargo and



personnel working in the maritime space. Pollution emanating from damages to ships and cargo also call for effective environmental safety. The International Maritime Organization (IMO) and International Labour Organisation (ILO) are actively involved in ensuring global standard of Maritime Safety (both safety of vessel and that of the environment). The role of IMO and ILO in ensuring standard and effective Maritime Safety and Security are within the guides and scope given by the United Nations Convention on the Laws of the Seas (UNCLOS). The environmental safety averts hazardous and noxious cargo, and bunkered oil from damaged ships, that are dangerous to the environment (Akweiteh, 2015; Abubakar, 2016).

MARITIME SECURITY

No matter how safe the maritime space is, it requires a standard security mechanism that will sustain it. Without adequate and sustainable maritime security, the sovereignty and territorial integrity of coastal countries will be undermined. In addition, trade and commercial activities; which are the pillars of the maritime economy, will be slowed down. This has negative ripple effects on general socio-economic lives of their citizens. Hence, maritime security attracts appreciable attention in all academic discourse and public policy prosecutions. This remains the major pre-occupation of countries of the Gulf of Guinea. The International Ship and Port facility Security code (ISPS Code) and Regulation (EC) Number 725/2004; made it mandatory for all shipping companies, operators of port facilities and shipmasters to embark on adequate, result-oriented security assessment. They are also to provide workable and efficient security architecture on the ships and port facilities (Abubakar, 2016; Mansaray, 2017; Denton & Haris, 2022).

Maritime security is also concerned with harmonizing various security organizations at the port and on the sea, as well as the need for them to work in synergy, understand the problem and tackle the problem jointly. This in all cases goes beyond a nation-state; it involves other countries especially the neighbouring states and those where the ships are coming from (Kamal-Deen, 2015).

THE GULF OF GUINEA

The duo of Ukeje & Mvomo (2013), have made several attempts to arrive at an acceptable definition of what constitute the Gulf of Guinea. They describe the Gulf of Guinea as an area located within the coastlines of Central and West Africa states and the Atlantic Ocean waters. The definition given by them captures the area of interest of other scholars. However, even when most of the definitions put forward by scholars are not adequate, they none-the-less made bold attempts to describe what constitute the Gulf of Guinea. Geographically, the Gulf of Guinea according to International Hydrographic Organization (IHO), is multi-nation region with a line running south east ward from 'Cape of Three Points' in western region of Ghana (4.744°N2.0890) to Cape Lopez in Gabon (0°38'58°42E)". Abubakar, while alluding with the position of the IHO, opines that political definition of the Gulf of Guinea is more realistic, workable and acceptable than the geographical expression of what constitutes the Gulf of Guinea. Therefore, he defines the Gulf of Guinea politically as extending from Cote d'Ivoire in West Africa to the coast of Angola in Central Africa. This definition covers islands such as Pagalu, Bobowasi, Bioko Corisco, Elobays, Elobey Grabde, and Elobey Chico and Sao Tome and Principe; including other islands within the area mentioned (Abubakar, 2016; Broohm, et-al, 2020).

In their own definition of what constitutes the Gulf of Guinea, Ukeje & Mvomo (2013) said it is a vast, diverse and highly important region, which is made-up of sixteen nation states strung along 6,000km of unbroken coastline. The duo stated that the countries are Senegal, Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Sao Tome and Principe, Central African Republic, the Republic of Congo and Angola.

STRATEGIC IMPORTANCE OF GULF OF GUINEA MARITIME

The strategic position of the Gulf of Guinea as the leading economic hub of the world predates the era of colonialism. Hence, during the colonial era, the colonial masters in their bid to increase western prosperity, maximally exploited maritime activities of the region. This legacy was sustained by the comprador bourgeois neo-colonialists. The Gulf of Guinea is an international trade route and major gateway between Western Europe and Asia. The emergence of oil and other vital mineral resources in the region made all eyes to be on the Gulf of Guinea (Akweiteh, 2015; Denton & Haris, 2022).

Apart from the coastal countries of the region, the Gulf of Guinea is also very important to the economy of some land-locked nations like Burkina Faso, Central Africa Republic, and Mali. These countries depend on the maritime services of Gulf of Guinea through their contagious coastal neighbours. The increasing insecurity in the Middle East and North Africa made Gulf of Guinea a better alternative to the Arab Gulf. Not less than 90% of global freight is by sea, and the Gulf of Guinea provides a better alternative route for ocean-going vessels. The presence of aquatic resources such as fish and rich bio-diversity resources such as timber added to the positive economic feathers of the region (Abubakar, 2016; Ofosu-Baoteng, 2018; Kamal-Deen, 2015)



As a potential source of economic empowerment and employment generation for citizens of countries of the region, the Gulf of Guinea is endowed with resources that can transform the region to a major economic hub of the world. With visionary and selfless political leadership, envisioned with proper management of these resources, it will turn the poverty-ridden region to an economic haven where full and gainful employment would flourish. Under this positive direction, it will turn the Gulf of Guinea into a hub of commerce and a favourable global destination for raw materials and foreign direct investment (Morse & Stenvoll, 2007; Samuelson, 2008; Jacobsen, 2017; Broohm, et-al, 2020).

The underutilization and misapplication of these natural endowments has turned the region into a theater of conflicts, vices, insecurity, economic retrogression and general underdevelopment. The upsurge of more criminal activities such as; ransom abduction, hijack of foreign nationals, sea piracy and armed robbery have combined to constitute unsecure and turbulent political and socio-economic conditions in the region. These negative activities of the lawless have turned these rich and abundant resources into curse rather than blessings to citizens of the region. As the result, the indigenous population who were engaged in maritime business; were pushed to the periphery by advanced technology brought about by globalization. As they could not meet the new standard of operation, they were compelled to resort to what became illegal operations. Those involved in robbery in the hinterland, discovered that robbery on the sea is more lucrative, hence the shift in their illegal operations to the maritime clime (Mansaray, 2017; Akweiteh, 2015; Hassan & Hassan, 2016; Ofose-Baoteng, 2018).

Lack of stronger security collaboration and synergy among member countries of the Gulf of Guinea region and with international maritime partners became a source of major concerns to the maritime world. As one of the largest ocean-going vessels route in the world, stakeholders are more concerned; where they embarked on series of strategies to curb crimes and criminality in the Gulf of Guinea. Therefore, the United Nations, the European Union and the International Maritime Organization (IMO); have expended serious efforts to curb these challenges and ensure peaceful and gainful socio-economic maritime activities in the region (Onuoha, 2013; Jacobsen, 2017).

Apart from the communication obstacles, each of the member states still pays allegiance to their former colonial masters. Most of their policies are to satisfy the interests of their masters in Europe. This accounted for inter-governmental disagreements and challenges to regional collective goal of tackling the loss of economic value in the gulf. Lack of stable political system and continuity in governance made it difficult for the stakeholders to speak with one voice on many issues of common concerns (Kamal-Deen, 2015; Denton & Haris, 2022).

SUB-REGIONAL ORGANIZATIONS CONCERNED WITH THE MARITIME CLIME OF THE GULF OF GUINEA

Many domestic and international organizations have varied interests in the Gulf of Guinea. The focus of this study is the empirical analysis of the matrix of all international actions towards maintaining safe and secure Gulf of Guinea. Among the immediate international organizations are: the Economic Community of West Africa States (ECOWAS), the Economic Community of Central African States (ECCAS) and the Gulf of Guinea Commission (GGC). Twenty-two (22) member-states of the GoG initiated the Yaounde agenda for maritime security in the Gulf of Guinea. The outcome of the meeting held in June 2013 was a proclamation by the Heads of State, and Government Memorandum establishing the 'Yaounde Code of Conduct', stating inter-regional cooperation between the three regional organizations and the Code of Conduct. These three actions legitimized the three organizations as the legitimate stakeholders of GoG that also serve as the foundation of collective action against piracy, kidnapping, robbery and all forms of maritime crimes in the Gulf of Guinea. Thereafter, it got the full backing of European Union (EU) in 2014 that adopted a strategy on GoG with the objective of Securing the Gulf of Guinea to promote a 'Blue Economy'. The International Maritime Organization (IMO) was involved in technical cooperation projects relating to maritime domain awareness in the West and Central Africa region for many years and established a regional presence in West Africa (Sartire, 2014; Broohm, et-al, 2020).

THE EMERGING SECURITY CHALLENGES IN THE GULF OF GUINEA

The Gulf of Guinea is a lucrative region of numerous advantages to both the member- states and the maritime world in general. The abundant resources, if diligently harnessed and managed, would get citizens of most of the Gulf of Guinea countries out of poverty and underdevelopment statuses. Increasing illegal activities, criminalities and other vices turned the Gulf of Guinea to one of the most dangerous gulfs in the world. Hence, the need for consistent international actions in ridding the region of these vices (Mansaray, 2017).

In addition to the general maritime security challenges, the Gulf of Guinea has some peculiarities such as oil bunkering, human trafficking, illegal fishing, illegal transportation of logs and cross boarder criminalities within the region. Piracy, which stands out as



the main and general maritime security challenges across all international waters; has a very serious negative impact on the security and socio-economic development of the Gulf of Guinea region. Piracy as a syndicated activity, is connected to hijacking, kidnapping for ransom and stealing of oil cargo and other valuable essential commodities. Statistics from the international maritime bureau Oceans Beyond Piracy and the Maritime Piracy Humanitarian Response Programme (IMO-OBPMHP), disclosed that in 2012, the West African sub-region of the Gulf of Guinea had 50% of vessels attacked by pirates in the whole of Gulf of Guinea; and 966 seafarers were also attacked (Ofosu-Baoteng, 2018; Broohm, et-al, 2020).

The story is not different in 2013 when about 150 attempts of hijacking were recorded. The kidnapers, who usually demand and collect ransom, do take advantage of smaller and fast moving boats used by the oil companies in the Gulf of Guinea. The pirates have expanded the frontiers of their operations to include hijacking of fishing vessels. When they steal petroleum products, they sell it in the black market at very low prices. Buyers of stolen oil are sustaining this illegal act with ready market. This has accounted for the increase of attacks in the region, which recorded 427 of the 1434 of the total attacks in Africa between 2003 and 2011 (Ukeje & Mvomo, 2013; Ofosu-Baoteng, 2018; Terry, 1997; Bot, 2019).

INTERNATIONAL RESPONSE TO SECURITY CHALLENGES IN THE GULF OF GUINEA

The international response in combating security challenges in the Gulf of Guinea has been two-pronged – i.e. inter-state cooperation among GoG member countries and trans-regional maritime boundary cooperation. These are as enumerated and treated below:

1. ECCAS, ECOWAS and GOGC Response to Challenges

The economic viability of the Gulf of Guinea in international trade has made it to play prominent role in global politics. Countries of the region have failed to turn this economic fortune for up-scaling the standard of living of their citizens. The vast maritime prospects of the region have been greatly under-utilized. This underperformance created ripples of unsafe, insecure and crime-infested maritime domain. In view of this underperformance, developed countries with strategic interests in the region have been in the forefront of providing resources to the GoG with active technical collaboration towards solving myriads of problems confronting maritime climate of the region (Denton & Haris, 2022).

Hence, international governmental and non-governmental organizations have been rendering support to ECCAS, ECOWAS and GOGC towards combating the growing challenges of crimes and general insecurity in the Gulf of Guinea. The salient efforts of the International Maritime Organization (IMO), United Nations Organization (UNO), European Union (EU), Oil and Gas Companies stand out as another row of the matrix. They have been active in giving technical support for the enhancement of safety and security in the Gulf of Guinea to ensure smooth socio-economic maritime activities and unobstructed maritime navigation and voyages. The three regional organizations of the GoG (ECCAS, ECOWAS, and GOGC) as the first row of the matrix, had to play down on their differences by adopting inter-regional agreements towards combating security challenges in the maritime climate of the region. Information sharing is one of the key instruments adopted by the three sub-regional organizations in tracing and tracking the activities of criminals in maritime borders of the region. The essence is to provide credible intelligence that will nip in the bud maritime crimes such as – armed robberies, piracy, hijack and abduction for ransom. In furtherance of this intelligence sharing to ensure effective checks on the challenges, the ECCAS, ECOWAS and GOGC developed an operational code of conduct known as the ‘2013 Code of Conduct’. The Code of Conduct is on the repression of piracy, armed robbery against ships, and illicit maritime activity. This was drafted with the technical support of the International Maritime Organization (IMO), in line with the United Nations Security Council resolutions 2018 (2011) and 2039 (2012), which condemned the increasing threat that piracy and armed robbery at sea in the Gulf of Guinea pose to international navigation, security and the economic development of states in the region. The idea of code of conduct was discussed at the Benin Ministerial meeting of March 2013; which was later approved by the Heads of State and Government Forum on 25 June, 2013 in Yaoundé Cameroun (Onuoha, 2013; Ofosu-Baoteng, 2018; Broohm, et-al, 2020).

Mansaray (2017) alluded with Sartire (2014), and observed that the Code of Conduct complements and builds on the relevant security related provisions of the Memorandum of Understanding (MoU) on the Establishment of a Sub-regional Integrated Coast Guard Function Network in West and Central Africa. It incorporates many elements of the Djibouti Code of Conduct, adopted in January 2009 as a framework for countries in and around the Western Indian Ocean and the Gulf of Aden to counter piracy in that region. He further stated that this code of conduct is an improvement on the earlier one of Djibouti. The Djibouti Code of Conduct is solely on piracy. While this has wider frontiers that addresses the main challenges in the Gulf of Guinea maritime including Illegal, Unreported, and Unregulated (IUU) Fishing, human trafficking, drug smuggling, etc. The code of conduct covers the interests of the region and those of the international partners doing business in the region (Mansaray, 2017).



Member states agreed to the document and give full endorsement to it in their resolve to restore safety and security in the Gulf of Guinea through collaboration and teamwork. The sharing and reporting of relevant information is of essence towards helping the region to act on professional hindsight in dealing with cases of obstructions of ocean-going vessels by fast moving light ships and aircrafts suspected of engaging in piracy and other maritime crimes. It ensures that criminals in the maritime clime; are promptly apprehended and prosecuted. This will provide safety for - fishermen, seafarers, shipboard personnel and passengers; who have hitherto been subjected to harassment and violence by criminals in the maritime clime (Buzan & Waever, 2003; Ofosu-Baoteng, 2018; Jacobsen, et-al, 2017).

The regional stakeholders were able to tackle the traditional clashes between their security organizations. A well-trained and better-equipped Coast Guard has been put in place. This was sealed with the Memorandum of Understanding (MoU) of July 2008 on the Establishment of a Sub-regional Integrated Coast Guard Function Network (the IMO/MOWCA MoU). This action created initial fear and suspicion among member states, but most of the countries have seen the benefits of collective Coastal guards. The technical support of the International Maritime Organization (IMO) helped in fostering security in the Gulf of Guinea (Terry, 1997; Abubakar, 2016).

The goal of the Network is to initiate joint efforts to safeguard human life, enforce laws and improve the security, safety and protection of the environment, otherwise referred to as 'coastguard functions'. Being responsible for implementing these coastguard functions, national agencies are required to coordinate their efforts effectively in order to strengthen law enforcement activities vis-à-vis, among other things, the suppression of piracy and armed robbery against ships, the prevention of IUU fishing and countering the trafficking of drugs, weapons and people (Broohm, et-al, 2020).

THE EUROPEAN UNION GULF OF GUINEA PLAN

This is another trans-regional organization that serves as a critical stakeholder towards mitigating crimes and criminality in the Gulf of Guinea (GoG). The EU Gulf of Guinea Action Plan (EU-GGAP) was set up to support the implementation of the EU Strategy for the Gulf of Guinea (EU-SGG). Both the EU-GGAP and the EU-SGG are to support regional efforts in tackling myriads of security problems in the maritime clime of the GoG. Through the Action Plan, the EU raises awareness and understanding of maritime security threats, enforces the capacities of the immediate and other trans-regional organizations collaborating to ensure sustainable security and buoyant economies of the countries of the GoG (Jacobsen, 2017; Denton & Haris, 2022).

The EU has in addition adopted strategies and assisted in financing organizations that are set up to ensure a crime-free, safe, secure and economically buoyant maritime domain of the Gulf of Guinea and by extension the Atlantic/Indian Oceans. The Seaport Cooperation Project (SEACOP) was set up in 2015 with take-off funds of €6million for capacity building and strengthening cooperation against maritime crimes such as illicit trafficking, criminal networks and trans-Atlantic drug cartels. The EU also set up the Gulf of Guinea Inter-Regional Network (GOGIN) in 2016 with an initial funding of €9.3million to improve safety and security in nineteen (19) countries of the region with more focus on strengthening the Younde Architecture for Regional Information Sharing (YARIS). With additional funding of €1.88million from Denmark, the GOGIN and YARIS are meant to bolster security awareness in the GoG maritime domain. In the same 2016, the EU in collaboration with the United Nations Office on Drug Control (UNODC) set up the Criminal Investigation and Criminal Justice Cooperation (CRIMJUST) with a take-off funding of €12million. It is a project for enhancing the capacities and integrity of criminal justice institutions for regional and inter-regional cooperation for combating drug trafficking and transnational organized crimes in West Africa and other maritime clime contiguous to it. Another EU funded-project is the Critical Maritime Routes Monitoring, Support and Evaluation Mechanism (CRIMSON) with an initial funding of €2million meant for ensuring synergy, coherence and effective communication for monitoring and evaluation in this regard. In 2018 the EU assisted in setting up of Improved Regional Fisheries Governance in West Africa (PESCAO) with a budget of €15million to ensure smooth and orderly fishing activities in the region. As an additional row of the matrix of international actions for tackling security challenges in the GoG, the EU in 2019, aided in setting up of four other maritime-related organizations. The first to be set-up is Support to West African Integrated Maritime Security (SWAMS) with funding of €28million. The Support Programme to the Maritime Security Strategy in Central Africa (PASSMAR) with funding of €10million is the second to be set-up by the EU. The West and Central African Port Security (WeCAPS) with funding of €8.5million is the third to be set-up. While, the Support of Ports Customs and Operational efficiency in African Ports (IPCOEA) was the fourth to be set-up by the EU (Hassan & Hassan, 2016; Broohm, et-al, 2020; Denton & Ginger, 2022).



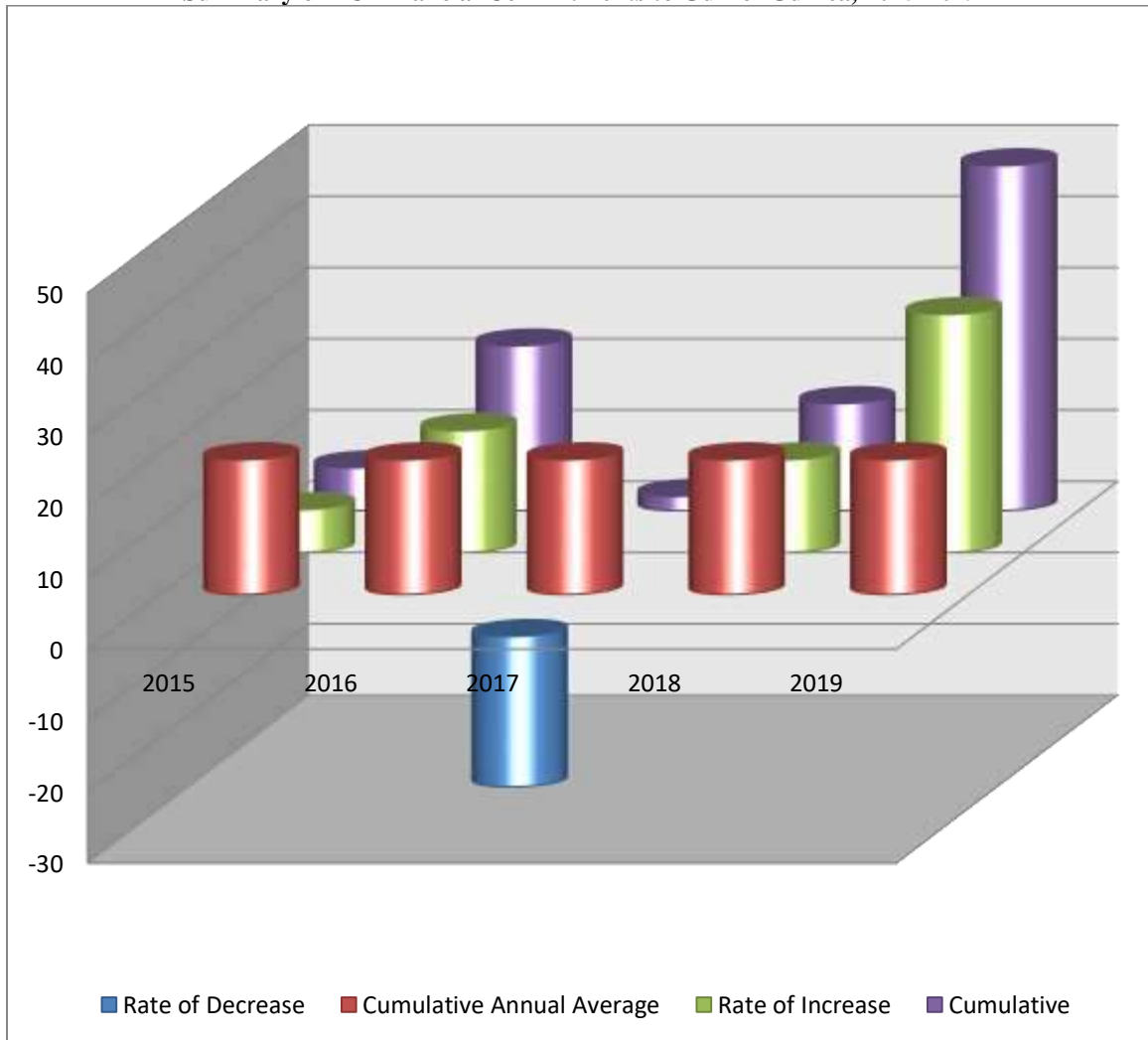
The summary of these EU financial assistance is as presented in Table 1 and Figures 1, 2, & 3 below:

Table 1: Summary of EU Financial Commitments to Gulf of Guinea, 2015-2019

Year	Cumulative	Cumulative Annual Average	Rate of Increase	Rate of Decrease	Percentage
2015	€6.00million	€18.9million	€6.00million	-	6%
2016	€23.1million	€18.9million	€17.1million	-	25%
2017	€2.00million	€18.9million	-	-€21.1million	2%
2018	€15.00million	€18.9million	€13.00million	-	16%
2019	€48.38million	€18.9million	€33.4million	-	51%
Total	€94.48million	€94.48million	€69.5million	-€21.1million	100%

Source: IMO, 2023; Denton & Ginger, 2022

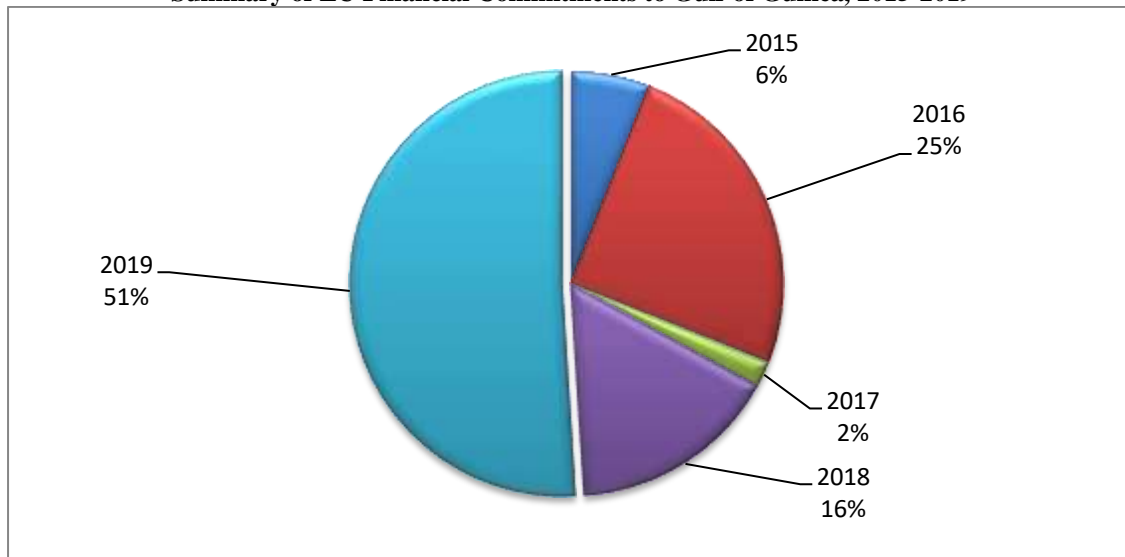
**Fig 1:
Summary of EU Financial Commitments to Gulf of Guinea, 2015-2019**



Source: IMO, 2023; Denton & Ginger, 2022

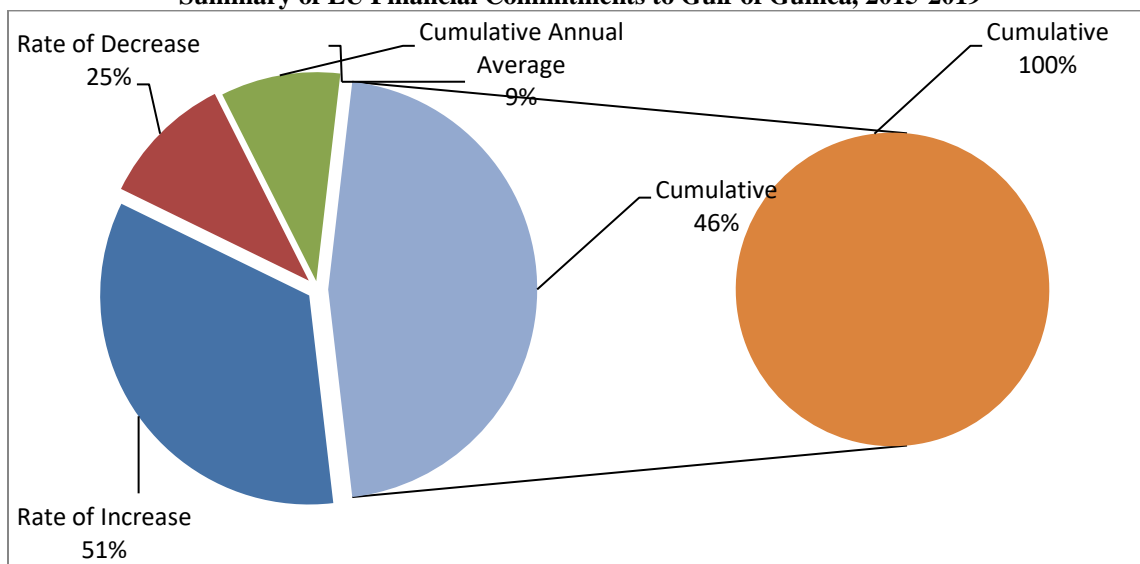


Fig 2:
Summary of EU Financial Commitments to Gulf of Guinea, 2015-2019



Source: IMO, 2023; Denton & Ginger, 2022

Fig 3:
Summary of EU Financial Commitments to Gulf of Guinea, 2015-2019



Source: IMO, 2023; Denton & Ginger, 2022

Summary of Incidences of Attacks by Sea Pirates in the Gulf of Guinea, 2009-2023

Though incidences of sea pirates attacks in the Gulf of Guinea has been on the increase where it reached its peak in 2012 with 526 (18%), there is however a gradual decline with its lowest ebb in 2023 that recorded 23 incidences (1%). The total rate of increase is put at +655, while the total rate of decrease is put at -840 between 2009 and 2023. The annual average of incidences is put at 190. The highest rate of decrease was recorded in 2013 with -426 (Denton & Haris, 2022).



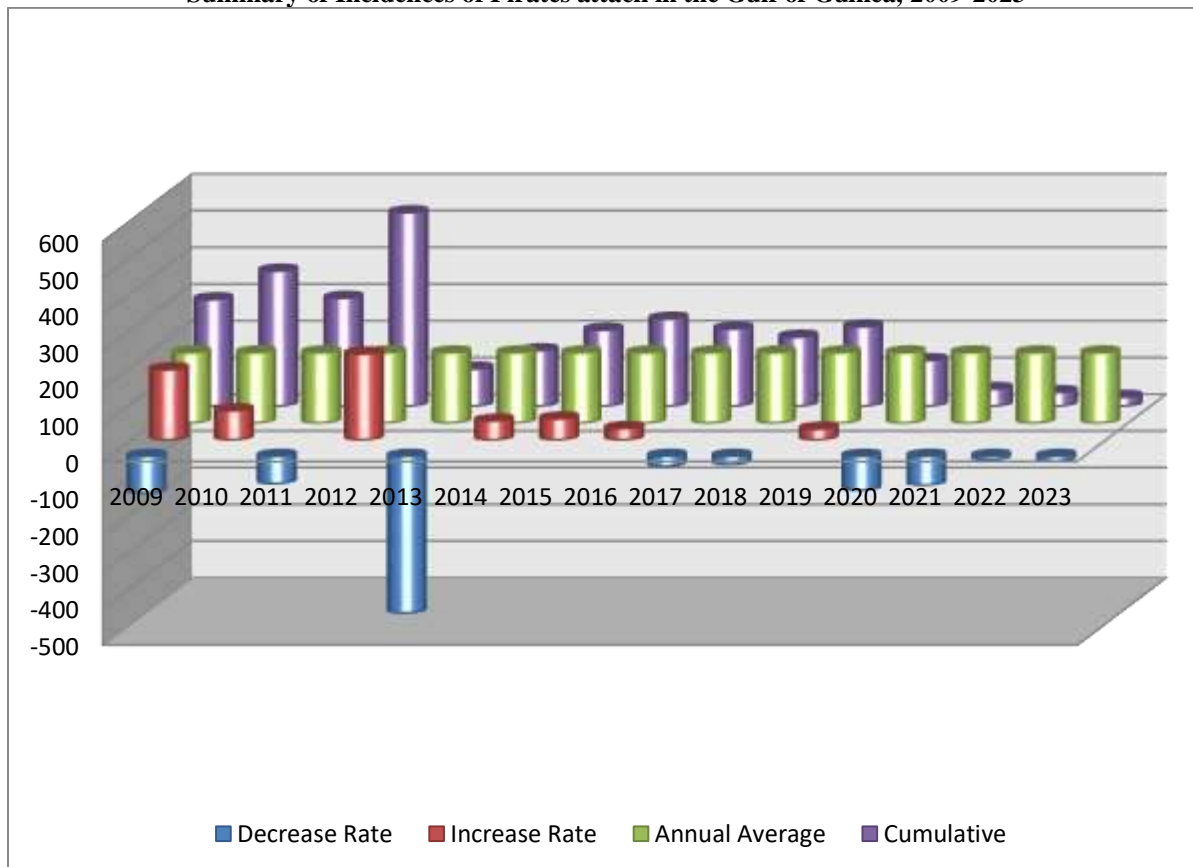
This is as presented in Tables 2 & 3 and Figures 4, 5, 6 & 7 below:

Table 1: Summary of Incidences of Pirates attack in the Gulf of Guinea, 2009-2023

Year	Cumulative	Annual Average	Increase Rate	Decrease Rate	Percentage
2009	289	190	+190	-99	10%
2010	367	190	+78	-	12%
2011	293	190	-	-74	10%
2012	526	190	+233	-	18%
2013	100	190	-	-426	4%
2014	150	190	+50	-	5%
2015	206	190	+56	-	8%
2016	236	190	+30	-	8%
2017	209	190	-	-27	7%
2018	187	190	-	-22	6%
2019	215	190	+28	-	8%
2020	123	190	-	-92	4%
2021	45	190	-	-78	2%
2022	36	190	-	-9	2%
2023	23	190	-	-13	1%
Total	2,855	2,855	+ 655	-840	100

Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023

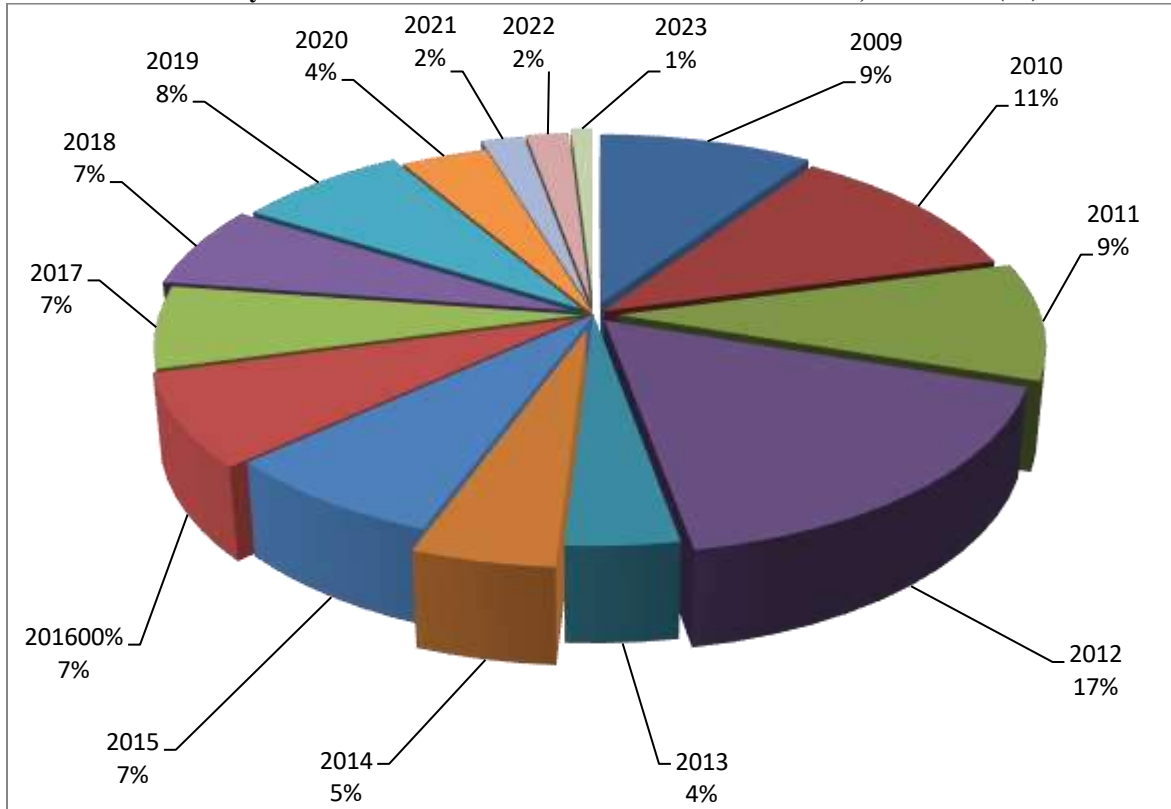
**Fig 4:
Summary of Incidences of Pirates attack in the Gulf of Guinea, 2009-2023**



Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023



Fig 5:
Summary of Incidences of Pirates attack in the Gulf of Guinea, 2009-2023 (%)



Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023

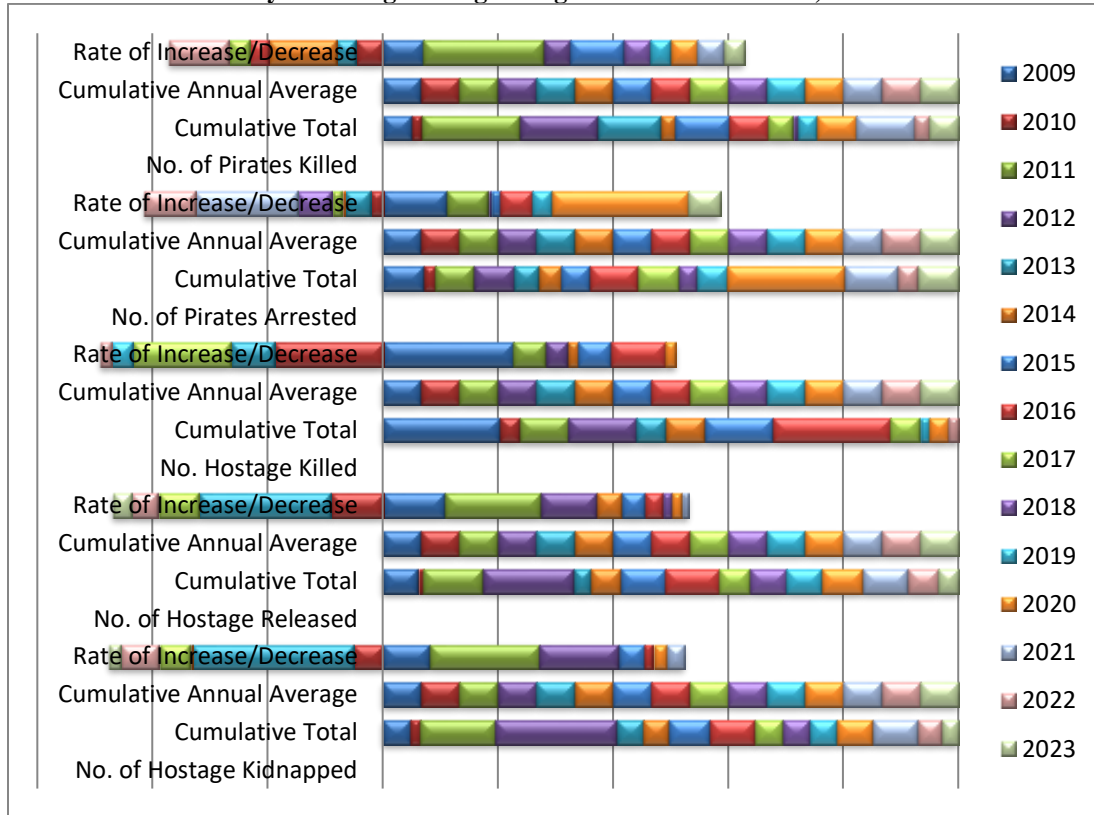
Table 2: Summary of Hostage taking/killing in the Gulf of Guinea, 2009-2023

Year	No of Hostage kidnapped			No of Hostage Released			No of Hostage Killed			No of Pirates Arrested			No of Pirates Killed		
	CT	CAA	RID	CT	CAA	RID	CT	CAA	RID	CT	CAA	RID	CT	CAA	RID
2009	108	151	108	98	108	98	12	4	12	20	19	20	6	8	6
2010	39	151	-69	16	108	-82	2	4	-10	6	19	-4	2	8	-4
2011	294	151	+255	168	108	+152	5	4	+3	19	19	+13	20	8	+18
2012	478	151	+184	256	108	+88	7	4	+2	20	19	+1	16	8	-4
2013	105	151	-373	48	108	-208	3	4	-4	12	19	-8	13	8	-3
2014	101	151	-4	87	108	+39	4	4	+1	11	19	-1	3	8	-10
2015	160	151	+59	124	108	+37	7	4	+3	14	19	+3	11	8	+8
2016	179	151	+19	152	108	+28	12	4	+5	24	19	+10	8	8	-3
2017	109	151	-70	88	108	-64	3	4	-9	20	19	-4	5	8	-3
2018	106	151	-3	102	108	+14	-	4	-	9	19	-11	1	8	-4
2019	108	151	+2	100	108	-2	1	4	-2	15	19	+6	4	8	+3
2020	139	151	+31	116	108	+16	2	4	+1	58	19	+43	8	8	+4
2021	180	151	+41	127	108	+11	-	4	-	26	19	-32	12	8	+4
2022	92	151	-88	86	108	-41	1	4	-1	10	19	-16	3	8	-9
2023	66	151	-26	57	108	-29	-	4	-	20	19	+10	6	8	+3
Total	2,264			1,625			59			284			118		

Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023

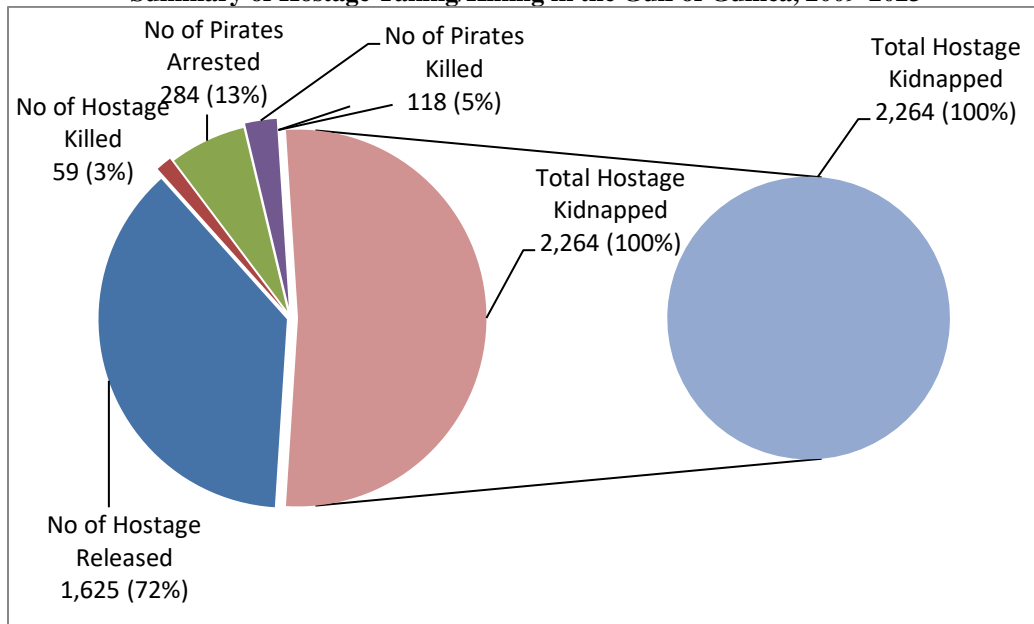


Fig 6:
Summary of Hostage taking/killing in the Gulf of Guinea, 2009-2023



Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023

Fig 7:
Summary of Hostage Taking/Killing in the Gulf of Guinea, 2009-2023



Source: IMO, 2022; Denton & Haris, 2022; IMB, 2023



IMPEDIMENTS BEFORE THE STAKEHOLDERS

The leading impediment is that financial and logistic contributions of member countries for tackling security challenges in the GoG are grossly inadequate. Some of them hardly pay their dues. This serves as a big clock in the wheels of progress of the stakeholders. Political instability is another major impediment towards a crime-free maritime environment of the Gulf of Guinea. The consistent disruption of governments and change of regimes, which creates political instability in the region, doesn't allow for continuity of efforts towards strengthening the activities of sub-regional organizations saddled with the responsibility of ensuring safety and security in the maritime domain of the region. In addition, lack of trust and confidence among member-countries of the region has eroded the bases of synergy and commitment in combating these maritime crimes (Knawp, 2011; Onuoha, 2013; Jacobsen, et-al, 2017).

The code of conduct for the sharing of information has not fared better either. Member states are required to domesticate the relevant laws on this, so as to sensitize citizens of coastal areas towards prompt reporting of suspected criminals. The code should be, well explained to all security operatives charge with that responsibility; where it will effectively guide their operations. Both print and electronic media tabloids should embark on awareness campaigns to create security consciousness among citizens of the coastal regions. This should be carried out with the aim of promoting harmonious living among citizens where they will in the long run appreciate the importance of these sub-regional groups. The role of the media in this regard, has been hampered by myriads of problems as follows:

- i. **Reportage** – The attainment of common understanding of the problems in the Gulf of Guinea is handicapped by ambiguity across reporting agencies of statistics, definitions and severity of crimes. There are also unclear lines of responsibility for reporting and response coordination for incidents in the Gulf of Guinea. This does not take advantage of early warning signals on probable attacks by pirates (Broohm, et-al, 2020).
- ii. **Maritime Domain Awareness (MDA)** - Agencies responsible for participation in MDA schemes through national and international reporting centers appear to be lagging behind other maritime geographic regions. This participation remains below 40%; where incidents and threat reporting is still shared across a variety of agencies without clear lines of responsibility (Sartire, 2014).
- iii. **Yaoundé Framework for Maritime Security in the Gulf of Guinea** – Another impediment acknowledged by scholars and practitioners is that many parts of the reporting framework are still not operational due to challenges encountered in obtaining necessary equipments and personnel, funding and inter-operability across communication systems (Ofosu-Baoteng, 2018).
- iv. **Lack of Regional Capability to Respond** - Even where coastal states may be extremely motivated to respond to incidences of piracy, many lack response capabilities. While some states appear to have modern equipments, it may not be able to cover long distance of territorial waters (Kamal-Deen, 2015).
- v. **Challenges with Privatized Security** – Most countries of this region including Nigeria have developed different forms of contracted private security to escort vessels in cooperation with their naval personnel. Some coastal states signed MoUs that allow for Private Maritime Logistics Companies. This has prompted some ships to have their private security forces as armed guards (Ukeje & Mvomo, 2013; Jacobsen, 2017; Abubakar, 2016, Broohm, et-al, 2020).

The need to have functional inter-agency coordination centre (ICC) must not be overemphasized. It will provide means for establishing cooperation, coordination and communication between member-States of the three regional organizations at the strategic level, including exchange of information on a range of issues such as best practices and collaboration on capacity building, as well as contributing to countering piracy, armed robbery and other illicit activities at sea (Sartire, 2014; Broohm, et-al, 2020).

CONCLUSION

The study has established that the Gulf of Guinea is not only a natural blessing to member countries, but it is also very strategic, as well as very lucrative. However, it is a highly dreaded maritime corridor. The discovery of offshore hydrocarbon deposits in the region has enhanced its status as a geo-strategic region in the world. The study has established that 2,264 incidences of pirate attacks have been recorded in the Gulf of Guinea for the period covered by this analysis. The study has further established that over €98.48million have been expended by international organizations set-up and funded by the European Union for combating crimes and criminality in the Gulf of Guinea for the period covered by this analysis. The study has also established that the United Nations through the UNSC has been active in prompting countries and organizations to rise up and curb the dangerous activities of pirates and other criminal-gang groups in the Gulf of Guinea. The invaluable roles of the IMO and other Western international organizations in ensuring safe and secure GoG maritime domains have been deciphered by the study. The frequency of occurrences of incidences of hijack, Kidnappings and hostage-taking have greatly dropped to its lowest in the second quarter of 2023. In spite of all these matrix of international actions in curbing security challenges in the GoG maritime region, some of the malignant problems such as piracy still subsist.



RECOMMENDATIONS

From the analysis and discussion so far, the following alternatives and strategies are proffered towards minimizing maritime security threats and for the sustenance of stable trans-national ocean-going vessels and other economic activities in the GoG:

1. Political leaderships of member states of the GoG region should muster the political will to work in the national interests; and by extension resolve all inter-state differences and forge in unison towards ensuring a safe, secure and crime-free maritime domain.
2. More sincere active collaboration with international partners should be encouraged. This will make it easy for tracing and tracking of criminals on international waters.
3. Budgetary allocation to the security sectors should be scaled-up with effective monitoring to ensure that there are no diversion of resources.

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EXPLORING AYURVEDIC TREATMENT: A PROMISING APPROACH FOR AVASCULAR NECROSIS MANAGEMENT

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ABSTRACT

Avascular necrosis (AVN) causes bone tissue death due to disrupted blood supply, commonly affecting the hip, knee, and shoulder joints. Trauma, prolonged corticosteroid use, alcohol abuse, and specific medical conditions can trigger AVN. Conventional treatments like medication, physiotherapy, and surgery, although effective, can be expensive with associated side effects. Ayurvedic medicine, a centuries-old Indian system focusing on holistic well-being and dosha balance, was applied to a 31-year-old male diagnosed with AVN in the hip joint. Despite no direct AVN - Vatarakta correlation, clinical alignment with Vata Pradhana and Asthi-Siragata Vata was observed. Treatment involved Ayurvedic medicines, Panchakarma therapies (Virechana, Basti), and lifestyle adjustments. Following three months of treatment, marked improvements in gait, pain, tenderness, range of movement, and overall quality of life were reported. This case study suggests that Ayurvedic treatment can serve as a viable alternative to conventional AVN therapies, especially in cases related to Vatarakta and Asthi-Siragata Vata imbalances. The primary aim of this study is to highlight Ayurvedic treatment's efficacy in managing AVN.

KEY WORDS: Ayurveda, Treatment, Avascular Necrosis (AVN), Vatarakta, Asthi-Siragata Vata, Panchakarma, Virechana, Basti.

INTRODUCTION

AVASCULAR NECROSIS (OSTEONECROSIS)

- **Avascular Necrosis Overview:** Avascular necrosis (osteonecrosis), resulting from ischemia, is a common condition leading to bone death due to compromised blood supply. Commonly affected areas include the femoral head, humeral head, and femoral condyles. Its mechanisms vary, from obscure causes to interruptions in bone blood supply induced by trauma, compression, or thromboembolic obstruction.
 - **Clinical Presentation and Diagnosis:** Symptoms manifest as localized pain worsened by weight-bearing. Diagnosis via MRI reveals subchondral bone necrosis and bone marrow edema. Early X-rays may appear normal, later showing osteosclerosis and bone deformities. Long-term consequences can include malignant tumors like osteosarcoma, malignant fibrous histiocytoma, and fibrosarcoma in affected areas.
 - **Morphological Features:** Pathological fractures occur due to bone infarctions, often at sites with disrupted blood supply in end-arterial circulation. Grossly, a wedge-shaped infarct is visible in the subchondral bone beneath the joint's convex surface.¹
 - **Treatment and Management:** No specific treatment exists; management focuses on pain control and encouraging mobility. Interventions such as core decompression alleviate internal bone pressure through drilling and stimulate vascular growth with implanted devices. Symptoms may spontaneously improve, but joint replacement might be necessary for persistent pain and significant structural damage.²
- **Ayurvedic Correlation and Treatment:**
This condition aligns with "Vatarakta and Asthi-Siragata Vata" as per Ayurvedic signs and symptoms. Ayurveda offers a wide range of effective treatment modalities for managing such manifestations.



❑ AVN and *Vatarakta*

- The disease *Vatarakta* arises from an abnormal combination of imbalanced *Vata* and *Rakta*. The aggravation of *Vata* and blood tissue can occur separately, each influenced by their own causative factors. Alternatively, they might be aggravated by shared factors that affect both *Vata* and *Rakta*. In the progression of this condition, both *Vata* and *Rakta* can further exacerbate and influence each other's imbalances.³
- The destruction of bones is attributed to vitiated *Vata* due to the shared residence and relationship between bones and *Vata*, known as *Ashraya-Ashrayi Sambandha*. This occurs through two pathways:
 1. Depletion of tissues exacerbates *Vata*. When blood tissue diminishes, leading to a loss of blood circulation to the bones and subsequent bone death, it intensifies *Vata* imbalance.
 2. Aggravated *Vata* leads to tissue depletion, directly causing the destruction and demise of bone tissue. This imbalanced *Vata* also harms blood tissue and disrupts the channels (*Srotas*) responsible for carrying blood (*Raktavaha*) and bones (*Asthivaha*). The factors causing *Vata* and blood aggravation, either separately or combined, contribute to the occurrence of *Vatarakta*.
- This disease, *Vatarakta*, similarly affects bones and joints, akin to AVN. Trauma and imbalanced blood are noted among the causes of *Vatarakta*, with trauma also recognized as a primary factor in modern medicine for AVN. AVN primarily affects localized bones and joints, while *Vatarakta* is said to impact all body joints. Unlike AVN, *Ayurveda* outlines premonitory symptoms for *Vatarakta*, aiding in early disease identification. These symptoms closely resemble the manifested symptoms of AVN, such as pain (*Shula*), throbbing sensations (*Toda*), and constriction of arteries in fingers/toes and joints, which is a significant factor in AVN development. Severe bone and joint pain (*Ati Ruk*) are also common symptoms in both conditions.⁴ Treatments prescribed for *Vatarakta* have shown efficacy in alleviating AVN symptoms and arresting disease progression.

❑ AVN and *Asthi-Siragatavata*

- Pathology and presentation of AVN is similar to *Asthi* and *Siragatavata* (vitiating *Vata* dosha affecting the blood vessels and bones) hence, *Asthi* and *Siragatavata* was considered as *Ayurvedic* diagnosis of the case and the patient was treated on general lines of management of *Vata Vyadhi* (various neuromusculoskeletal diseases). *Shoola* (pain), *Aakunchana* of *Sira* (spasm of vessels) and *Puranam* of *Sira* (filling/dilatation of vessels) are also the distinguish features of *Siragata Vata*.⁵ It can be correlated with the *Asthigata Vata* where the symptoms include *Asthikshaya*, *Asthisoushrya*, *Balakshaya* (weakness), *Shiryantiva Cha Asthinidurbalani* (destruction of bony tissue causing generalized weakness) and *Bhedoasthiparvanam* (breaking type of pain in bones).⁶

MATERIALS AND METHODS

- Patient Selection: The patient was selected from the inpatient department of SVM Ayurveda Medical College and RPK Hospital, Ilkal.
- Study Design: This observational study was a single-arm investigation aimed at assessing the effectiveness of *Ayurvedic* treatment for AVN. The study spanned three months, during which the patient received *Ayurvedic* intervention for AVN. Informed consent was obtained from the patient in their native language before commencing treatment. The study focuses on a 31-year-old male patient who displayed signs and symptoms indicative of *Vatarakta* and *Asthi-Siragata Vata* (AVN) for the past eight months, discussed comprehensively.
- Assessment Criteria: Evaluation was based on pre- and post-treatment signs and symptoms. The treatment comprised *Panchakarma* (*Shodhana*) therapy in combination with oral medications (*Shamana*).

❖ Case Report

- A 31-year-old male, hailing from Gangavathi, Karnataka, presented at the outpatient department (OPD) with primary complaints of hip joint pain, walking difficulties, and painful internal rotation of the lower limb.

❑ History of Present Illness

- A previously healthy 31-year-old male, who had a bout of COVID-19 in 2020, subsequently experienced the onset of pain in his right hip joint after physical activity. The continuous pain extended to both thighs, worsening considerably over eight months. Seeking relief, he consulted a physician and received allopathic treatments, including steroids, which provided temporary relief. However, the pain intensified in his left leg over time. Notably, there were no prior instances of diabetes, hypertension, or metabolic disorders. After six months, an MRI revealed bilateral Femoral Head AVN—Grade III on the right side and Grade II on the left. Clinical examination showed restricted hip joint movement in flexion, forward bending, and lateral rotation.
- Following the diagnosis, allopathic doctors recommended surgery, leading to the patient undergoing core decompression. While experiencing some relief post-surgery for a brief period, he subsequently encountered severe, intermittent pain in the hip and back regions, affecting his mobility. As the discomfort persisted and expanded to the groin and thigh regions,



he sought further assistance at the Kayachikitsa department of RPK Ayurvedic Hospital in Ilkal. Upon evaluation, the patient was diagnosed with *Vatarakta* and *Asthi-Siragata Vata*, classified as subtypes of AVN in Ayurveda.

General examination

- The patient presented with an average build and exhibited normal vital signs: a pulse rate of 78 beats per minute, a respiratory rate of 17 breaths per minute, a blood pressure reading of 120/80 mmHg, and a body weight of 73 kg.

Personal History

- The patient reported a reduced appetite despite being on a mixed diet. Sleep disturbances were noted, and while the frequency of urination was regular, bowel movements were irregular with unsatisfactory stools. Notably, the patient, a professor, did not have any addictions or habits.

Past Medical History

- The patient did not have a known history of major illnesses. However, he was diagnosed with COVID-19 a year and a half ago and underwent prolonged corticosteroid therapy as part of his treatment. Furthermore, he underwent surgery for AVN, specifically core decompression, six months prior.

Ayurvedic Examination:

- The patient underwent examinations of pulse, tongue, and urine, providing additional insights into their dosha imbalances and overall health condition. The pulse examination indicated an elevation in *Vata Dosha*, while the examination of the tongue revealed a coating, suggesting the presence of toxins (*Ama*).
- Furthermore, the assessment considered the patient's dietary habits and lifestyle elements, including sleep routines, exercise patterns, and stress levels. These factors were evaluated to understand their potential contributions to *Dosha* imbalances and the onset of AVN.

Ashtasthana Pariksha

SN	Pariksha	Findings
1	<i>Naadi</i>	<i>Vatta – Kapha</i>
2	<i>Mutra</i>	4 to 5 times/day and 1 time/night
3	<i>Mala</i>	Constipated and feels unsatisfied.
4	<i>Jihva</i>	<i>Liptata</i> (coated)
5	<i>Shabda</i>	<i>Prakruta</i> (Normal)
6	<i>Sparsha</i>	<i>Anushnasheeta</i> (Normal body temperature)
7	<i>Drik</i>	<i>Prakruta</i> (Normal)
8	<i>Akruti</i>	<i>Madyama</i> (Moderate)

Modern Examination

Local Examination

The physical examination revealed severe and painful limitations in the right hip's range of motion, notably during abduction and extension. Tenderness and mild temperature elevation were observed upon muscle palpation, while a limp was evident in the patient's gait. During the straight leg raise test, hip pain emerged alongside thigh discomfort. Lower limb neurological testing displayed normal reflexes and sensation bilaterally. A surgical scar mark was noted upon inspection, devoid of swelling or colour changes.

Investigation

Investigation	Observation
X-ray (Both hip joint)	No significant Changes
CBC	NAD
Urine Routine Microscopic	NAD
ECG	NAD
MRI of Both Hip Joints	Findings are s/o AVN (Avascular necrotic changes) of B/L femoral heads which was stage - 3 in the right hip and n left hip Stage - 2
USG(A+P)	NAD
Vitamin D	49.62 mg/dl
Calcium	9.9 mg/dl



❖ **Samprapti (Pathology)**

- The inadequate blood supply, known as *Avarodha* caused by *Vata* in the *Sira*, affects the femur's head, leading to depletion (*Sosha*) in *Sira*, *Snayu*, and *Kandara*. This depletion weakens the head, neck of the femur, and the hip joint. Additionally, *Vata* accumulates in the *Rakta* (blood) and *Asthivaha Srotas* (channels related to bones), resulting in the *Sosha* (dehydration) of *Asthidhatu* (bone tissue) due to insufficient nourishment. Furthermore, aggravation of *Vata* due to inappropriate dietary choices and lifestyle habits leads to its accumulation in the hip joint, contributing to progressive degeneration, causing intense pain, and hindering hip joint movement.

❖ **Diagnosis- Vatarakta and Asthi-Siragata Vata (Avascular Necrosis).**

❖ **Treatment**

The general principles of management involve initial *Snehana* (oleation therapy) followed by the treatment of *Vatarakta* patients with either *Sneha Virechana* or *Mrudu Rooksha Virechana*. Post-purgation, frequent *Basti* (enema therapy) comprising both *Anuvasana* (oil-based) and *Niruha* (decoction-based) *Basti* is recommended. Additionally, therapies such as *Seka* (pouring of medicated liquids), *Abhyanga*, *Pradeha* (medicated pastes), dietary regulation, and appropriate oleation should be administered, ensuring they do not induce excessive heat (*Vidaha*).⁷

- Ayurvedic oral medications were prescribed to the patient for *Deepana-Pachana* (enhancing digestion and metabolism). The specifics of these medications are outlined below:

S. N.	Drug	Dose	Time	Duration
1	<i>Tab Guduchyadi kashaya</i>	2 tabs	before food BD	1 week
2	<i>Syp Madiphala rasyana</i>	3 tsf	before food BD	1 week
3	<i>Granules freelax</i>	1tsf	Empty stomach early morning	1 week

➤ **Posology For Virechana**

- The posology for *Virechana* involved a series of steps:
 1. *Deepana-Pachana*: Initial medication was administered to enhance digestion until suitable *Agni Deepana* (improved digestive fire) was achieved.
 2. *Snehapana*: *Guduchyadi Ghruta* was used in an increasing dosage following *Arohana Krama*. Starting with 30ml on an empty stomach, the dosage was gradually increased daily until achieving proper digestion signs (*Samyak Snigdha Lakshana*) and then discontinued. This phase typically lasted 4-5 days.
 3. Preparation for *Virechana*: Three days before and on the day of *Virechana*, *Sarvanga Abhyanga* (whole body oil massage) using *Ksheerabala Taila* was performed, followed by *Bashpsweda* (steam therapy).
 4. *Virechana*: *Gandharva Hastadi Taila* was given as *Virechana Yoga* in the morning, and subjects were observed throughout the day for signs of successful purgation (*Samyak Virechana Lakshana*)
 5. *Samsarjana Karma*: Post-purgation, a gradual dietary regimen based on *Pravara*, *Madhyama*, and *Avara Shuddhi* was followed for proper restoration.

❑ **Basti Karma**

- Following a 30-day gap, *Basti Karma*, a therapeutic enema, was administered as per the following protocol:

➤ **Details of therapies administered:**

S. N.	Procedure	Ingredients	Duration
1	<i>Abhayanga and Sarvanga Seka</i>	<i>Ksheerabala Taila</i>	15 days
2	<i>Vashpa Swedana</i>	<i>Dashamoola kwatha</i>	15 days
5	<i>Kala Basti</i>	1. <i>Anuvasana basti</i> : <i>Mahatiktaka ghruta</i> (100ml) + <i>Sahacharadi taila</i> (100ml) 2. <i>Niruha basti</i> : <i>Honey</i> - 60ml <i>Saindhava</i> - 5 gm <i>Mahatiktaka ghruta</i> – 100 ml <i>Satapushpa kalka</i> - 20gm <i>Mustadi Yapana kwatha</i> - 400 ml	15 days



☐ **Shamana Aushadhi**

➤ The following medications were advised after the completion of the *Samsarjana Karma*:

S. N.	Drug	Dose	Time	Duration
1	Cap Viscovas	1 cap	After food TID	2 weeks
2	Cap Bonton	1 cap	After food TID	2 weeks
3	Pinda taila + Lin Kineaz	Q.S.	Early morning for external application	2 weeks

❖ **Observations and Results:**

- Radiological exams showed a decrease in the necrotic lesion size in the femoral head, signalling a positive response to Ayurvedic treatment.

S. N.	Symptoms	Before Treatment	During Treatment	After Treatment
1	Stiffness	+++	++	Nil
2	Tenderness	++	+	Nil
3	Pain	++++	+++	+
4	Muscle power	Grade 4	Grade 5	Grade 5
5	Raising Of Lower Limbs	30(Degrees)	50 (Degrees)	80 (Degrees)
6	Gait	Limping	Improving	Normal
7	Range of motion	Restricted	Improving	Significantly improved

➤ Throughout the treatment, no adverse effects were reported, indicating the safety of the Ayurvedic therapy used.

❖ **Discussion:**

Conventional avascular necrosis (AVN) treatment involves medications, physiotherapy, and surgery to reduce pain, improve mobility, and prevent bone damage. Severe cases may require joint replacement. In contrast, *Ayurvedic* medicine adopts a holistic approach, focusing on harmonizing *Vata*, *Pitta*, and *Kapha* doshas for overall well-being. In AVN, *Ayurveda* identifies subtypes—*Vatarakta* and *Asthi-Siragata Vata*—stemming from *Vata* imbalances. *Vatarakta* causes joint pain and inflammation, while *Asthi-Siragata Vata* leads to discomfort and rigidity. *Ayurvedic* remedies include herbal formulations, *Panchakarma* therapies like *Abhyanga*, *Swedana*, *Virechana*, and *Basti*, along with dietary changes and exercise.

☐ **Ayurvedic Treatment**

➤ **Deepana – Pachana**

This initial treatment is crucial before any *Shodhana Karma* as the presence of *Ama* can hinder the effectiveness of the purification process. It plays a pivotal role in preparing the body for the primary therapeutic action.

- **Tab Guduchyadi Kashaya** – It functions as an *Agnideepana* (boosts digestion), *Tridoshashamak* (balances *Doshas*), and a potent *Rasayana* (rejuvenating tonic). It possesses antipyretic, anti-inflammatory, antiarthritic, antioxidant, and immune-modulating properties. This tablet effectively treats various fevers characterized by symptoms like burning sensation, excessive salivation, thirst, vomiting, and reduced appetite.
- **Madiphala Rasayana**, an *Ayurvedic* remedy derived from the wild lemon or *Madiphala* citrus fruit, serves as a digestive aid. It effectively alleviates hyperacidity and heartburn. Additionally, *Madiphala Rasayana* functions as an immunity booster, enhancing the body's defense mechanisms.
- **Freelax granules** are effective in treating habitual constipation. It Maintains the elasticity of blood vessels facilitates the easy removal of stool.

➤ **Panchakarma**

- **Abhyanga** (Oleation therapy) – decreases *Vata Dosha*, promotes *Dosha* softness, purifies the abdomen (*Kostha*), enhances digestive power, and strengthens the body. The *Ksheerbala Taila* utilized in *Abhyanga* possesses properties that reduce *Vata*, alleviating discomfort (*Shula*). Its attributes like *Snigdha Sukshma* enable deep penetration, reducing *Vata*-related issues, and effectively combating *Vatarakta* due to its *Tikta* and *Kashaya Rasa* (bitter and astringent taste) properties.
- **Swedana** (Sudation therapy)– Sweating expels impurities via perspiration, considered a waste (*Mala*), cleansing the body's seven tissues (*Saptadhatu*). *Swedana Karma* induces intentional perspiration, liquefying accumulated *Dosha* after *Snehapana*. This therapy mobilizes *Dosha* in subtle channels (*Srotas*), improving flow. *Swedana* boosts digestive fire, increases appetite, clears channels, and reduces lethargy.
- **Virechana** - *Gandharva Hastadi Taila* stands out as an effective *Sneha Virechana* medicine. It aligns *Vata*, cleanses channels (*Srotovishodhana*), enhances strength, addresses lower-body imbalances (*Adhobhaga Doshahara*), aids digestion,



and mitigates swelling (*Shothahara*). Ideal for *Sneha Virechana* in Vata disorders involving *Rakta/Pitta*, like *Vataraktha*. Its properties - *Teekshna*, *Sookshma*, *Sara*, *Kashaya Rasa*, *Madhura Vipaka* - pacify *Vata* and *Rakta*, enabling elimination of accumulated waste (*Sanchita Mala*).

- **Basti** (Enema) - *Vatarakta* is the *Madhyama Rogamarga Vyadhi*, finds *Basti* as its optimal treatment.⁸ *Basti*, through purification, expels excessive deranged metabolic waste, resolving *Vata Avarana* (obstruction), and reinstating *Vyana* and *Apana* functions. Once purification occurs, digestion normalizes, kickstarting proper metabolism, aiding in the formation of balanced bodily tissues (*Samyak Dhatus*).
- **Anuvasana Basti**: *Vata*, the primary *Dosha* and a significant player in disease manifestation (*Samprapti*), necessitated the use of *Basti* therapy for its pacification. *Anuvasana Basti* utilized *Sahacharadi Oil* and *Guggulu Tiktaka Ghrita*. As AVN affects the *Asthi Dhātu* (bone tissue), *Guggulu Tiktaka Ghrita* was chosen due to its indication in *Asthi*-related disorders.⁹ *Sahacharadi* oil properties - *Snigdha*, *Guru*, and *Ushna Virya*—harmonize *Vata Dosha*, aligning with the treatment goals.
- **Niruha Basti**: *Mustadi Yapana Basti* is recommended to enhance strength, vitality (*Jeevana Shakti*), and fertility (*Vrishya*). It effectively addresses inflammation (*Shopha*), low back pain (*Katishoola*), discomfort in the calf and thigh areas, and *Vatarakta*. This therapy possesses *Rasayana* qualities, breaking the disease's progression by clearing channel blockages (*Srotoavrodha*), purifying channels (*Sroto Shodhana*), and restoring depleted *Dhatus* (*Kshaya*) due to its nourishing nature.¹⁰ Specifically, in AVN of the hip joint, where blockages in small blood vessels cause reduced circulation to the femoral head, resulting in *Raktavaha Srotorodha* and subsequent depletion of the bone tissue (*Asthi Dhātu*), *Mustadi Yapana Basti* was administered.
- **Shamana Aushadhi**
 - **Cap Bonton** - Containing various *Ayurvedic* herbs like *Asthi Shrunkhala*, *Arjun*, *Medasak*, and *Abha Guggulu*, is designed to strengthen bones. It aids in quick fracture healing, boosts calcium deposition at fracture sites, and reduces pain and inflammation. This supplement enhances bone density in osteoporosis, offering a natural solution for bone health.
 - **Cap Viscovas** - It is formulated to mitigate arterial damage, decrease platelet aggregation, and improve both arterial and venous circulation. With ingredients like *Guggulu*, *Pippali*, *Hareetaki*, *Manjishta*, *Kulaththa*, *Shigru*, and *Paribhadra*, it's beneficial for conditions such as stroke, ischemic heart disease, peripheral vascular disorders, thromboembolism, vascular headaches, and lipid disorders.
 - **Pinda Taila** - It combines *Sariva*, *Sarjarasa*, *Manjistha*, and *Madhuchishta* as herbal pastes (*Kalka Dravya*). This blend uses water as a liquid base (*Jala*) and oil as the oleation medium (*Sneha Dravya*). These herbs offer sweet, astringent, and bitter tastes along with cooling properties. They aid in blood purification (*Raktaprasadana*), pacify *Vata* and *Pitta Doshas* (*Vatapittahara*), and alleviate swelling (*Sothaghna Karma*).
 - **Lin Kineaz** - It effectively relieves musculoskeletal pain in various areas such as knee joints, neck, lower back, and headaches, acting as an analgesic, anti-inflammatory, rubefacient, and desensitizer. Its active constituents penetrate tissues deeply, inhibiting the release of pain and inflammation-inducing chemical mediators in muscles, joints, and tendons.
 - **Panchakarma** therapies may aid in AVN management by offering detoxifying and rejuvenating effects. The combination of modern medical examinations and *Ayurvedic* assessments was crucial in diagnosing and managing AVN. While modern medicine focused on physical and radiological examinations of the necrotic lesion, *Ayurveda* took a holistic approach, considering overall health, *Dosha* imbalances, and lifestyle factors contributing to AVN development. This integration provides a comprehensive approach to diagnosing and managing various health conditions, including AVN.
- ❖ **Conclusion**:
 - A blend of *Ayurvedic* medication and *Panchakarma* therapies improved joint pain, mobility, and overall well-being in an AVN patient. This approach notably reduced the necrotic lesion and enhanced hip joint mobility. *Ayurveda*, particularly in *Vatarakta* and *Asthi-Siragata Vata* cases, shows promise as a safe and effective alternative to standard AVN treatments. While this study suggests *Ayurvedic* treatment's potential, larger studies are needed to confirm its effectiveness and safety in AVN management.

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STOMACH ULCER IN CHILDREN: CAUSES, CLINICAL PICTURE, DIAGNOSIS AND TREATMENT

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Gastric ulcer in children is a chronic disease in which the mucous tissue of the gastric walls is damaged. The pathology occurs in isolation or with the involvement of the duodenum and other structures of the gastrointestinal tract (GIT) in the pathological process [1,3,5,7]. Children of middle and high school age suffering from chronic gastritis, duodenitis and other long-term lesions of the digestive system are most susceptible to this form of the disease.

In recent years, gastric ulcers have become noticeably “younger”: if previously the frequency of diagnosed cases did not exceed 1/1000 children, today this ratio is 1/600. Experts explain this by a combination of unfavorable factors, which include poor nutrition, increased psychological stress on growing children, and an unhealthy environmental situation.

Despite the progress achieved in studying the pathology of the digestive organs in pediatric practice, interest in it does not fade due to its high prevalence, frequent complications and early disability, leading to a decrease in the quality of life of children [4,14,18]. According to materials from foreign and domestic statistical studies, peptic ulcer disease is observed in 13% of cases, and combined localization is observed in children. 6% of cases [2,6,13,17].

It is known that the development of diseases of the stomach and duodenum in 40-60% of adults begins in childhood. The peak incidence occurs at 10-13 years of age; boys and girls get sick with approximately the same frequency, and after 10 years, boys get sick much more often. This fact is probably explained by the anticarcinogenic effect of estrogens [8,11,16].

In childhood, the pathology of the gastroduodenal zone has, of course, its own characteristics; the disease is asymptomatic for a long time, often due to the fact that children usually do not pay attention to their health, and therefore often result in complications. Severe acute attacks, rapid course and progression end in severe traumatic operations [1,5,8,9,11,18].

The role of hereditary burden is one of the main risk factors for the occurrence of duodenal ulcer; the disease is transmitted in an autosomal dominant or autosomal recessive manner, not related to gender [3,6,10,12,15].

In recent years, there is no doubt about the etiological and pathogenetic role of *Helicobacter pylori* in the development of the ulcerative process, which was facilitated by the introduction of eradication therapy regimens and the widespread use of modern antiseptics. Despite this, it has still not been possible to resolve the issue of complete cure of the ulcerative process. Frequent use of non-steroidal anti-inflammatory drugs prescribed by doctors to treat various diseases is the most common cause of ulcer formation [12,14,16].

TYPES OF GASTRIC ULCER IN CHILDHOOD

Stomach ulcers can be acute or chronic. Experts also additionally identify the following forms of peptic ulcer:

- acute with bleeding;
- acute with perforation;
- acute with bleeding and perforation;
- acute without bleeding or perforation;
- chronic with bleeding;
- chronic with perforation;
- chronic with bleeding and perforation;
- chronic without bleeding and perforation.

An acute disease can occur in uncomplicated and complicated forms, and a chronic disease can be in the acute phase, incomplete and clinical remission.

Depending on the general clinical signs of gastric ulcers in children, the severity and nature of the symptoms, 4 stages of development of the pathology are distinguished:



- At the first stage, redness and swelling of the mucous membrane is noted with the formation of rounded areas of ulceration of a clear shape, at the bottom of which a grayish-yellow or white coating appears;
 - The second phase is characterized by a decrease in redness and swelling of the mucous tissues, while inflammatory processes are noticeably reduced, and the bottom of the ulcerated areas is cleared of plaque;
 - The third stage is accompanied by the formation of scars, while signs of inflammation and some deformation of the walls of the stomach may persist;
 - The fourth phase is remission, at this stage there is a marked improvement in the child's condition, but in some cases there is an increased formation of acidic liquid.
- There are also typical and atypical forms of pathology, and according to the number of damaged areas, single and multiple types of the diseases.

Causes of Stomach Ulcers in Children

Peptic ulcer disease is a polyetiologic disease, that is, its formation can be influenced by many different factors, both external and internal. Exogenous (external) causes of the development of stomach ulcers in a child include:

- irregular meals with long intervals between meals;
- fast eating with insufficient chewing of hard ingredients;
- excessive consumption of smoked, salted, pickled foods;
- dry food;
- fast food meals;
- binge eating;
- irrational use of medications (antibiotics, hormonal and sedatives, corticosteroids, etc.).

In adolescents, peptic ulcers often develop as a result of active smoking: tobacco smoke and nicotine products irritate the gastric mucosa, which sooner or later leads to tissue ulceration and damage to the walls of the organ.

Internal or endogenous causes may be:

- hereditary predisposition;
- bacterial damage to the gastrointestinal tract, in particular helicobacteriosis;
- various chronic forms of pathologies of the digestive system (gastritis, duodenitis, cholecystitis, etc.);
- acute infectious diseases of the gastrointestinal tract (enteritis, rotavirus);
- increased acidity of gastric juice;
- gastrointestinal motility disorder;
- severe psycho-emotional experiences against the background of general fatigue of the body.

Congenital structural abnormalities of the stomach and other digestive organs can have a certain influence on the formation of peptic ulcers.

Symptoms of Peptic Ulcer in Childhood

The main symptom of a stomach ulcer in children is pain that periodically occurs in the upper abdomen and epigastric region, especially on an empty stomach. In some cases, so-called painful hunger attacks can occur at night when the child is sleeping. As a rule, after eating, the discomfort goes away; sometimes taking medications that reduce the production of hydrochloric acid helps reduce discomfort.

Other symptoms of gastric ulcer formation in children may include:

- belching with air or acid;
- frequent heartburn;
- noticeable decrease in appetite;
- flatulence, dyspeptic symptoms;
- regular constipation;
- unstable, rapidly changing mood (so-called emotional lability);
- sleep disturbance;
- anxiety;
- nausea, sometimes accompanied by vomiting;
- bad breath.

Long-term peptic ulcer disease can lead to weight loss, deterioration of hair, nails, teeth and skin.

Diagnosis of Peptic Ulcer Disease in Childhood

The primary action is a thorough physical examination, during which the patient's complaints are clarified, the clinical manifestations of the pathology are assessed, anamnesis data is collected and risk factors for the disease are determined.

In the future, a number of instrumental and laboratory diagnostic procedures are shown, which, depending on the indications and necessity, may include:



- general clinical blood test;
- blood biochemistry;
- general clinical urine analysis;
- fecal occult blood test;
- bacteriological culture of stool;
- study of the acidity level of gastric secretions;
- testing for the presence of *Helicobacter pylori* infection in the body;
- endoscopic examination of the stomach.

Treatment of Peptic Ulcer in Children

Conservative treatment of gastric ulcers in children includes:

- taking medications whose action is aimed at eliminating the infectious agent, reducing the secretory activity of the stomach, reducing the concentration of gastric juice, eliminating inflammatory processes, etc.;
- adherence to a strict diet with fractional meals;
- bed rest for at least 1 week;
- reasonable limitation of physical activity;
- exclusion of negative emotional experiences;
- physiotherapeutic methods of influence (electrophoresis, magnetotherapy, etc.);

Conservative therapy lasts quite a long time and is justified only for uncomplicated forms of the disease. It is most often carried out in a hospital setting, home observation is possible if the child feels satisfactory, the necessary medications are taken on time and in full, and the diet plan is followed.

In the presence of complications, surgical treatment is indicated

Indications for surgical intervention may include:

- peritonitis;
- stomach bleeding;
- ulcer perforation;
- penetration – extensive spread of the infectious and inflammatory process to neighboring organs and structures;
- formation of tumors in the stomach.

The decision on the need for surgical treatment of peptic ulcer in children is made individually in each specific case at a specially assembled consultation.

Prognosis of the Disease

Uncomplicated forms of pathology can be successfully completely corrected, provided that the child and his parents carefully follow medical recommendations.

For peptic ulcers with complications, the prognosis depends on the volume and type of treatment performed.

Prevention of Disease

Measures to prevent gastric ulcers in childhood include:

- adherence to a rational diet, avoiding potentially harmful foods and drinks (soda, snacks, fast food, etc.);
- avoiding smoking in adolescence and beyond;
- timely and correct treatment of various gastrointestinal diseases;
- reduction of stress factors.

Peptic ulcer disease can develop in a child at any age, but most often it is diagnosed in adolescents from 12 to 17 years old. This is a fairly serious disease that requires constant medical supervision and decisive measures on the part of parents. A stomach ulcer imposes certain restrictions, requires adjustments to the child's lifestyle and nutrition, and can pose a real threat to the health and even life of children. It is very important to immediately consult a doctor at the first signs of gastrointestinal dysfunction, without expecting the symptoms to disappear on their own. Otherwise, this may lead to emergency hospitalization followed by surgical treatment.

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THE DEPICTION OF CHILD UPBRINGING IN THE NOVEL “IMOMNING MANIKEN QIZI” BY AMINA SHENLIKO‘G’LI

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ABSTRACT

The child upbringing has been an important concern globally. This article aims to offer a comprehensive analysis of bringing up a child, focusing on the flaws, and strengths of how characters, particularly parents have while fostering their daughter in the novel by Turkish author Amina Shenliko‘g’li. It also highlights the pervasive impact of Westernization on the formation of mannerisms of the girl Fatima in the novel.

KEY WORDS. *Child upbringing, Central Asian Society, parental influence, societal expectations, familial bonds, tradition and modernity, identity formation, childhood experiences, autonomy.*

INTRODUCTION

The theme of child upbringing has been a topic of discussion in famous works of renowned English writers including Charles Dickens with his novel “Great Expectations”, Roald Dahl “Matilda”, Louisa May Alcott “Little Women”, E. Nesbit “The Railway Children”, and J.M. Barrie “Peter Pan”. While comparing and contrasting approaches to childhood in the novels of Charles Dickens, Daniela Němcová says “*The novel “Great Expectations” deals with the topic of one’s maturity and development. In this chapter, the power of an adult influence on children characters is emphasized.*” [17,2]. Also, several writers have created novels of formation in which they depicted the problem of upbringing. One of them is Alexandra Grenier, a researcher from Canada-based Montreal University, who said: “*This genre describes the processes by which maturity is achieved through the various ups and downs of life. It is definitely associated with the development of education and self-realization, which are concepts highly popular following the Enlightenment age*”. [2,8]

Even heads of the countries have talked about this intricate issue. One of them is Barack Obama whose fatherhood speech demonstrates some clear points about the difficulties and specific features of child upbringing while mentioning the obstacles encountered by young children. The following words are from his speech:

“...we also need families to raise our children. We need fathers to realize that responsibility does not end at conception. We need them to realize that what makes you a man is not the ability to have a child — it’s the courage to raise one.”[18]

METHODS

The novel written by one of the popular Turkish writers Amina Shenliko‘g’li also serves as a rich source of exploration into the intricate dynamics of parenting and the impact of upbringing on the development of children in the context of Central Asian society. Through a close reading of the narrative, the article examines the multifaceted nature of parental influence, societal expectations, and cultural norms in shaping a child’s character and worldview.

The work delves into the portrayal of familial relationships, the role of tradition, and the challenges the girl faces. To analyze the features of parenting depicted in the novel, the qualitative method of research, specifically content research is used to examine the strong and weak points of raising a child, the influences of people in society, and the spreading effect of Western-centered perspective on it. Child upbringing is one of the main themes of the novel “Imomning maniken qizi” written by Amina Shenliko‘g’li.

DISCUSSION

Through the analysis, it can be seen that from the beginning of the narrative, the parents, Imam Yokub and Gul Khanum, try to instill religious knowledge in their daughter, Fatima, including Kuran reading, a deep understanding of hadiths as well as the moral values such as honesty, integrity, and faith, because they are engaged in religion. However, the girl, who is always complaining about their poor financial status, is drawn to the allure of Western culture and the opportunities it offers. She holds hatred toward her father’s



job as an Imam who is a religious leader in Islam who typically serves as the prayer leader and spiritual guide for a community. This hatred can be depicted in her following words:

“Masjiddan beri kelolmaydi-ku. Kechayu kunduz shu yerda bo‘lsa. Birorta qoni buzuq gilamni o‘g‘irib ketmasin deb, poyloqchilik qilib o‘tiradi. Sassiqlik o‘liklarni yuvib, suvni to‘kmaydimi? Topganiga baraka yo‘q. Tortayotgan azoblarimizga qarang. Eringizning soyasida it chekmaydigan azoblarni boshimizga tushyapti.” [1,3]

In these statements, the girl’s negative attitude toward her father, while pinning the blame for being poor on him, is clearly illustrated. The love for her father is not something she possesses. The girl does not show respect toward her father or her father’s job and complains about the meager income he earns working in the mosque. She thinks that all the hardships that they experience are because of her father’s fault. Because her father did not follow other people’s paths at that time, while high-ranking were earning a lot of money and piling up wealth, he wanted to be religious and inform people of the importance of worshipping and believing in Allah.

The main character’s bad behavior is also apparent in her opinions about a disabled neighbor boy who tries to lead his life despite his defect. She is depicted as someone who is too proud and rude to poor people around her.

“Oyi, anavi cho‘loqning onasiga aytib qo‘ying. Bolasiga tarbiya berib qo‘ysin, mening asabimni buzmasin. Cho‘loqligiga qaramay, boshimni aylantirmoqchi bo‘ladi. Men kimman, u kim? Unga nazar tashlarmidim? Nima o‘zini nogiron ekanligini bilmaydimi, nega buni tushunib yetmaydimi?” [1,4]

Her humiliating words vividly portray her bad manner and cruel nature, someone who feels indifferent about hurting others, specifically physically handicapped. For her, the disabled boy does not even have the right to look at her due to his disability, and even laughs at him. Despite her disrespect toward her father, her father shows the kind gestures of fatherhood and tries his best to take care of her. Therefore, one of the factors leading to Fatima’s ill-tempered character is her father’s leniency – not strict enough to scold his daughter even in extreme cases when Fatima exhibits her poor attitude. His innocence, simplicity, and willingness to care for her is portrayed in these words:

“Mayli, qo‘yaver, qizimni ranjitganimgan ko‘ra o‘zim ertalabgacha ishlaganim yaxshi.” [1,5]

This sentence openly shows the moment when he scolds his wife for making their daughter clean the floor after the raindrops leaked from the hole in the ceiling and shows his willingness to do the task on his own in order not to bother his daughter. This kindness, however, turns out to be fruitless but instead worse. The more kind he is to his daughter, the more ill-tempered she becomes. As she grows older, she becomes more attracted to the Western world and its ways of living, leading her to decide to be a model, a job that is seen as bad by her parents. Her family, being very religious and highly believing in the power and mercy of Allah, wants to prevent her from this decision, but in vain. The poor father blames himself for it when he finds out the hidden secret that his daughter has engaged in smoking. The father understands his fault in raising his daughter.

He says “...demak men namunali inson emas ekanman, namunali bo‘lganimda edi qizimni tarbiya qila olgan bo‘lar edim.” admitting his inability to guide his daughter in the correct direction.[1,20]

Day by day Fatima gets used to the passing pleasure of modern life, secretly getting a new job in a certain place, and the worst is the time when her father sees her in an unknown man’s car without her headcover, which is considered as the most important piece of clothing in her family. But even at that time, Imam Yakub does not blame his daughter, because his naive and simple character does not know the evil intent or seek faults in the actions of others.

His excessive trust in his daughter is another leading factor in developing his daughter’s bad personality. He continues to trust his daughter, consequently leading her to accomplish her fancy dreams that are against the principles of her family. This is more obvious from the following words:

“Opang aqlli qiz. Alloh bergan vujudini hammaga ko‘z-ko‘z qilmaydi. Shayton yo‘ldan urib, shunday qilgan taqdirda ham, darrov tavba qilgan bo‘lar edi” [1,42] he says when he is informed of the newspaper with a model girl looking exactly like his daughter but with a different name, featured in the front cover.

His daughter uses her father’s genuine trust for her own sake, continuing to lie to him and engage in activities against family values including modeling and wearing short or revealing clothes.



Peer pressure has a great role to play in shaping Fatima's dishonest and immoral manners. The company she keeps throws her into evil powers, including the use of drugs, particularly white pills. When her father finds out about it, he steps into a world of confusion, disappointment, and misery, stopping to talk with his daughter, the decision that does not do any good. Most people in the society depicted in the novel are portrayed as ones with bad intentions, who are always trying to earn money at the cost of an honest life. These people also play an essential role in molding Fatima's self. One of them is her boss in the fashion industry, a man who is a philanderer. Despite his old age, he is more inclined to like young girls who work for him and try to be in a relationship with Fatima.

"Oldimda mini yubka kiyasanku, ovqatlangani bormaysanmi?" [1,60]

These words clearly define his negative intentions toward her. People who surround Fatima when she is away from home are all in the wrong direction and are blind to the realities of the world and only follow the crowd instead of having their clear perspectives. His job is to find beautiful girls who are ready to tell their bodies to get fame and make them put on Western outfits in modeling exhibitions.

The period featured in the novel shows the ever-increasing rate of Western modernization and its prevalent influences, one of which is the common practice of individuals changing their genders. This is the case in one of her friends named Banu who has changed his gender into a female to be a part of girls' company, influenced by society. She says *"Meni yo'ldan urishdi. Ayol kishiga o'xsharkanman. Ko'cha-kuyda menga gap otadiganlar yo'ldan ozdirdi. Demak, aslida ayol ekanman-da, dedim. O'sha paytlarda unaqangi operatsiyalar juda shuxrat qozonyotgan paytlar edi."* [1,73] In these words, it can be seen that this girl is negatively influenced by people who look at him as an attractive girl, thus leading him to change his gender. This naive girl, once being a boy, resorted to changing her identity due to people's opinions that made her feel that she was a girl from the beginning. Perhaps he did not know that his being as a boy was meant to be so or just did not know the sins that come with changing one's gender.

Fatima spends more than five months with a group of model girls who prioritize fancy living and the temporary pleasure of this world. Looking at these girls' lives, the only difference between their and the main character's family is the fact that other girls have had troubled childhoods with irresponsible parents engaged in bad deeds whereas Fatima's parents are honest and simple people whose priority is their mission to Allah and lead people into the right path.

"Dadam bizni tashlab Germaniyaga ketgan. U yerda jozibali olmon ayollarini ko'rgach, onamni tashlab ketgan. Onam foxishalik qilib meni o'stirgan." [1,72] One of the girls called Nejla says these words recalling her dishonest father who betrayed his wife and left his family to "enjoy life" with other women and her mother trying to raise her daughter working as a prostitute. Having confronted various people going astray, Fatima comes back to her senses, realizing her mistake due to the valuable religious and spiritual knowledge that her parents have instilled in her from a very young age. These two cases clearly show the negative influence of the irresponsibility of parents and society on the development of young minds.

CONCLUSION

The upbringing of children holds significant global relevance. This article endeavors to provide a comprehensive analysis of parental nurturing, with a specific focus on the strengths and deficiencies evident in the characters, particularly the parents, as they raise their daughter in the novel authored by Amina Shenliko'g'li. Additionally, it intends to underscore the pervasive influence of Westernization on the cultivation of behavioral traits in the character of Fatima in the aforementioned literary work. A lack of money, social norms, peer pressure, and Western standards have had a profound impact on the development of the main character of the novel. Although at the beginning Fatima's parents cannot guide her, the valuable life lessons they have inculcated help her to regain her individuality and return to her parents, feeling self-pity. The experiences she has been through have made her rethink her priorities and purpose in life.

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THE IMAGE OF FEMINIST CHARACTER IN “PRIDE AND PREJUDICE” BY JANE AUSTEN

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ABSTRACT

This research paper examines the portrayal of Elizabeth, the feminist heroine in Jane Austen’s Pride and Prejudice. The paper analyzes how Elizabeth challenges traditional gender roles and societal expectations, and how her character represents feminist ideals. It also explores the impact of Elizabeth’s image on readers and its significance in the context of feminist literature. The research aims to provide a deeper understanding of Elizabeth’s character and its relevance in shaping the image of a feminist heroine in literature.

KEY WORDS: *Feminism, Heroine, women’s empowerment, patriarchy, marriage norms, Feminist literature, gender inequality, female representation, women’s rights.*

INTRODUCTION

In Jane Austen’s *Pride and Prejudice*, Elizabeth Bennet is a strong, independent woman who challenges traditional gender roles and societal expectations. She stands out as a feminist heroine, representing feminist ideals and inspiring readers with her courage and wit. This research paper explores how Elizabeth’s character defies the norms of her time and the impact of her image on readers. By analyzing her portrayal in the novel, we aim to gain a deeper understanding of the significance of Elizabeth as a feminist heroine in literature.

METHODS

This research article employs a qualitative approach to analyze characteristics of the main heroine Elizabeth Bennet in “*Pride and prejudice*”. A close reading of selected passages from the book is conducted to identify and portray the image of Elizabeth employed by the author. These passages are examined to compare and show the difference in outlook between Elizabeth and other female characters. The analysis is based on the researcher’s interpretation and understanding of the text.

ANALYSIS

“*Pride and Prejudice*” is a classic novel that tells the story of Elizabeth Bennet, a strong-willed and independent young woman who defies societal expectations in pursuit of love and happiness. Perfect speeches in the novel helps to create a vivid image of Elizabeth and adds depth to the exploration of themes such as love, marriage, and social class. Metaphors like “wild and headstrong” and “fine eyes” convey Elizabeth’s strong-willed nature and her beauty. These help readers to understand Elizabeth’s character and her defiance of societal norms. Elizabeth’s love of walking and nature symbolizes her free spirit and love of independence. All of these contribute to the exploration of themes in the novel. Through Elizabeth’s character, the novel delves into the complexities of love, marriage, and social class, which adds depth and emotion to the narrative, making her a compelling and relatable heroine for readers.

DISCUSSION

In *Pride and Prejudice*, Elizabeth Bennet challenges traditional gender roles by refusing to conform to society’s expectations of women. For example, she rejects a marriage proposal from Mr. Collins, despite pressure from her family to accept. This shows her independence and determination to make her own choices, rather than succumbing to societal pressures.

“Upon my word, sir,” cried Elizabeth, “your hope is a rather extraordinary one after my declaration. I do assure you that I am not one of those young ladies (if such young ladies there are) who are so daring as to risk their happiness on the chance of being asked a second time. I am perfectly serious in my refusal. You could not make ME happy, and I am convinced that I am the last woman in the world who could make you so. Nay, were your friend Lady Catherine to know me, I am persuaded she would find me in every respect ill qualified for the situation.”[1,152]



As it can be seen, the author describes the main hero as a person who relies on her own attitudes and doesn't obey to the norms of society which are opposite to her understanding of the life.

Additionally, Elizabeth stands up for herself and other women, speaking out against the injustices she sees around her. For instance, she defends her friend Charlotte Lucas' decision to marry for financial security, even though it goes against the romantic ideals of the time. This demonstrates her support for women's agency and autonomy, regardless of societal norms.

Moreover, Elizabeth gives her opinions very decidedly for so young person. We can see this condition in speech between her and Lady Catherine:

Lady: "All! What, all five out at once? Very odd! And you only the second. The younger ones out before the elder ones are married! Your younger sisters must be very young?" [1,231]

Elizabeth: "Yes, my youngest is not sixteen. Perhaps SHE is full young to be much in company. But really, ma'am, I think it would be very hard upon younger sisters, that they should not have their share of society and amusement, because the elder may not have the means or inclination to marry early. The last-born has as good a right to the pleasures of youth at the first. And to be kept back on SUCH a motive! I think it would not be very likely to promote sisterly affection or delicacy of mind." [1,231]

In "Pride and Prejudice" Lady Catherine is a naughty and condescending character, and Elizabeth's interactions with her showcase Elizabeth's independence and refusal to conform to societal expectations. Elizabeth is not afraid to express her opinions and stand up for herself, even when confronted by someone of higher social standing.

Elizabeth's assertiveness in her dealings with Lady Catherine exemplifies her independent nature and commands respect. She bravely stood her ground and expressed her perspective without considering the influence or opinions of others, including Lady Catherine. Her direct statement, made to a woman of high social standing, demonstrates Elizabeth's determination to prioritize her own happiness over societal expectations.

"I have said no such thing. I am only resolved to act in that manner, which will, on my own opinion, constitute my happiness, without reference to YOU, or to any person so wholly unconnected with me." [1,495]

It is remarkable to see such feminist views in a woman during that era, defying traditional norms. Elizabeth's bold and unconventional behavior, alongside her outspokenness, challenge traditional gender roles and promote women's equality. Her actions deserve appreciation for their contribution towards enhancing women's status and equality in society.

Furthermore, Elizabeth's wit and intelligence set her apart as a feminist heroine. She engages in intellectual conversations with Mr. Darcy, challenging his assumptions and standing her ground in their debates. Her sharp mind and quick wit make her a compelling and admirable character, inspiring readers with her strength and resilience in the face of adversity.

"You mean to frighten me, Mr. Darcy, by coming in all this state to hear me? I will not be alarmed though your sister DOES play so well. There is a stubbornness about me that never can bear to be frightened at the will of others. My courage always rises at every attempt to intimidate me" [1,242]

As we can see from this speech that her defiance and determination to not be intimidated or frightened by Mr. Darcy's actions. She asserts her own strength and courage, claiming that she resolve only strengthens in the face of attempts to intimidate them. This sentence portrays Elizabeth as a strong-willed individual who is not easily swayed or cowed by others, expressing her independence and resistance to manipulation.

However, Elizabeth is able to learn from her mistakes. We see her transformation and this flow, this dynamism in her character, she is also responsible for the life charm she has for us. The process of her self-awakening begins with the receipt of his letters after the proposal of the lesson is rejected. She begins to read it, "with a strong prejudice against anything she says". But gradually she understands the truth about her words and is now upset by her own blindness:

"She grew absolutely ashamed of herself. Of neither Darcy nor Wickham could she think without feeling she had been blind, partial, prejudiced, absurd." [1,287]

This dramatic moment of self-disclosure gradually leads to a complete understanding of reality. She quickly confesses her mistakes and feels guilty. She sees Wickham as a charming, extraordinary and unprincipled villain. She also realizes that she is the person



who best suits her by the nature and talent of her lesson. Her prejudice was wrong, but there was an element of honesty in it, and we appreciate and love Elizabeth Bennett for this honesty.

CONCLUSION

The findings of this research article demonstrate the powerful role of feminist heroine Elizabeth Bennet in "Pride and Prejudice". Elizabeth is a strong and independent feminist heroine who challenges traditional gender roles and societal expectations. Her intelligence, wit, and refusal to conform to societal norms make her a timeless and influential character. Through her story, Jane Austen presents a powerful and inspiring image of a woman who stands up for herself and fights for her own happiness, making her a role model for generations to come. Elizabeth's character continues to resonate with readers today, making her an enduring symbol of feminist strength and resilience. Overall, this research contributes to a comprehensive understanding of image of heroine of "Pride and Prejudice" and its enduring appeal.

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THE DEVELOPMENT OF INTERNATIONAL LAW IN TRANSOXIANA

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ANNOTATION

Where you state that Central Asia is "apparently, the homeland of International Law thanks to works of formidable scholar Muhammad ibn Ahmad Sarakhsi," consider removing "apparently" as it risks undermining the well-established prominence of Sarakhsi's scholarship from the region. Otherwise, the content remains lucid in conveying Sarakhsi's manifold contributions across jurisprudential domains. Particularly insightful is the comparison drawn between his analyses and those of Western luminaries like Grotius. In closing, I applaud your dedication to illuminating Sarakhsi's enduring legacy. Please feel free to submit any other texts for a final review of grammar, style and flow. It remains an honor to ensure your thoughtful writings are conveyed with precision and elegance.

KEY WORDS: religion, Islam, domestic law, Islamic law, "Kitabul-mabsut" (Broaden book), usul-fiqh, sources, legal science, doctrine, law-maker, "Sharh al-Siyar al-Kabir".

INTRODUCTION

Throughout the annals of human history, a compelling necessity arose to govern the interactions and collaborations between independent political-territorial entities. This imperative prompted the gradual emergence of international regulatory mechanisms and the formulation of universal principles. Consequently, the tapestry of human history would be incomplete without the indispensable presence of international law. As the very name suggests, international law stands as a guarantor of serenity, security, and sustainable progress. Given its universal nature, international law must possess unwavering reliability and steadfastness. In recent times, the global scholarly exploration into the historical roots of international law, both abroad and within our nation, has impelled us to embark upon an in-depth study of this field. To fully comprehend the progressive evolution of international law, it becomes imperative to delve into the profound essence of the concept itself. For instance, international law encompasses an assemblage of norms, international agreements, and universally acknowledged principles that arise from the harmonization of will among states and other subjects of international law, governing diverse relationships between them [1:7]. The discipline of international law, as a scholarly domain, crystallizes from the bedrock of international legal relations and legal frameworks. It eloquently captures the fundamental essence, principles, and developmental stages of international law.

MAIN PART

When examining the historical genesis of the concept of international law, scholars point to European intellectuals as the pioneers in establishing overarching principles governing the relations between independent political-territorial entities. In the Western world, the era spanning from the inception of international law in the 16th and 17th centuries to the 18th century is often referred to as the "epochal period of international law," during which renowned scholars of the discipline thrived [2:21-24]. Amongst these luminaries, we may mention Hugo Grotius, Francisco de Vitoria, Alberico Gentili, Pierre Bayle, and others. Hugo Grotius, a distinguished Dutch jurist and diplomat (1583-1645), renowned for his contributions to natural law, is widely hailed as the "Father of International Law" in numerous literary works [3]. In 1625, he published his seminal masterpiece, *The Law of War and Peace* (*De Jure Belli ac Pacis*). Grotius himself actively participated in the tumultuous Thirty Years' War that engulfed Europe, and his magnum opus expounds upon the theory of natural law as the foundation of international law [4]. Prior to Grotius, we can trace the groundwork of international law in the works of the Spanish theologian Francisco de Vitoria (1483-1546) and Suarez (1548-1617). However, it is crucial to draw attention to the fact that the first profound and comprehensive work on international law was not crafted in the Western world, but rather in our own land, the Fergana Valley, situated in the northeastern region of present-day Uzbekistan.

This scholarly manuscript on international law was authored by our compatriot Muhammad Abu Bakr Sarakhsi al-Hanafi, five centuries before the writings of Hugo Grotius, the "father of international law" in Western history. In this remarkable opus, titled "Sharh al-Siyar al-Kabir," Sarakhsi meticulously elucidates numerous facets of law, encompassing peace treaty norms, human



rights, international ethics, aesthetics, and teachings grounded in the principles of international law. This fact has been acknowledged in various scholarly works and by numerous esteemed intellectuals and statesmen. Abu Bakr Muhammad ibn Ahmad ibn Abi Sahl Sarakhsi, also known as "Shams ul-Aimma" ("sun of the imams"), stood as one of the eminent jurists belonging to the Hanafi school of thought. He hailed from Mowaroonnahr and was born around 1010 AD/400 AH, while his demise occurred in 1096/490 AH [5: 18]. During this period, the Karakhanid dynasty (927-1212) held sway over Mowarounnahr. From a tender age, Muhammad displayed an insatiable thirst for knowledge and possessed a keen intellect. He completed his initial religious education in Sarakhs, committing the entire Quran to memory and acquiring proficiency in the sciences of hadith, sarf, nahv (grammar), and puberty. Subsequently, he further expanded his knowledge in various cities of Transoxiana (Movarunnahr), including Samarkand and Bukhara, where he resided for an extended period. Under the tutelage of Abu Muhammad Abdulaziz ibn Ahmad Bukhari (1057), he delved into fiqh, usul al-fiqh, hadith, kalam, and jurisprudence, thus becoming a distinguished scholar of his time [6:28]. Sarakhsi had the honor of studying under the renowned Hanafi jurist Shams al-Aima Hulwani [7]. Having completed Hulwani's "Madinat ul-Ulum," he emerged as an erudite scholar through his insightful discussions and prolific writings [8:260], earning him the esteemed title of Allama Usta, the "Sun of the Imams" [9:17]. Imam Sarakhsi, an exceptionally intelligent and just jurist scholar, dedicated his life to the pursuit of knowledge. However, he faced several orchestrated slanders, and due to his dissenting opinions against the ruler, Sarakhsi Karakhani was incarcerated by Shams al-Malik II Nasrkhani in 1074 AD (466 Hijri) and released after a period of fifteen years, in 1088. Upon his release, he was invited to Ferghana, where he was warmly received in the palace of Amir Hasan. It was there, in 1090, that he completed his monumental work, "Sharh al-Siyar al-Kabir," or "Commentaries on International Law" [5:252].

The distinguished opus penned by our illustrious compatriot Muhammad Abu Bakr Sarakhsi al-Hanafi, titled "Sharh al-Siyar al-Kabir," serves as a foundational manual encompassing fundamental aspects of Islamic and international law. This work, known as "Commentaries on International Law," is widely recognized as the earliest encyclopedic endeavor in the realm of Islamic and international law, classified through the method of "commentary" based on the work of Muhammad Shaibani (750-805), a revered theoretician and practitioner in the field of Islamic law. Sarakhsi's contributions to Islamic international law are of immense significance, earning him the moniker of the "Hugo Grotius of the Islamic world." Within this "commentary," Sarakhsi expounds upon the necessity of ten-year peace treaties [5:167], emphasizing that such treaties should be formed with specific objectives in mind. Comprising five volumes, this seminal work stands as the inaugural doctrinal treatise dedicated to siyar (international law) in the annals of Islamic jurisprudence. Each volume delves into distinct themes, primarily encompassing topics such as defensive ceasefires and peace settlements. Allama commenced the writing of this magnum opus while in prison in Uzgend and completed it in Ferghana. Concurrently, the relations between Islamic nations grew stronger, and the need for legal norms governing diplomatic relations became increasingly apparent. Diplomatic relations, serving as a vital instrument of foreign policy and international affairs, assume paramount importance within the framework of Islamic statehood. Consequently, in accordance with the principles of Islamic law, diplomatic and consular law underwent substantial development. During the eras of the Umayyads and Abbasids, relations with the Arab caliphate in both Western and Eastern regions flourished. Notably, between 59-132 AH, there were 62 diplomatic missions arranged between the Umayyads and their local representatives, with 59 reciprocal letters exchanged. Islamic law bestows unparalleled immunity and privileges upon ambassadors, some of which persist in contemporary practice, while others have been modified over time. It is imperative that we unequivocally acknowledge the formation of Islam and international law during this period, meticulously examined and analyzed on a systematic basis by our esteemed compatriots.

In comparing the perspectives of Sarakhsi and Hugo Grotius, it proves advantageous to examine their respective viewpoints on various aspects of international law. Grotius, an eminent classical scholar from the Western tradition, advocated for the allowance of just wars. He posited that war should be considered a viable means of resolving conflicts, citing the absence of international courts for legal dispute settlement. Furthermore, Grotius contended that the causes of war should be limited to those that can be adjudicated in a court of law. For instance, he asserted that the protection and restoration of property serve as justifications for war, while also developing a theory on crime and punishment [10]. In contrast, five centuries ago, the first volume of Abu Bakr Sarakhsi's rare masterpiece, "Sharh al-Siyar al-Kabir," delved into the laws of warfare. This section expounded upon the preparations for war, military actions, and the legality of weaponry. It addressed a wide range of topics, including the readiness of horses for battle and the types of weapons employed, while underscoring the imperative that the outcome of war align with the objectives of Islam [5:263]. The work also embraced principles of just conduct during war, emphasizing the avoidance of harm to civilians and the primacy of human rights. Additionally, the second volume of the book explored the topic of war spoils. Through an analysis of this profound work, one can aptly describe Abu Bakr al-Sarakhsi as the author of a seminal and impeccable magnum opus.

Furthermore, among Sarakhsi's notable contributions to jurisprudence, it is imperative to highlight his renowned opus, "al-Mabsut." This work serves as a compendium of fiqh literature and is based on the book "Kofi" by the esteemed scholar Abu Fazl Muhammad ibn Ahmad Marwazi (d. 334 AH). Sarakhsi elucidates, "In my era, I have witnessed the diversion of knowledge seekers from fiqh for various reasons. Therefore, in writing a commentary on 'Mukhtasar,' I deemed it appropriate to provide only the necessary explanations for each issue and confine myself to reliable information within each chapter" [11:4]. Historical sources attest that the



scholar composed his renowned work, "al-Mabsut," from memory while in prison, demonstrating his prodigious intellectual capacity. It is recorded that he not only memorized these books but also twelve thousand treatises [12:5]. "al-Mabsut," dedicated to the fields of jurisprudence, stands as one of Sarakhsi's rare works and holds significant importance in terms of content. It continues to serve as the primary textbook in the fields of Usul and Furu sciences. The work encompasses a myriad of specific issues pertaining to Islamic jurisprudence and provides their corresponding solutions. Thus, the standing of "Sahibul Mabsut" in relation to Imam Sarakhsi warrants mention, as this work remains an invaluable source of knowledge throughout the ages. Muhammad ibn Ahmad ibn Abu Sahl al-Sarakhsi al-Hanafi, a meticulous jurist, mujtahid, mutakallim, and commentator [13:202], authored several noteworthy works, as documented in the sources. These include "Usulul-Fiqh" (Theory of Fiqh), "Ashrot us-soa" (Conditions of Judgment), "Sharh Adabul-Qazi lil Khassof" (Commentary on Khassof's "Education of Judgeship"), a comprehensive fifteen-volume book on the science of Nahw [14:117], "Sharh al-Jome' al-kabir" (Commentary on the "Big Collection"), "Sharh al-Jome' al-saghir" (Commentary on the "Small Collection"), and other rare publications such as "Al-fawaidul-fiqhiyyah" (Benefits of Jurisprudence) and "Sharh Mukhtasar al-Tahawi" (Commentary on Tahawi's "Mukhtasar") [6:29]. In comparing the perspectives of Sarakhsi and Hugo Grotius, it proves advantageous to examine their respective viewpoints on various aspects of international law. Grotius, an eminent classical scholar from the Western tradition, advocated for the allowance of just wars. He posited that war should be considered a viable means of resolving conflicts, citing the absence of international courts for legal dispute settlement. 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CONCLUSION

Imam Sarakhsi, being one of the most frequently cited jurists among the Hanafis, holds a distinct position as a remarkable scholar. Our fellow compatriot, Shaykh Muhammad Sadiq Muhammad Yusuf, in his book "Kifoya" [15:54-55], categorizes the Hanafi jurists. The ranks of those bestowed with the title of "faqih" are not uniform, but rather classified into seven types. The first category comprises the eminent imams who engaged in ijthad within the framework of Sharia, including the founding imams of the four schools of thought. Abu Hanifa, the progenitor of the Hanafi school, belongs to the first category and is recognized as an absolute mujtahid. His disciples, such as Abu Yusuf, Muhammad Shaybani, and other followers of Abu Hanifa, fall under the second category as mujtahids within the Hanafi school. They may differ with their teachers on certain personal judgments without contravening the fundamental principles. The third category encompasses jurists who engage in ijthad on matters not directly attributed to the imam. Scholars like Khassaf, Tahawi, Hulvani, Bazdavi, Shamsul Aamma al-Sarakhsi, and others are deemed mujtahids with the authority to issue rulings on issues not explicitly addressed by these esteemed sheikhs, relying on the principles established by their own teachers. Thus, we can discern from this classification that Imam Sarakhsi holds a prominent position among the scholars of the Hanafi sect and is regarded as a mujtahid belonging to the third category. In summary, there exists a pressing need to popularize the scholarly heritage of our esteemed forebear. As young individuals, it is incumbent upon us to engage in profound scholarly research, disseminate unique works within academic circles, and thereby introduce Islamic knowledge and culture to the world. Notably, our



nation serves as a center of knowledge, boasting exceptional scholars who have left an indelible mark throughout history. We are well aware that leaders in various fields hail from our country. By wisely utilizing the current circumstances and opportunities, we ought to delve deeply into the life of Imam Sarakhsi, a luminary in the realm of legal jurisprudence, and the profound legacy he has bequeathed to our generations. In doing so, we shall bring honor to our nation on the international stage. At this juncture, it is regrettable that certain Western researchers confine themselves to one-sided studies, impeding the realization of scientific objectivity. While the works of Western scholars are acknowledged in the field of international law, the significance of the legal treatises penned centuries earlier by scholars from our own land is held in high regard. As a testament to our viewpoint, we can point to the aforementioned works of Imam Sarakhsi. This substantiates the unparalleled nature of the Eastern scholars' research, writings, and scientific legacy in the realm of international law. In matters of Islam and international law, our scholars have taken the lead globally, and their groundbreaking discoveries continue to astonish the international community.

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PROSPECTS FOR THE FORMATION AND DEVELOPMENT OF CIVIL SOCIETY IN UZBEKISTAN

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ABSTRACT

It is known that after the independence of our Motherland, the establishment of a free democratic state based on a market economy, the formation of a solid foundation of civil society, was established as the main strategic goal. It was recognized that only a similar society can guarantee the decent marriage, rights and freedoms of the people of Uzbekistan, revive our national traditions and spirituality, ensure the spiritual and moral perfection of a person as a person.

Since one of the main criteria for the formation of civil society is the creation of its legal basis, special attention was paid primarily to the establishment of the legal foundation of civil society in the Constitution of the Republic of Uzbekistan, the expression of its legal norms, which legally strengthen its Basic Rules and requirements.

KEYWORDS: *fundamentals of society, civil society, social protection, citizenship, human factor, strategy, civil society*

INTRODUCTION

Civil society is an open social structure. It provides freedom of speech, including freedom of criticism, transparency, freedom of access to all kinds of information, the right to free entry and exit, information on a large scale, permanent basis with other countries, exchange of educational technologies, cultural and scientific cooperation with foreign countries and public organizations, assistance in the activities of international foreign associations in accordance with the principles and norms of international law. It is committed to the principles of general humanism and is open to interacting with such structures worldwide.

Civil society is a system of complex composition and pluralism. Naturally, any social organism will have a certain set of properties of the system, but civil society is characterized by their completeness, stability and efficiency. Colorful social forms and institutions (trade unions, parties, associations, entrepreneurs, clubs, etc.k.)the presence of individuals makes it possible to express and realize the needs and interests of different districts, to show all the abilities of the individual.

Civil society is a self-developing and self-governing system. Individuals unite into different organizations, establish colorful relationships with each other, realizing their sometimes opposite interests, ensuring harmonious and consistent development without the intervention of a state in which society has the power of political power. Civil society has its own internal sources of self-development independent of the state.

Civil society-lives in harmony with a legal democratic state. Here, the recognition, provision and protection of natural and acquired rights of a person and a citizen is valid as a binding factor.

MAIN PART

While the main element of civil society is some individual, civil society institutions, organizations, groups, etc. are the factors that shape it. They promote the realization of a person, his interests, goals, intentions, etc. Therefore, the separation of economic and political power is the main factor in the emergence and decision-making of real civil society. When economic power is joined by political power, it inevitably occurs that economic power is concentrated in the hands of one center, one person or group of individuals. If political and economic authorities are concentrated in different centers, hands, they are limited to each other.

Together, the concept of "civil society" and "legal State" appeared in the XVIII century. The two sides of people's lives and activities: their personal interests, initiative, the front of voluntary activities and the front of people's power, whose behavior is subordinate to the will of the state, were expressed in these concepts.

Civil society is shared by the ideas of reasonableness and Justice of power, the legal superiority of ideas about freedom and well-being of the individual, the unity of law and law, the ideas of legal delimitation of the activities of various branches of state power.

The legal state can be considered the result of the development of civil society and the factor of its further self-improvement. The process of formation of legal statehood will undoubtedly last much longer. It continues to improve along with the formation of



civil society. As in every state, the sovereignty of the legal state power is manifested within the country in its superiority over all citizens and the non-governmental organizations that they constitute, and beyond, in the conduct of foreign policy of the state, in the establishment and independence of relations with other states.

Without a mature civil society, it is impossible to build a legal democratic state, since only conscious free citizens are able to create the most rational forms of human society. Thus, if civil society is considered a connecting link between free individual and the will of a centralized state, then the task of the state is to create conditions for disintegration, disorder, tension, work against degradation, the realization of the rights and freedoms of a free person.

A legal state is such a state of power that it acts according to the norms of law, and within their framework, does not dare to violate, abolish or limit these norms, recognizes the inextricable natural-historical rights of citizens and their associations.

The laws of the Republic of Uzbekistan "on guarantees of the activities of non-profit organizations", "on public funds", "on sponsorship" for the purpose of increasing the development of non-profit organizations as civil society institutions, their independent activities, their rights and freedoms of citizens, as well as the protection of their interests, As a result of the decision of the president of the Republic of Uzbekistan "on measures to promote the development of civil society institutions in Uzbekistan" and the formation of other legal foundations, non-profit organizations began to express signs characteristic of civil society institutions in themselves.

But at the same time, the concept substantiated the need for further development and democratization of civil society institutions in the country, deeper integration goals into the world community, expression of the will of citizens in important state decisions, the adoption of a number of other laws in order to focalize the participation of the population in reforms and socio-political processes. In particular, the adoption of the law "on social partnership" in order to achieve certain development in this area, to ensure the openness and effectiveness of the reforms being carried out, to ensure mutual cooperation with state bodies in Civil Relations was put on the agenda of the current period. Particular attention was paid to the fact that this law includes "legal norms on such issues as the rights and freedoms of different segments of the population, the establishment of clear boundaries in the interaction of NGOs with state structures in defense of their interests and the improvement of organizational and legal mechanisms".

Also, in order to further develop the self-government bodies of citizens as an institution of civil society, to more broadly represent the interests of the population, to further improve the organizational foundations of the neighborhood, to further expand their scope of work, to bring these bodies closer to their relations with state authorities and local government bodies, it was determined that it is Amendments and additions to this law are mainly neighborhoods "...it was established that on a clearly oriented basis, a serious focus will be placed on social support of the population, transformation into a center for the development of private entrepreneurship and family business, as well as further expansion of their tasks in the system of public control over the activities of state governing bodies".

Indeed, by the present time, it was necessary to create a mechanism not only to increase the activities of the chairman of the Citizens' Assembly and his advisers, but also to ensure that the control of the residents over their work activities, the bodies elected to the Citizens' Assembly are working with the attention of the interests and needs of the residents living in the In improving this law, it is indisputable that the functioning of the elected bodies of the Citizens' Assembly at the level of the requirements of the current period is carried out on the basis of the responsibility of the people of the neighborhood, which will enrich the institution with its associations inherent in civil society.

RESULTS AND DISCUSSION

From world experience, it is known that in the conditions of the functioning of civil society and the legal state, public control of the institutions of society over the activities of state bodies is of paramount importance. In this process, the interests of various social strata and citizens in society begin to manifest as supposedly state interests. In addition, public control affects the provision of the activities of state bodies to start the night on the basis of the interests of society. Importantly, in this process, citizens themselves become more socialized as they participate in public administration. Socialization, on the other hand, is one of the main components of political culture. In accordance with it, important attention was paid to the fact that this "program must first of all embody measures aimed at ensuring the protection of human rights and freedoms by law enforcement and control bodies, ensuring the formation of a culture of human rights in society and compliance with laws related to other areas of the world".

Of course, if we pay attention to how the level of development of civil society is measured by the manifestation of freedom of human rights and their comprehensive protection, we make sure that the improvement of the human rights protection system in the country consists in the improvement of one of the most important elements of the legal state.

By the present time, environmental threats have also been added to the global threats and threats (such as terrorism, extremism, climate change in the globe) for developed and developing countries around the world. In addition, environmental conditions also pose a serious threat to human health, the survival of nature on the basis of its own laws. That is why the actions and parties of the "Greens" in developed countries were not in vain. In particular, organizations for the protection of ecology were formed in our country, a group of Deputies was formed in the Lower House of Parliament, who were able to ensure the interests of these actions. In accordance with the concept, "the



adoption of the Environmental Control Act and a number of other legislation aimed at determining the role and place of non-profit organizations in the system of ensuring environmental protection "not only improves environmental processes, but also strongly affects the increase in population activity in this area, the formation of environmental culture.

CONCLUSION

By the present time, the reflection of the laws put forward in the concept was adopted by parliament, which is manifested as a factor in the further development of civil society in the country. As it turns out, as a result of the implementation of the goals and objectives put forward in the concept, on the basis of which the legislation for the development of civil society is brought to the level of developed countries, civil society institutions begin to operate on the basis of the requirements of universally recognized international norms, which are inextricably linked to holdamam, all After all, since the implementation of human interests by the present time is the main guarantee of human development, this process can be fully realized only in the conditions of civil society, which we are building. Therefore, the co – eminent thinker Georg Hegel predicted that all conditions for a person to be able to realize this higher value would be created on the ground of civil society, when he said that "the chief interest of a person is his own freedom in life". This society, dreamed of by mankind, is also becoming a Real reality in the country of Uzbekistan in the present time.

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CONQUERING THE CLOCK: OVERCOMING PROCRASTINATION AS AN ENGLISH LANGUAGE LEARNER

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ABSTRACT

This article emphasizes identifying the precise meaning of the word "procrastination" and aims to find out the causes or issues that arose because of delays. Additionally, gives possible solutions not for only overcoming delaying habits in students' academic journeys but ways of conquering procrastination for everybody on the whole. It will discuss psychological factors that lead to procrastination as well as its negative effects.

KEY WORDS: *Procrastination, academic journey, psychological factors.*

INTRODUCTION

Sometimes we sit and think that we gradually running out of time to do crucial things in our lives. For this, most of the time, we blame the competitive lifestyle of the world that keeps us so busy. Time management is becoming a greater issue that creates a lot of problems and the consequences are disastrous. Inefficient time management affects our mental, physical, and financial state in a negative way.

Why can not we keep up with the pace of the current world? The answer is pretty simple. In this article, we will discover the term "Procrastination" which is the main problem that holds us back from completing important tasks. As the word procrastination implies, it means delaying important tasks or not doing something until a later date, which means not meeting deadlines and not accomplishing everything on your list. When it comes to postponing academic tasks at institutions, it can result in disapproving consequences as students may miss their precious time even worse, they can fail or be dismissed. The first step is to dig deeper into the issue and then offer possible solutions.

It is worth noting the reasons behind delaying habits in students' character. Those can be a lack of self-confidence, absence of motivation, not having an exact goal, poor time management, distractions, fear of failure and lastly being a perfectionist. We will look through each separately and go deeper into solutions.

Students who are in the process of learning at universities face problems putting off university tasks until last the date or they may be overloaded with work at their workplaces. Imagine you are going to write an assignment that you are not sure whether you understand the instructions or not. They probably give up an idea do research the topic, and find out relative information on the net or asking from your instructors. The more complicated tasks are likely not researched or postponed when students encounter them. Collecting these tasks in this way makes students less self-confident and may lead to doubts about their abilities. The next reason for being a procrastinator is a lack of motivation to do one exact task. In students' case, it is hard to have intrinsic motivation that lasts longer because finishing one book or writing one essay can not make you a scholar. This process takes a longer time to succeed and see the results. It is for this reason that most students may not have the passion or the patience to reach so-called success levels. The following two reasons can be associated with each other as we are surrounded by a lot of distractions and it, in turn, leads to poorly managing our time. Nowadays, we live in a period in which people overuse social media in an uncontrolled way. Excessively using online tools and watching useless videos are a common problem among people that causes them to forget their tasks and easily be distracted by them. Some type of students still do not know prioritize the tasks that they should do as a result by completing their homework in a rush they can do unsatisfactory work in other words inefficient home tasks. Imagine you have a little time to upload your assignment what do you do? Some students in this situation try to find easier ways to solve this problem by using online tools or ChatGPT. Overusing internet tools can seem very helpful for some students but by doing this, they order their brains not to work and have some rest consequently, they regularly count on such tools and can not complete any tasks by themselves. According to research done recently, many students delay their tasks because of using too much internet or social media applications and there is very little number of students left who use the internet for education purposes. We can link this case with the "having no exact goal" situation. Currently, students do not know what exactly they need and which skill should be learned and they are hardly interested in educational websites which they consider tedious. Now, let us turn to the negative effect of procrastination and learn some strategies to overcome it. What if we put off our university tasks regularly? Just one delay can cause procrastination because we run



out of time to do tasks in order. Gradually, it can turn into a habit for you and feel like a typical thing. The fact says procrastinators feel more stress themselves rather than disciplined students and they feel over pressure all the time worrying about tasks that they leave until late hours. Secondly, procrastinators can struggle to get high scores for their quality work and lastly can cause long-term negative consequences in variable aspects of life.

Having shed light on useful methods to overcome procrastination, I suggest several actions to take. Initially, you should take manageable steps that you can do as a creating to-do list. By doing this you put all your tasks in order and have a chance to prioritize important ones. Take an example, if you have two options means two tasks to do for one day: to hang on with your friends or continue your incomplete home task. Which is more essential for you? You can write down tasks that you should do in order according to their essence meanwhile put an alarm clock that alerts you to finish it and turn to the next task. Another way to reduce the amount of delays in your study is eliminating distractors. I do it by turning off notifications of all entertainment applications on my cell phone until finish my home tasks. Some suggest not using these types of apps at all but I think we can control ourselves from overusing them. The second thing I do usually is put gadgets away from me which is a very helpful way not to pay attention to messages that come to my mobile phone.

To sum up this topic, we can combat procrastination until it becomes a chronic habit. To have less stress and a healthy lifestyle it is better to avoid it.

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ISLAM IN THE DIGITAL AGE: NAVIGATING FAITH AND TECHNOLOGY

Dr. Ahmed Sebihi, Ms. Abeer Moazzam

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Dr. Ahmed Sebihi, a distinguished academic and international relations expert, occupies key roles in academia. As an Editorial Board member at EPRA Journals and a Professor at Skyline University, he also serves as Vice President of Afro-Asian University, contributing significantly to postgraduate studies. Fluent in five languages, Dr. Sebihi holds a Ph.D. with distinction in innovation and artificial intelligence. His rich career spans over 29 years, teaching and researching in renowned universities across Thailand, Tunisia, Saudi Arabia, and the UAE. Beyond academia, he excels as an international coach, media center manager, and journalist.

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My name is Abeer Moazzam, and I am currently undertaking a Bachelor's degree in Information Technology at Skyline University Sharjah. My academic journey commenced with a focus on premedical sciences during high school, reflecting my diverse interests. My passion for research and my affinity for leadership roles have been significant driving forces in my academic and extracurricular pursuits.

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ABSTRACT

This research explores the impact of social media on Islam, investigating how digital platforms shape religious knowledge, community dynamics, and cultural expression. Tracing the evolution from oral traditions to the contemporary digital landscape, the study examines social media's role in teaching the Quran, spreading Islamic Dawah, and fostering online communities. While acknowledging the positive contributions, the research also addresses challenges, including the dissemination of illegal content and the exploitation of platforms by extremists. Emphasizing the need for vigilance, the findings highlight the importance of using technology in accordance with Islamic principles. The paper concludes with a call to navigate the digital landscape with resilience and adherence to Quranic teachings, revealing the intricate relationship between technology and spirituality in the modern Islamic context.

INTRODUCTION

Imagine a world in which a singular invention has not only transformed communication but also became the backbone of our global society? The Internet, which was first introduced in the early 20th century as a way to blog and store information, has since become a global platform for social interactions, connecting people from all over the world. The percentage of social media users have increased exponentially in recent years from what it used to be when it first came around. Today, more than 50% of humanity is connected to the internet and social media, mostly for social interactions. This exponential increase in connectivity raises the question: How has this technological miracle affected the very structure of society. More specifically, how does it affect the realm of Islam, especially within the domain of social media? These questions pave the way for our exploration of the relationship between internet, social media and Islam. As we embark on this journey we will delve into the nuanced ways these technological advancements are shaping Islamic discourse. From the propagation of religious knowledge to the fostering of online communities and the addressing of challenges posed by digital extremism, we aim to unravel the relationship between the social media and the Islam.

Tracing The History: Islamic Knowledge Transmission and The Social Media Shift

As we navigate onto the world, shaped by internet and social media, it's important to explore how Islamic knowledge was previously shared, During the time of Prophet Muhammad, with a smaller population, information primarily spread through oral means. The teachings of the Prophet were heard directly, and this knowledge was meticulously passed down through generations, as reflected in Hadiths that often begin with "narrated by". Consider this Hadith: *"Narrated by Muhammad ibn Bashshar, from Abu Dawood, from Imran al-Qattan, from Qatadah, from Yazid ibn Abdullah, that Prophet Muhammad said"*

It illustrates the meticulous transmission of knowledge. Islamic knowledge was also thrived in Halaqas, which are communal gatherings where scholars and students convened to share and discuss ideas, fostering a vibrant atmosphere of intellectual exchange and community.



While traditional methods involved oral transmission, Halaqas, and manuscript preservation, implementing them in today's vastly populated and diverse world would be impractical. The risk of information distortion through continuous verbal transmission is high. And so Social media emerges as a powerful contemporary tool, efficiently educating a wide audience about Islam.

Teaching The Quran

With the emergence of the Internet and especially social media, the message of Islam reached many places in a short span of time. Technology has made it very easy for us to gain any type of knowledge about Islam, making tasks like teaching the Quran, spreading alerts, sharing Hadith, and referencing Islamic literature for Dawah purposes much more accessible. **'Uthman ibn Afsan (R.A) said that the Messenger of Allah (SWT) said: "The greatest among you (Muslims) are those who learn the Quran and teach it"**). Undoubtedly, this era, dominated by social media, presents unparalleled opportunities to attain spiritual excellence in the eyes of Allah (SWT). There are currently many ways for Muslims to participate in Arabic and Tajweed online using various social media platforms. The comfort of home has become a great place for people to learn the teachings of the Quran in depth.

Spreading of Islamic Globally: In this era of information flow, presenting the beauty of Islam to the world through the media has become remarkably accessible. The Holy Quran provides insights into Global, illustrating its principles and significance.

"Invite to the Way of thy Lord with wisdom and beautiful preaching; and argue with them in ways that are best and most gracious". In the light of this verse, it can be said that modern technology can be used in terms of promoting Islam. **The Prophet (SAW) once stated, "Convey my teachings to the people, even if it were a single sentence"**.

Discussion of Islam in the media allowed the message to spread rapidly around the world. In the past, proponents of Islam had to put in a lot of effort to spread the teachings of Islam, but now it is easier and can be done from the comfort of your home. Social media is a tool used by prominent Islamic scholars to spread the message; for example, Dr. Zakir Naik, Mufti Monk, Numan Khan, Bilal Phillips and others.

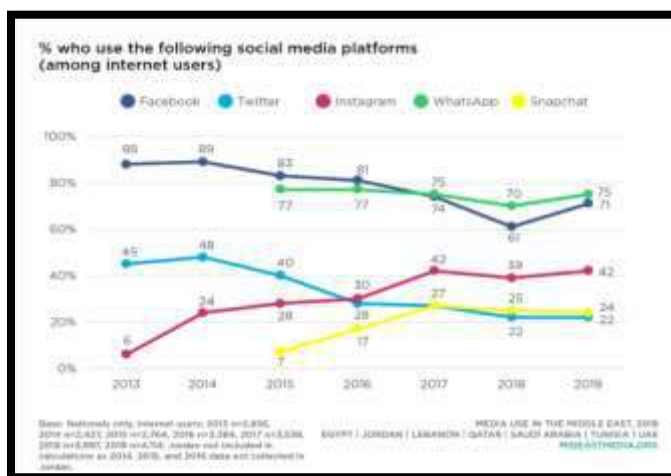
The Dawah efforts of these scholars are so potent that not only do Muslims find their beliefs strengthened after watching, but non-Muslims also begin to question their own faith and delve into learning about Islam. The Prophet emphasized, **"Ad-Deen is sincerity"/"Deen and Islam are people's welfare"**. And so, following the Islamic principles of inviting others, using well-informed and evidence-backed dialogue can help spread the word better.

THE ROLE OF SOCIAL MEDIA INFLUENCERS

The rapid diffusion and widespread adoption of social media platforms in Muslim-majority countries, such as Facebook, Twitter, and YouTube, have reshaped the digital landscape. As reflected in the attached graph, the social media landscape in Middle Eastern countries is undergoing significant growth, particularly in the case of Facebook, which stands out as the dominant platform. WhatsApp closely follows in popularity.

This surge in social media activity is fueled, in part, by the emergence of Muslim content creators on platforms like YouTube, TikTok and Instagram. These influencers, play a pivotal role in disseminating Islamic content, providing guidance, and fostering learning experiences for their audience. The educational value of their content encourages sharing among users, as the act of sharing itself is considered a form of continuous charity (saddiqah jariyah). Prophet Muhammad (S.A.W) said: **"The righteous deeds that continue to benefit a believer after his death include the knowledge that he teaches and spreads among others...."**. This ripple effect contributes to the widespread circulation of Islamic knowledge within the digital landscape. These influencers impact goes beyond the Muslim community, reaching individuals who are new to Islam and seeking information.

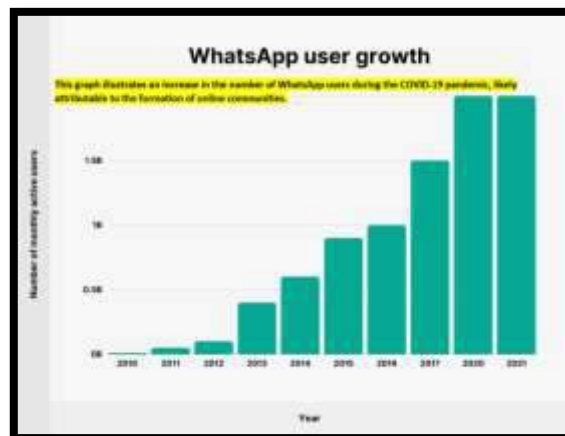
This content on such platforms, not only captivates users but also encourages them on open dialogue. People can easily ask questions and share problems that they face regarding Islam, and content creators actively respond, creating an interactive space for learning and





problem solving. Crucially, these apps are free, and easy to download. Ensuring that every individual, regardless of financial background, can freely access and benefit from the wealth of Islamic knowledge.

Online Communities and Virtual Learning Platforms: The internet's evolution in Muslim societies has transformed education and spurred the growth of online communities, especially amid the COVID era. Platforms like WhatsApp and Telegram serve as crucial hubs for global Muslim connections, facilitating discussions not only on educational topics like Quranic studies but also on diverse cultural elements and personal experiences. These virtual spaces offer a unique opportunity for individuals, including time-constrained housewives, to engage in meaningful conversations, share insights, and build a global Muslim community. In these digital realms, individuals find support, encouragement, and a platform for personal growth, transcending geographical boundaries. The mutual exchange of experiences and advice enhances the community's collective well-being, echoing the Islamic principle of mutual care and support as seen in the hadith: *"The believer is like a mirror to his brother. If he sees any fault in him, he tells him to remove it"* (Tirmidhi). This sense of mutual reflection and improvement demonstrates the multifaceted benefits of online communities beyond education and cultural exchange. Additionally, these virtual platforms play a significant role in promoting unity among Muslims, fulfilling the Quranic injunction in *Surah Al-Imran*: *"And hold firmly to the rope of Allah all together and do not become divided."* The collaborative spirit within these online communities fosters a sense of unity, bridging geographical gaps and reinforcing the bond of brotherhood among believers. This Online community collaboration fosters unity, bridging gaps among believers.

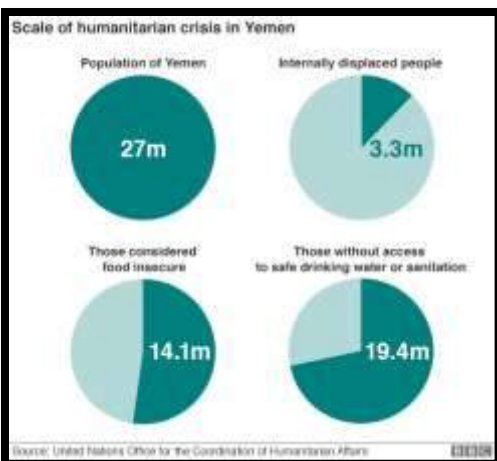


Cultural Diversity and Expression

Social media provides Muslims with an expansive platform to express and showcase the richness of Islamic traditions and culture. Typically, Muslims share various elements of their cultural heritage, including customs, attire, artwork, literature, and notable personalities. They perceive social media as a virtual stage for presenting their culture, increasing awareness about it, and educating others. Muslims actively participate in meaningful conversations, delving into discussions about their customs and sharing visual representations of their culture in the online realm. This virtual space transforms into a learning environment, where individuals elucidate the meaning of diverse cultural customs, provide historical backgrounds, and foster a more profound environment.

Charity and Community Support

Social media serves as a powerful tool for raising awareness about global issues and mobilizing support for those in need. The teachings of Prophet Muhammad emphasize the virtue of giving, especially in difficult times. *As he said, "Give charity, O you people of wealth, and be assured of ease of heart,"* and *"The best charity is that which is given when one is still struggling."*



"The Islamic Relief Fund", committed to alleviating suffering, exemplifies this virtue in addressing Yemen's severe food security crisis. Over 400,000 people face acute malnutrition, and the organization provides monthly food aid to two million individuals, clean drinking water to over 800,000, and has established 167 health facilities. This example is just one among the multitude of online charitable organizations.

The Quranic verse (5:32) serves as a reminder: "And whoever saves a life, it is as if he has saved the lives of all mankind." Social media, particularly Instagram, amplifies these charitable efforts, creating a global community conscious of challenges and actively contributing to positive change. The interactive nature of campaigns and real-time updates deepens the connection between individuals and the causes they support, promoting cross-cultural understanding.

Challenges in Navigating Social Media Impact on Islam:

While Social Media offers numerous advantages, it also presents its fair share of challenges. The easy and affordable access to the Internet has unfortunately given rise to individuals with malicious intent who freely



distribute illegal content. Additionally, some people, exploit social media platforms to spread misinformation against Islam. Online communities have become susceptible to deceptive activities, where individuals, especially the youth, can be easily misled. Despite the widespread popularity of these platforms, they inherently present challenges. Users must exercise caution as media can easily become a source of threats and may also be susceptible to exploitation due to its inherent vulnerabilities.

Extremists

Like many societies worldwide, one of the most pressing challenges for the Islamic community is extremism. On social media, Islamic extremists exploit the platforms to spread radical ideologies, manipulate religious doctrines, and advocate for violence. Rooted in political, social, or religious motivations, these individuals or groups use online spaces to recruit, share extremist content, and influence vulnerable individual.

Spread of Misinformation and Negative Perception

While many utilize social media positively, individuals with extreme views exploit these platforms to sow discord among followers of various religions. They disseminate biased information and portray an unbalanced perspective of Islam, influencing public perception. Western media tends to oversimplify conflicts involving Muslims, attributing them solely to Islam and neglecting similar issues in other religions. Social media amplifies this by circulating false rumors about Islamic leaders, fostering misconceptions about Muslims. Regrettably, this misrepresentation can lead non-Muslims to perceive Muslims as either traitors or terrorists.

False News on Social Media

The widespread dissemination of false news on social media, has resulted in negative perceptions and misinformation about the media. Social Media platforms often feature a substantial amount of misleading content, with many blogs lacking proper editing. The alarming ease with which rumors can spread during the social media era is particularly concerning

CONCLUSION

In conclusion, social media has profoundly influenced Islam, facilitating the global dissemination of religious knowledge and the formation of online communities. While connectivity transcends geographical boundaries, allowing individuals to connect, learn, and find support, it also brings challenges, such as the risks of extremism and misinformation. Muslims must use technology to strengthen, not weaken, their faith, guided by the Quran and Sunnah's teachings. The Quran's admonition to "*fear Allah as He should be feared*" serves as a shield against challenges, emphasizing the importance of resilience in the face of negativity.

The Prophet's warning about the signs of a hypocrite—lying, breaking promises, and betraying trust—offers a roadmap for discerning falsehood. By fortifying hearts with sincere faith and adhering to the moderate path of the Sunnah, believers can navigate the digital landscape, resisting extremism and falsehood. Influential Islamic figures, content creators, and online communities play a pivotal role in addressing these challenges by upholding values of sincerity, knowledge-sharing, and mutual support. As we navigate the ever-changing digital landscape, let us heed the Quran's call, "*O you who have believed, enter into submission to Allah completely and do not follow the footsteps of Satan. Indeed, Satan to you is a clear enemy*". May these words serve as a guiding beacon, illuminating our path towards unwavering faith and righteous conduct in this digital world, where the echoes of truth and falsehood intertwine.

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A COMPREHENSIVE LITERATURE REVIEW ON WOMEN'S EMPOWERMENT IN SELF-HELP GROUPS AND DIGITAL INITIATIVES

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ABSTRACT

Purpose: The abstract provides a summary of the study on women empowerment in self-help groups and digital initiatives. It emphasizes the economic and social impacts, including financial independence through SHGs and digital literacy. The abstract aims to highlight the interconnected nature of these efforts and their broader implications for community development, gender equality, and economic progress.

Findings/ Result: The interconnectedness of women empowerment in self-help groups and digital initiatives, showcases how these efforts empower individual women and contribute to the broader goals of community development, social equality, and economic progress.

Originality/Value: The study's originality lies in exploring how combining traditional self-help groups with digital initiatives can comprehensively empower women. It adds value by recognizing the intersectionality of empowerment strategies, addressing economic and social aspects, promoting digital inclusion, fostering innovative community development, and offering practical insights for policymaking and programs.

Paper type: Systematic Review Paper

KEYWORDS: Women's Empowerment, Self-Help Groups (SHGs), Digital Initiatives, Economic Empowerment, Gender Gap, Financial Literacy, Microfinance, Digital Literacy, Socio-Economic Impact

1. INTRODUCTION

Women's empowerment has emerged as a pivotal force in fostering sustainable economic and social development, with self-help groups (SHGs) and digital initiatives playing instrumental roles in this transformative process. In the context of Karnataka, a state known for its diverse cultural and economic landscape, understanding the nuanced dynamics of women's empowerment through localized approaches becomes imperative. This research seeks to delve into the multifaceted impact of both traditional self-help groups and contemporary digital initiatives on the economic and social dimensions of women's lives in Karnataka.

Karnataka, a state at the forefront of India's technological advancements, presents a unique setting for examining the interplay between age-old self-help group mechanisms and the rapidly evolving digital landscape. The empowerment of women in this context involves not only economic aspects, such as entrepreneurship and financial inclusion but also broader socio-cultural dimensions, including education, healthcare, and community engagement. By assessing the effectiveness of self-help groups and digital initiatives, this study aims to provide insights into the specific challenges and opportunities faced by women in Karnataka and offer recommendations for informed policy interventions and program designs.

The juxtaposition of self-help groups, deeply rooted in community-based support systems, and digital initiatives, symbolizing the modernization of information access, creates a rich tapestry for analysis. Through an exploration of the impact of these empowerment mechanisms, the research aspires to contribute not only to the academic discourse on women's empowerment but also to the practical development strategies tailored to the unique socio-economic landscape of Karnataka. In doing so, this study endeavours to shed light on the dynamic processes shaping the empowerment of women, fostering inclusivity, and propelling Karnataka towards a more equitable and prosperous future.



2. OBJECTIVES OF THE STUDY

- To investigate the idea of digital endeavours.
- To analyse articles discussing self-help groups, digital initiatives, and the empowerment of women.
- To create a conceptual framework for exploring the dynamics of self-help groups, digital initiatives, and the empowerment of women.
- To recognize an area in research that necessitates further investigation.

3. RESEARCH METHODOLOGY

This conceptual study relies on secondary data gathered from peer-reviewed Indian and international publications, encompassing a range of research papers, reviews, and case studies identified through the Google Scholar search engine. The paper titles were scrutinized using specific keywords like "digital initiatives," "role of women empowerment," "self-help groups," "reviews," and "literature." Additionally, other published materials such as books, theses, and websites were consulted to enhance the theoretical understanding.

4. LIMITATIONS OF THE STUDY

This study is constrained by factors such as dependence on secondary data, possible publication bias, limitations in keyword selection, challenges in generalizing findings, variations in source quality, incomplete data coverage, absence of primary data, temporal constraints, a theoretical focus, and subjectivity in search criteria. Acknowledging these limitations is crucial for interpreting the study's findings and guiding future research endeavours.

5. REVIEW OF LITERATURE

Sl. No.	Field of Research	Focus Area	Reference
1.	Socio-economic transformation facilitated by SHGs	Understanding and addressing obstacles faced by women entrepreneurs in Self-Help Groups (SHGs) in rural India. Emphasis is placed on evaluating the policy environment, providing targeted guidance and training, and assessing the future viability of women-owned businesses within SHGs. This aims to offer recommendations for policymakers and stakeholders to enhance the support system for women entrepreneurs	Dr.Lokesh G R, Dr.Geethanjali G (2023)
2.	Digital Financial Inclusion (DFI) and its Impact on Self-Help Groups (SHGs)	DFI initiatives use digital tools to empower self-help groups (SHGs), enabling access to financial services, fostering independence, entrepreneurship, and income generation. This leads to poverty alleviation, improved living standards, and a promising future for SHGs and their communities.	Mahesh K. M., P. S. Aithal, & Sharma K. R. S. (2023)
3.	Social media and ICT empower SHGs	Integrating ICT and e-business, especially through social media, empowers Self-Help Groups (SHGs) and non-profits by enhancing online presence, cost-effective marketing, connecting with donors, raising awareness, empowering members, and building sustainable partnerships.	DR. HANMANT G SAPKAL, Mrs Akanksha Kherdikar (2015)
4.	Evaluates Women's Self-Help Groups and social welfare programs	Assessing the impact of WSHGs on the socio-economic status of their members through social auditing, with an ultimate goal of poverty alleviation and empowerment of women in rural areas.	Rama Krushna Das, Manas Ranjan Patra, Harekrishna Misra (2013)
5.	The role of Self-Help Groups (SHGs) and gender equality and empowerment	Women entrepreneurs drive economic growth, particularly in rural areas, with support from Self-Help Groups (SHGs). The study emphasizes providing opportunities for women in urban and rural settings, focusing on gender equality and overall economic development.	Dr. Naresh Kumar Salvi (2019)
6.	Rural development	The study emphasizes the vital role of self-help initiatives in rural community transformation, stressing the need for local involvement in project stages, criticizing imposed projects, and promoting community empowerment for sustainable development.	Dickens Otim, David Mwesigwa (2022)
7.	The impact of fintech, government initiatives, and digital infrastructure	How fintech and government schemes, like ECLGS and Startup India, impact small and medium enterprises. It also explores the role of digital	Mahesh K. M., P. S. Aithal &



	on the growth of small and medium enterprises (SMEs).	infrastructure in enhancing e-commerce productivity and creating job opportunities for economic growth.	Sharma K. R. S.(2023)
8.	The impact of Digital India on women empowerment	Digital India and women's empowerment programs synergize to uplift women in India, providing economic opportunities, skills, and leadership roles. Digital initiatives focus on universal digital literacy, accessible government services, and language inclusivity, fostering a more empowered and connected society.	Prof. Onkaragouda Kakade and Deepa Tattimani (2021)
9.	Fusing feminist economics with ICT4D	The powerful role of digital empowerment in advancing women's economic participation in developing countries. It underscores the need for targeted strategies, combining feminist economics and technology, to bridge the digital gender gap and promote sustainable development.	Marriyum Zafar , Shoaib Ahmad (2023)
10.	ICTs and Women Empowerment in Developing Countries	ICTs empower marginalized groups, especially women, globally by providing access to information and education. They overcome barriers in rural development, emphasizing the importance of contextual understanding. ICTs enable women's empowerment by enhancing communication, education, and economic opportunities.	Dr. Sayanika Borah and Dr. Hari Charan Kalita (2019)
11.	ICT as a key tool for women's empowerment and rural development	Measures for enhancing women's financial empowerment in India, include improving literacy, expanding ICT access, promoting income-generating activities, and leveraging governmental support for ICT initiatives and Digital Banking Units.	Manoj PK, Lakshmi, Sruthy Krishna, Reni Sebastian (2023)
12.	The impact of work-life balance,women entrepreneurs	The ICT industry is recognizing and adapting to empower women, facing a talent crunch at top levels. Successful women in the sector serve as role models, highlighting the importance of work-life balance. Family support is crucial for women's success, contributing not only to their identity but also to overall economic well-being.	DR. Bimal anjum, Rajesh Tiwari (2012)
13.	Digital India focusing on digital literacy, access, financial inclusion, and entrepreneurship	The paper focuses on highlighting key Digital India initiatives dedicated to women's empowerment, covering areas such as maternal healthcare (MCTS), women entrepreneurship (Mahila E-Haat), gender equality (Beti Bachao), ICT in agriculture, skill development, and e-governance services tailored for women in both rural and urban settings. The objective is to showcase how digital interventions contribute to enhancing women's well-being, economic independence, and overall empowerment.	Dr. Venkateswararao. Podile (2018)
14.	Women's empowerment through digitization	The study centres on empowering women through digitization in rural and urban areas. Despite initiatives like "Internet Saathi," few rural women use the Internet. It underscores the need for basic internet centres and training for digital literacy. Mobile technology is crucial for access to information, education, and economic opportunities. The aim is to empower rural women to use the internet to stay informed, online transactions, and global awareness.	Dhanamalar M., Preethi S., Yuvashree S. (2020)
15.	women's empowerment in various domains	The primary focus is on the vital role of women's empowerment in societal and economic growth, emphasizing the opportunities presented by information technology. It highlights the importance of women's active participation, economic independence, and the need for societal initiatives to eliminate gender discrimination and promote equal involvement in decision-making across various spheres.	Dr. Ansuya Angadi and Anusha Goud (2018)
16.	Empowering Indian women in entrepreneurship	The research focuses on empowering Indian women in entrepreneurship, addressing challenges and highlighting government initiatives. It emphasizes education and digital media's role in fostering women's independence. The goal is to identify key drivers for increasing female entrepreneurs and offer recommendations.	Ravi Singh, Durgesh Kumar Dubey (2023)
17.	The effectiveness of constitutional amendments in India.	Global economic progress sees women's empowerment through programs like Self Help Groups in India. Despite challenges, rural women entrepreneurs contribute significantly, addressing issues like gender wage disparity. The digital revolution enhances their economic	G. Sagar (2018)



		independence, and constitutional amendments emphasize the importance of women's participation in national development.	
18.	Women's empowerment through self-help groups in Tamil Nadu, examining social impact, and responses to COVID-19 challenges in the informal sector.	The impact of self-help groups (SHGs) on women's empowerment in Tamil Nadu. It focuses on SHGs' social influence, changes in their social clause, and their role in supporting women entrepreneurs. The challenges posed by COVID-19, particularly affecting women in India's informal sector. The research aims to emphasize the importance of SHGS in empowering women, especially in the context of the pandemic.	Dr.M. Chandra (2023)
19.	The intersection of social sciences, economics, and technology, exploring Kudumbashree's impact on women's empowerment	Kudumbashree is a poverty eradication program in Kerala promoting women's empowerment through initiatives like ICT-based micro-enterprises. It enhances skills, fosters leadership, and provides financial support. Challenges include technology barriers. Success factors involve collaboration and innovation, positively impacting livelihoods and fostering job satisfaction. Continuous evaluation is crucial for refining policies and sustaining empowerment.	Dr.K.S.Chandarsekar, C.S.Siva Prakash (2010)
20.	Researching women's empowerment, emphasizing technology's role	The importance of women's empowerment, noting that policies exist but are not always effectively implemented. It emphasizes the role of technology, particularly electronic communication and social media, in bridging gaps and empowering women. The gender and technology gap is identified as a barrier to women's information access. The passage calls for inclusive initiatives, stressing the positive societal impact of women's empowerment when integrated into development.	Manisha Tharu & Ram Ganesh Yadav (2018)
21.	Development economics, microfinance impact, gender studies, social capital, and policy recommendations.	The self-help groups (SHGs) and micro-finance movement in India have positively impacted women's empowerment and financial inclusion at the grassroots level, fostering savings, providing credit access, and building social capital. Despite successes, challenges like limited scale, high interest rates, dependency, and regulatory concerns persist. Ongoing efforts are needed to address these issues and scale up the programs for a more significant national impact on poverty alleviation.	Mr. R. Janakiraman. Etal (2014)
22.	The impact of self-help groups (SHGs) in empowering women	The key focus is on the transformative role of self-help groups (SHGs) in empowering women across various dimensions despite gender-based inequalities. The emphasis is placed on urging governments to actively support and strengthen SHGs, recognizing them as a vital tool for enhancing women's autonomy and participation in decision-making.	Dr. Badiuddin Ahmed and s. Nayamath basha (2014)
23.	Impact of Self-Help Groups on women's empowerment	This paper emphasizes the consistently positive impact of Self-Help Groups (SHGs) on women's empowerment. Despite occasional reports of potential negative effects, the overall consensus underscores SHGs as catalysts for positive change, significantly contributing to improved healthcare access, socioeconomic development, and greater independence for women. In doing so, SHGs play a crucial role in fostering a more inclusive and empowered society.	R. Vishnuvarthini and a.m. Ayyothi (2016)
24.	SHG programs in India	The research explores the positive impact of Self-Help Group (SHG) programs on women's empowerment in India. It emphasizes the transformative process of empowerment by challenging social norms and cultural constraints. The findings have practical implications for policymakers and organizations involved in microfinance programs, highlighting the potential role of SHG initiatives in fostering women's empowerment by addressing existing societal norms.	Ranjula bali swain and fan yang wallentin (2007)
25.	Socio-economic empowerment of women through self-help groups	The literature review emphasizes the significant positive impact of self-help groups (SHGs) on the socio-economic empowerment of women in five Indian states, particularly highlighting the success of SHGs in Gujarat and the exceptional performance of Kerala's SHGs. The findings underscore the importance of strategic planning by	Vrinda yogesh dave, Dr. Maurvi Vasavada (2022)



		<p>polycymakers to address both social upliftment and economic empowerment for rural women nationwide.</p>	
26.	<p>Microfinance, and financial inclusion in India</p>	<p>India's rural financial market has a dualistic structure with formal and informal intermediaries. While formal institutions face challenges in reaching the poor due to constraints, microfinance institutions like self-help groups (SHGs) play a crucial role in providing informal credit, addressing the financial needs of the rural poor, and promoting self-employment. Despite improvements, a significant portion of rural households, especially marginalized groups, remain excluded from formal credit systems.</p>	<p>N. V. Namboodiri and R. L. Shiyani (2001)</p>
27.	<p>Women's empowerment through Self-Help Groups in Indira Kalyan Vihar, Okhla</p>	<p>The study in Indira Kalyan Vihar, Okhla, highlights low education and economic challenges, especially among women. Joining Self-Help Groups (SHGs) has empowered women economically and boosted their confidence in decision-making. The study emphasizes the need for stricter adherence to SHG rules and underscores the importance of raising awareness about the tangible benefits they offer.</p>	<p>Abdul momin (2018)</p>
28.	<p>Micro-finance and SHG strategies for poverty alleviation in developing nations</p>	<p>India tackles widespread poverty (37% below the poverty line) through self-help groups (SHGs) and micro-finance. These initiatives provide small credits, encourage savings, and empower rural women. While positive outcomes are noted, the overall impact on poverty remains limited. However, India's experience highlights the potential of micro-finance and SHG strategies for developing nations addressing poverty.</p>	<p>Karimzadeh, majid, nematinia, ghayoum (2011)</p>
29.	<p>Microfinance for poverty alleviation</p>	<p>Microfinance aims to alleviate poverty by addressing housing and urban service issues. The challenge is finding a flexible credit instrument for low-income borrowers without high monitoring costs. The proposed solution involves multipurpose loans for income generation, housing improvement, and consumption support, requiring careful research on borrower needs and savings behaviour for successful implementation.</p>	<p>Reshma Khatun, Nasir Ahmed (2018)</p>
30.	<p>Empowering Women through Self-Help Groups</p>	<p>Self-help groups (SHGs) have a notably positive impact on women's empowerment in economic, social, and political spheres, supported by both quantitative and qualitative evidence. Despite methodological limitations, SHG programs, especially those with training components, are seen as beneficial for women, emphasizing the need for continued support and expansion.</p>	<p>Carinne Brody, Thomas de Hoop, et al (2016)</p>
31.	<p>Exploring economic impacts and advocating for sustained efforts in participation and progress.</p>	<p>Women's empowerment through self-help groups is pivotal for India's economic progress, elevating their status in society. While progress is visible, ongoing efforts are essential to enhance women's participation for the overall benefit of families and the nation.</p>	<p>Dr. Ansuman Sahoo (2013)</p>
32.	<p>Examining the effectiveness and societal challenges in Mizoram and West Bengal</p>	<p>The main focus is on the intersection of affirmative action and education in promoting women's active participation in politics. The paragraph highlights the inadequacies of each factor alone, using examples from Mizoram and West Bengal, and emphasizes the need to combine education and affirmative action to challenge societal norms and achieve true empowerment for women in political spheres.</p>	<p>Ratna Ghosh, Paramita Chakravarti, Et al (2015)</p>
33.	<p>Enhancing rural women's economic independence through NGO-supported Self-Help Groups</p>	<p>NGO support is crucial for the success of Self-Help Groups (SHGs) in empowering rural women for increased savings and income. The study stresses media awareness, improved banking access, and ongoing NGO guidance for SHG effectiveness. SHGs focus on fostering women's economic independence, with collaboration with Krishi Vigyan Kendras recommended for enhanced training and entrepreneurship, contributing to community development.</p>	<p>Kanchan Sandhu (2015)</p>
34.	<p>Empowering Indian women through self-help groups</p>	<p>The study underscores the significant impact of self-help groups (SHGs) in empowering women in India economically. Participation in SHGs leads to increased income, employment, and savings. The</p>	<p>Rahul Sarania (2015)</p>



		findings emphasize the importance of monitoring credit usage, promoting productivity, fostering entrepreneurship, and providing ongoing support for sustained development among SHG members.	
35.	Economic empowerment of women through self-help groups	Global gender inequality, particularly in the third world, emphasizes women's economic disempowerment. The self-help group (SHG) movement, exemplified by Mohammed Yunus, is crucial for women's economic empowerment, operating on the principle of 'by, of, and for the women.' SHGs play a key role in poverty alleviation and women's entrepreneurship, notably in countries like India.	E. Shireesha (2019)
36.	NABARD-led SHGs in India	The paper examines the impact of NABARD-led Self-Help Groups (SHGs) on empowering rural women in India through economic activities. It emphasizes providing women with resources, decision-making autonomy, and control over their circumstances. While SHGs are open to both genders, the study focuses on their greater success among women. The research aims to assess the current status of women's empowerment in India, specifically through SHG initiatives.	Uma Narang (2012)
37.	Empowerment impact of modern marketing strategies on women-led entrepreneurship	Self-help groups (SHGs) are empowering women economically and socially. Government support and microfinance have spurred entrepreneurship, positively impacting participants. To compete effectively, SHGS must adopt modern marketing strategies. The rise of entrepreneurship is expected to boost employment, per capita income, and social security. Despite progress, there is still room for growth, highlighting the need for ongoing efforts and support in this area	Arnab Chakraborty, Dr. Preeti Sharma, Dr. Chinmayee Chaturvedi (2019)
38.	Critical analysis of self-help group models for women's empowerment	The article criticizes the self-help group (SHG) model for shortcomings in empowering women, highlighting issues like its inability to challenge social structures and confusion between participation and genuine empowerment. It calls for a sincere commitment to bottom-up development, emphasizing SHG members' control over empowerment efforts, and questions the fairness of placing the entire burden of social transformation on marginalized individuals, with global relevance.	T.Jakimow, P.Kilby (2006)
39.	Empowering rural women through self-help groups	The study confirms that self-help groups (SHGs) are effective in empowering rural women, playing a crucial role in poverty eradication. Government schemes supporting SHG formation and providing credit access, along with financial institution support for women's collectives, significantly enhance empowerment through income-generation activities.	Kiran rana and Mohammad Aslam Ansari (2019)
40.	Microfinance impact on poverty and women's empowerment:	Microfinance, marked by significant growth, positively impacts income, assets, and women's empowerment. Challenges include reaching the poorest individuals. Continuous, productive loan use is crucial, requiring government support. Despite limitations, microfinance effectively uplifts the struggling poor and enhances women's empowerment, contributing to sustainable economic growth.	Dr.M.Aruna, Ms.Rema Jyothirmayi (2011)

6. CURRENT STATUS AND RELATED ISSUES

The digital financial inclusion of women in self-help groups (SHGs) unveils a series of pressing issues. The foremost concern is the limited ownership and access to smartphones, attributed to affordability challenges and restricted availability. Women members, characterized by lower education levels, lack awareness of the benefits of digital tools. Social norms surrounding smartphone usage among women also warrant investigation, introducing cultural dimensions to the discourse. GSMA's identification of barriers, including affordability, literacy, skill gaps, and safety concerns, underscores the multifaceted challenges. Operational hindrances, such as poor internet connectivity and data quality issues, further complicate the process. Resource constraints, both in terms of technology availability and training for grassroots workers, pose significant hurdles. The low income of SHG members inhibits smartphone purchases, emphasizing the need for financial inclusivity. Infrastructure challenges, especially the lack of a reliable network in rural areas, exacerbate the situation. Comprehensive studies at various levels are advocated to inform robust policies, with an emphasis on cooperative efforts among stakeholders. Factors for successful digitalization, including research, financial literacy, and secure transactions, are crucial. Caution is advised to avoid exacerbating disparities, particularly among marginalized communities. Addressing these emergent issues is imperative for fostering effective digital financial inclusion for women in SHGs.



7. RESEARCH GAPS

7.1 Long-term Impact Assessment

A research gap may exist in understanding the long-term sustainability and effectiveness of women's empowerment through SHGs and digital initiatives. Investigating the persistence of financial independence and social benefits over time could contribute to a more nuanced understanding.

7.2 Geographical Variations

There could be potential research gaps in exploring regional or cultural variations in the effectiveness of combining traditional SHGs with digital initiatives. Different contexts may have unique challenges and opportunities, and understanding these variations can inform tailored strategies.

7.3 Barriers to Digital Inclusion

Exploring factors such as access to technology, socio-cultural constraints, and the effectiveness of digital training programs can be a valuable research gap to address.

7.4 Qualitative Insights

A research gap may exist in understanding the lived experiences, challenges, and successes of women participating in SHGs and digital initiatives, providing a more holistic understanding of the impact.

7.5 Policy Implementation Challenges

Investigating the barriers to policy implementation and strategies for overcoming them could provide valuable insights for policymakers and program managers.

7.6 Comparative Analysis

A research gap may exist in conducting a comparative analysis to evaluate the relative advantages and disadvantages of this approach compared to alternative methods of women's empowerment.

8. CONCLUSION

This systematic review paper underscores the significant impact of integrating self-help groups (SHGs) with digital initiatives in empowering women. The findings highlight the interconnected nature of these efforts, emphasizing their dual role in fostering individual empowerment and contributing to broader community development, social equality, and economic progress. The results demonstrate that the combination of traditional SHGs with digital literacy initiatives not only promotes financial independence among women but also addresses broader aspects of empowerment, including social inclusion and community innovation. The originality of this study lies in its comprehensive exploration of how these integrated strategies can effectively empower women, acknowledging the intersectionality of economic and social dimensions. The study's value extends to its practical insights for policymakers and program developers, emphasizing the need for holistic approaches to women's empowerment that recognize the evolving role of technology in fostering inclusive and sustainable community development. Overall, this systematic review contributes to the academic discourse by providing a nuanced understanding of the synergies between traditional self-help groups and digital initiatives, offering a foundation for future research and the formulation of effective policies to advance women's empowerment.

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WORK-LIFE BALANCE AND JOB SATISFACTION OF HIGHER EDUCATION TEACHERS - A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Purpose: The Study aims to understand the challenges that college teachers face in maintaining a healthy work-life balance and identify the factors that contribute to job satisfaction or dissatisfaction among college teachers. To provide evidence-based recommendations to improve work-life balance and job satisfaction for college teachers, ultimately benefiting both teachers and students. By understanding these challenges and their potential solutions, the study can contribute to creating a more sustainable and fulfilling work environment for college teachers, which can ultimately lead to improved student outcomes.

Methodology: A systematic review of was carried out on the existing literature of Work-life balance and Job satisfaction in search engines: PubMed, Google Scholars, and Scopus. The eligible articles completed a screening process using exclusion criteria prior to being analyzed for the conceptual framework of the study.

Findings/Result: The review identified various factors, including personal, organizational, and familial, that influence the work-life balance of college teachers. The study identified several research gaps in the field of work-life balance and job satisfaction among college teachers.

Originality/Value: The systematic review provided a distinct understanding of the balance between work and personal life, as well as the level of satisfaction experienced by college teachers. The study also identified a correlation between personal and family matters of college teachers, as well as multiple strategies for improving their work-life balance. By implementing these methods, college teachers can enhance their efficiency and achieve greater success, enabling them to deliver the utmost appropriate care to their students.

Paper type: Systematic Review paper

KEYWORDS: Work-life balance, Job Satisfaction, Higher Education Teachers, Personal life, College Teachers.

INTRODUCTION

Work-life balance, as observed, refers to achieving an optimal equilibrium between an individual's personal and professional life, including all relevant commitments and relationships. The concept of work-life balance refers to the way individuals prioritize between their career and ambition and other aspects of their lives such as health, pleasure, leisure, family, and spiritual development. Stated differently, it impacts people's well-being, the effectiveness of organizations, and how society functions (Grady et al., 2008). Various perspectives have been presented regarding the definition, measurement, and study of work-life balance (Grzywacz & Carlson, 2007). Additionally, different researchers refer to "work-life balance" using different terms. For instance, "work-family balance" (Rice et al., 2003; Greenhaus et al., 2003); "work-family fit" (Clarke et al., 2004); "work-personal life balance" and "work-life balance" (Grady et al., 2008) are some examples of terms used by researchers.

Job satisfaction is a crucial element that has a substantial influence on job performance and has been demonstrated to contribute to increased employee retention and well-being. Research has shown that employees who feel content with their jobs in an organization demonstrate elevated levels of vitality and involvement, whereas those who feel dissatisfied experience feelings of distress, anxiety, and nervousness (Heller et al., 2002). Thus, it is crucial for all organizations, especially labor-intensive institutions such as Higher Education institutions, to prioritize their efforts in sustaining and maintaining a contented workforce. Work-life imbalance among degree teachers can arise from multiple factors, including an excessive workload, inadequate resources and support, impractical expectations, and limited prospects for



professional development. Moreover, the escalating expectations of standardized testing and curriculum mandates can augment the workload and stress levels experienced by teachers. Previous research has consistently demonstrated a strong positive correlation between job satisfaction, work-life balance, and retention rates for teachers. Research has demonstrated that teachers who achieve a superior work-life balance are more prone to expressing higher levels of job satisfaction and are less likely to leave their careers in teaching. In a study conducted by Crooker et al. (2002). The teachers who perceived that supportive organizational policies and practices reported higher levels of work-life balance and job satisfaction compared to those with less supportive environments.

OBJECTIVES OF THE STUDY

1. To Assess the current State of work-life balance for teachers (This involves investigating the typical workload, working hours, and demands placed on teachers, as well as their ability to manage personal and professional commitments).
2. To Study the importance of work-life balance for teachers and its impact on job satisfaction (significance of maintaining a healthy work-life balance for teachers and how it can affect their overall job satisfaction).
3. To identify the factors influencing work-life balance among teachers. (Explore various factors that may contribute to an imbalance between work and personal life for teachers, such as workload, support from administration, flexibility in scheduling, etc.)
4. To examine the relationship between work-life balance and job satisfaction among teachers. (This is the core objectives of the study and aims to determine whether teachers with better work-life balance experience higher levels of job satisfaction).

RESEARCH METHODOLOGY

The reporting framework seeks to identify, screen, and evaluate records to determine their eligibility and inclusion. The eligibility requirements are described in the objectives. The research looked through the Google Scholar, Scopus and RePEc search data bases. The relevant authors initially selected, checked, and validated the articles.

The findings of the study have provided a clear understanding of the relationship between work-life balance and job satisfaction among college teachers. Additionally, the research gap for the study has been identified, and a suitable conceptual framework has been developed.

STUDY LIMITATION AND CONSTRAINTS

Research initiatives should prioritize longitudinal studies and mixed-method approaches to gain deeper understanding of individual experiences and long-term impacts.

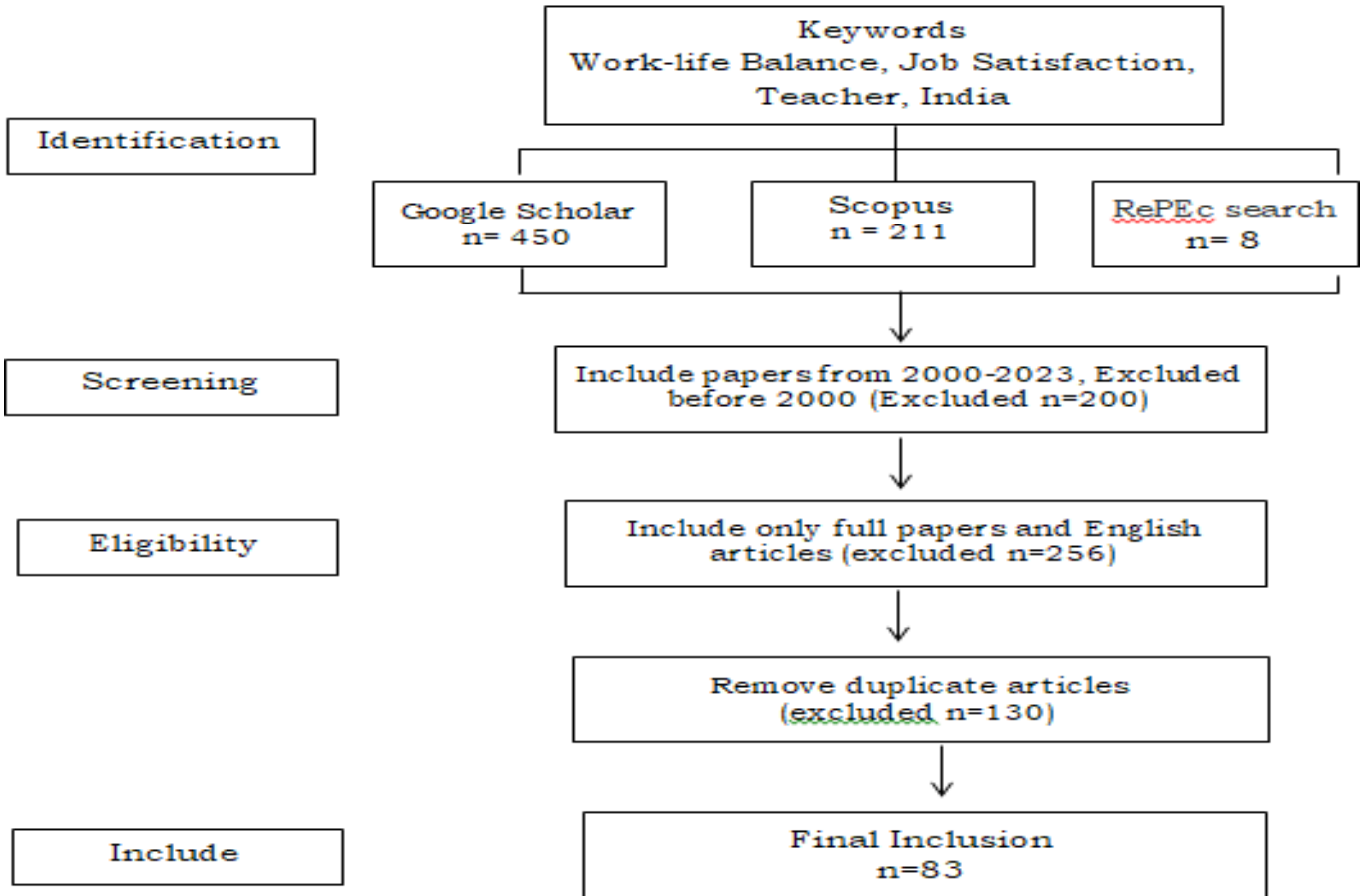
- Collaboration between researchers, policymakers, college administrators, and teachers is crucial for developing and implementing effective interventions.
- Teacher voices and perspectives should be central to designing and evaluating any solution aimed at improving work-life balance and job satisfaction.

CONSTRAINTS

- Limited resources, including funding, time, and personnel, can pose challenges for implementing comprehensive initiatives.
- Resistant college cultures or administrative hierarchies can hinder the adoption of innovative practices.
- Competing priorities within educational systems may make it difficult to prioritize teacher well-being.



Fig 1: Summary of literature review steps



LITERATURE REVIEW

Work and family dominate most employed adults' lives today. Thus, working men and women are increasingly concerned about managing work-family conflicts. The growing concern about the difficulties of balancing work and home and the negative effects it has on employees, families, and employers has made work-personal life integration a major social issue in Europe, the US, the Netherlands, and Asia. Individuals, organizations, and society need work-life balance (Grady et al., 2008). Work-life balance definition, measurement, and research have been debated (Grzywacz & Carlson 2007). Work-life balance (WLB) is a popular research topic in sociology, psychology, human resource management, organization studies, and gender studies.

External factors like job satisfaction have been separated from work life. Job satisfaction is an emotional response to job experiences. Job satisfaction is crucial to employee performance, retention, and well-being. Research shows that satisfied workers are energetic, engaged, and enthusiastic, while dissatisfied workers are distressed, disengaged, and nervous (Heller et al., 2002). Higher education institutions' budgets are mostly for staff because their effectiveness depends on them. Higher education institutions must keep their employees happy due to their labor-intensive nature.

**Table 1: Review of Work-life Balance and Job Satisfaction of college teachers**

S L No	ResearchTopic	Focus area	Research Instruments used	Reference
1	work interference with personal life,teaching satisfaction and jobsatisfaction	The study's findings indicated that work interference with personal life and personal life interference with work were negatively correlated with job satisfaction, whereas work and personal life enhancement were positively correlated with job satisfaction. The authors assert that organizations must integrate and harmonize work and personal life through work-life balance initiatives.	StructuralModel	Agha, K. (2017)
2	WLB and Job Satisfaction among the Working Women of Banking and Education Sector	The primary objective of this study was to examine the impact of work-life balance on job satisfaction, as well as to investigate the measures implemented by organizations to promote effective work-life balance and its correlation with job satisfaction. The paper utilized Standard Deviation to verify the accuracy of the data provided by respondents from both sectors. Research indicates that work-life balance (WLB) can be attained through various factors that contribute to job satisfaction, including supportive colleagues, favorable working conditions, intellectually stimulating tasks, fair rewards, and employee-centric policies.	Standard Deviation and Coefficient of variance	Yadav & Dabhade (2014)
3	Autonomy, workload, WLB and job performance teachers in Malaysia	An extensive survey was conducted among educators in public schools located in the Northern Region of Peninsular Malaysia. This study utilized a quantitative methodology to address the research objectives. 302 teachers provided feedback on their degree of autonomy, workload, work-life balance, and job performance. The study revealed that autonomy and work-life balance exerted a substantial influence on the job performance of the respondents. However, the study found that the amount of work assigned did not have a significant impact on the job performance of school teachers.	Structural Model	Johari, et al., (2018)
4	Academic Staff Workloads and Job Satisfaction	The study examined university academic staff workloads and job satisfaction. The study examined faculty workloads and institutional and individual faculty responses to workload expectations and realities using three data sources over three years. The University has 42 academic units organized into five broadly disciplinary colleges led by a senior academic leader. Colleges have budgetary and administrative control. Fewer than 12 to over 100 academic staff constitute units. According to the study, university faculty driven by academic and disciplinary interests are increasingly burdened by accountability and workloads. Since governments have adopted performance funding for higher education research budget components, academic workloads have examined intensification and the balance between research and teaching.	Case study analysis	Houston, et al., (2006)
5	Work-Life Balance of Women Teachers	Investigate how stress affects women faculty, how management faculty members experience stress, and how family and work stress affect job satisfaction. We used Primary and secondary data. The basic data were collected by sending questionnaires to 200 Tamil Nadu Arts and Science College teachers. Stratified sampling is used. Secondary data came from pre-existing research, journals, periodicals, websites, and online publications. The data is analyzed using descriptive statistics like mean, standard deviation, and 'F' ratio. Most women faculty members experienced more physiological, behavioral, and total stress.	Mean, Standard deviation and F ratio	Venkatar aman and Abirami (2011)



6	Life Satisfaction and Personality Dimensions among College Teachers	Work-life balance, life satisfaction, and personality traits are examined. The study uses primary data from 70 Chandigarh government college instructors. Descriptive statistics, t-test, used to analyze data from random sampling. It study found that female teachers excel in work-life balance, life satisfaction, extroversion, agreeableness, conscientiousness, and neuroticism, but male teachers score higher in openness. The study also shows that balancing work and personal life leads to happiness and outgoing personality.	Correlation and regression analysis	Jaspreet Kaur (2013)
7	Work-Life Balance of Women in the Teaching Profession	The study intended to identify work-life imbalance causes, challenges, and stress levels. Researchers used primary and secondary data. To gather data, 50 female faculty members from Kolhapur colleges were given questionnaires. Respondents are selected randomly. Data is analyzed using reliability and descriptive statistics. The majority of respondents believed women teachers should balance work and life. Additionally believes work-life imbalance is caused by excessive workload, long hours, difficulty prioritizing, and time management issues. The study also finds that work-life balance is achieved through good time management at home and college, flexible working hours, reduced work hours, and family and spouse support.	Reliability analysis and Descriptive statistics	Petare (2013)
8	Job Satisfaction and Organization al Commitment : Elementary Schools	Examined elementary school job satisfaction and organizational commitment. The study's main goals were to assess elementary school administrators and teachers' job satisfaction and to determine if organizational climate affects it. 307 of 400 respondents from various age groups responded. The study used the Descriptive and Relational Survey Model, TSS, and OCS scales to measure. Through ANOVA, and T-test, participants showed higher job satisfaction. Data showed no demographic effect on job satisfaction. The study found that class teachers were more organizationally committed than branch teachers. Work satisfaction was strongly correlated with organizational atmosphere.	SEM Modelling, Relational Survey Model	Ziilfi, Demirtas (2013)
9	Job Satisfaction of Teachers Working at the Primary School	Determine and compare primary school teachers' job satisfaction. The study uses primary data from 14 government and six private schools in Dakshin Dinajpur, West Bengal. The data was collected using simple random sampling. Data is analyzed using Chi-square and 't'-tests. the findings show that female teachers in government schools and those who have not yet completed their undergraduate studies are happier than male teachers in private schools who have completed their graduate studies.	Chi-square	Madhab Ghosh (2013)
10	Mental health and job satisfaction on special teachers	Assess specialized school teachers' mental health and job satisfaction in Imphal East and West, Manipur. This descriptive survey study included 40 special school teachers from 10 schools in Imphal East and West, Manipur. Data was collected using the job satisfaction scale (JSS) and mental health scale. Age and education have been linked to special school teachers' mental health disparities. Across gender, age, and education, special school teachers are equally satisfied with their jobs. Men had 80% good mental health, while 77.5% of special school teachers had issues.	ANOVA	Chingtha m (2014)
11	Job happiness of school teachers	Investigating how job satisfaction affects Tirunelveli teachers' performance. The survey conducted from July 2011 to March 2013. A representative sample of 580 instructors from 8 regions was chosen. 160 middle school teachers and 420 high and higher secondary teachers were chosen. Research showed that male teachers spent more time on class preparation, teaching, and extracurricular and social activities than female teachers, who	Factor analysis	Nair (2014)



		focused on family. Teacher attitudes toward instruction were similar for men and women. Quality of teaching facilities and working environment affected instructor performance. At 1% significance, age, sex, educational degree, and compensation satisfaction were associated. No correlation was found between teacher satisfaction and performance.		
12	Job Satisfaction among College Teachers	This study sampled 258 college teachers and 25 non-professional institutions from five representative Punjab districts (Amritsar, Bathinda, Jalandhar, Patiala, and Riper) out of 22. A questionnaire was given to college teachers. Punjabi non-professional college teachers were found to be happy. Variety, supervision, ability utilization, compensation, advancement opportunities, responsibility level, creativity, achievement recognition, and activity level also affect their happiness. The study also found moderate performance by non-professional institutions.	ANOVA	Singh, Karambiri (2014)
13	Factors Influencing Work-Life Balance of School Teachers	Examine the work-life balance of male and female private school teachers in Coimbatore. 150 private school employees in Coimbatore provided primary data for the study. Data was collected using convenience sampling. Data are analyzed using reliability, descriptive statistics, independent sample, 't'-test, and ANOVA. Female private school teachers have a better work-life balance than male teachers. They find that private school female teachers value responsibility, accountability, and security in their work-life balance.	ANOVA	Saravanan and Dharani (2014)
14	Employment satisfaction of higher secondary school teachers	Comparing Hindi-English teachers. The study uses random sampling to collect primary data from 220 higher secondary school teachers. English and Hindi medium school teachers are happy with their jobs. However, English-medium teachers are happier than Hindi-medium teachers.	Percentile, mean, standard deviation, and 't'-test.	Rashmi Sharma et al. (2015)
15	Job Satisfaction of Higher Secondary School Teachers	analyzed upper secondary school teachers' job satisfaction by gender and school location. The study uses simple random sampling to collect primary data from twelve Trichy district schools. It reveals that higher secondary school teachers' job satisfaction is strongly correlated with school location. Additionally argues job satisfaction is linked to gender of higher secondary school teachers.	Chi square	Senthil Kumar (2015)
16	Work life and family	Work and family dominate most employed adults' lives today. Maintaining work-life balance is crucial for effective employee functioning. Work-life balance is a key topic of government, practitioner, and academic debate.	Review	Eikhof, Warhurs t & Haunsch ild, 2007
17	Work life balance and personal life	For workers all over the world, the ability to strike a balance between the demands of the workplace and the demands of one's personal life has been regarded as an important issue, and academics working in higher education institutions have not been excluded from this perception.	Review	Stanton & Young, 2009
18	Work-life and job satisfaction balance of college teachers	A study examined the work-life experiences of 100 college teachers from Bihar and Jharkhand universities. Interviews covered time management, values, spirituality, stress, and job-life balance. Junior college teachers experienced nearly all dimensions of stress more than senior teachers due to limited exposure and experience. Junior teachers were less happy than seniors. Female teachers had higher	Chi square test	Kumar & Deo (2011)



		role overload, inter role stress, spiritual orientation, and job satisfaction than male teachers.		
19	Occupational stress and job satisfaction	It carried out a study with the purpose of examining the connection between occupational stress and job satisfaction among academics working in both public and private universities in Iran. By using the questionnaire method, data was collected from a total of five hundred respondents. As a result of the findings, it was determined that there was no connection between job satisfaction and occupational stress.	Correlation and Multiple Regression Analysis	Nazari & Emami (2012)
20	Work life balance and job satisfaction among faculty	It carried out a study on job satisfaction and work-life balance among Iowa State University faculty. Questionnaires were used to collect data from 143 respondents, and statistical tools such as SPSS, ANOVA, descriptive analysis, Pearson correlation coefficient, regression, and factor analysis were utilized to analyze the data. According to the findings of the study, there is a significant connection between having a healthy work-life balance and being satisfied with one's job.	Regression and Factor analysis	Mukhtar (2012)
21	Job Stress and Life Satisfaction of College Teachers	This study examined college teachers' job stress and life satisfaction. This study sampled 100 people. Purposefully selected from Chittagong colleges. The data were analyzed using descriptive statistics, t-test, and Pearson product moment correlation. Results showed that non-government college teachers have more job stress and less life satisfaction than government college teachers. Teachers with salaries between 11,000 and 20000 taken have more job stress and less life satisfaction. In addition, job stress was found to negatively correlate ($r=-.45, p<.01$) with life satisfaction.	Pearson product moment correlation	Dey et al., (2013)
22	Work-life balance of female faculty	An investigation into the work-life balance of female faculty members working in arts and science colleges in the district of Coimbatore in India was carried out. An analysis of variance (ANOVA), a t-test, and a Friedman rank test were performed in SPSS on the data that was collected from 515 different faculties. With regard to factors such as age, marital status, qualifications, family structure, and number of years of experience, the study sheds light on the connection between work-life balance and these aspects of life.	Friedman rank test	Sumathi & Velmurugan (2018)
23	Work-life balance and work stress for job satisfaction during the covid -19 pandemic	This study analyzes 168 State High School Civil Servants Teachers in Pematang Siantar City who were certified using a proportional random sample and normality-based data analysis. The test was conducted using SPSS Statistic version 20. The results achieved job satisfaction, work- life balance, and work stress criteria. Results from the correlation coefficient analysis were strong and positive. Hypothesis testing indicates that during the COVID-19 pandemic, Pematang Siantar City Senior High School Teachers' work-life balance and stress positively affect job satisfaction.	correlation coefficient analysis	Butarbut ar, et al., (2022).
24	Work-Life- Balance and Family-Life- Balance on job performance and satisfaction of business studies teachers	Work-life balance (WLB) and family-life balance (WFB) were examined in Bauchi State, Nigeria, business studies teachers' job performance and satisfaction. The study included 400 business teachers. We collected data using a 60-item 5-point Likert Scale Questionnaire. Results show that WLB and WFB significantly affect Bauchi State Business Studies teachers' job performance and satisfaction. Absenteeism, lateness, and inability to cover curriculum are attributed to business studies teachers' WFB and WLB struggles. The researcher advised Bauchi State to hire more	Liner Logistic Regression	Chana, et al., (2022).



		Business Studies teachers to reduce teacher workloads. Job satisfaction can be increased by giving teachers more responsibility.		
25	Challenges on the work stress of young college teachers	This study examines the challenges young college teachers at university face and suggests solutions. This study identified workload, inexperience, high expectations, work-life balance, and interpersonal dynamics as challenges. This study examines University's context through a literature review and key informant interviews. The findings suggest time management, professional development, clear expectations, setting boundaries, prioritizing self-care, building support networks, and conflict resolution skills as coping mechanisms. These coping strategies can help young college teachers reduce stress, boost job satisfaction, and balance work and life.	Review	Xi, D., & Dindin, J. M. (2023)
26	Conflict between Self-efficacy, job satisfaction, work life balance among university teachers	Work-life balance, work-family conflict, university teachers' self-efficacy, and job satisfaction were examined. Purposive sampling was used to collect 210 responses from university teachers in public and private colleges in Kathmandu Metropolitan City, Nepal's capital. The data were analyzed using regression and correlation. Self-efficacy, job satisfaction, work-family conflicts, and teachers' work-life balance correlated well. The findings also showed that work-family conflict predicted job satisfaction the most. Results show that increasing	Regression and correlation analysis	Khadka, A. K., & Khadka, S. (2023)
		teachers' self-efficacy, improving work-life balance, and reducing work-family conflict can boost job satisfaction and retention. These findings affect schools, governments, and other educational stakeholders seeking to improve teacher satisfaction and happiness.		
27	Job Satisfaction, Organization al Culture And Work- Life Balance Among School Teachers	Teachers' organizational commitment embraces their desire to help students and own their education. This study examined 420 Davao Region public school teachers to determine their job satisfaction, business culture, work- life balance, and organizational loyalty. It also examined factor associations. A structure-equation model determined work-life balance, job satisfaction, and organizational culture that matched teachers' commitment. The findings showed high hierarchical commitment, balance between serious and fun activities, authoritative culture, and job satisfaction. Work-life balance, organizational commitment, and job satisfaction were important. Important relationships included organizational culture and commitment. It fit the teachers' organizational commitment to work-life balance, organizational support, and professional pride. Strategic focus, employee management, and organizational culture were these factors. Therefore, job satisfaction, organizational commitment, and work-life balance strongly predicted organizational commitment.	Structural Equation Model	Quines, L. A., &Arendan, E. I. (2023).
28	Work life balance and job satisfaction of university teachers	This study examines how Work Life Balance mediates the effect of Workplace Flexibility on employment satisfaction. The study examined 181 education personnel at Udayana University's Head Office, including civil servants and contract workers. Proportionate random sampling. SEM with PLS was used to analyze the data. Workplace flexibility and work-life balance positively and significantly affect job satisfaction. Positively and significantly affect work-life balance, which mediates the effect of workplace flexibility on job satisfaction. These results show that work unit leaders must provide Workplace Flexibility to improve Work Life Balance.	Structural Equation Modelling	Gede, A and Gade,R (2023)



29	Work-Life Balance and Job Satisfaction of Employees	A study examined work-life balance and job satisfaction among PT. X Yogyakarta employees. The correlational quantitative study sampled all eligible employees using saturated sampling. The analysis revealed a correlation coefficient of $r = 0.833$, with a significance value of 0.000 ($p < 0.05$). The strong positive correlation between work- life balance and job satisfaction suggests some connection. Work-life balance boosts PT. X Yogyakarta employees' job satisfaction, says this study. Work-life balance boosts job satisfaction and vice versa. These findings demonstrate that the company must promote work-life balance to improve job satisfaction.	correlation test.	Mandagi , & Wijono, (2023)
30	Job Satisfaction and work life balance of teleworkers	This study proposes and validates a theoretical model explaining remote work job satisfaction influenced by family-supportive supervisory behaviors (FSSBs) and the mediating role of WFPS and WLB. A self- administered survey was used to conduct a non-experimental cross-sectional study on 396 Lima teleworkers. Analysis of the hypothesized model used PLS-SEM structural equation modelling. FSSB affects remote, WFPS, and WLB job satisfaction, according to research. Supervisor behavior, work-to-family balance, and work-life balance affect remote workers' job satisfaction, according to this study. Work-life balance and good supervision should be encouraged	structural equation modelling	García et al., (2023)

PROPOSED CONCEPTUAL FRAMEWORK

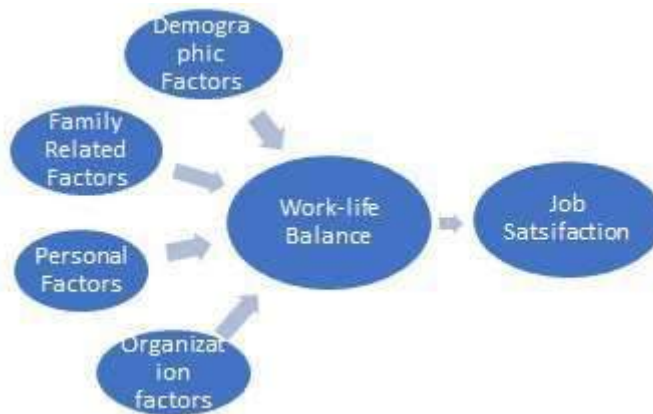


Fig 2: Proposed Conceptual Model

- **Demographic factors:** Understanding these demographic influences is crucial for developing effective support systems for teachers. It also highlights the need for broader societal shifts in attitudes towards work, family, and gender roles to create a more balanced and sustainable work environment for the teaching profession. The same has been highlighted in the literature (Amponsah, 2011; Prabhakara, R., 2013; Sirajunisa and Panchanatham, 2010).
- **Organization factors:** Organizational factors play a crucial role in creating a supportive environment that promotes teachers' well-being and professional satisfaction (De Villiers and Elize Kotze, 2003). The impact of organizational factors on teachers' work-life balance is a complex and multifaceted issue. Here are some key elements to consider which are supportive culture, Resources and Infrastructure, Leadership and Decision-Making etc., (Mazerolle, S. M., & Goodman, A. 2013)
- **Personal Factors:** Personal factors play a crucial role in shaping the work-life balance of teachers. These factors can greatly impact their overall well-being, job satisfaction, and effectiveness in the classroom. Some key personal factors to consider Personality Traits (Kaur 2013), Family and Support Network, Individual Preferences and Interests etc., the ideal work-life balance looks different for each individual teacher. It's important to recognize the personal factors that influence your own balance and strive to create strategies that work best for you (Devadoss & Minnie 2013).

Family Related Factors: Work-life balance can be a delicate tightrope for teachers, who often face demanding schedules and intense emotional engagement with their students. But beyond the inherent nature of the job, family factors can play a significant role in tipping the scales (Van Daalen et al.,2006). The study consider some factors Family structure and responsibilities, Family dynamics



and needs, Personal factors and coping mechanisms, and Social attitudes and expectations etc.,. Achieving work-life balance is a continuous process, and the ideal state may vary depending on individual circumstances and family needs. By acknowledging the unique challenges teachers face and advocating for supportive policies and practices, we can help them navigate this tightrope more effectively and maintain their well-being both in and outside the classroom (Eaton, 2003).

RESEARCH GAP

While there's been extensive research on the link between work-life balance and job satisfaction for teachers, several gaps remain ripe for further exploration:

Nuanced understanding of work-life balance:

- Beyond time-based measures: Move beyond simply measuring work hours and personal time, and delve into the quality of both work and personal experiences. Consider factors like workload intensity, autonomy, control over schedule, and emotional fulfilment.
- Longitudinal studies: Track teachers over time to understand how changing life stages, family circumstances, and career advancements impact their work-life balance and job satisfaction.

Exploring specific facets of work-life balance:

- Technology's role: Investigate how technology use, both for work and personal life, impacts boundaries and overall balance. Consider both positive aspects (flexibility) and negative ones (always-on culture).
- College-level factors: Analyze how college administration, leadership styles, and workplace culture influence teachers' work-life balance and job satisfaction.
- Policy and support systems: Evaluate the effectiveness of existing policies (flexible schedules, workload management, family leave) in promoting work-life balance and assess the need for new initiatives.

Expanding the scope of research:

- Differentiated impact by teacher category: Analyze how work-life balance and job satisfaction differ among teachers in different grade levels, subjects, and college types (public, private, etc.).
- Global perspectives: Compare and contrast the experiences of teachers across different countries and cultures to understand the role of societal expectations and educational systems.
- Student outcomes: Investigate how teacher work-life balance and job satisfaction translate into classroom effectiveness and student learning outcomes.

Methodological considerations:

- Mixed-method approaches: Combine quantitative surveys with qualitative interviews or focus groups to gain deeper insights into individual experiences and perspectives.
- Longitudinal and causal inference: Design studies that can establish causal relationships between specific work-life balance interventions and changes in job satisfaction and teacher well-being.

By addressing these research gaps, we can gain a more nuanced understanding of the complex interplay between work-life balance and job satisfaction for teachers.

CONCLUSION AND IMPLICATION

Work-life balance and job satisfaction are intricately linked for teachers. A work-life balance translates to happier, more engaged, and effective educators, while imbalance leads to stress, burnout, and potentially lower-quality instruction. Factors influencing the balance include workload, schedule flexibility, emotional well-being, college administration, technology use, and personal circumstances. Each teacher's experience is unique, highlighting the need for individualized support and flexible solutions. Research findings have yielded valuable insights but also identified several research gaps. Promoting teacher well-being through better work-life balance demands multifaceted efforts. Colleges can implement interventions like workload management practices, flexible scheduling options, and access to counselling services. Policy changes at the local and national levels can play a crucial role. This could include increased funding for support systems, reduced class sizes, and improved access to childcare options for teachers. Technology should be harnessed strategically to empower teachers, not burden them. Tools for planning, communication, and collaboration can enhance efficiency and promote a healthier work-life balance. Recognizing the value of personal time and family life for educators can contribute to a more sustainable and rewarding profession.

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SOCIAL CONSTRUCTIVISM IN EDUCATION: INNOVATIVE CONCEPT FOR CONSTRUCTING INTERACTIVE KNOWLEDGE BASED LEARNING

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ABSTRACT

In the realm of innovation, social constructivism is significant due to its historical interest in the sources of knowledge and its significant role in bridging the gap between the paths of mathematical and scientific knowledge development. It acknowledges that acceptance standards evolve with time, which is relevant to the rationality argument and the test's purpose. In a constructivist method, the emphasis is on socio-culturally cited evidence, which includes mathematical proofs of the present and past that adhere to diverse norms throughout different time periods. Read the materials that back up a claim, engage in hedging, and listen to the defendant's speech at the convention, like the Sermon on educational claims. Because of their emphasis on the communicative and interactive character of academic writing and their dedication to the importance of the reader's experience, constructivist approaches are considered part of these standards. Making direct allusions to other people's work is more than just an accurate description; it's a critical component of the writers' own work.

KEYWORDS: *Social Constructivism, Knowledge, Learning, Social Constructivism, Collaborative Learning, School Experience, Classroom Implementation*

INTRODUCTION

The cognitive skills that a kid needs for growth are provided by culture, according to Lev Vygotsky. Teachers and parents should have access to cultural resources, such as adult language. Included in the instrument's culture are the child's linguistic background, social milieu, and cultural heritage. Access to information via technological means is also a part of it now. Considering the significance of culture and environment in shaping views grounded in knowledge, this perspective on societal events is crucial. Cultural factors significantly impact how a person's brain develops, according to research. Most people think that Lev Vygotsky is where it all started.

From a social constructivist pedagogical vantage point, students are guided to actively participate in the learning process as they build their own knowledge from their own experiences and perspectives.

According to the sociological theory of knowledge known as "social constructivism," human growth takes place within a social context, and new knowledge is constructed via interactions with others.

Collaborative artistic endeavors are a central tenet of social constructivism. Through her interactions with her social constructivism group, we want to educate her, whereas social constructivism focuses on group tasks.

Consider a basic object like a cup as an example. Object has several potential uses, but its form implies a particular understanding "suggests" (relationship) for transporting liquids. Review as well. A more involved example would be an online class; it's not only the software tools that matter, but also the group's activities and texts, which influence how each member acts and what the group as a whole learns. The cultural factors that shape an individual's cognitive development include their language, history, and social environment.

An individual's cultural and social milieu shape their social reality, as postulated by social constructivism. When people communicate and try to understand one other, new knowledge emerges. The basic idea is that every interaction between two or more individuals may lead to the discovery of new information or the enhancement of current understanding. Here we have the usual human interaction: the sharing of ideas.

If educational leaders and teachers are serious about implementing social constructivism, they will need to have a mental shift. "Men who teach" and those who help others learn are essential. Rather of being too direct, a competent teacher would urge pupils to clarify



concepts by providing them with constructive solutions to their queries. Also, instead of handing out answers without explaining them, instructors should provide context for their pupils when they ask for them. They need to motivate the pupils to consider their responses critically.

Individuals do not share experiences but rather information that has been constructed via the use of social knowledge and language, according to social constructivism. As important as it is to observe the world around us, knowledge is also shaped by a myriad of social processes and interactions. In our experience, using a constructive learning approach is beneficial not just while new information is being acquired, but also during the learning process itself. Another way of putting it is that the act of traveling itself is crucial.

Student participation in creative activities and self-organization are essential components of the learning process. Students learn best when teachers give them room to think critically, come up with their own ideas, and then evaluate how well those theories work in the real world. According to constructive theorists, an imbalance actually promotes learning since it forces the student to question their own views and try out new ideas when there is a discrepancy between the teacher's present knowledge and their experience. Educators need to support rather than downplay the instructor's suggestions.

Instructors should encourage their students to engage in independent research if they are serious about helping their students address challenges in meaningful and practical ways. Through this exercise, students may investigate and get either a corroborating or a disputing perspective. There needs to be an examination, clarification, and discussion of conflicts.

Rethinking the stored data is a great way to advance education. One way to make room for thought is to keep a diary, which is a great tool for encouraging introspection.

The exchange of ideas within a community fosters innovation. In the eyes of everyone involved with the school, the classroom is just a place for learning and sharing ideas. All students in a classroom should be held accountable for safeguarding their own ideas, evidence, reasoning, and community-based communication. The community's rationality is crucial for these ideas to be recognized as true. Doing so will cause them to become common knowledge. Finally, interpretation, not listening or watching, is the primary means of learning. It is built upon prior knowledge and discussed to provide an interpretation.

The social constructionist view of knowledge and its justifications is characterized, in part, by an outright rejection of the role of the supernatural. Its significance in innovation is well-established, and it continues to pique interest in the past by exploring where our knowledge came from and how it has shaped the development of mathematical and scientific understanding. Recognizing that acceptability standards evolve over time is an important part of the rationality justification and test rationality arguments. Thus, mathematical evidence has varied standards depending on when it was produced.

IMPORTANCE AND NEED OF SOCIAL CONSTRUCTION IN EDUCATION

Many educational psychologists have investigated social constructivism because they care about the impact of education. Social constructivism broadens constructivism by including the contributions of different cultures and actors in the development process. One may draw parallels between social learning theory and the focus on interaction via observation in this regard. Lev Vygotsky's sociocultural approach revolves on psychological instruments.

One exciting field of study is computer-aided collaborative learning (CSCL), which is based on social constructivism and offers illuminating tactics. The goal of this policy is to provide students with the chance to practice skills linked to 21st century employment, including communication, information sharing, technology, and critical thinking.

Furthermore, research based on social constructivist ideas supports the use of class discussion. Using class discussion has numerous positive effects. Student participation in group discussions provides a solid groundwork for effective oral presentation of concepts and helps them generalize and transfer what they have learned in the classroom. The capacity of students to critically evaluate their own ideas, as well as those of others, and to develop a more thorough comprehension of course material is emphasized in several research. The chance to retain the desire to keep self-decision and functions, in order to govern both big and small groups of self-students. Students' motivation, teamwork, and problem-solving abilities are all improved via debate. The capacity to reason, articulate one's opinions honestly and politely, and support one's thinking are all enhanced when pupils have more chances to communicate with one another and share their thoughts. In addition, children develop a stronger feeling of belonging and teamwork when given more chances to communicate together.

It is perplexing that talk is not used more often, considering the advantages it offers. Research shows that pupils aren't used to actively engaging in classroom discussions. According to Martin Nystrand, educators have limited options when it comes to leading class debates. The findings demonstrate that a typical classroom instructor may have a conversation with each student, spending an



additional thirty minutes on the subject and drawing on their own thoughts and creativity. Even in the allotted three minutes, the vast majority of conversations depend on teacher-directed questions with already-determined responses, so they are hardly genuine discussions. Students from lower socioeconomic schools and lower track courses are significantly less likely to be given opportunity for conversation, according to many observations. This course teaches teachers how to provoke critical thinking in their pupils. Because it gives them a chance to show off their own ideas via language, children learn more in classrooms that encourage discussion and interactive debate. When students participate in meaningful discussions, they are able to negotiate the ideas of others in order to create meaning that lasts. This type of education “encourages retention and intensive processing related to the cognitive handling of information”.

CLASSROOM IMPLICATIONS OF SOCIAL CONSTRUCTIVISM

When kids believe that their thoughts, experiences, or interests are being ignored, it may greatly impact their educational experience. According to social constructivists, classroom instruction is best understood as a collaborative effort between students, instructors, and supportive adults in the shape of TAs or other knowledgeable “other” children who guide students' idea generation and growth. Although her reasoning impacts education and teaching to all children, University of Edinburgh professor Judith Watson examines how this strategy might help children with learning issues in this chapter.

1. Interactive Teaching - where a teacher works with small groups of students (ranging from one to three) to discuss and debate a certain subject. Each member of the group uses one of four cognitive methods during the conversations:

- i) Questioning
- ii) Summarizing
- iii) Clarifying
- iv) Predicting

This results in a zone of proximal development (ZPD) where students progressively take on more literary responsibility, and where they work together to develop high-level thinking demands and the abilities necessary for learning and success in daily life.

2. Cooperative Learning - As long as less specialized youngsters adapt their assistance to meet the ZPD, children may benefit from having more knowledgeable peers who can support their growth.

3. Situated Learning - Whitehead restricted the way students were taught the way they were concerned, the information that was only suitable to pass the test, and this was a source of worry as early as 1929. A large body of recent theory contends that active knowledge is something that must be learned:

- In a meaningful context
- Through active learning

Learning is a typical term for various kinds of educational pursuits. Prominent proponents of experiential learning contend that abstract information cannot be imparted; rather, what matters is its relevance or its presence in a “genuine” setting (Maddux, Johnson and Willis, 1997).

4. Whole language - Writing about the child's prior knowledge and ability to explain things orally is a big deal in the entire language approach. During the first stages of “writing” exercises, the youngster is encouraged to write on their own paper, with the help of their instructors and neighbors.

5. Collaborative Learning - Whether it's between themselves or between themselves and their instructors, learning is a team effort in public relations. Students practice real-life negotiation skills as they talk to one another, exchange information, and work together on projects. Group knowledge is being built, not by individuals.

6. Anchored Instruction - The goal of the anchored education approach is to get students more invested in their learning by having them study about or otherwise participate in a topic that they find really compelling. Successful problem-solving, critical-thinking abilities, and an atmosphere that fosters these traits are all goals of the educational program. An essential component of directions is the anchor. “The anchor” is the central concept or tale that all instructional endeavors revolve around; it represents the bravery or difficult circumstance that students' interests confront. Students learning content can include rich resources where the problem lies in deciding how to solve the problem.

Anchored instruction emphasizes the need for students to think about problems and provide them with opportunities to work, and emphasizes group or collaborative problem solving.

Interactive media, models, scenarios, and issues - In this part, you will find four different ways of teaching that all include engaging pupils in “real” tasks. We continue to refer to games as “real” despite the fact that many of them are obviously not. Students study, play, or solve issues in a structured, regulated setting in all of these approaches.



7. Assessment - students and teachers perception of the teacher's achievements should be used for evaluation as a tool for raising issues. It should not be used as a tool of responsibility that will lead to stress or mental distress for students. Evaluation types that align with this diagnostic status include reflective journals/departments, case studies, group-based projects, presentations (oral or poster), debates, role plays, etc.

Students are more likely to participate in social creativity, especially in the whole process:

1. Criteria
2. Method
3. Marking
4. Feedback

Brooks and Brooks (1999) argue that, instead of just telling pupils “no” when they get a question wrong while “being explored,” constructive educators seek to comprehend what their students are thinking about the topic at hand. The instructor encourages the pupil to learn and grow by asking them simple questions.

Other Things can implement in Classroom for Social Constructivism

- Encourage working teams and collaborators
- Encourage debate or debate
- Create a study group for the chieftains
 - Give out a few points to evaluate chieftains and teach pupils the criteria and procedures.
 - Model effective essay and project writing for your pupils.
 - As a model who is aware of his function, what matters are your professional principles and the subject's obvious moral output.

CONCLUSION

The use of social media and other forms of social technology in the online construction and maintenance of social knowledge is the subject of contemporary research investigating the social constructivist viewpoint on education. Academic discourse follows certain socio-cultural norms, according to constructivists. These norms include providing supporting evidence, stating claims and hedging, reading literature to support one's claims, and responding to counter-claims. Because of their emphasis on the interconnected and interactive character of academic writing and their dedication to the reader's experience, constructivist methods are considered part of these standards. Citations are more than just a label; they are a critical component of the writers' critical process as they build their own works.

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THE CRITICAL ROLE OF HRM IN THE WORLD OF HIGHER EDUCATION

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ABSTRACT

Purpose: In the 21st century, higher education is experiencing significant changes driven by technological advancements, shifting student demographics, financial constraints, and evolving teaching methods. Amid these complexities, Human Resource Management (HRM) has become a crucial factor in higher education institutions. The academic sector is increasingly viewed through a business perspective in today's globalized education landscape, including India, leading to heightened competition within the academic field. Managing human resources in universities involves challenges similar to those faced by corporate entities in this fiercely competitive market. Despite many universities and affiliated institutions offering courses in human resource management to better prepare students for managing large corporations, the universities themselves often struggle to efficiently manage their own human resources. The objective is to analyse the current state of HRM procedures in higher learning institutions, focusing on a comprehensive examination of the HRM techniques employed by these advanced educational establishments.

Design/Methodology/Approach: This essay delves into the current state of human resource management (HRM) in higher education, shedding light on its challenges, impact, and emphasizing why HRM is a critical issue. The study seeks to analyse the present status of HRM practices in higher learning institutions, identifying the most significant hurdles faced by HRM professionals in the realm of higher education.

Findings/Result: The research aims to enumerate how effective human resource management influences the overall operations of educational institutions. Offer recommendations for improving human resource management in higher education to align with the evolving expectations of the 21st century.

Originality/Value: The findings of the research showed that the majority of educational institutions in the higher education sector use traditional recruitment approaches. However, several educational institutions have begun recruiting potential faculty and staff members through the use of digital platforms and social media.

Paper Type: Critical Analysis

KEYWORDS: Difficulties, Higher Education, HRM, and Human Resource Technology, Inferences.

1. INTRODUCTION

The higher education scene is presently experiencing a substantial transformation. It is defied by a confluence of elements that challenge the established paradigms of teaching, learning, and the administration of educational institutions. Higher education institutions currently find themselves at a pivotal juncture in terms of both change and innovation as a direct result of globalization, the rapid growth of technology, and the shifting demands of society (Staley, D. J., & Trinkle, D. A. (2011). [1]). Not only are they entrusted with conveying knowledge, but they are also tasked with supporting the intellectual and personal growth of students while instantaneously preparing them for a world that is becoming increasingly complicated and dynamic.

Given these circumstances, the importance of the HRM function inside educational institutions of higher learning is greater than it has ever been. The foundations of educational achievement are based on HRM, which acts as the bedrock upon which these foundations are created. It is the cornerstone that enables these institutions to recruit, cultivate, and retain the brightest academic brains and administrative talent, and as a result, it helps shape the future workforce and contributes to the growth of society.

Higher education institutions occupy a one-of-a-kind and essential place in the fabric of society. They are the keepers of knowledge, the cradles of innovation, and the movers and shakers of social advancement. The standard of education that they deliver has a



significant impact not just on the professional opportunities available to individuals but also on the economic growth and intellectual vigour of nations (Peggy, D., Kristen, L. (2011).[2]). As a result of this, the efficiency of HRM inside these institutions goes beyond the domain of simple administrative function; rather, it becomes a determinant of the overall excellence and influence of the institution. In this sense, human resource management in higher education is an endeavour that involves many different aspects. It involves the process of recruiting great faculty members, developing administrative and support staff, creating inclusive and dynamic work environments, and aligning individual goals with those of the institution as a whole. It is necessary for it to traverse the complexities of faculty governance, as well as the challenges of cost containment, the need for more accountability, and the goal of diversity and inclusion.

In spite of the evident significance of the issue, many institutions of higher education continue to struggle with antiquated HRM practices, bureaucratic inefficiencies, and an inability to adapt to the quickly changing educational landscape. These fears are made worse by the special obstacles that are faced by HRM in higher education, such as budgetary restrictions, an increased need for responsibility, rivalry for top academic talent, and the nature of work shifting in academia (Blackmore, J. (2002) [3]). If an institution is unable to properly manage these difficulties, it may be hampered in its capacity to attract and maintain top-tier teachers and staff, which, in turn, may undermine the quality of education it provides to its students.

As we continue to delve deeper into this project report, one of our goals is to systematically examine the current state of HRM practices in higher education, identify the key challenges that HRM professionals face, and emphasize the substantial impact that effective HRM has on the overall performance of educational institutions. We hope that by doing so, we will be able to shed light on the reasons why 'HRM' in Higher Education is essential and give concrete ideas for improving HRM processes in order to assure the continued excellence of these institutions.

2. RELATED RESEARCH WORKS

An organised review of the existing works is steered from Google Scholar as the search engine for the printed work in journals from 1985- 2015 with the aid of key words used for the study were: "Difficulties", "Higher Education", "Human resource Management", and "Human resource technology", "Inferences". The secondary sources also include research reports by authentic international research groups.

Table 1: Related research work on The critical role of HRM in the World of Higher Education

S.NO	Focus/Area	Contribution	References
1	Corporate Theories	At a conceptual level, it came out that HRM was very much how groups of HRM policies or procedures and the HR activity as a whole contributed to the realization of corporate plans.	Russel, et al. (1985) [4].
2	Conceptualisation of Human resource activities.	They cited their own research to support this claim. At their most fundamental level, human resource practices are acts that are designed to accomplish some particular goals.	Becker & Gerhart (1996) [5].
3	Importance of HRM in institutions of higher learning.	Institutions are now more frequently the target of "managerialism scrutiny and performance monitoring," which aims to increase service delivery and student satisfaction as well as other positive results like cost-cutting and generalized effectiveness.	Al-Twal, A. (2022) [6].
4	Efficient applications of business systems	HRM, enable academic employees to be devoted to their work for the good performance of their universities.	Ahmad & Shahzad (2011) [7].
5	Humanity has seen significant development	Economic systems, commercial landscape, and educational landscape are all undergoing rapid transformation at the same time. Every transformation and success of an institution is contingent on the people of that institution.	Balatbat, M. L. S. (2010) [8].



6	New Managerialism	HRM is increasingly being used in academic institutions. The objectives of this movement are to improve cost management, boost institutional efficiency, and exert more control over individual workers, particularly academic personnel.	Menon, S. (2015) [9].
7	Emergence of HRM as the preeminent research topic in the field of personnel administration	According to him, Human Resource management is an essential and logical approach to the administration of an organization with highly gifted employees who, independently or jointly, contribute to the institution's goals.	Armstrong (2006) [10].

3. OBJECTIVES

The Critical Role of HRM in the World of Higher Education has following objectives:

- (1) To identify the HRM Processes.
- (2) To identify the primary obstacles.
- (3) To explore and quantify the influence that efficient HRM has on the overall performance of educational institutions.
- (4) To give concrete advice and solutions to higher education institutions.

4. IDENTIFICATION OF HRM PROCESSES

This involves conducting an in-depth analysis of the various HRM processes that are already in operation, such as recruiting, selection, on-boarding, professional development, performance management, and retention strategies. Reviewing the HR guidelines and procedures to determine how well they agree with the institution's aims, as well as whether or not they are up to date and able to be adapted to meet the ever-evolving demands of the business. The examination of the technological infrastructure that supports HRM, including HRIS (Human Resource Information Systems), in order to evaluate how effective it is in streamlining HR operations is what we mean when we talk about an assessment of HR technology. Conducting surveys or interviews to determine staff and faculty satisfaction with HR services and examine their overall levels of involvement in the organization is one method of measuring staff engagement (Teir, R. A. A., & Zhang, R. Q., 2016) [11].

5. IDENTIFYING THE PRIMARY OBSTACLES

Recognizing the specific difficulties that HRM professionals face in the higher education industry is the primary emphasis of this purpose. This includes the following:

- a. Investigating the challenges of attracting and retaining top-tier faculty members, particularly in specialized subjects or high-demand areas, is a vital part of the Faculty Recruitment and Retention project.
- b. Analysis of the influence that budget restrictions have on HRM activities, such as compensation structures, benefit packages, and possibilities for professional progress is part of the budget constraints analysis.
- c. Regulatory and Compliance Issues: Examining the complexities of complying with ever-evolving regulations related to employment, diversity and inclusion, and academic accreditation.
- d. Changing Student Expectations: Researching how changes in student demographics and expectations influence HRM operations like as student services, academic support, and student-faculty ratios.
- e. Workforce Diversity and Inclusion: Evaluating the Obstacles in the Way of Promoting Diversity and Inclusion among the Faculty and Staff, as well as the Efforts Made to Create Inclusive Working Environments (Jaaskelainen, A., & Laihonon, H. (2013) [12]).

6. THE INFLUENCE THAT EFFICIENT HRM HAS ON THE OVERALL PERFORMANCE OF EDUCATIONAL INSTITUTIONS

This objective aims to measure the tangible and intangible profits that higher education institutions can reap from good human resource management methods. This includes the following:

- a. Excellence in Academics: Measuring the Correlation between Effective HRM Practices and Academic Outcomes This includes Research Productivity, Student Retention, Graduation Rates, and Academic Rankings.
- b. Analysis of how successful HRM contributes to improved levels of job happiness and engagement among staff and faculty members, which in turn has an impact on their performance and commitment to the institution is included in this aspect of staff and faculty satisfaction.
- c. Performing an analysis of the effect that HRM has on the productiveness of administrative procedures, the cost-effectiveness of operations, and the distribution of available resources.



- d. Institutional Reputation: Researching the ways in which a robust HRM system can improve an institution's reputation, making it more appealing to prospective students and increasing its ability to form partnerships with other organizations (Clark, B. R., 1996) [13].

Providing a set of ideas and tactics for upgrading HRM in higher education so that it is aligned with the shifting demands and expectations of the 21st century is the fourth objective of this project.

7. CONCRETE ADVICE AND SOLUTIONS TO HIGHER EDUCATION INSTITUTIONS

This study intends to provide concrete advice and solutions to higher education institutions so that they can improve their HRM practices. This includes the following:

- a. Proposing tactics for recruiting and retaining top talent, such as creative recruitment processes and competitive remuneration packages, is included in this section of the report titled "Talent Acquisition and Retention Strategies."
- b. Initiatives for Professional Development: Recommending measures to enlarge professional development openings for teachers and staff in order to guarantee that they are kept up to date with the latest trends in industry as well as pedagogical advances.
- c. Diversity and Inclusion Programs: Suggesting approaches to promote diversity and inclusion, both in terms of HR practices and overall institutional culture.
- d. Recommending technological enhancements, such as the adoption of modern HRIS systems or AI-driven HR solutions, to expedite procedures and boost data-driven decision-making is an important part of HR technology upgrades (Decramer, A. et al. (2012) [14]).
- e. Change Management Strategies: Providing advice on change management processes in order to facilitate the implementation of HRM improvements and ensure the effective adoption of those changes across the entire institution.

The study intends to give more light on the vital role of HRM in higher education and provide valuable insights for institutions to navigate the ever-changing educational landscape effectively by attaining these objectives. The study's overarching goal is to improve student outcomes.

8. RESEARCH METHODOLOGY

In this particular study, mixed-method research will be utilized. Research that uses mixed methods combines qualitative and quantitative approaches to data gathering and analysis. This paves the way for a more in-depth examination of the research questions being asked. This strategy is especially well-suited for the treatment of a complicated and multi-faceted subject like HRM in higher education.

8.1 Methods for the Collection of Data:

a. Opinion Polls

Questionnaires Conducted via the Internet an organized online survey will be given to HR professionals, administrators, and faculty members working at a variety of higher education institutions. In order to collect quantitative data on HRM practices, problems, and attitudes, this survey will comprise questions that do not allow for free-form responses.

Sampling: We will utilize a technique called stratified random sampling to ensure that we have representation from a variety of institutions (such as universities, colleges, and community colleges), geographies, and sizes.

b. Conversations With

Interviews with a Semi-Structured Format: In-depth interviews with a subset of key informants, including HR directors, senior administrators, and faculty members with experience in HR-related subjects, are going to be undertaken. These interviews will make it possible to go more deeply into some topics and will provide insightful qualitative information.

Sampling with a Purpose Participants who agree to be interviewed will be chosen in such a way as to ensure that a wide variety of viewpoints and experiences from within the higher education industry are represented.

8.2 Analysing the Data

The quantitative data that was gathered from the surveys will be put through a descriptive statistical analysis. In order to accomplish this, you will need to compute the means, standard deviations, and frequencies of the replies in order to summarize and characterize them.

a. Inferential Analysis: To find links and associations between variables, inferential statistical approaches, such as correlation analysis, regression analysis, or chi-square tests, may be utilized depending on the research topics.



b. Coding: Using software tools such as NVivo, the data will be coded into themes and subthemes to make the organization and interpretation of qualitative data easier.

c. Triangulation: In order to improve the validity of the findings, the qualitative data will be compared and contrasted with the quantitative results. This will make it possible to triangulate the data and gain a more in-depth understanding of the research topics.

9. FINDINGS

From 3.85 crore in 2019–20, the total number of students registered in higher education has climbed to about 4.14 crore in 2020–21. The number of students enrolled has increased by almost 72 lakh (21%) from 2014–15. The number of female students has increased from 1.88 million in 2019–20 to 2.01 million.

9.1 Following are the key highpoints of the survey:

a. Students Enrolled

From 3.85 crore in 2019–20, the total number of students enrolled in higher education has climbed to about 4.14 crore in 2020–21. The number of students enrolled has increased by almost 72 lakh (21%) from 2014–15.

The number of female students has increased from 1.88 million in 2019–20 to 2.01 million. Since 2014–15, there has been a growth of almost 44 lakh (28%). Female enrolment as a share of total enrolment climbed from 45% in 2014–15 to roughly 49% in 2020–21.

The number of SC students enrolled is 58.95 lakh, up from 46.06 lakh in 2014–15 and 56.57 lakh in 2019–20. The number of ST students enrolled has increased from 16.41 lakh in 2014–15 to 24.1 lakh in 2020–21. The average annual enrolment of ST students rose from about 75,000 between 2007–2008 and 2014–2015 to approximately 1 lakh between 2014–15 and 2020–21[15].

The number of OBC students enrolled has also gone up, from 1.42 million in 2019–20 to 1.48 million in 2020–21. Since 2014–15, there has been a noticeable rise in OBC student enrolment of almost 36 Lakh (32%). 12.06 lakh students are enrolled throughout all North East States in 2020–21, up from 9.36 lakh in 2014–15.

In North East States, there are 6.14 lakh more female students enrolled than male students (5.92 lakh), or 104 female students for every 100 male students. For the first time in 2018–19, more women than men were enrolled, and the trend has persisted.

According to responses from AISHE 2020-21, 11.5% of all students are enrolled in postgraduate level courses, compared to 79.06% of all students taking undergraduate courses. The most students are enrolled in the Arts (33.5%), followed by science (15.5%), Commerce (13.9%), and Engineering & Technology (11.9%), among the undergraduate disciplines.

The majority of students are enrolled in social science (20.56%), followed by science (14.83%), among postgraduate streams. Of the total enrolment, 55.5 Lakh students are enrolled in Science Stream, with female students (29.5 Lakh) outnumbering male students (26 Lakh). 73.1% of student's enrolment at government universities, which make up 59% of the overall enrolment. 34.5% of the enrolment comes from government colleges, which make up 21.4% of the total.

Between 2014–15 and 2020–21, the number of students enrolled in Institutes of National Importance (INIs) increased by nearly 61%. The number of students enrolled in specialized universities related to the military, Sanskrit, biotechnology, forensics, design, sports, etc. has grown from 2014–15 to 2020–21. The total number of graduates increased from 94 lakh in 2019–20 to 95.4 lakh in 2020–21.

b. The number of Institutions

There are 1,113 registered universities and institutions that are similar to universities, 43,796 registered colleges, and 11,296 standalone institutes. The number of universities has increased by 70, while the number of colleges has increased by 1453 during the 2020–21 academic year. Since 2014–15, 191 new institutions of higher learning have opened in North Eastern States. Rajasthan (92), Uttar Pradesh (84) and Gujarat (83) have the most universities. From 2014–15 through 2020–21, 59 new universities were added yearly on average. From 2007–2008 through 2014–2015, this number was around 50. There are 4,375 colleges, 4,375 universities, and 14 state public universities that are solely for women. The number of colleges per lakh of the eligible population (those between the ages of 18 and 23) was 31. In 2014–15, this number was 27.[15]



c. Faculty

There are 15,51,070 faculty members or teachers in total, with around 57.1% men and 42.9% women. The ratio of female faculty members per 100 male faculty members increased from 63 in 2014–15 to 74 in 2019–20 (Ministry of Education releases All India Survey on Higher Education (AISHE) 2020-2021 [15]).

9.2 Obstacles that HRM faces in Higher Education

The research showed that there is a great deal of competition for excellent faculty members, particularly in more specialized subjects. In many instances, institutions are unable to offer compensation packages that are competitive due to financial constraints.

Constraints on the Budget: The restrictions on the available budget were a persistent difficulty that had an effect on a variety of facets of HRM. Many of the respondents brought up the importance of finding innovative approaches to overcome monetary obstacles.

Problems with Regulatory and Compliance Requirements A number of institutions have reported having difficulties meeting the numerous and complex regulatory and compliance requirements, such as those relating to government financing and accreditation. It was determined to be a resource-intensive endeavour to ensure compliance. (J. Hurn, B. (2014). [16])

Changing Student Expectations: The changing expectations of students for individualized learning experiences and comprehensive support services were recognized as having an increasing amount of influence on how HRM practices were developed. The need for institutions to change in order to fulfil these ever-evolving demands was recognized (Terenzini, P. (1993 June) [17]).

Workforce Diversity and Inclusion Despite the widespread consensus that diversity and inclusion in the workforce are of critical importance, many organizations have struggled to go beyond superficial gestures in this area. According to the results of the study, there is a persistent necessity for the development of more all-encompassing techniques to foster diversity and cultivate inclusive settings.

10. SUGGESTIONS

This section ought to include recommendations that can actually be implemented in order to enhance HRM procedures in higher education. Take into consideration the following points:

Acquisition and Retention of Talent: Discuss tactics for attracting and maintaining top talent, such as the creation of clear career paths, mentorship programs, and innovative recruitment procedures. These are some of the strategies that should be discussed.

In the context of Professional Development Initiatives, consider the implication of on-going professional development opportunities for both academics and employees. Bring attention to the many positive aspects of making an investment in training and development programs and developing a culture of lifelong education (Heffernan, T. A. (2018) [18]).

Provide recommendations for the development of inclusive HR policies and procedures. This is part of the Diversity and Inclusion Programs. Talk about the importance of diversity and inclusion training, initiatives to employee people from diverse upbringings, and the formation of affinity groups.

Upgrades to HR Technology: Investigate the Possible Advantages of Advanced HRIS Systems, Data Analytics, and AI-Driven HR Solutions. Explore the ways in which administrative tasks can be streamlined with the help of technology, as well as how data-driven decision-making and HR services can be improved (Shrivastava, S., & Shaw, J. B. (2003). [19]).

Address the hurdles involved with putting HRM reforms into action through change management strategies. To guarantee the successful acceptance of HRM changes, it is important to discuss change management methods, plans for engaging stakeholders, and communication techniques.

11. THE IMPLICATIONS

The inferences that I take from the findings of my research on “The Critical Role of HRM in the World of Higher Education” is essential to comprehending the significance of study as well as the lessons that acquired as a result of conducting it. The distance between the raw data and the insights that can be used should be bridged through inferences. The following is a list of important inferences that can be drawn from the findings:

Inference 1: There is a Varied Range of HRM Policies and Procedures used in Higher Education Institutions

According to the findings of research, HRM procedures used at educational institutions of higher learning are not all the same. It is clear from the diversity of HRM approaches, which span from the conventional to the cutting edge that different organizations are



at different points in the evolution of HRM. While some universities have embraced diversity and technology efforts, others are falling more and further behind. This hints that HRM methods are malleable and can be changed by the culture of the organisation as well as the resources it has (Govender, L. N. et al., 2018) [20].

Inference 2: Restricted Financial Resources Stifle Human Resource Management Innovation

Constraints placed on financial resources are a problem that is widespread among institutions of higher education. According to the findings, insufficient financial resources prevent institutions from implementing cutting-edge human resource management systems and providing competitive remuneration packages in an effort to recruit and retain talent. This demonstrates the standing of establishing original financial solutions in order to overcome these obstacles.

Inference 3: Inclusiveness and diversity are becoming increasingly important

According to the results of the study, there is a growing awareness of the implication of diversity and inclusion in higher education human resource management. Although the rate of growth varies, many organizations are making active efforts to implement diversity recruitment methods and to create work environments that are more inclusive. This shows that institutions of higher education are reacting to demands from society for greater diversity and justice.

Inference 4: The Use of Technology Can Advance Human Resource Management Effectiveness

Organizations that have implemented more sophisticated HR solutions have claimed enhanced operational efficacy. Utilizing HRIS systems, for example, simplifies administrative procedures, cuts down on the amount of paperwork required, and paves the way for improved decision-making that is driven by data. This inference highlights the possible benefits of implementing technology in HRM, which can be found here (Stone, D. L. et.al [21]).

Inference 5: Effective Human Resource Management Contributes to the Excellence of Institutions

According to the findings of the study, successful HRM practices are directly correlated to institutional success. Academic excellence, employee and faculty happiness, operational efficiency, and reputation are all areas in which educational institutions that have good HRM procedures tend to perform better than those that do not. This shows that making investments in HRM can have a good effect on an organization's overall performance that can have far-reaching repercussions.

Inference 6: It is of the utmost importance to adjust to shifting student expectations

Alterations in the expectations of students are an important factor that drives HRM practices in the Higher Education division. The request that students have for individualized educational experiences and all-encompassing support services drives educational institutions to seek out new ways to adapt and innovate. The significance of adapting HRM procedures to meet the ever-changing requirements of students is shown by inference number 6.

Inference 7: Human Resource Management Is a Continuous Process

The HRM process in higher education is not one that is static but rather one that is fluid and ever-changing. The techniques of human resource management need to evolve in response to the changing opportunities and problems faced by institutions. According to the findings of the study, educational institutions need to embrace a mind-set of constant development in order to maintain their competitiveness and maintain their relevance in the rapidly shifting landscape of Higher Education (Jorgensen, F. et al., 2008) [22].

12. CONCLUSION

The environment of Higher Education is changing at a rapid pace, which presents educational institutions with a diverse array of opportunities and difficulties. In this ever-changing environment, Human Resource Management, often known as HRM, has become an increasingly important factor in determining an institution's capacity to evolve, thrive, and achieve. This study on "The Critical Role of HRM in the World of Higher Education" has thrown light on the existing state of HRM practices, the obstacles faced, and the potential impact of effective HRM in higher education institutions. The report's title is "HRM in Higher Education: The Need of the Hour." The research revealed a wide variety of HRM practices utilized by higher education institutions all around the world. While some have jumped on the innovation bandwagon, others are still grappling with inadequate resources and inefficient practices. The lack of available funds became an ever-present obstacle, which made it difficult to implement new technologies and provide compensation packages that were on par with those offered by competitors. On the other hand, there is a rising realization of the importance of diversity and inclusion, and institutions are actively undertaking measures to promote both of these concepts.

It has been established that technology, and more specifically sophisticated HRIS systems, has the capability to improve both operational efficiency and data-driven decision-making. In addition, the research showed a direct correlation between successful HRM practices and outstanding organizational performance. Institutions that had good HRM practices had a tendency to have superior academic performance, to encourage more staff and faculty satisfaction, to function more efficiently, and to enjoy enhanced reputations. The ever-evolving requirements of students have emerged as a primary driver of HRM practices, highlighting the importance of ensuring that HR policies are in line with these requirements. The report stressed the dynamic nature of HRM in



higher education and called for a culture of continuous development to confront new issues and embrace emerging possibilities. To conclude, HRM in higher education is indisputable evidence of the necessity of the hour. It is not only an administrative task; rather, it is a force of transformation that has the potential to mould the future of higher education. For an organization to be successful in attracting and retaining top personnel, fostering diversity and inclusion, and ultimately reaching institutional excellence, operative HRM strategies are crucial. The environment of higher education is always shifting, and in order for institutions to successfully traverse the next obstacles and grab the possibilities that lie ahead, HRM must be embraced as a strategic imperative. Higher education will continue to thrive or fail depending on how successfully educational institutions can innovate, adapt, and invest in their most valuable resource their students.

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USING TRIZ PEDAGOGY ELEMENTS IN SOLVING CREATIVE PROBLEMS IN PHYSICS

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ABSTRACT

The article discusses a methodology for solving creative problems in physics using TRIZ pedagogy, aimed at developing strong thinking and shaping the creative personality of students. The work shows examples of the application of TRIZ pedagogical principles in teaching physics.

KEY WORDS: TRIZ pedagogy, focal object method, synectics, brainstorming.

FIZIKADAN IJODIY MASALALARNI YECHISHDA TRIZ PEDAGOGIKASI ELEMENTLARIDAN FOYDALANISH

O'zbekiston Respublikasi Milliy gvardiyasi Toshkent
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Annotatsiya: Maqolada kuchli fikrlashni rivojlantirish va o'quvchining ijodiy shaxsini shakllantirishga qaratilgan TRIZ pedagogikasidan foydalanib fizikaning ijodiy masalalarini yechish metodikasi haqida fikr yuritiladi. Ishda fizikani o'qitishda TRIZ pedagogika tamoyillarini qo'llash misollari ko'rsatilgan.

Kalit so'zlar: TRIZ pedagogikasi, fokal ob'yekt usuli, sinektika, aqliy hujum.

ИСПОЛЬЗОВАНИЕ ЭЛЕМЕНТОВ ТРИЗ ПЕДАГОГИКИ ПРИ РЕШЕНИИ ТВОРЧЕСКИХ ЗАДАЧ ПО ФИЗИКЕ

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Аннотация: В статье рассматривается методика решения творческих задач по физике с использованием ТРИЗ-педагогика, направленная на развитие сильного мышления и формирование творческой личности учащихся. В работе показаны примеры применения педагогических принципов ТРИЗ в обучении физике.

Ключевые слова: ТРИЗ-педагогика, метод фокусного объекта, синектика, мозговой штурм.

Hozirgi davrga kelib, pedagogik innovatsiyalar turi va sonining ko'payishi biz o'qituvchilar uchun ularni qay birini tanlash muammosini yuzaga keltirmoqda, lekin qanday usul va innovatsiyalar bo'lishidan qat'iy nazar, fizika o'qituvchisi sifatida o'z faoliyatimda o'z fanimga mos pedagogik texnologiyamni ishlab chiqish va ulardan foydalanish o'quvchilarning ijodiy salohiyatini yanada ochirishga imkon berishini yaxshi tushunaman. O'quvchilarni ijodiy fikrlashga va hayotda olingan bilimlardan to'g'ri foydalanishga o'rgatish juda muhim hisoblanadi [1].



To'g'ri tanlangan maqsad o'quvchi va o'quvchilarning bilish va tafakkur faoliyatini tashkil etish usullari va shakllarini belgilaydi. Fizikadan ijodiy masalalarni yechishda qo'l keladigan ommabop innovatsion pedagogik texnologiyalardan biri-TRIZ pedagogikasi hisoblanadi [3].

TRIZ pedagogikasi ilmiy-pedagogik yo'nalish sifatida 80-yillarning oxirlarida shakllangan. U taniqli novator-o'qituvchi G.S.Altshuller tomonidan ishlab chiqilgan bo'lib, asosan ixtirochilik muammolarini hal qilish nazariyasiga (TRIZ) asoslangan edi. TRIZ pedagogikasi kuchli fikrlashni shakllantirish va uni hal qilishga tayyor bo'lgan ijodiy shaxsni tarbiyalashga qaratilgan metodika hisoblanib, inson faoliyatning turli sohalarida murakkab ixtirochilik muammolarini hal qilish usullarini o'z ichiga oladi. Birinchi navbatda, TRIZ doirasida ishlab chiqilgan o'rtacha texnikalar va algoritmlar, shuningdek, aqliy hujum, sinektika, morfologik tahlil, fokusli ob'ektlar usuli va ularning turlari kabi mashhur usullarni o'z ichiga oladi. TRIZ pedagogikasi nafaqat o'quvchilar oldiga murakkab muammolarni qo'yadi, balki ularni hal qilishning ijodiy-konstruktiv usullarini beradi, shu bilan muammolarni hal qilishda muvaffaqiyatga erishishga yordam beradi; TRIZ-bu xotira pedagogikasi emas, balki fikrlash metodikasi, faqat mehnatsevarlik emas, balki tashabbus pedagogikasi hamdir [3].

2000-yilda TRIZ pedagogikasi MDH davlatlari ta'lim vazirliklari tomonidan zamonaviy pedagogika tarkibiga kiritilgan. Faol o'qitish usullari quyidagilar bilan tavsiflanadi: o'qituvchining o'quvchiga teng huquqli munosabati; inkor etib bo'lmaydigan haqiqatlar sifatida bilimning oddiy muloqoti emas, balki mustaqillikka asoslab "qurish". TRIZ pedagogikasi ta'limning yangi sifatini ta'minlashga va mavjud vaziyatni yaxshilashga qodirligini ko'rsatgan, ammo buning uchun "buyuklarning yelkasida turish", jahon pedagogikasida ishlab chiqilgan barcha yaxshi narsalarni olish va yangi bilimlardan foydalanish kerak.

TRIZ - bu o'quvchining shaxsiyatini va umuman ta'limini takomillashtirish usuli, vositasi va uslubi deyish mumkin.[1]

TRIZ pedagogikasi fikrlashni faollashtirishning quyidagi usullaridan foydalanadi:

- Fokusli ob'ektlar usuli.
- "Aqliy hujum".
- Tizim operatori.
- Morfologik tahlil.
- Nazorat savollari usuli.
- Sinektika.

1)Fokal ob'yekt usuli - masalaga yangicha qarash imkonini beradi

Usulning maqsadi boshqa ob'ektlarning xususiyatlari bilan assotsiativ aloqalarni o'rnatish orqali diqqatning "markazida" bo'lgan ob'yektni (shuning uchun nomi) aylantirishdir. "Lampochka", "barometr", "termometr" so'zlariga ta'riflarni toping va natijada olingan ta'riflar bilan iboralar yarating, masalan, "yorqin" lampochka, "chaqqon barometr". Ushbu "aqliy barometr"ni chizing. Bunday fantaziya natijasida g'ayrioddiy xususiyatlarga ega ob'yekt qo'lga kiritildi. Olingan loyihalarning amaliy qo'llanilishini tahlil qilish majburiydir: "Bunday ob'yektni qayerda qo'llash mumkin? Bu nima uchun kerak bo'lishi mumkin? Qanday qilib yangi, takomillashtirilgan muassasa eskisidan yaxshiroq?" [2].

2) "Aqliy hujum"- yangi g'oyalarni yaratishning eng mashhur va keng qo'llaniladigan usuli amerikalik olim A. Osborn tomonidan taklif qilingan "aqliy hujum" usulidir. Usulning mohiyati muammolarga yechimlarni birgalikda qidirish, asosan sezgi asosida, so'ngra g'oyalarni tekshirish, kutilmagan va xayoliy takliflar rag'batlantiriladi. Bu usul insonning assotsiativ qobiliyatlarini faollashtiradi. "Aqliy hujum" usulini qo'llash natijasida o'quvchilarda g'oyani boshqalar bilan muhokama qilish istagi paydo bo'ladi, "Keling, birgalikda o'ylaymiz...", "Qanday qilish kerak...", "Agar bo'lsa nima bo'ladi..." o'quvchilar nutqida faol namoyon bo'ladi.

Aqliy hujum paytidagi faoliyat tamoyillari

Tanqid yo'q! G'oyalar bankini yaratish! Fikrlarni tahlil qilish! Natijalarni qayta ishlash. Aqliy hujum turlari: muammolarni guruhda hal qilish usuli, g'oyalar konferensiyasi, ommaviy aqliy hujum.

Guruh usuli turli yoshdagi guruhlarda turli darajadagi fizika olimpiadalariga tayyorgarlik ko'rishda, murakkablik darajasi yuqori bo'lgan muammolarni hal qilishda o'zini yaxshi isbotladi. Biror muammoni, murakkab nostandart masalani hal qilishni jamoada bir bo'lib muhokama qilish o'quvchilarni faollashtiradi, dadillashtiradi, ular xatolardan qo'rqmaydilar, ularning takliflari va g'oyalari yanada ijodiy va dadil bo'ladi.

3) **Morfologik tahlil**- metod ob'yektning ko'plab xususiyatlarini aniqlashga asoslanadi, kombinatsion qobiliyatlarni rivojlantiradi, berilgan mavzu doirasida ko'p sonli javob variantlarini olish imkonini beradi va olingan g'oyalarni baholash uchun sharoit yaratadi [3].

Ushbu usul "morfologik" deb ataladigan jadvalni tuzishni o'z ichiga oladi. Bu usul "bitta vazifa" darslarida yaxshi ishlaydi [4].



Fizika fani mexanika bo'limidan "Og'irlik kuchi ta'sirida harakat" mavzusini o'rganayotganda, biz asta-sekin oddiy masalalardan murakkabga o'tish - jismlarning vertikal ravishda harakatlanishi misolida yuqoriga burchak ostida otilgan jismning harakat qilish bo'yicha masalalar yechishga, erkin tushishga doir masalalardan oddiydan murakkabroq ijodiy masalalarni yechishga o'tamiz. Bu yerda havoning ishqalanish kuchini, biz harakat sodir bo'ladigan muhitni (havo, suyuqlik) o'zgartiramiz, shu bilan masalaning mazmunini o'zgartiramiz, uning mazmunini va shuning uchun yechimini murakkablashtiramiz.

4) Test savoli usuli.- Bu takomillashtirish mavzusidagi biz o'rganib qolgan qarashlarni buzadigan standart so'rovnomani ishlab chiqishni o'z ichiga oladi. Usul turli xil analogiyalardan foydalanishga asoslangan: bevosita, shaxsiy (empatiya), ramziy, fantastik. Shaxsiy o'xshatish (empatiya) yordamida odam qabul qilingan hissiy tasavvurlar asosida o'zgaruvchan ob'yektning tasviriga "ko'nikishi" kerak, muammoni hal qilishni taklif qilishi kerak (qahramon nuqtai nazaridan qayta hikoya qilish; "Nyuton, Eynshteyn bo'l" o'yinlari, sehrigar, molekula, elektron...").

5) "Tizim operatori" - Tizimlashtirish "tizim operatori" deb nomlangan jadval yordamida amalga oshiriladi. Minimal model – to'qqizta!.

Misol:

1-jadval. "Tizim operatori"

O'qituvchi savoli	Talaba javobi
Tizim nima?	Elektr qo'ng'irog'i
Maqsadiga ko'ra supertizim nima?	Elektr, ovoz moslamasi.
Elektrning supertizimi nima mahalliy qo'ng'iroq?	Kvartira, fizika xonasi, maktab.
Sistemaning vazifasi nimadan iborat?	Ovozli signal.
Keling, elektr quyi tizimini ko'rib chiqaylik qo'ng'iroq qiling	Elektromagnit, bolg'a, ulash simlari, piyola qo'ng'iroq, joriy manba.
Keling, qanday yaratilganligini eslaylik yaqinda dars boshlanishi haqida bildirishnoma o'tgan?	Mexanik qo'ng'iroq qo'ng'iroq.
Maktab modelini o'ylab toping (taklif qiling). kelajak chaqiruvini?	
U qanday qismlardan iborat bo'lishi kerak?	

Jadval to'ldiriladi (rasmlar, matnlar bilan), keyin siz chiziq chizishingiz va maktab qo'ng'irog'ining yangi noodatiy modelini (lampochna, ampermetr, favvora) yaratishingiz mumkin. Bu juda ajoyib ob'yekt bo'lsa ham, yangi fizikaviy qurilma paydo bo'ldi, biz unga nom topishimiz kerak, "tizim operatori" texnikasidan foydalangan holda hikoya yozishga harakat qilishimiz kerak.

6) Texnika – "vaziyatli" muammolarni hal qilish.

Muammoning vaziyatdan farqi shundaki, u aniq formulaga ega, shart aniq shaklda barcha kerakli ma'lumotlarni o'z ichiga oladi, hal qilish usuli ko'pincha ma'lum va rasmiy operatsiyalar zanjirini ifodalaydi, yagona to'g'ri javob aniqlanadi. Vaziyat, o'z navbatida, noaniq shart, yechimga turli yondashuvlar va bir nechta yechimlarga ega.

Quyida sanab o'tilgan uslublarni fizikadan ijodiy masalalarni yechishga qo'llash bo'yicha vaziyatli misollar keltiramiz:

1-vaziyatli misol: Bitiruv kechasi paytida o'quvchilar birgalikda issiq havo sharida parvoz qilishni taklif qilishdi. Buning uchun nimalar talab qilinadi?

Vaziyat bizni muammoni shakllantirishga majbur qiladi.

Birinchi usul: issiq havo sharini o'zingiz yarating.

Guruhning barcha o'quvchilarini havoda berilgan balandlikka ko'tara oladigan sharning parametrlarini aniqlang. Sinfidagi barcha o'quvchilarning massasini aniqlang. Aeronavtikaning fizikaviy asoslarini eslang va qo'llang. To'p qobig'ining materialini, savatning o'lchamlari va parametrlarini va boshqalarni tanlang.

Ikkinchi usul: yo'lovchilarni havo sharida tashiydigan tashkilotni toping.

Uchinchi usul: ballon parvozini samolyot parvozi, yaxta sayohati va boshqalar bilan almashtiring.

Bu masala yuzaga kelgan vaziyatdan muammoni hal qilishga, so'ngra fizika darslarida ijodkorlik va innovatsion fikrlashni rivojlantirishga yordam beradigan "namunali" masalalarga o'tish metodidan biridir.



2-vaziyatli misol: Siz daryo bo'yida turibsiz. Daryoning kengligini aniqlang (daryo oqimining tezligi, daryo chuqurligi va boshqalarni topish mumkin).

Bu misol muammoli vaziyat sifatida qaraladi. Sharoitlardan kelib chiqib, nimalardan foydalanish mumkinligi, qaysi daryo haqida gap ketayotganligi aniq emas. Uni hal qilishda har xil yondashuvlar mavjud va har bir boshqacha yondashganimizda, biz yangi muammoni (muammo modeli) shakllantirishga o'ta olamiz. Vaziyat namunaviy masala darajasiga yetkaziladi.

Birinchi usul: Daryoning kengligini uchburchaklarning o'xshashlik shartlaridan foydalanib aniqlash mumkin;

Ikkinchi usul: 30° burchakli to'g'ri burchakli uchburchakni hisoblash yo'lini V.I.Perelmanning "Qiziqarli fizika" qo'llanmasidan topish mumkin va h.k.

3-vaziyatli misol: Bosmaxonadagi ishlarni tekshirgan nufuzli komissiya bu yerda suv yordamida tozalash ishlarini olib borish uchun elektr tokida ishlovchi bosma (aylanuvchi) dastgohlar kuniga bir necha marta o'chirilganidan norozi bo'ldi. Komissiyaning fikricha, bu mehnat unumdorligini pasaytiradi, bosma mahsulotlarning narxini oshishiga sabab bo'ladi. Lekin ishlab chiqarish ustasi esa buning sababini tushuntirib, qog'ozdan statik elektrni olib tashlash uchun qilish kerakligini aytdi. Aslida, qog'ozning tiqilib qolishi va yirtilmasligi va yong'in ehtimolini oldini olish uchun mashina to'xtatiladi.

Savollar:

- Kim haq? Ishlab chiqarish ustasimi yoki komissiyami?
- Mehnat unumdorligi va bosma mahsulotlar tannarxini qanday oshirish mumkin?

Bilimlarni qayta ixtiro qilish usuli.

Bu usul bilimlarni qayta ixtiro qilish usuli fizika bo'yicha laboratoriya va amaliy mashg'ulotlarda juda yaxshi ishlaydi, bu erda bilim "likobchada" tayyor shaklda berilmaydi, balki izlab topiladi va qayta kashf etiladi. **Misollar:**

"Arximed qonunini o'rganish" dars-tadqiqot bo'lib, suzuvchi kuchning suyuqlik turiga, suyuqlikka botgan jismning moddasining turiga, suvga botish chuqurligiga bog'liqligi haqidagi farazlar ilgari suriladi va jismning massasi, jismning suvga botgan qismi hajmi bo'yicha va boshqalar tekshirib ko'riladi.

"Om qonuni" darsi - bunda elektr zanjirining uchta parametri - kuchlanish, tok kuchi va o'tkazgich qarshiligi o'rtasidagi bog'liqlik eksperimental tarzda o'rnatiladi.

"Elektromagnit induksiya qonunining kashfiyoti" darsi - induksion tokni olish usullarini va induksiya oqimining kuchi va yo'nalishining turli xil xususiyatlariga - magnit maydon induksiyasiga, magnit oqimining o'zgarish tezligi va o'tkazgich qarshiligiga bog'liqligini o'rganish shaklida tashkil etilishi maqsadga muvofiqdir.

Ushbu turdagi eksperimental vazifalar - "Aqlli uy" uchun elektr ta'minoti sxemasini ishlab chiqish ("to'ldirishni o'zingiz ishlab chiqing" - harakat, tovush, harorat sensorlari, issiqlik tasvirlagichlari, video kuzatuv tizimi va boshqalardan foydalanish) mumkin.

O'z qo'limiz bilan asboblarni yasash - elektroskop, kondensator, galvanik element, elektr motor, favvora modellari, avtomatik ichimlik idishi kabilarni yasashga undash bilan o'quvchilarni ijodiy fikrlashga o'rgatiladi.

Yuqoridagi keltirilgan misollar bilan, albatta, fizika darslarida qo'llanilishi mumkin bo'lgan ijodiy va faol fikrlash texnikasi va usullari ro'yxati tugamaydi, ular rivojlanadi, yangi mazmun va ma'no bilan to'ldiriladi. Fizika o'qituvchisining vazifasi ulardan o'z faoliyatida o'z o'rnida foydalanishni o'rganish va o'quvchilariga TRIZ fikrlashning usullarini o'rgatishdir. Natijada faoliyatning turli sohalarida murakkab muammolarni hal qilishga tayyor bo'lgan ijodiy shaxs shakllanadi va bu o'qituvchining asosiy vazifasi deb hisoblaymiz.

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ANALYSIS OF BANK PERFORMANCE USING CAMEL MODEL -WITH SPECIAL REFERENCE TO FEDERAL BANK LTD - AN EMPIRICAL EVIDENCE

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ABSTRACT

These days, having an account with the top bank in India is a need for everyone with money. People are also less likely to be without a bank account now that the government of India has implemented the Pradhan Mantri Jan Dhan Yojna, a programme to increase access to banking services. But are you familiar with the largest banks in India, or with public sector banks in particular? In that case, you need not be concerned; we will provide you with extensive information on some of the finest banks in India, including the top ten public and private banks in the country, as well as details about the banking products offered by each. Businesses in today's cutthroat global economy need to present themselves as models of social responsibility if they want to succeed. Companies want expansion via globalisation, and they get a competitive edge in achieving this aim when they actively participate in socially beneficial programmes. Companies with a global presence are generally compelled to have a substantial impact on social concerns in each country where they operate. Failing to do so may result in massive financial losses due to government rules, environmental limitations, labour exploitation, and other related issues. An essential tool for evaluating the performance of financial institutions and banks and suggesting improvements where needed is the CAMEL model. Based on their total assets, this research takes into account ten different types of Indian banks: five public and five private. The five-year span from 2017 to 2022 is included in this research. The current research looks at how well the chosen banks have done financially. Creditworthiness, Asset Quality, Management Effectiveness, Earnings Capacity, and Liquidity are the five CAMEL metrics used to evaluate the financial institutions. Kotak Mahindra outperformed all other banks and came out on top, while Punjab National Bank came in last, according to the survey. All things considered, private banks have done better than their public sector counterparts. The purpose of this paper is to use the CAMEL model to recognize the presentation of Federal Bank Ltd.

KEYWORDS: Financial Performance, CAMEL Model, Federal Bank Ltd, Profitability.

JEL CODES: G1, F21, F43, O43, O47.

1. INTRODUCTION

There are certain rates set by the central bank which every bank has to follow and maintain. The interest rate that commercial banks typically charge their most creditworthy clients is known as the Benchmark Prime Lending Rate (BPLR). As per RBI rates earlier banks were free to fix their BPLR for their credit limits. But due to some circumstances and the consequences faced by the banks and public, to bring the transparency in the lending rates RBI has introduced modified rate called as base rate. The base rate is the floor below which all bank loans must be priced. Banks cannot charge less than the base rate. On July 1, 2010 BPLR has been replaced by base rate. The base rate calculations were more transparent which were not with the case of benchmark prime lending rate.

The Reserve Bank of India mandates that all Indian banks keep a certain amount of money on hand as a reserve. The capacity of the bank to inject more funds into the economy is constrained by the Capital Reserve Ratio. Four percent is the current CRR rate. Some non-cash fluid resources, like valuable metals or other approved protections, must be on hand at all times for banks. Bank solvency is ensured by the employment of Statutory Liquidity, which limits the increase of bank credit. The current rate of SLR is 19.5%. The Reserve Bank of India (RBI) loans money to all banks at a short-term rate called the repo rate, which is also called the benchmark interest rate. The cost of borrowing money from the Reserve Bank of India will rise in tandem with this rate. The Reserve



Bank of India (RBI) may raise the cost of borrowing money for banks by raising the repo rate. The repo rate is now 6.25 percent. For short-term borrowings, the Reserve Bank of India (RBI) utilizes the Converse Repo rate. As opposed to the Converse Repo rate, which demonstrates the rate at which the national bank pulls out assets from banks, the Repo rate shows the rate at which the Hold Bank of India (RBI) injects funds into the banking system.

The nation's monetary authority oversees the flow of money in the country via monetary policy. To keep up with value strength and public confidence in the money, the process of regulating the cost of very short-term borrowing is generally aimed at a certain rate, such as inflation or interest. One way to describe monetary policy is as expansionary or contractionary. A number of factors are taken into account when making monetary policy decisions, including interest rates both short- and long-term, currency exchange rates, credit quality, the velocity of money through the economy, bonds and stocks, public and private sector expenditure and savings, financial derivatives such as contracts, futures, options, and swaps, and large-scale international capital flows.

The proportion of a bank's non-performing assets is a key performance indicator. According to the NPA ratio and other ranking systems, the banks that have a lower proportion of nonperforming assets are doing better. Loans that are not current or have not been paid as agreed upon are categorised as nonperforming assets (NPAs) in the accounts of financial institutions. Most loans have a ninety-day grace period before they are considered non-performing; however, this grace period might be shorter or longer depending on the specifics of each loan.

2. REVIEW OF LITERATURE

- ❖ **Mishra Ashwini Kumar (2022):** This article used econometric analysis to calculate and determine numerous elements influencing and defining the two types of Indian banks, 12 of which were public and 12 of which were private, during the course of 11 years, from 2000 to 2011. He has ranked the banks utilizing CAMEL model - found that private area banks are heading towards convergence.
- ❖ **Mukund Sharma (2022):** In his work, this writer states that the goal of the CAMEL system is to identify potential issues before they ever arise. Using the Friedman and Mann-Whitney tests, he determined that private banks were better at making use of resources like flies, and that banks with higher investment ratios in government securities had lower gross and net non-performing assets.
- ❖ **Subendra Dutta (2021):** Using backward multiple regression analysis, this paper identifies the most important determinants affecting the return on assets of public sector banks, which in turn affected the country's economic development. There was no autocorrelation, and he discovered that NPA adversely affected RoA utilizing the Durbin-Watson measurement.
- ❖ **Nandhini (2020):** revealed a measurably massive contrast in the CAMEL proportions of six Indian public area banks after studying the behaviour and consistency of the model's parameters over five years using ratio analysis.
- ❖ **Geeta Sharma (2020):** compared the efficiency of public and confidential banks utilizing the CAMEL framework and found that the latter were more successful. Public sector banks have room to grow in two key areas: asset quality and the effectiveness of their management.
- ❖ **Srinivasan (2020):** This paper used analysis of variance (ANOVA) to look at the locations of 51 different banks (both domestic and international) in India from 2012 to 2014. The results showed that the CAMEL ratios of these different banks were significantly different from one another.
- ❖ **Apoorva Trivedi (2019):** All of the top public and confidential banks in India have capital sufficiency levels that are close to what is needed, according to the article's analysis of their comparative performance. Proper management of a bank's assets and liabilities is crucial to ensuring sufficient capital and loan allowance, which in turn determines the bank's profits potential.
- ❖ **Khatik (2019):** Using a one-way analysis of variance (ANOVA) classification model, this article found that five nationalised banks were significantly different in terms of performance and soundness.
- ❖ **"Ruchi Gupta" (2018):** This study used the CAMEL model to evaluate the field position and execution of India's public area banks, and the results showed that these institutions were performing differently from private ones.
- ❖ **Anju Sharan (2018):** This paper has argued that the banking sector's sustainability, competitiveness, and healthy expansion should be considered alongside profits and the quality of earnings. The research concluded that financial institutions could boost interest and non-interest revenue by making better use of their resources and enhancing their operational efficiency.

3. STATEMENT OF THE PROBLEM

This research employs the CAMEL framework in an effort to quantify the fiscal health of Afghanistan's public sector banks during a four-year period (2014–2017). A company's liquidity, resource quality, the executives sufficiency, income quality, and capital amplexness are all parts of the CAMEL acronym. Out of four Afghan public sector banks, I have selected three to carry out the assignment. Next, we use a number of ratios to analyse the chosen banks' financial statements over a four-year period (2014–2017).



The ineffectiveness of the majority of Afghan banks has led to the current crisis of default culture poor the country's banking system. More important than any other factor influencing a bank's success is the management team's capacity to develop and execute effective strategies. Bank management may find this study's conclusions useful in enhancing their financial performance and developing

4. RESEARCH GAP

Receiving deposits and lending those funds to people and companies in need is the fundamental role of every bank, whether it is a public or private sector institution. Most people across the globe associate banks with reliability and security. No matter how little the sum, every Indian citizen can be certain that their money is safer in India's nationalised banks than it would be anyplace else. The best banks in India will assist you in finding a safe haven for your savings, where you may receive interest on your investment. From 2017 to 2022, this research is conducted over a five-year period. For this analysis, we looked at the Total Assets of the main public and confidential banks in the country.

4. RESEARCH QUESTIONS

- ❖ How the public banks are competing with each other?
- ❖ In the research, how did the chosen banks fare?
- ❖ How may banks' performance be enhanced?
- ❖ State-owned financial institutions in India

5. OBJECTIVES OF THE STUDY

- ❖ To analyse how Federal Bank Ltd's financial performance in India has an effect.
- ❖ To evaluate Federal Bank Ltd using the CAMEL Model and place it in a ranking.

6. HYPOTHESES OF THE STUDY

H0: There is no Impact of financial performance of Federal Bank Ltd in India.

H1: There is an Impact of financial performance of Federal Bank Ltd in India.

7. RESEARCH METHODOLOGY

- ❖ **Sources of Data:** Secondary data came from 10 public sector banks' annual reports. For the sake of further investigation and confirmation, www.moneycontrol.com was consulted. Prior to being used for the research, the data underwent certain basic mathematical processes, such as calculating the ratios.
- ❖ **Period of the Study:** The time frame of the research is five years, from 2017 to 2022. For this reason, PSBs, or public sector banks, have supported the Indian economy throughout its history. Public sector banks have played a pivotal role since their nationalisation in a variety of initiatives, including zero-balance accounts for the country's lower-middle class and government programmes like Jan Dhan etc. The NPCI and PSBs also made digital transactions simpler during the COVID-19 epidemic.

8. LIMITATIONS OF THE STUDY

- ❖ Just five picked public and confidential area banks in India are remembered for this analysis.
- ❖ The banks' financial statements, which may have been manipulated, are the only basis for this analysis.
- ❖ This research will only last for a period of five years.

9. SCOPE OF THE STUDY

The goal of this exploration is to evaluate how well the Indian banking sector is doing. Banks' performance is evaluated and studied via the use of CAMEL model ratios.

SI No	Bank Name	Headquarter	Tag Line
1	Federal Bank Ltd Ltd	Mumbai	Your Perfect Banking Partner

10. RESULT AND DISCUSSION

Adequacy of Capital (C): Banks and other financial organisations are required by law to maintain certain minimum capital reserves. The examination of capital trends is used to determine this. A better grade is contingent upon financial institutions' adherence to dividend and interest regulations.

Asset Quality (A): The credit risk of an asset is determined by this study or appraisal. One way to verify this is by comparing the investments' book value to their fair market value. A good indicator of this is how well the bank's investing strategies and policies work.



Management Efficiency (M): What this means is that the bank can handle its financial stress in the right way. This aspect is shown by the limit of the administration to distinguish, measure, screen, and control the risks associated with the institution's day-to-day operations.

Earnings Ability (E): How well an organisation can generate enough profit to grow, stay competitive, and attract new investors is what this term alludes to.

Liquidity (L): It measures the ability of the institution to convert assets to cash easily depending on short term financial resources.

Table 1. Description of CAMEL parameters

Category	Ratios	Formula	Significance	Evaluation Criteria
Capital Adequacy	CAR	Tier-1 and Tier-2 Capital/Aggregate of Risk Weighted Assets (RWA)	It measures the bank's ability in absorbing the losses arising from the risk assets	Higher the ratio Better is the financial condition of the bank
	Debt/Equity Ratio	(Deposits + Borrowings + Other liabilities) / (Capital + Reserves)	It indicates the bank's financial leverage	Lower the ratio Better it is
	Coverage Ratio	(Net Worth-Net NPAs) / Total Assets	It indicates the availability of capital to meet any incidence of loss assets in NPAs	Higher the ratio Better it is

Asset Quality	Net NPA/Net Advances Ratio	NPAs/Net Advances	It indicates the level of NPAs in the net advances	Lower the ratio Better it is
	Govt Securities/Investment Ratio	Government Securities/ Total Investments	It indicates the bank's strategy: High profits=High risk or Low profits=Low risk	Higher the ratio Safer it is
	Standard Advances/Total Advances Ratio	Standard Advances (Net of Total Assets and Gross NPAs) / Total Advances	It indicates higher earnings if the bank assets are highly performing	Higher the ratio Better it is
Management Quality	Total Advances/Total Deposits Ratio	Total Advances/Total Deposits	It indicates the bank's ability to convert its deposits into higher earning advances	Higher the ratio Better it is
	Business per Employee	Total Advances and Total Deposits/No of Employees	It measures whether the bank is relatively over or under staffed	Higher the ratio Better it is
	Profit per Employee	Profit/No of Employees	It measures the efficiency of the bank's employees in maximizing the profits	Higher the ratio Better it is



Earnings Ability	Return on Assets	Net Profit after tax/Total Assets	If indicates the returns earned from the assets of the bank	Higher the ratio Better it is
	Income Spread/Total Assets Ratio	Interest Income Earned-Interest expended)/ Total Assets	If indicates how much a bank can earn for every rupee of investments made in assets	Higher the ratio Better it is
	Operating Profit/Total Assets Ratio	Operating Profit/Total Assets	If indicates the bank's ability to earn after meeting its operating expenses for the investments made in assets	Higher the ratio Better it is
	Cost/Income Ratio	Operating Expenses/Net Income	If indicates the bank's ability to meet its operating expenses from revenue generated	Lower the ratio Better it is
Liquidity	Cash Asset/Total Assets Ratio	Cash Asset/Total Assets	If measures cash in proportion to total assets	Higher the ratio Better it is
	Govt Securities/Total Assets Ratio	Govt Securities/Total Assets	If measures govt securities in proportion to total assets	Higher the ratio Better it is
	Liquid Assets/ Total Deposits Ratio	Liquid Assets/ Total Deposits	If indicates the bank's ability to meet its deposit obligations with available liquid funds	Higher the ratio Better it is

Table 2. Ranking under Capital Adequacy Parameter of Your Perfect Banking Partner

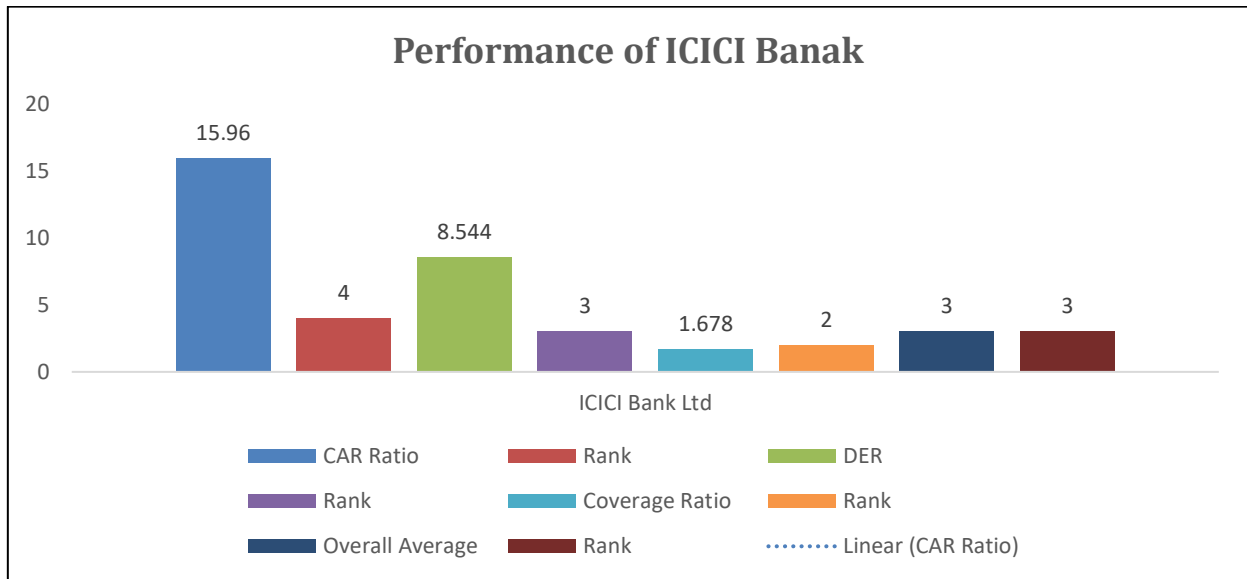


Capital Adequate Ratio (CAR) Formula

$$= \frac{(\text{Tier 1 Capital} + \text{Tier 2 Capital})}{\text{Risk Weighted Assets}}$$



Banks	CAR Ratio	Rank	DER	Rank	Coverage Ratio	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	15.96	4	8.544	3	1.678	2	3.00	3



From the above table and graph, it is interpreted that Industrial Credit and Investment Corporation of India Bank (ICICI) shows the Capital Performance is 15.96 and the rank is 3. Overall Performance of the Federal Bank Ltd is good.

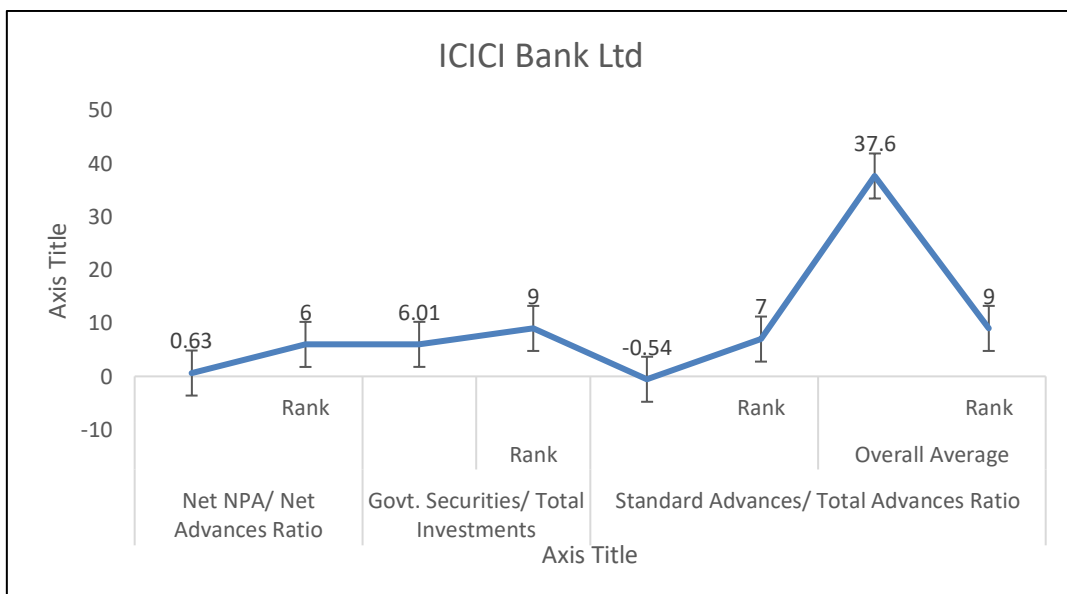
Table 3. Ranking under Asset Quality Parameter of Your Perfect Banking Partner

NNPA Formula

$$\text{NNPA Ratio} = \frac{\text{Total NNPA}}{\text{Total Advances}}$$

NNPA = NPA minus the provision made by the bank.

Name of the Bank	Net NPA/ Net Advances Ratio	Rank	Govt. Securities/ Total Investments	Rank	Standard Advances/ Total Advances Ratio	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	0.63	6	6.01	9	(0.54)	7	37.6	9





From the above table and graph, it is interpreted that Industrial Credit and Investment Corporation of India Bank (ICICI) shows the Capital Performance is 15.96 and the rank is 3. Overall Performance of the Federal Bank Ltd is good.

Table 4. Composite Ranking (CAMEL)

Bank Name	Rank (C)	Rank (A)	Rank (M)	Rank (E)	Rank (L)	Overall Average	Rank
Federal Bank Ltd Ltd	3	4	4	3	10	4.80	3

Investment Corporation of India (ICICI) Bank has a Capital Performance of 15.96 and ranks #4 in the composite rankings of the banks shown in the table above, which are based on five criteria. Overall Performance of the Federal Bank Ltd is good.

Table 5. Ranking under Management Efficiency Parameter

Banks	Total Advances/ Total Deposit Ratio	Rank	Business per Employee	Rank	Profit per Employee	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	1.0128	1	107,203,933.25	9	1,388,057.46	2	4.00	2

Based on the data in the table, it seems that Federal Bank Ltd. had the best management efficiency of all the banks, both public and private.

Table 6. Ranking under Earnings Ability Parameter

Banks	Return on Asset	Rank	Income Spread/ Total Assets Ratio	Rank	Operating Profit/ Total Assets Ratio	Rank	Cost/ Income Ratio	Rank	Over-all Average	Rank
Federal Bank Ltd Ltd	1.636	3	7.12	5	(0.45)	4	34.95	4	4.00	4

From the above table, it is deciphered that among every one of the banks was performing well having highest earnings ability ratio, followed by were comparatively better than other the least at earnings ability.

Table 7. Ranking under Liquidity Parameter

Banks	Cash Asset/ Total Asset Ratio	Rank	Government Securities/ Total Asset Ratio	Rank	Liquid Asset/ Total Deposit Ratio	Rank	Overall Average	Rank
Federal Bank Ltd	0.0784	5	0.0022	10	0.136	3	6.00	8

From the above table, it is interpreted that among all the banks stood first in maintaining absolute liquidity every bank required to maintain to better respond immediately to the critical conditions at the time of huge withdrawals by the customers.

**Table: 8.CAMEL RATIONS.**

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Average
CAR Ratio	18.74	17.70	17.02	16.64	17.39	17.498
Debt/ Equity Ratio	6.57	6.65	6.64	6.86	6.58	6.66
Coverage Ratio	1.52	1.62	1.68	1.78	1.84	1.688
Net NPA/ Net Advances Ratio	0.77	0.97	1.61	2.67	4.89	2.182
Government Securities/ Total Investments Ratio	0.004	0.004	0.009	0.014	0.013	0.0088
Standard Advances/ Total Advances Ratio	3.22	3.03	3.78	5.21	7.89	4.626
Total Advances/ Total Deposit Ratio	0.992	1.02	1.072	1.033	0.947	1.0128
Business per Employee (in Cr.)	93,911,715.27	92,849,708.72	112,938,140.26	118,696,176.03	117,623,925.97	107,203,933.25
Profit per Employee (in Cr.)	1,341,411.86	1,358,302.69	1,684,887.74	1,347,597.82	1,208,087.19	1,388,057.46
Return on Asset	1.70	1.78	1.86	1.49	1.35	1.636
Income Spread/ Total Assets Ratio	7.82	7.35	7.04	6.83	6.58	7.12
Operating Profit/Total Assets Ratio	0.00	(0.10)	(0.15)	(0.77)	(1.25)	(0.45)
Cost/Income Ratio	28.67	31.3	32.70	39.40	42.68	34.95
Cash Asset/ Total Asset Ratio	0.077	0.069	0.065	0.083	0.098	0.0784
Government Securities/ Total Asset Ratio	0.001	0.001	0.003	0.003	0.003	0.0022
Liquid Asset/ Total Deposit Ratio	0.142	0.125	0.117	0.142	0.154	0.136

11. FINDINGS OF THE STUDY

- ❖ Of all the banks surveyed, Yes Bank and Federal Bank Ltd. had the lowest net nonperforming asset ratio, according to the research. Among the financial institutions surveyed, Punjab National Bank has the most elevated net nonperforming asset ratio. (Table 4)
- ❖ After Canara Bank, the survey indicated that Kotak Mahindra has made the most use of government securities. There was no more money that Federal Bank Ltd. could put into government bonds. (Table 4)
- ❖ Out of all the banks that were chosen for the research, Punjab National Bank had the highest ratio of standard advances to total advances. In this respect, Yes Bank ranks lower than its competitors. (Table 4)
- ❖ Compared to other public sector banks, Federal Bank Ltd. performed better in the survey, both overall and among private sector banks. When it comes to managerial effectiveness, Canara Bank and Punjab National Bank rank worst. (Table 8)
- ❖ According to the research, out of all the banks surveyed, Federal Bank Ltd has the most noteworthy absolute advances to add up to store proportion, while Bank of Baroda has the lowest. (Table 5)
- ❖ When compared to other banks, the analysis indicated that Bank of Baroda had the second-highest business per representative, after Bank of India. In comparison to other banks, Kotak Mahindra is at the bottom. (Table 5)
- ❖ The study found that Yes bank is better among all banks in having highest profit per employee followed by ICICI.

12. SUGGESTIONS OF THE STUDY

The CAMELS model is a useful instrument for assessing the relative health of a banking system and for proposing appropriate solutions to address any weaknesses. One way to evaluate a bank's efficiency is via the CAMELS model, which uses ratios. Global central banks have enhanced the quality and methods of supervision in response to significant developments in the banking industry in the last few years. Many industrialised nations currently use CAMEL RATING and other established protocols and approaches to evaluate the performance of their banks.



13. CONCLUSION OF THE STUDY

A sincere attempt was made in the aforementioned research to outline the several ratios that aid in evaluating the financial performance of the banking industry. The current study's ratios are utilised by other researchers to evaluate the performance of banks in their own investigations. The rankings of the various financial institutions are based on their scores on these five criteria. Capital adequacy, asset quality, managerial efficiency, earnings quality, and liquidity were the five critical performance indicators used to evaluate the financial health of a subset of India's private sector banks for this research. Also, it figured out what the main things are that impact the Indian banking sector's bottom line.

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A COMPREHENSIVE REVIEW ARTICLE ON RECENT ADVANCES IN PRODRUG NANOPARTICLES THERAPIES

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ABSTRACT

Prodrug nanoparticles represents a cutting-edge approach in drug delivery, combining the advantages of prodrug design and nanotechnology to enhance therapeutic efficacy while minimizing side effects. This review provides a comprehensive overview of recent progress in the development and application of prodrug nanoparticles in various therapeutic areas. Through a critical analysis of current literature and case studies, we aim to highlight the versatility, challenges and potential future direction of prodrug nanoparticle therapies.

KEY WORDS: *Prodrug, nanoparticles, drug delivery, therapeutic efficacy, analysis, therapies.*

INTRODUCTION

Prodrug nanoparticles, a convergence of prodrug and nanotechnology, have emerged as a promising strategy to address challenges associated with conventional drug delivery. This section introduces the concept of prodrug nanoparticles and their potential advantages in terms of improved bioavailability, targeted delivery and reduced systemic toxicity.ⁱThe rationale behind prodrug design lies in tailoring the pharmacokinetic and pharmacodynamic properties of drugs to optimize their therapeutic effects. This can result in enhanced bioavailability, reduced toxicity, and improved patient compliance. Prodrugs find applications across various therapeutic areas, including oncology, neurology, and infectious diseases, showcasing their adaptability and potential impact on diverse medical challenges. As researchers delve deeper into the design and development of prodrugs, innovative strategies and technologies continue to emerge, expanding the scope of prodrug-based therapies. This review aims to explore recent progress in prodrug development, focusing on novel approaches such as prodrug nanoparticles, to provide a comprehensive understanding of the evolving landscape in pharmaceutical research.

Prodrugs, a strategic innovation in pharmaceutical design, have garnered substantial attention in recent years due to their ability to improve the therapeutic efficacy and pharmacokinetic profiles of drugs. This concept involves the chemical modification of pharmacologically active compounds to create inactive precursors, which, upon administration, undergo enzymatic or chemical transformations in vivo to release the active drug. Prodrugs offer a versatile platform to overcome challenges associated with drug delivery, bioavailability, and side effects. This introduction provides an overview of the prodrug concept, its significance, and highlights key references supporting the advancements in prodrug development. Prodrugs play a pivotal role in addressing issues related to the physicochemical properties of drug molecules, such as poor solubility, instability, and limited absorption. By modifying the parent drug into a prodrug form, these challenges can be mitigated, leading to improved drug delivery and overall therapeutic outcomes.ⁱⁱ

DESIGN STRATEGIES FOR PRODRUG NANOPARTICLES

This section explores various design strategies employed in the development of prodrugnanoparticles, including the incorporation of stimuli-responsive elements, ligand targeting, and surface modification techniques. The goal is to enhance drug release at specific sites, improve cellular uptake, and achieve controlled drug delivery.ⁱⁱⁱThe design of prodrug nanoparticles involves a multifaceted approach aimed at optimizing drug delivery, enhancing therapeutic efficacy, and minimizing adverse effects. Several innovative strategies have been employed to achieve these goals, leveraging the unique properties of nanoscale drug carriers and prodrug modifications. This section explores key design strategies for prodrug nanoparticles, highlighting their applications and impact on drug delivery.

Stimuli- Responsive Prodrug Nanoparticles: Stimuli-responsive prodrug nanoparticles are engineered to release the active drug in response to specific physiological stimuli, such as changes in pH, temperature, or enzymatic activity. This strategy enhances site-specific



drug delivery and minimizes off-target effects. For instance, pH-sensitive prodrug nanoparticles can exploit the acidic tumor microenvironment for targeted drug release in cancer therapy.^{iv}

Ligand Targeting of Prodrug Nanoparticles: Surface modification of nanoparticles with ligands, such as antibodies or peptides, enables targeted drug delivery to specific cells or tissues. Ligand-targeted prodrug nanoparticles enhance cellular uptake and improve drug distribution at the target site, minimizing systemic exposure. This approach is particularly valuable in cancer therapy for precise tumor targeting.^v

Surface Modification Techniques: Coating prodrug nanoparticles with polymers, such as polyethylene glycol (PEG), can improve their stability, circulation time, and biocompatibility. PEGylation reduces recognition and clearance by the immune system, allowing prolonged circulation in the bloodstream and enhanced accumulation at the target site.^{vi}

Enzyme-Responsive Prodrug Nanoparticles: Incorporating enzyme-responsive linkages in prodrug nanoparticles enables selective drug release in response to specific enzymes present in the target tissue. This strategy enhances the therapeutic index by minimizing premature drug release and reducing systemic toxicity.^{vii}

Multifunctional Prodrug Nanoparticles: Combining multiple functionalities within a single nanoparticle, such as imaging agents or therapeutic payloads, allows for theranostic applications. Multifunctional prodrug nanoparticles provide simultaneous diagnostic and therapeutic benefits, enabling real-time monitoring of drug delivery and treatment efficacy.^{viii}

THERAPEUTIC APPLICATIONS

The review discusses the diverse therapeutic applications of prodrug nanoparticles, ranging from cancer therapy to treatment of inflammatory diseases. Case studies and preclinical/clinical trial results are examined to underscore the efficacy of prodrug nanoparticles in specific therapeutic contexts.^{ix} Prodrug nanoparticles are explored for cardiovascular diseases, focusing on improving the delivery of drugs that target specific pathways involved in cardiovascular pathophysiology. Nanoparticles carrying prodrugs can enhance the bioavailability of cardiovascular drugs and improve their therapeutic effects.^x Prodrug nanoparticles play a crucial role in revolutionizing cancer treatment by addressing challenges such as poor solubility, off-target effects, and limited drug penetration into tumor tissues. Nanoparticles designed with prodrug characteristics can accumulate selectively in cancerous tissues through passive or active targeting, releasing the active drug in response to specific stimuli within the tumor microenvironment. This targeted approach minimizes damage to healthy cells and improves the therapeutic index.^{xi}

Prodrug nanoparticles have shown promise in the treatment of neurological disorders by overcoming the blood-brain barrier (BBB) and facilitating the delivery of therapeutic agents to the central nervous system. Nano-sized carriers with prodrug modifications enhance drug permeability across the BBB, improving the bioavailability of neuroactive compounds.^{xii} Prodrug nanoparticles are being explored for the treatment of infectious diseases, offering targeted drug delivery to infected cells or tissues. By modifying antimicrobial agents into prodrugs and encapsulating them in nanoparticles, researchers aim to enhance drug stability, improve drug release profiles, and reduce side effects associated with systemic administration.^{xiii} In the realm of inflammatory disorders, prodrug nanoparticles provide a means to target and modulate the release of anti-inflammatory agents at specific sites. This targeted delivery approach minimizes systemic exposure and enhances the therapeutic efficacy of anti-inflammatory drugs.^{xiv}

OVERCOMING BIOLOGICAL BARRIERS

Addressing the challenges associated with biological barriers, such as the blood-brain barrier and mucosal barriers, is crucial for the success of prodrug nanoparticles. This section explores innovative approaches and nano-technological advancements that enable efficient penetration and drug delivery across these barriers.^{xv} The BBB restricts the entry of many therapeutic agents into the brain, posing a challenge for the treatment of neurological disorders. Strategies to overcome this barrier include the use of nanoparticles with specific physicochemical properties and surface modifications.^{xvi} Coating nanoparticles with materials that facilitate BBB penetration, such as polyethylene glycol (PEG) or polysorbate 80, can improve their transport across the barrier. These modifications reduce opsonization and enhance nanoparticle circulation time.^{xvii} Functionalizing nanoparticles with ligands that interact with receptors expressed on the BBB can enhance active targeting. This approach promotes receptor-mediated transcytosis, improving the delivery of prodrugs to the brain.^{xviii} Modifying nanoparticle surfaces to reduce adherence to mucus and increase penetration through mucosal layers is crucial. PEGylation and mucoadhesive polymers can enhance mucus penetration, allowing nanoparticles to reach target sites more effectively.^{xix}



CHALLENGES AND FUTURE PERSPECTIVES

Despite the significant progress, challenges such as stability, reproducibility, and long-term safety profiles of prodrug nanoparticles persist. This section discusses current challenges and proposes future research directions, including the integration of artificial intelligence for rational design and personalized medicine applications.^{xx} One of the primary challenges in prodrug nanoparticles is achieving and maintaining stability during storage and transportation. The delicate balance between prodrug stability and controlled drug release at the target site is crucial. Strategies to enhance nanoparticle stability and ensure controlled release need careful consideration.^{xxi} The biocompatibility of prodrug nanoparticles is a critical factor, and concerns about potential toxicity need to be addressed. Understanding the interactions between nanoparticles and biological systems is essential for ensuring the safety of these systems for therapeutic applications.^{xxii} Achieving reproducibility in the synthesis and production of prodrug nanoparticles is a significant challenge. Scalability issues may arise when translating laboratory-scale synthesis to industrial-scale production, requiring robust manufacturing processes.^{xxiii}

The future of prodrug nanoparticles lies in the integration of smart nanomaterials with stimuli-responsive properties. Nanoparticles that respond to specific triggers, such as pH changes or enzymatic activity at the target site, can enhance site-specific drug release and improve therapeutic efficacy.^{xxiv} Advancements in understanding disease biology and the development of targeted therapies pave the way for personalized medicine using prodrug nanoparticles. Tailoring drug delivery systems to individual patient characteristics and disease profiles can significantly improve treatment outcomes.^{xxv} The application of AI in the design and optimization of prodrug nanoparticles is a promising avenue. AI can analyze vast datasets, predict optimal formulations, and guide the development of prodrug nanoparticles with enhanced therapeutic properties, potentially reducing the trial-and-error approach in nanoparticle design.^{xxvi} Future prodrug nanoparticles may involve the combination of multiple therapeutic agents within a single nanoparticle, allowing for synergistic effects and addressing the challenges of drug resistance. Multifunctional nanoparticles that integrate diagnostic and therapeutic capabilities are also being explored.^{xxvii}

In summary, while challenges exist in the development and application of prodrug nanoparticles, ongoing research and technological advancements offer promising future perspectives. Addressing issues of stability, toxicity, and scalability, coupled with incorporating smart nanomaterials and leveraging AI, can contribute to the continued evolution and success of prodrug nanoparticles in drug delivery and therapeutic

CONCLUSION

In conclusion, prodrug nanoparticles represent a dynamic field with substantial potential to revolutionize drug delivery strategies. The amalgamation of prodrug design principles with nanotechnology offers a versatile platform for enhancing therapeutic outcomes. As researchers continue to address challenges and explore new avenues, the future of prodrug nanoparticles holds exciting prospects for advancing precision medicine and improving patient care.

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NOVEL DRUG REMEDY FOR KIDNEY STONE DISSOLUTION: AN COMPLETE STUDY

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ABSTRACT

Nephrolithiasis (kidney stone) is one of the oldest known & common illnesses in the urinary tract system. Most of the people generally can have renal stones at any phases of life. Commonly high in males as well as in females. Urinary stones can be severely painful and make a huge economic burden. Common type of kidney stone is calcium oxalate uric acid, urinary stones. Struvites and cysteine affect 10-12% of the population in industrialized countries After the data collected from in vivo, in vitro + clinical trials Suggest the herbal medicinal plant could be used as used as an alternative. We used poly herbal elixir for the kidney stone dissolution in this research innovation.

KEYWORDS: kidney stone, calcium oxalate. UVspectroscopy. The Thin layer chromatography, Maceration, percolation alc extract, Herbal Mixers, Elixir.

INTRODUCTION

What is a renal calculi ?

A kidney stone is a solid piece of material that forms in a kidney when substances that are normally found in the urine become highly concentrated. A stone may stay in the kidney or travel down the urinary tract. Kidney stones vary in size. A small stone may pass on its own, causing little or no pain. A larger stone may get stuck along the urinary tract and can block the flow of urine, causing severe pain or bleeding Kidney stones are one of the most common disorders of the urinary tract. Each year in the United States, people make more than a million visits to health care providers and more than 300,000 people go to emergency rooms for kidney stone problems.[1]Urolithiasis is the medical term used to describe stones occurring in the urinary tract. Other frequently used terms are urinary tract stone disease and nephrolithiasis. Terms that describe the location of the stone in the urinary tract are sometimes used. For example, a ureteral stone—or ureterolithiasis—is a kidney stone found in the ureter

What is the urinary tract?

The urinary tract is the body's drainage system for removing wastes and extra water. The urinary tract includes two kidneys, two ureters, a bladder, and a urethra. The kidneys are two bean-shaped organs, each about the size of a fist. They are located near the middle of the back, just below the rib cage, one on each side of the spine.

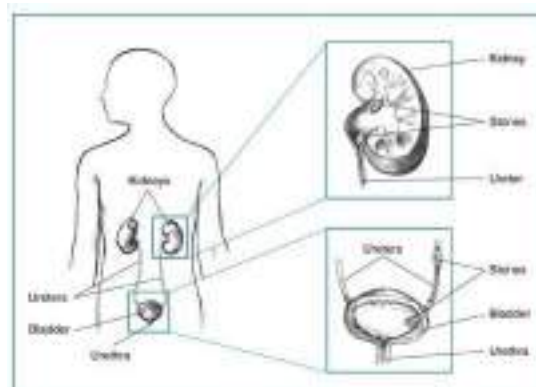


Fig.1. Drawing of the urinary tract with kidney stones.



Who Gets Renal Calculi

Kidney stones can affect anyone, but they tend to be more common in men, especially among non-Hispanic white individuals. Overweight and obese people are also at a higher risk compared to those with normal weight. In the United States, about 8.8% of the population, or one in 11 people, has experienced a kidney stone.^[2]

- **Ingredients**

Siam garden panfuti

Gokharu

Orange peel

Ethanol

Water

- **Equipment**

Stoppered container

Mortal pestle

Measuring cylinder

UV spectroscopy

Centrifuge

Spatula

Percolator

Maceration apparatus

- **Types of Kidney Stones**

Four major types of kidney stones can form:

Calcium Stones

These are the most common and come in two forms, calcium oxalate and calcium phosphate. High excretion of calcium and oxalate can lead to calcium oxalate stones, while calcium phosphate stones are caused by a combination of high urine calcium and alkaline urine^[3]

Uric Acid Stones

These form when urine is consistently acidic. A diet rich in purines, found in animal proteins like meats, fish, and shellfish, can increase uric acid in urine, leading to stone formation^[4]

Struvite Stones

Resulting from kidney infections, preventing further infections and removing infected stones can help avoid more Struvite stones.

Cysteine Stones

Caused by a genetic disorder that allows cysteine to leak into urine, forming crystals that tend to accumulate into stones.

- **Composition of Kidney Stones**

The majority of kidney stones, around 80%, are calcium stones, with half being calcium oxalate (CaOx), 5% calcium phosphate (CaP), and 45% a mix of both. Calcium oxalate exists in forms like CaOx monohydrate (COM) and CaOx dehydrate (COD). Struvite stones, accounting for 10-15%, result from chronic urinary tract infections producing urease. Urease splits urea to ammonia, making urine alkaline, leading to phosphate precipitation and large staghorn stone formation. Uric acid stones (3-10%) relate to high purine diets, especially from animal proteins, and are more common in men, often associated with gout. Cysteine stones, less than 2%, stem from a genetic disorder causing excess cystinuria, leading to insoluble cysteine accumulation and stone formation.

- **History of Kidney Stones**

People have known about kidney stones for thousands of years. In Joseph Glanville's *Saducismus Triumphatus*, there's a detailed account of Abraham Mechelburg passing small stones through his penis, and it's attributed to witchcraft.

Ancient medical texts from Mesopotamia, India, China, Persia, Greece, and Rome discussed kidney stones. The Hippocratic Oath implies the presence of ancient Greek surgeons skilled in lithotomies (surgical removal of stones). Aulus Cornelius Celsus's *De Medicine*, a Roman medical treatise, detailed lithotomy^[6], influencing the procedure until the 18th century.^[7]

Several historical figures, including Napoleon I, Epicurus, Napoleon III, Peter the Great, Louis XIV, George IV, Oliver Cromwell, Lyndon B. Johnson, Benjamin Franklin, Michel de Montaigne, Francis Bacon, Isaac Newton, Samuel Pepys, William Harvey, Herman Boerhaave, and Antonio Scarp, experienced kidney stone disease.^[8]

From 1520 onwards, new methods in lithotomy started emerging, but the procedure remained risky. The introduction of litholapaxy by Henry Jacob Bigelow in 1878^[9] significantly reduced the mortality rate from about 24% to 2.4%. Despite this improvement,



other treatment techniques continued to carry a high risk of mortality, especially when performed by inexperienced urologists^[10,11]. In 1980, Dornier MedTech introduced extracorporeal shock wave lithotripsy, a technique using acoustical pulses to break up stones, and it has become widely adopted since then.^[12]

- **Pathophysiology of Kidney Stones:**

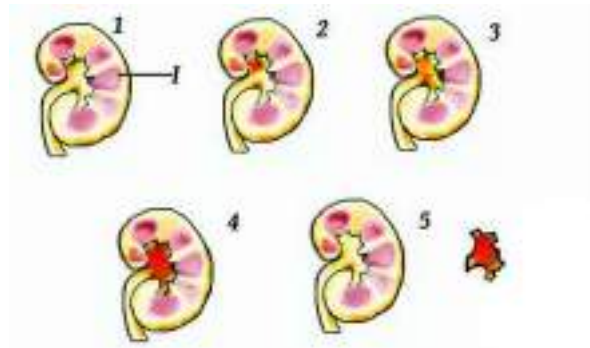


Figure.2.

Pathophysiology

Tiny crystals, often made of calcium oxalate and typically measuring 4–5 mm, form in the kidney. The process begins with the combination of calcium and oxalate to create the crystal nucleus due to super saturation. Continuous deposition at the renal papillae causes the kidney stones to grow. As they enlarge, they accumulate debris. If the stones block all paths to the renal papillae, it can lead to intense discomfort and pain. Complete staghorn stones can form, causing retention. Smaller particles breaking off may get stuck in urinary glands, causing discomfort. Displaced stones travel through the ureter, and if they can't be broken down, surgical removal becomes necessary.

Supersaturation of Urine

When urine becomes oversaturated with certain substances that form crystals, a seed crystal may develop through nucleation. Heterogeneous nucleation^[13], occurring on a solid surface, is faster than homogeneous nucleation in a liquid medium. This is because it requires less energy. The seed crystal adheres to cells on a renal papilla's surface, growing and aggregating into an organized mass. The stone-forming process may accelerate if the urine pH is exceptionally high or low^[14,15], depending on the crystal's chemical composition.

The level of urine super saturation concerning stone-forming compounds is influenced by pH. For instance, at a pH of 7.0, the solubility of uric acid in urine is 158 mg/100 mL. Lowering the pH to 5.0 decreases uric acid solubility to less than 8 mg/100 mL. Uric-acid stone formation requires both high urine uric-acid levels^[16] (hyperuricosuria) and low urine pH; high uric-acid levels alone won't lead to stone formation if urine pH is alkaline. While super saturation is a necessary condition for urinary calculus development, it's not sufficient. Uric acid and cystine stones are likely caused by super saturation, but calcium-based stones, especially calcium oxalate stones, may have a more complex origin^[17].

- **Preparation of Extract**

About 50g of fresh leaves were soaked separately in ethanol and water:Ethanol (3:7) in a stopper container for 3 days (maceration) with frequent agitation. The solutions were filtered to obtain alcoholic extract (AlcE) and hydro-alcoholic extract (HAlcE), respectively. The extracts were dried in a rotary evaporator and stored in desiccators for further use.

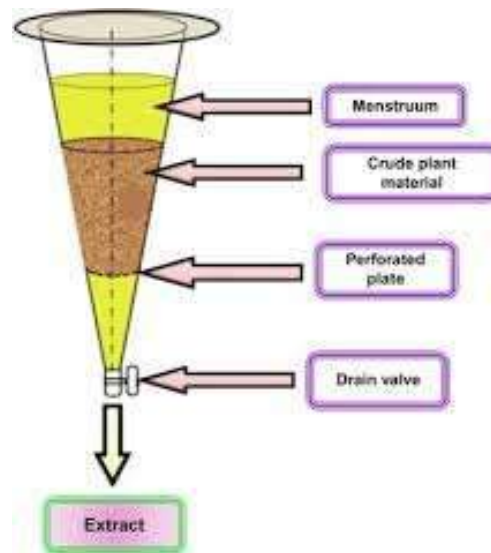


Fig.3.Maceration



Fig.4.Percolation

- **Chemical constituents present in herbal plant**



1)Siam garden panfuti:- Bryophyllum pinnata is a perennial herb that is commonly used in folk medicine and Ayurveda to treat a variety of ailments, including the breaking and removal of kidney stones. An aberrant rise in urine calcium, oxalate, and uric acid, which lowers urinary citrate levels, is thought to be the origin of stone formation.

Triterpenes, steroid, phenanthrene, flavonoid, flavones, chalcones, taraxasterol, auronones, phenolic acid, caffeic acid, syringic acid, malic, oxalic and ferulic acid.



2) Gokharu



Fruit: Alkaloids 3.5%–5%, stable oil, aromatic oil, resins, glycosides, carbohydrates, saponins and triterpenoids.

3) Orange peel



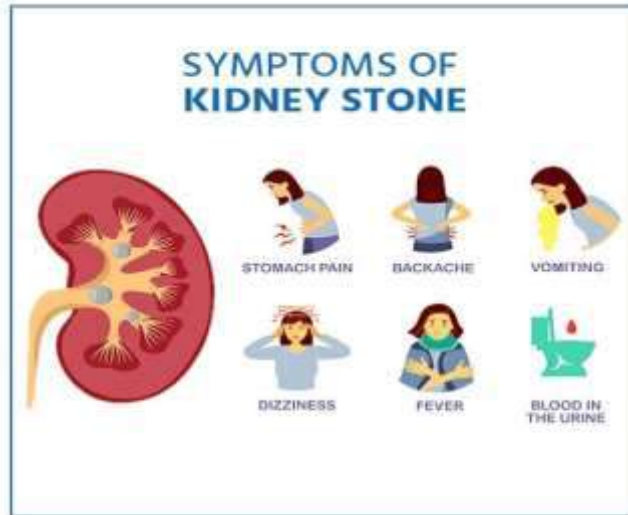
cellulose, followed by lignin and then hemicellulose. Citric acid

- **Causes of Kidney Stones**

The general causes of kidney stones are as follows:

- ✓ Drinking too little water
- ✓ Eating animal protein or food that is high in sodium
- ✓ A calcium deficit diet increases the level of other substances that causes kidney stones
- ✓ Certain medications like diuretics and calcium-based antacids
- ✓ People with hypercalciuria are likely to develop kidney stones¹
- ✓ Health conditions like
- ✓ Obesity
- ✓ Inflammatory bowel disease
- ✓ Hyperparathyroidism

- Symptoms
- How to avoid kidney stones



Treatment of Kidney Stones



Shock Wave Lithotripsy

A machine called a lithotripter is used to crush the kidney stone. The procedure is performed by a urologist on an outpatient basis and anesthesia is used. In shock wave lithotripsy, the person lies on a table or, less commonly, in a tub of water above the lithotripter. The lithotripter generates shock waves that pass through the person's body to break the kidney stone into smaller pieces to pass more readily through the urinary tract.

Ureteroscopy

A ureteroscopy- a long, tubelike instrument with an eyepiece—is used to find and retrieve the stone with a small basket or to break the stone up with laser energy. The procedure is performed by a urologist in a hospital with anesthesia. The urologist inserts the ureteroscope into the person's urethra and slides the scope through the bladder and into the ureter. The urologist removes the stone or, if the stone is large, uses a flexible fiber attached to a laser generator to break the stone into smaller pieces that can pass out of the body in the urine. The person usually goes home the same day.

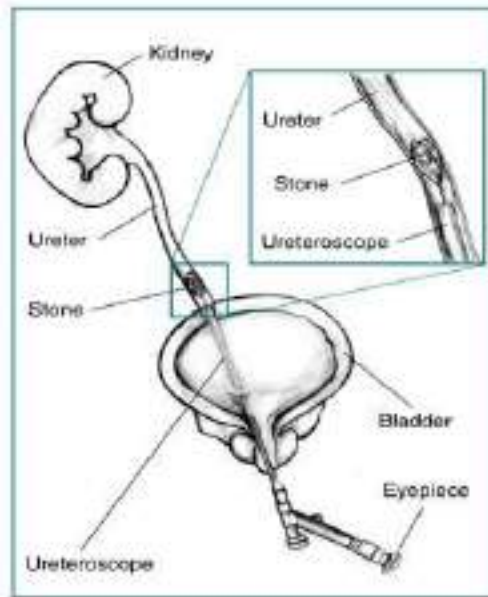


Fig. Ureteroscopy.

Percutaneous Nephrolithotomy

In this procedure, a thin viewing instrument called a nephroscope is utilized to locate and extract the kidney stone. A urologist performs this in a hospital under anesthesia. A tube is inserted directly into the kidney through a small incision in the person's back during the procedure. For larger stones, an ultrasonic probe acting as a lithotripter may be necessary, delivering shock waves to break the stone into smaller, more easily removable pieces. Following the procedure, the individual may need to stay in the hospital for several days, possibly with a nephrostomy tube inserted through the skin into the kidney. This tube drains urine and any remaining stone fragments into a collection bag, typically left in place for 2 or 3 days while the person remains hospitalized.

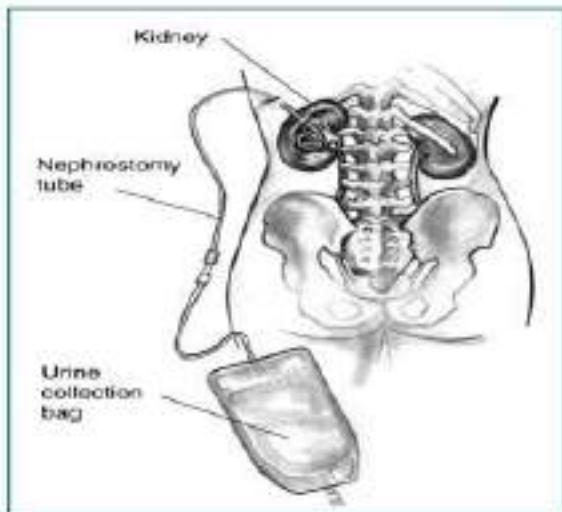


Fig. Percutaneous nephrolithotomy.

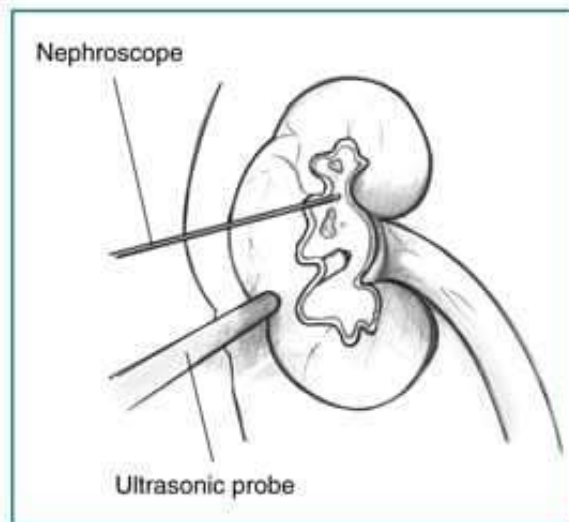
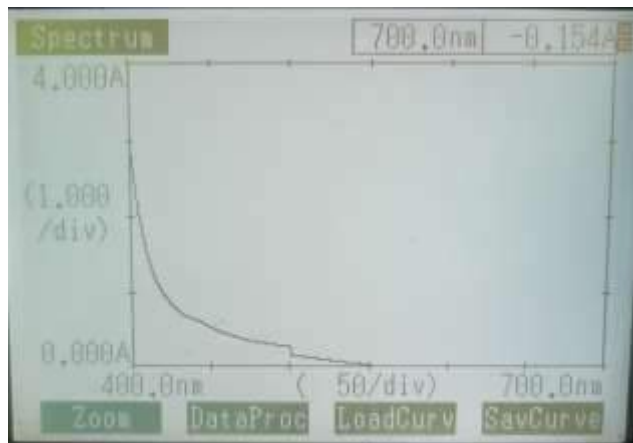
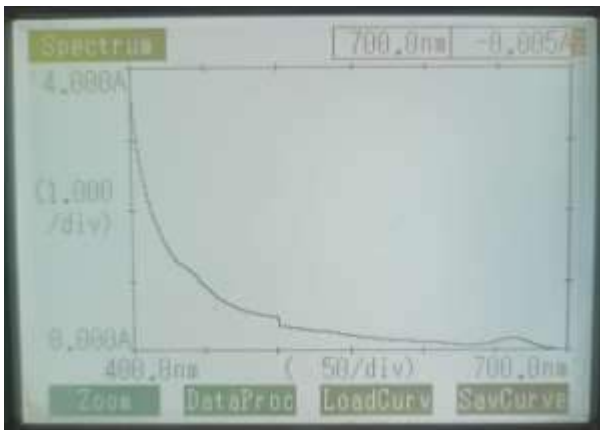


Fig. Nephrosotomy tube

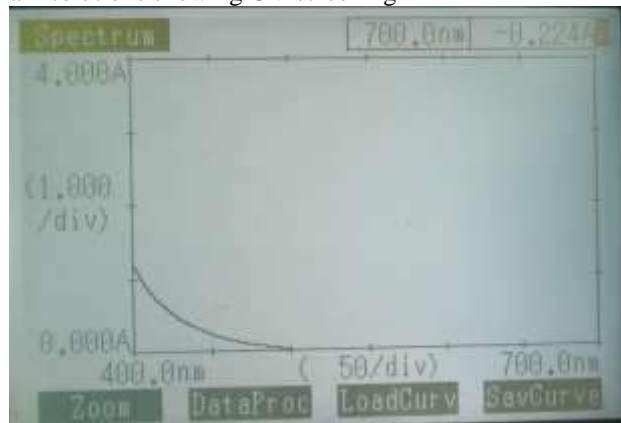
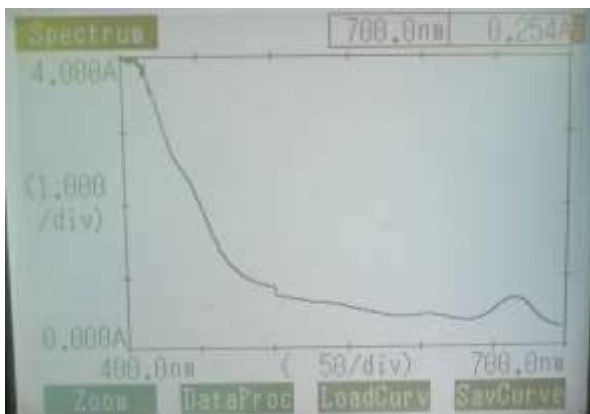
- **Performing in-vitro study of polyherbal elixir**
 - **UV spectroscopy**

We perform the uv spectroscopy study on our herbal elixir in this study we check the screening of phytoconstituents present in the elixir in this study we check the screening of polyherbal elixir with compared to the each ingredient such as Siam garden panfuti extract. Gokharu extract. Orange peel extract in this study we check the screening of phytoconstituents between the ratio wavelength is 400 to 700nm

In this experiment we conclude the screening of phytoconstituents all essential constituent are present in the elixir.



Polyherbal solutions showing UV screening spectroscopy. Siam solutions showing UV screening



Orange solution showing UV screening spectroscopy, Gokharu solution showing UV screening



○ **Thin Layer Chromatography**

We perform the thin layer chromatography in the laboratory

In the tlc the stationary phase is already present in the tlc plate Mobile phase is a alcohol Using tlc plate we determine the purity of the herbal elixir



Polyherbal solutions showing TLC

- **Advantages of Polyherbal Elixir**
 - ✓ Insoluble drug compounds can be incorporated into the hydroalcoholic vehicle;
 - ✓ Drug concentrates can be prepared in high-alcohol-containing elixirs
 - ✓ Hydroalcoholic vehicles can be self-preserving;
 - ✓ Elixirs are less viscous and contain a lower proportion of sugar.
 - ✓ Convenient dosing: The patient receives the usual adult dose of the drug in quantities of 5-10 ml rather than large quantities required for aqueous solutions of the same medicinal agent.

• **Result:**

Evaluatory test

Test Type	Parameters	Evaluatory Test
Physical test	Color Odour Taste	Clear transparent Characteristics Pleasant taste
Chemical test	PH Alcoholic content	6.0-7.0 slightly acidic PH 1% of the monograph
Physiological test	Bioavailability Absorption	Easily absorbed Efficiently absorbed

The kidney stones taken from different patients was found to be dissolved in polyherbal solutions by use of In Vitro methodology under normal conditions.

CONCLUSION

Thus use of polyherbal elixir under in-vitro study had an successful impact in condition of kidney stones.

FIGURES

Fig 1.

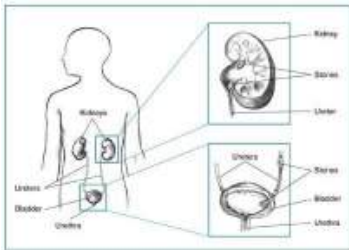


Fig 2.

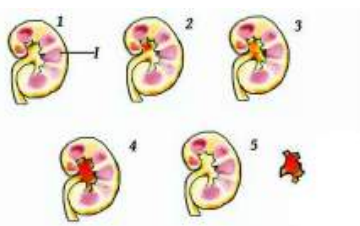


Fig 3

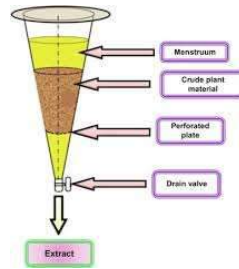


Fig 4

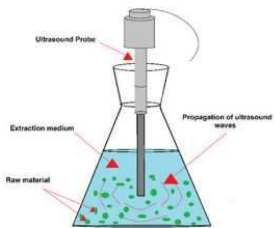


fig 5



Fig 6



fig 7

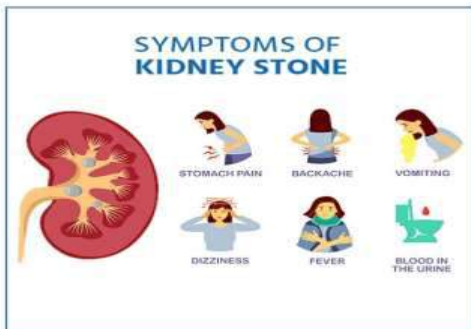


Fig 8.



Fig 9

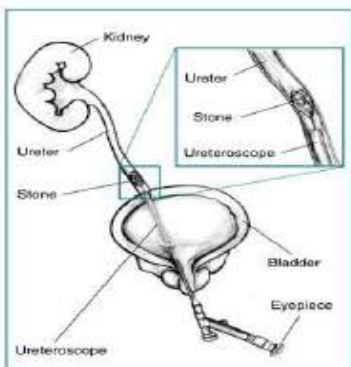


Fig 10.

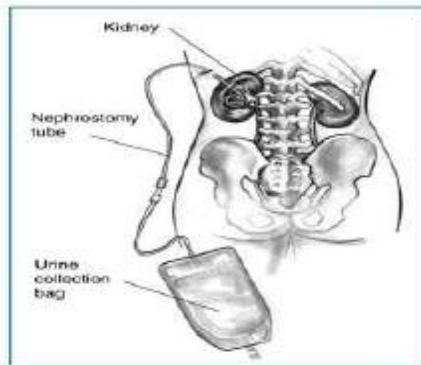


Fig 11.

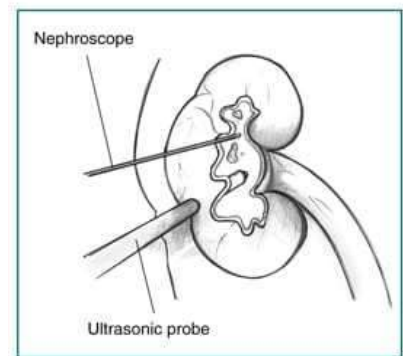


Fig 12



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A REVIEW ON DRUG DISCOVERY AND DEVELOPMENT ASSOCIATED WITH ARTIFICIAL INTELLIGENCE

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ABSTRACT

The integration of artificial intelligence (AI) in drug discovery and development has ushered in a new era of innovation and efficiency in the pharmaceutical industry. This review explores the recent progress, challenges, and potential future directions of AI applications in drug research, highlighting its impact on target identification, compound screening, drug design, and clinical trials. Through a comprehensive examination of current literature and case studies, we aim to provide a nuanced perspective on the transformative role AI plays in accelerating drug discovery processes.

INTRODUCTION

The conventional drug discovery and development pipeline is a time-consuming and resource-intensive process. However, with the advent of AI technologies, there has been a paradigm shift in how pharmaceutical research is conducted. AI offers the promise of significantly reducing the time and cost associated with bringing new drugs to market, making it a key player in the quest for more effective and targeted therapeutic interventions. The process of developing new drugs is difficult, costly, time-consuming, and has a high attrition rate.ⁱ Clinical study drug attritions result in significant resource loss, and nine out of ten drug candidates fail between phase-I clinical trials and regulatory approval at this time.ⁱⁱ In drug discovery, difficult chemical search problems are automated by the use of supervised learning on molecules. Finding efficient neural network models with the ability to forecast chemical attributes and possibly automate the search for novel medications or materials is the goal.ⁱⁱⁱ

Definition of Drug Discovery: The process of discovering novel drugs to treat illnesses and enhance human health is known as drug discovery. It entails using a variety of computational and experimental techniques to identify and design molecules with the potential to become useful medications.^{iv}

Definition of Artificial Intelligence: The study of computer science that focuses on developing intelligent systems that can make decisions and solve complicated issues is known as artificial intelligence (AI). Advanced methods like representation learning and deep learning are frequently used in this process. By offering creative answers to problems that the AI community has historically found challenging, these systems, which seek to mimic human-like intelligence, have the potential to completely transform a number of industries.^v

A subfield of computer science called artificial intelligence (AI) gives robots the ability to analyze complicated data and operate more productively. AI-focused research has grown significantly, and its application to healthcare services and research is developing at a faster rate. The pros and cons of AI in medical and pharmaceutical research are covered in detail in this paper. Using specific keywords and phrases like "Artificial intelligence," "Pharmaceutical research," "drug discovery," "clinical trial," "disease diagnosis," etc., the literature was gathered from domains like PubMed, Science Direct, and Google Scholar in order to select and review articles published within the last five years. This article explores in great detail the potential applications of AI in disease diagnostics, digital therapy, individualized treatment, drug discovery, and pandemic or epidemic forecasting. The most popular artificial intelligence (AI) technologies are deep learning and neural networks; prospective technologies for clinical trial design are Bayesian nonparametric models; wearable technology and natural language processing are employed for patient identification and clinical trial monitoring. In order to predict the occurrences of COVID-19, Zika, Ebola, and seasonal influenza, deep learning and neural networks were utilized. The scientific community may witness quick and affordable pharmaceutical and healthcare research with the development of AI technology, along with better public services.^{vi}



The COVID-19 pandemic has definitely served as a catalyst for the phenomenal growth of the field of digital health. Both inside and outside of the healthcare industry, the terms "digital health" and "artificial intelligence" are now the most searched. Pharmacists must be active as more AI technologies are being implemented globally in the healthcare industry. Pharmacists may play a major role in integrating technologies that improve patient experience and care because digital health is becoming a significant element of managing long-term diseases, whether it's monitoring symptoms, monitoring adherence, or even the therapy itself. Artificial intelligence has initiated a digital revolution in the pharmaceutical industry as well. It minimizes medical expenses significantly and is used to enhance medication discovery and personalize therapy.^{vii}

A number of tools that are based on the networks that make up AI systems' fundamental design have been created. The International Business Machine (IBM) Watson supercomputer (IBM, New York, USA) is one such instrument created with AI technology. It was created to help with the examination of a patient's medical records and their relationship to an extensive database, ultimately leading to the recommendation of cancer treatment plans. Rapid illness detection is another application for this technique. This was shown by the fact that it could identify breast cancer in just 60 seconds.^{viii ix}

Drug Discovery through Artificial Intelligence

AI can recognize hit lead compounds and give a faster approval of the sedate target and optimization of the medicate structure plan. Distinctive applications of AI in sedate disclosure are delineated in Figure-1^{x xi}. The use of artificial intelligence (AI) in drug discovery is important. This field is mainly driven by neural networks such as recurrent networks and deep neural networks. In recent years, many applications have emerged in vehicle or performance prediction, such as physiochemical and ADMET products, supporting the advantages of this method in relationship between features (QSPR) or multi-model- correlation (QSAR). In de novo design, artificial intelligence guides the creation of new bioactive molecules to achieve desired properties. Many examples have proven the effectiveness of expertise in this field. The combination of simplicity of mixing with synthetic preparation makes this possible, and further exploration in computer aided medicine should be made in the future.^{xii}

Compound Screening and Drug design: Virtual screening and in-silico drug design have become integral components of the drug discovery process, thanks to AI. Machine learning models can predict the biological activity of compounds, prioritize lead compounds, and optimize molecular structures for enhanced efficacy. This accelerates the identification of potential drug candidates, reducing the need for extensive laboratory testing.^{xiii}

Target identification and validation: AI plays a pivotal role in target identification by analyzing vast datasets to identify potential molecular targets associated with specific diseases. Machine learning algorithms can sift through biological data, including genomics, proteomics, and transcriptomics, to pinpoint novel targets. Moreover, AI assists in target validation by predicting the biological relevance and potential success of targeting specific molecules.^{xiv}

Clinical Trials Optimization: AI is streamlining the clinical trial process by improving patient recruitment, optimizing trial design, and enhancing data analysis. Natural language processing and machine learning algorithms analyze vast amounts of clinical and patient data, enabling more efficient and patient-centric trial designs. This leads to quicker recruitment, reduced costs, and improved chances of successful trial outcomes.^{xv}

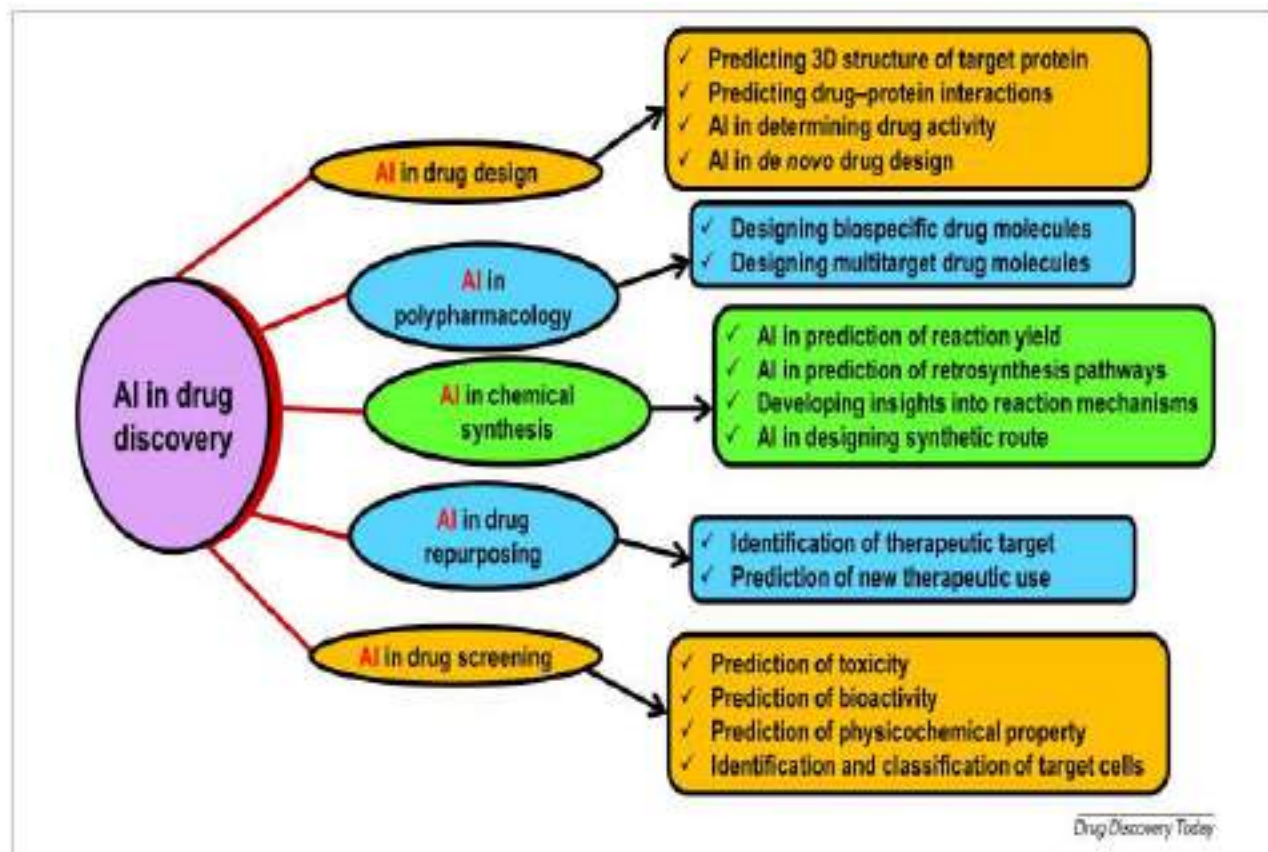


Figure-1

Artificial intelligence involves many processes such as reasoning, knowledge representation, and problem solving, including important elements of machine learning (ML). Machine learning uses algorithms that can identify patterns in a more distributed set of data. A subfield of machine learning is deep learning (DL), which includes artificial neural networks (ANN). They have an interactive system of computer networks with "sensors" similar to human biological systems that monitor the transmission of electrical impulses in the human brain.^{xvi} Artificial neural network consists of a group of nodes. Each node individually takes input and eventually transforms it into output, algorithms that can be used to solve problems that depend on one or more of them.^{xvii} ANNs comes in many forms, including multilayer perceptron (MLP) networks, recurrent neural networks (RNN), and convolutional neural networks (CNN) that use supervised or unsupervised techniques.^{xviii xix}



A summary of AI method domain examples can be seen in Figure 1.

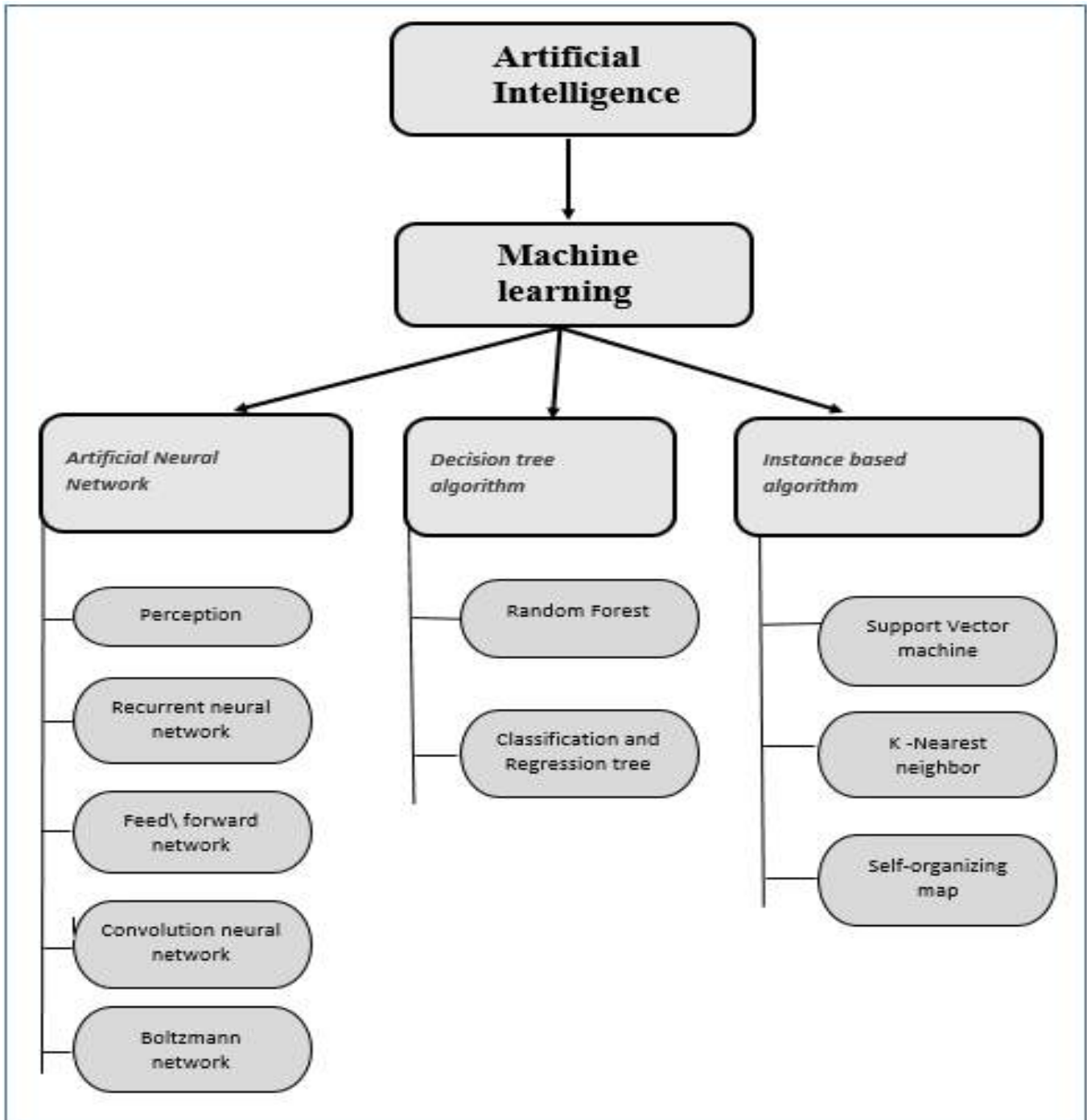


Figure-2



AI in QSAR/QSPR and Structure based modeling

A computational procedure called Quantitative Structure Activity Relationship (QSAR) is utilized in atomic modeling to estimate a chemical compound's natural movement based on its auxiliary characteristics. It involves the creation and confirmation of scientific models that interface a compound's discernible movement to its chemical structure, advertising experiences for applications such as virtual screening and drug disclosure.^{xx} QSAR modeling tools have been used to identify potential drugs users and have been developed into cognitive based QSAR methods such as linear discriminant analysis (LDA), support vector machines (SVM), random forests (RF), and decision trees that can speed up QSAR analysis. Computational models based on the QSAR model can predict large number of compounds or simple physiochemical parameters such as log P or log D. However, these models are still some way off in predicting complex biological properties such as efficacy and side effect of compounds. In addition, QSAR based models face problem such as small training, incorrect experimental data in training and lack of experimental analysis. To overcome these challenges, recently developed artificial intelligence techniques such as deep learning and modeling studies can be used for safety and performance evaluation, quality of drug molecules based on big data and analysis. In 2012, Merck sponsored the QSAR Machine Learning Challenge to evaluate the effectiveness of deep learning (DL) in the drug discovery process in the pharmaceutical industry. Compared with the traditional machine learning (ML) method, the DL model showed significant prediction of 15 Absorption, Distribution, Metabolism, Excretion and Toxicity (ADMET) datasets of drug candidates.

Artificial intelligence- de novo drug design

De novo design, or creating new molecules from scratch with the desired pharmacological properties, is one large number of chemical space molecules that resemble drugs (roughly 1060-10100).^{xxi xxii xxiii} Depending on the material used to guide the de novo design, associations can be ligand-based, structure-based, or a combination of both. Ligand-based approaches can be broadly classified into two groups: (1) rule-based approaches, which assemble molecules from a set of "building blocks" (i.e. reagents or molecular fragments) using a set of construction rules; and (2) rule-free approaches, which do not use explicit construction rules. The topliss technique, for the sequential production of analogs of an active lead molecule to maximize potency, is one of the forefathers of modern rule-based de novo design.^{xxiv} In De Novo drug development, we have slowly seen the evolution of legal and non-legal terms over the last few years. Although the latter holds promise for exploring invisible areas of chemical space, it also has limitations, such as restrictions on use. Combining free and custom based approaches (e.g. "hybrid" approaches) can provides practical solutions. Particular attention will be paid to the production process, where additional information such as some functional and genetic conformational space and ligand binding site information can be used.^{xxv xxvi xxvii}

Application of AI in Drug Development and Drug Discovery

Considering that artificial intelligence can facilitate the development of appropriate drugs, it can be predicted that it will be used to support decision making throughout the drug development process, from the laboratory to the hospital, and to choose the best treatment options for patient, including drug therapy and collect medical information designed for use in future drug development.^{xxviii xxix}

Computer science's artificial intelligence field think about typical programming as implies of issue understanding. Large scale applications of artificial intelligence can help in settling help care concerns. One vital and effective utilize of artificial intelligence in the creation of master frameworks. A technology based framework known as artificial intelligence (AI) mimics human intelligence by utilizing extends of modern instruments and systems. Artificial intelligence (AI) uses equipment's and program able of pursuing, learning from and making choices on its claim to do certain assignments. This chapter examines the continuous development of its employments within the pharmaceutical industry. The healthcare industry has been managing with a few troublesome issues of late, such rising medicine and therapy cost and society must make a few major alterations in this zone. With AI in pharmaceutical item fabricating, customized drugs with the required dosage, discharge characteristic and other components can be created based on the wants of particular patient. In addition to shortening the time it takes for products to reach the market, utilizing the most recent AI-based technologies will also enhance product quality, increase manufacturing process safety, improve resource efficiency, and highlight the value of automation. In expansion to shortening the time it takes for items to reach the advertise, utilizing the foremost later AI-based innovations will moreover upgrade item quality, increment fabricating handle security, move forward asset effectiveness, and highlight the esteem of computerization. This chapter highlights the importance of artificial intelligence (AI) in the pharmaceutical industry, with a special focus on clinical research, drug development, drug advancement, and drug innovation and its potential for future drug discovery research.



Challenges and Ethical Considerations

Despite its tremendous potential, the integration of AI in drug discovery comes with challenges, including data quality issues, interpretability of AI models, and ethical considerations. Ensuring transparency, accountability, and ethical use of AI technologies is crucial to maintain public trust and address concerns related to bias and privacy^{xxx}

Future Perspective

The future of AI in drug discovery holds exciting possibilities, including the development of AI-driven personalized medicine, drug repurposing, and the emergence of AI-generated novel hypotheses. Collaboration between researchers, clinicians, and technology experts will be essential to harness the full potential of AI in advancing pharmaceutical research and improving patient outcomes^{xxxi}

CONCLUSION

In conclusion, the integration of AI in drug discovery and development represents a revolutionary shift in the pharmaceutical landscape. From target identification to clinical trial optimization, AI offers unprecedented opportunities to accelerate the drug development process. As researchers continue to overcome challenges and ethical considerations, the future holds immense promise for AI to reshape the way we discover and develop new medicines, ultimately benefiting patients worldwide. Artificial Intelligence has revolutionized drug discovery and development, offering unprecedented opportunities to transform the pharmaceutical industry. This comprehensive review provides insights into the current state, challenges, and future prospects of AI applications in drug development, emphasizing its potential to accelerate the discovery of innovative therapeutics and improve patient outcomes.

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MODELLING THE LINK BETWEEN CONFLICT MANAGEMENT STYLES, ORGANISATIONAL TRUST AND EMPLOYEE JOB SATISFACTION

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ABSTRACT

While past studies have established a significant and positive relationship between conflict management styles and employee job satisfaction. However, the fundamental interaction behind this link remain unclear. To address this gap, calls for further research has been suggested, particularly on the interactive process through which conflict management styles, specifically, collaborating, accommodating, compromising, avoiding and dominating styles were cast as the key dimensions of conflict management styles that are likely to influence employee job satisfaction. Hence, in the present study a structured questionnaire was used to collect data from Academic and Non-academic staff of some selected public tertiary institutions located in North-Central and North-Western parts of Nigeria. Partial least square structural equation modelling (PLS-SEM) was adopted to test the hypothesized research model. The quantitative results indicated that collaborating, dominating, avoiding and compromising conflict management styles were significantly and positively related to employee job satisfaction. On the contrary, accommodating style demonstrated no significant effect on employee job satisfaction. The results further showed that organisational trust moderated the relationship between collaborating, avoiding, and compromising styles and employee job satisfaction. But, no significant interaction effect was found between organisational trust and both dominating and accommodating styles. Implications of the results for future research and practice, as well as the limitations of the study are highlighted.

KEYWORDS: *Employee Job Satisfaction, Conflict Management Styles, Organizational Trust PLS-SEM*

1.1 INTRODUCTION

For the past several years, the incessant strike actions embarked upon by workers have become a subject of huge concern among practitioners and scholars of organisational attitudes and still remains a topic of widespread attention and interest among researchers (Seniwoliba, 2013). Strike action is a prevalent channel through which employees express their grudges with their working conditions in order to attain a desired result, as one of the strategies of industrial action that employees used to ensure that Government and employers put in place favourable policies to the employees and failure to do that could lead to unpleasant reaction and eventual destabilization of the conducive work environment (Nnoyelu, 2008). Despite the severe consequences caused by it, it is a legitimate deadlock breaking strategy used by workers when discussions between Management and trade unions reach an impasse (Cohen & Matee, 2014). For example, the first notable strike in Nigeria happened in 1945 and ever since to date different unions and groups have been embarking on strike actions across the different sectors of the economy. The educational sector particularly tertiary institutions have been involved with the greatest number of strike actions among all sectors (Olakunle, 2011). The effect of these closures of schools and academic programs has thus led to tremendous setbacks such as disrupted academic programs, undeserved extension in students study years and consequently, this has contributed to employees' job dissatisfaction and students' academic performance. For instance, empirical studies (Momodu, Matudi & Momodu, 2014) have suggested that organisations continue to suffer from perennial interruptions at the workplace as a result of constant strikes being embarked upon by employees (Olaniyi & Aina 2014; Olusegun Ajayi, 2014). In particular, the frequency and intensity of strike actions in Nigerian has become a very big source of worry. For example, Olusegun Ajayi (2014) found that strike action by the Academic Staff Union of Universities, Polytechnic and Colleges of Education in Nigeria



have created unpalatable misunderstanding between the Government, Management of the various tertiary institutions and trade unions and this has affected the working relationships among the parties.

Yet, the numerous strike actions embarked upon by employees have not secured the needed industrial harmony in Nigeria organisations, agencies, and parastatals (Onah, Igwebuikwe, & Ojonemi, 2016). This thus far, has caused a big setback in educational industry in Nigeria and hence, there have calls for other alternatives to strike actions to be adopted. As such, the achievability of peaceful and harmonious work environment could be possible via other forms of industrial actions besides the deployment of strike actions, such as the possibility of the adoption of the appropriate conflict Management styles model (Adavbiele, 2015). Adding to that, understanding the fundamental reason why other alternatives to strike action be applied in enhancing employee job satisfaction has become imperative.

As a result of the above highlighted assertion, hence the aim of this research study is to explore the potential moderating role of organisational trust on the link between conflict management styles and employee job satisfaction. Notably, however, research on the relationship between conflict management styles, organisational trust job satisfaction, appears to be non-existent in literature and hence, this study offers new empirical and theoretical insights into this relationship.

Towards this end, the rest of this study is designed as follows. We first review the concepts of employee job satisfaction, conflict management styles as well as organisational trust. Then, we review the existing prior studies that relate the concepts towards the formulation of hypotheses. In the next section, we discuss the research method including the participants and procedure, measurement instruments, analytical approach and model estimation. Next, we discuss the results of the study. We draw conclusion from the results of the study, then we highlight the managerial implications of the results. In the final section, the limitations and suggestions for future research will be highlighted.

2.1 PROBLEM STATEMENT

Employee job satisfaction as a phenomenon has been extensively investigated (Gu, Wang, Sun, & Xu, 2010), defined as the individual's perception and assessment of the overall work environment. Additionally, it is also perceived as having a positive emotional enhancement arising from the evaluation of one's job or job experiences' (Islam & Siengthai, 2009). In particular, the major challenge faced by organisations is how to continuously maintain the right level of employee job satisfaction that would lead to peak performances. Thus, some researchers have suggested that high levels of satisfaction are significant contributors to exceptional performance (Tillman, Smith, & Tillman, 2010), as such in most of the organizations, satisfying the needs of workers remains the main employee job satisfaction-enhancement strategy (Giannikis & Mihail, 2011). However, current research developments have challenged this recommendation, which explains the multi-factorial character of employee job satisfaction (Mafini & Pooe, 2013). Given these widespread challenges it is hardly surprising that many researchers and scholars have noted and called for further research studies to improve employees' level of job satisfaction within organizations. Unfortunately, there is paucity of empirical studies on this issue in the Nigeria context on how to create a conducive work environment that enables enhanced employee job satisfaction levels besides strike actions.

Notably, the increase of feelings of satisfaction is also been found to be influenced by the trust that employees have towards the organisation (Mehmet, 2020). The concept of trust within an organisation is described as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Organizational trust is expressed as an employee's perception of support that organization provides and the belief that the leader will be the right speaker and will stand behind his word. Notably, prior studies have explored the effects of organisational trust across different contexts, however, the findings of such studies suggested that if the organization does not have sufficient trust, the individuals will have to waste more time and power to control others' behavior in order to preserve their own benefits.

In addition, authors further opine that the high level of trust between the members of the organization would generally improve performance and ultimately it would contribute to enhanced job satisfaction. In other words, when there is little or no organizational trust, employees show less job satisfaction and as a consequence employee start to act in an attitude like "us against them" that can affect their performance. Consequent upon the research paradigm of organizational trust being expressed as "a feeling of confidence and support in an employer and to the belief that ultimately, organizational action will prove beneficial for employees, the present research work will attempt to explore how trust in the organisation can encourage employee job satisfaction in the workplace.

More so, a number of prior studies, have explored and found that unresolved conflict can lead to increased hostility in the workplace. Researchers have also posited that conflict may have a direct relationship to employee health and well-being. More so Researchers have



concluded that a constructive approach to conflict in the workplace is essential to effective employee productivity (Fisher, 2010). Past studies have suggested that the use of effective conflict management styles may likely lead to many useful outcomes by promoting the creative potential of employees, the capability to sharpen learning, psychological well-being, satisfaction with organization, and strengthening of teamwork. Contrary to this, when conflicts are not managed properly, workers experience dissatisfaction stress, poor decision making and judgment. For example, allowing a climate of conflict in the workplace to go unresolved can lead to increased hostility and decreased employee satisfaction (Lehmann-Willenbrock, Grohmann, & Kauffeld, 2011). In spite of the increasing levels of extant literature conceptualizing the links between conflict management styles and employee job satisfaction at the workplace, this association has thus far not been adequately and empirically studied. Therefore, the current research will aim at addressing the gap in the literature by investigating the role of conflict management styles on employee job satisfaction at the workplace.

More importantly, researchers have reported inconsistent results exist between these variables. As a result, the use of moderators has been recommended to help explain these relationships (Jaramillo Mulki, & Boles, 2013). Even though theory and empirical evidence suggests a positive relationship between of conflict management styles and organisational trust and employee job satisfaction in a variety of studies, little work has explored the moderating processes by which conflict management styles and organisational trust exert their influences on satisfying employees at work. Thus, there is a need to pay more attention to better understand the fundamental interactive process of how conflict management styles and organisational trust could influence employee job satisfaction at the workplace. The current research shall conjecture that organisational trust may be a key moderating variable in explaining the association between conflict management styles and employee job satisfaction.

3.1 LITERATURE REVIEW

3.1.1 Employee job satisfaction

Employee job satisfaction (EJS) can be defined as a person's emotional orientation towards their current job role and is related to a person's behavior in the workplace, thus expressing feelings of joy or dissatisfaction at work (Adamy, 2018; Singh & Onahring, 2019). Employees are the most valuable strategic resources and asset for the organisation in order to achieve effectiveness and (Siswanto & Yuliana, 2022), similarly any effective human resource management strategies should be able to promote employee satisfaction, (Hendri, 2019; Li, Liu, Yuan & Ju, 2017). Employee job satisfaction is a very important prerequisite for organizations that is needed to build a proper interrelationships relationship between the company and employees, because job satisfaction is a series of employee perceptions that will affect employee attitudes and behavior while working, so it is also important to employee commitment to work, so it will ensuring employees do their best to achieve company goals (Cherif, 2020; Mira, Choong, &Thim, 2019). For example, Herzberg's theory explains that intrinsic and extrinsic motivations affect employee job satisfaction (Franczukowska, Kreczal, Knapp, & Baumgartner, 2021). Previous studies also suggest managers to use Herzberg's theory to better understand the factors that could increase employee job satisfaction and affect work (Denton & Maatgi, 2016). Managers should establish policies that increase satisfaction and achievement, such as conflict management policies and strategies, (Ali, 2016; Huang & Su, 2016).

In another research conducted by Pan (2015) found that job satisfaction is subjective and specific to each individual, therefore the satisfaction felt by one employee may not meet the needs of other employees. Based on the results of De Ber, Tims, and Bakker, (2016), it suggested that improving the quality of the exchange of relations between superiors and employees is considered to increase work engagement and ultimately increase satisfaction, which can contribute positively to both employees and the organization. There are differences for various researchers in measuring employee job satisfaction, in their research, Ezzat & Ehab (2018) and Luz, de Paula, & de Oliveira, (2018) evaluate the returns that are measured by satisfaction of salaries and promotions, employee's level of comfort with colleagues and superiors, and the number of tasks assigned to the employee. Another factor that affects employee job satisfaction is emphasis on the influence of leadership style. As such, employees are expected to develop high-quality relationships between supervisors and employees, so it is expected that a more positive emotional state will increase satisfaction and will create employee happiness (Franczukowska et al., 2021).

We find that all the above models have been widely employed in the study of employee job satisfaction studies and gaps have being identifies, Therefore, this current research proposal notably argues that both theoretically and practically, other research hypotheses should be derived and tested to guide further studies on the factors related to employee job satisfaction.

3.1.2 Conflict Management Styles

Conflict is a theme that has been studied by many researchers, for example, Rahim (2001) argues that conflict is something that arises naturally among humans when two or more social entities, such as individuals, groups, or organizations interacting with each other in achieving their goals. In mitigating the negative effects caused by the conflict, conflict management will take place to prevent the



organization from moving away from its stated objectives. Conflict management according to Wirawan (2009) is a strategy whereby organizations and individuals work to recognize and manage differences, by overcoming the efficiency of the financial and human costs of conflict management difficulties. Prasad and Junni (2017) argue that conflict management can be interpreted as an implementation of the top management team's innovation by formulating strategies directly and in the process of compilation must be adaptive, sensitive and understand the dynamics that occur, such as communication flow, social integration, and environment. In managing a conflict according to Rahim (1983), there are five styles that can be applied for managing conflicts, such as collaborating (COL) accommodation (ACC), dominating (DOM), avoiding (AVO) style and compromising (COP) styles. Collaborating style has a high attention to self and others by individuals who use it. This style becomes problem solvers and the character always involves all members of the group in the distribution of information. According to Rahim (2001), collaborating style can also be used as a way to check the differences in order to achieve the required solutions. Meanwhile, accommodating style is different from collaborating style where caring and attention to self is low but high in others. Compromising style based on Williams (2011) can be defined as a situation in which each of the groups involved in the conflict make a deal on several points based on the results of a joint compromise. Kreitner and Kinicki (2010) argue that the dominating style is a style of conflict management that forces other parties involved in the conflict to have the party obey. When described in accordance with its definition, the style of domination has a very low character toward others in the sense of attention, and is very high on its own concern. For avoiding style, Williams (2011) defines conflict management style by ignoring the conflict as its action even though the individual is well aware of the surrounding conflicts. Avoiding style tends to be less concerned about both yourself and others.

Worthy of note is the assertion that among these, three conflict management styles namely collaborating, accommodating and compromising styles were perceived as peaceful styles (Robinson, 2010; Behfar et al., 2011; Ayub, AlQurashi, Al-Yafi, & Jehn, 2017). Avoiding and dominating styles are generally discouraged in workplace settings because avoiding style does not solve the problem of any conflicting group and hence the problem stands still. The significant feature of this style is the indifferent attitude towards the problem which is shown by changing the topic or diverting the attention of another person towards any other situation (Currie, Gormley, Roche, & Teague, 2017; De Clercq, Thongpapanl, & Dimov, 2009). On the other hand, the use of avoiding and dominating styles is also justified while interacting with highly assertive people or those who have less knowledge or skills. Sometimes it is used to enforce a novel or a technical decision (Rahim, 2012). For instance, a study that examined the preferences of conflict management styles of Pakistani schoolteachers in their encounters with principal and colleagues involved data being collected from 100 school teachers with the help of an indigenous tool titled as Organizational Conflict Management Inventory. The first preference of schoolteachers for conflict-handling styles was collaborating, second preference was avoiding style and third preference was the compromising style (Zulfiqar, 2014). Another similar study explored the impact of the college sector, marital status, and family structure on conflict handling styles of college teachers. The sample included 120 college teachers who completed the Organizational Conflict Management Inventory. Results showed that teachers serving in public colleges used collaborating style more than those teaching in private colleges. Female teachers were highly dominating than male teachers. Additionally, those who were single and living in joint families accommodated more than their counterparts (Saeed, 2015).

3.1.3 Organisational Trust

Trust is an important part of our lives in terms of permanent relationships and achievements in the individual and organizational spheres. Although it is regarded as important for all facets of social and organizational life according to scientists and practitioners, the concept of trust maintains its complexity and uncertainty. In general, experts acknowledge that organizational trust has communication-based, dynamic, multi-facetedness and lack of understanding. The issue of trust often arises when there is something at risk in any of the parties involved (Wicks & Berman, 2004). Specifically, the concept of trust is seen as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. In other words, Organizational trust is expressed as an employee's perception of support that organization provides and the belief that the leader will be the right speaker and will stand behind his word. In this sense, trust is the foundation of all internal relations both horizontally and vertically.

Bromiley and Cummings argue that if the organization does not have sufficient trust, the individuals will have to waste more time and power to control others' behavior in order to preserve their own benefits. In addition, authors stated that, in the reverse case, the high level of trust between the members of the organization would generally improve performance and ultimately it would contribute to profitability (Bromiley & Cummings, 1996). Along with that, when there is little or no organizational trust, employees show less job satisfaction (Tosun & Ozkan, 2023) and as a consequence and employee start to act in an attitude like "us against them" that can affect their performance. Accordingly, Organizational trust (ORT) as "a feeling of confidence and support in an employer that includes



employee faith in corporate goal attainment and organizational leaders, and to the belief that ultimately, organizational action will prove beneficial for employees". (Gilbert & Tang, 1998).

4.1 THEORETICAL FRAMEWORK

Conflict Management Style

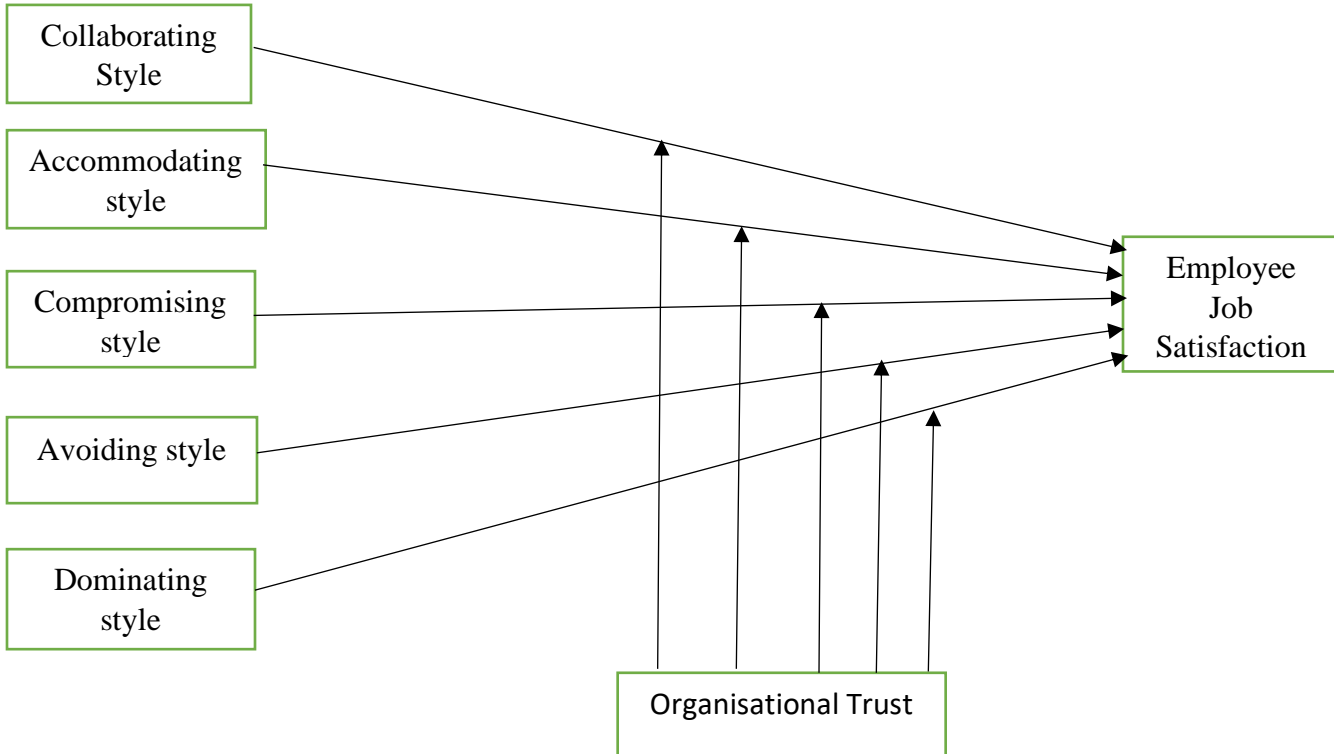


Fig.1 Theoretical Framework

5.1 HYPOTHESES DEVELOPMENT

5.1.1 Conflict Management Styles and Employee Job Satisfaction

Numerous studies have shown that conflict management styles may strategically increase employee job satisfaction. For instance, Rahim (2002) suggested that applying the dual concern model of five conflict management styles are the most effective approach to handle conflict among employees. Alzahrani (2013) found that one of the key factors that influence an employee’s job satisfaction is the effectiveness in handling conflict that arises in the organization. More so, each of these styles has distinct consequence on job satisfaction. For example, as Eslami & Gharakhani (2012) stated, between the five conflict management styles, the collaborating style holds the major role in developing employees’ job satisfaction at the workplace. For example, Farooqi (2022) found support for positive relationship between collaborating conflict management style with several organisational outcomes such as organisational productivity, effectiveness, job performance and employee job satisfaction among others. More importantly, in another study conducted in China, (Chan & Huang, 2010) revealed that the use of integrating style increased subordinates’ level of job satisfaction. Similarly, Griffin and Steen (2011) provided empirical evidence showing that the conflict management styles of compromising and accommodating were positively associated with employees' job satisfaction in higher secondary schools. However, on the other hand, Dhanapal, Alwie, Subramaniam, and Vashu (2013) found support for a negative relationship between dominating and avoiding styles and employee job satisfaction among academicians in a related study, Alzahrani (2013) found that there no statistically significant differences between any of the conflict management styles in a comparable study among Saudi Arabian and American principals.

Consistent with previous studies, Ahmed (2015) reported that conflict management styles (i.e., collaborating, compromising, accommodating, and dominating) had significant positive relationships with employee job satisfaction, apart from avoiding conflict management style which had no significant effect on job satisfaction. Recent studies have also reported that conflict management styles enhanced employee’s level of job satisfaction across different research contexts (e.g., Anastasiou,2020; Haidarravy, & Anshori,2023). In tandem with above discussion, the following hypothesis are advanced:



- H1:** There will be a positive relationship between collaborating style of conflict management and employee job satisfaction
H2: There will be a positive relationship between dominating style of conflict management and employee job satisfaction
H3: There will be a positive relationship between avoiding style of conflict management and employee job satisfaction
H4: There will be a positive relationship between accommodating style of conflict management and employee job satisfaction
H5: There will be a positive relationship between compromising style s of conflict management and employee job satisfaction

5.1.2 Moderating role of Organisational trust

The majority of researchers have acknowledged that the most important indicator in organizational management is trust (Mishra & Morrissey, 1990). The constructive relationship of employees and managers are attained through organizational trust (Önder & Yavuz, 2019). Empirical studies have shown that organizational trust high level of trust between the members of the organization would generally improve performance and ultimately it may contribute to the heightened level of employee job satisfaction (Memduhoğlu & Zengin, 2017). More so, prior studies have suggested that when management apply a conflict management style that emphasizes satisfying the needs of both parties in conflict situations, management and subordinates are likely to develop relationships based on trust and respect (Pruitt & Rubin, 1986; Pars Sener, 2017). Notably, when employees perceive they are being valued and cared by the Management in the conflict situations, trusting relationships will be built. Employees will reciprocate by demonstrating positive work attitudes including higher job satisfaction at the workplace. For example, Poon, Mohd Salleh and Senik (2007) have contributed to the extant literature by examining the moderating effect of organisational trust on the relationship between perceived support and job satisfaction among 108 white-collar bank employees. Results of their empirical analyses showed that the association between perceived support and job satisfaction is contingent upon the trust they have for the organisation.

In addition, Alzyoud, (2018) investigated the moderating effect of trust on the link between work engagement and job satisfaction among a randomly selected 700 academic staff working in four Jordanian higher education universities. The findings of the research demonstrated that academics who worked in a low trust environment tend to be less engaged with their work as compared to those who worked in a high trust environment, even when both had high job satisfaction. Adnan, Berrin, and Aysegul (2017) established that organisational trust buffered the association between self-efficacy and job satisfaction, such that self-efficacy had more positive effects on job satisfaction when trust in organization was high.

Existing theoretical and empirical results also suggest that organisational can trust strengthen the effect conflict management styles on employee job satisfaction (Anastasiou,2020; Adnan, et.al.,2017; Chan, Huang, & Ng, 2008; Chandolia, & Anastasiou, 2020). As a result, applying different conflict management styles means that high level of trust between the employees and the organization would generally increase job satisfaction and ultimately it would contribute to harmonious relationship. Along with that, when there is little or no organizational trust, employees show less job satisfaction (Mehmet, & Ayse, 2019).

Given the aforesaid theoretical and empirical results, we advanced the following hypothesis:

- H6:** The relationship between collaborating style of conflict management and employee job satisfaction will be stronger when organisational trust is incorporated
H7: The relationship between dominating style of conflict management and employee job satisfaction will be stronger when organisational trust is incorporated
H8: The relationship between avoiding style of conflict management and employee job satisfaction will be stronger when organisational trust is incorporated
H9: The relationship between accommodating style of conflict management and employee job satisfaction will be stronger when organisational trust is incorporated
H10: The relationship between compromising style s of conflict management and employee job satisfaction will be stronger when organisational trust is incorporated

6.1 METHODOLOGY

6.1.1 Sample population

The present study adopted a quantitative approach to gather data from the target population. In any research, determining an appropriate sample size is important (Bartlett, Kotrlik, & Higgins, 2001). Hence, it became necessary to consider several different techniques in determining an adequate sample size for a given population. On the basis of this argument, this study used Krejcie and Morgan (1970) method. On that basis therefore, this study was limited to 321 sample of both academic and non-academic staff across six public tertiary institutions located within the North-Central and North-Western regions of Nigeria. Additionally, in the attempt to ensure maximum



representativeness of the proposed target population, a stratified random used as a sampling technique to generate the needed unbiased data and information from our participants.

6.1.2 Measures and Instrumentation

In this study, questionnaire was used to measure the three variables. These three variables consisted of independent, moderator, and dependent variables. Independent variable in this research is conflict management styles, organisational trust as the moderating variable and employee job satisfaction as the while dependent variable All the items were measured using the 5-point Likert response scale ranging from 1 as strongly disagree and 5 as strongly agree.

6.1.2.1 Employee Job Satisfaction

Employee job satisfaction was assessed using the scale developed by Brayfield and Rothe (1951). This scale consists of 18- items with five alternative responses i.e., strongly agree, agree, undecided, disagree and strongly disagree which are scored 1 to 5. The scale contains 9 positive and 9 negative statements. The scale has high reliability (Cronbach's alpha=0.87).

6.1.2.2 Conflict Management Styles

The 28-item Rahim Organizational Conflict Inventory II scale developed by Rahim (1983) was used to measure the conflict management styles. The scale is designed to measure five independent dimensions of conflict management styles: Collaborating (CL), Accommodating (AC), Dominating (DO), Avoiding (AV), and Compromising (CO). The scale consists of 28 items and were arranged according to 5-point Likert scale (1-strongly disagree, 5-strongly agree).

6.1.2.3 Organisational Trust

A 4-item scale was developed by Tyler and Bies (1990) was adapted for the present study to evaluate the organizational trust perceptions of employees. A confirmatory factor analysis carried out by Polat (2009) showed that the scale had a good fit in terms of the strength of measuring organizational trust of employees.

7.1 ANALYSIS

Several software programs can be employed to analyse data, such as SPSS SmartPLS, Excel, STATPAK or SAS. However, the present study used SPSS software version 20 and SmartPLS 4 (Ringle, Wende, & Will, 2005) as instruments of data analysis (Hair et al., 2012).

8.1 RESULTS AND DISCUSSION

PLS path modeling for the data analysis was used by this research study due to the fact that this approach is experiencing global acceptability in academic investigation (Hair et al., 2012).

A variety of assumptions regarding normality and multicollinearity, common method bias was evaluated (Hair et al., 2010; Tabachnick & Fidell, 2007), prior to testing the reliability, validity and of the study structure paths. The current study adopted a two-step process, that is: evaluation of measurement of structural models, for assessing and reporting PLS-SEM results (Hair et al., 2010, 2014; Henseler et al., 2009)

8.1.1 Assessment of Measurement Model

As claimed by researchers and scholars, assessing measurement model involves the determination of the individual item reliability, internal consistency, content validity, convergent validity and discriminant validity of the research items (Hair et al. 2014; Henseler et al. 2009).

Thus, to determine individual item reliability assessment involves looking into the outer loadings of each of the items of each variable (Hair et al., 2012, 2014; Duarte & Raposo, 2010). Scholars have recommended a rule of thumb for retaining of items whereby items between 0.40 and 0.70 are set as the benchmark to be retained. (Hair et al., 2014). The outer loadings for each of the latent variable of the current study met the recommended benchmark of sufficiently reaching up to 0.5 or more (refer Table I) hence, the present study successfully satisfied the requirement of the individual item reliability criterion.

Similarly, for determining the internal consistency reliability, a rule of thumb to explain the composite reliability coefficient has recommended a threshold of 0.7 or above (Bagozzi & Yi, 1988; Hair et al., 2011). Table I shows the composite reliability coefficients for each of the latent variable of the present study. The composite reliability coefficient, as displayed in Table I, for each of the latent variable varied from 0.703 to 0.93 this affirming the adequate internal consistency reliability of the items (Bagozzi & Yi, 1988; Hair et al., 2011).



Convergent validity. The gauging of convergent validity with average variance extracted (AVE) is suggested by Fornell and Larcker (1981). Nonetheless, Chin (1998) recommended that the AVE should be at least 0.50 or more to affirm the convergent validity of a particular variable. The AVE scores provided in Table I indicated that all the variables of the current research study have satisfied the minimum of 0.50 AVE, hence, it is affirmed that the research study signified adequate convergent validity (Chin, 1998). In particular, the discriminant validity the study items were estimated following Fornell and Larcker (1981) criterion. Based on, Fornell and Larcker’s recommendation we used AVE with 0.5 value or higher. More so, for determining discriminant validity they have recommended that the square root of the AVE should be greater than the correlations among the latent constructs.

Table 1: Loadings, composite, reliability and average variance extracted

Latent variables and Items	Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Dominating Style		0.847	0.735
DOM4	0.916		
DOM5	0.792		
Accommodating Style		0.885	0.659
ACC1	0.865		
ACC2	0.841		
ACC3	0.829		
ACC4	0.703		
Avoiding Style		0.883	0.656
AVO3	0.763		
AV04	0.854		
AVO5	0.883		
AV06	0.729		
Collaborating Style		0.854	0.745
COL1	0.878		
COL2	0.848		
Compromising Style		0.825	0.612
COP1	0.806		
COP2	0.784		
COP3	0.758		
Organisational Trust		0.867	0.758
ORT2	0.845		
ORT3	0.931		
Employee Job Satisfaction		0.855	0.663
EJS11	0.788		
EJS12	0.842		
EJS13	0.813		

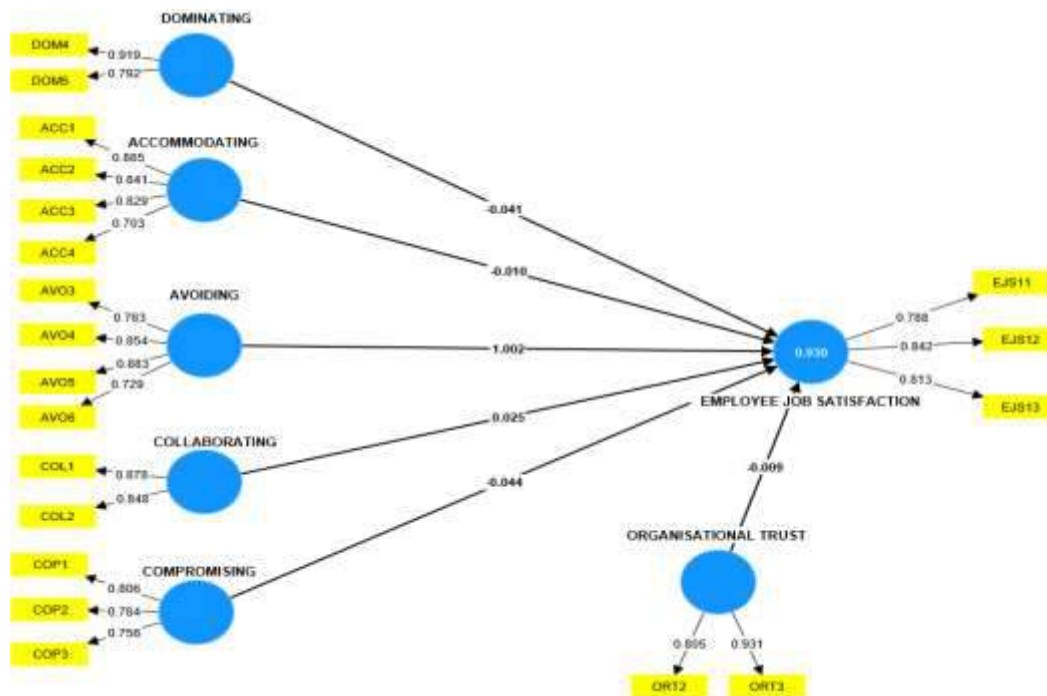


Figure 2: Measurement Model

Table 1 and figure 2 above suggests that the AVE for all the latent constructs was above minimum threshold of 0.5. Hence, it could be attested that all the items used in the current study have met satisfactory level of validity and reliability testing.

8.1.2 Assessment of Structural Model

Our study employed the standard bootstrapping procedure with 500 bootstraps samples and 321 cases to ascertain the significance of the path coefficients following Hair et al. (2011, 2012, 2014) and Henseler et al.’s (2009) recommendation as depicted in Tables 2 and 3 and Figures 3 and 4.

8.1.2.1 Results of structural model without interaction

This study tests five hypotheses in the inner structural model without interactions. Hypothesis test results are displayed in Figure 3 and Table 2. The first hypothesis (H1) was supported, as collaborating (COL) style of conflict management was significantly related to employee job satisfaction (EJS) in the hypothesized direction ($\beta = 0.025$ $t = 1.995$, $p < 0.045$). The second hypothesis (H2) examined the effect of dominating (DOM) style of conflict management on EJS. Expectedly, Table 2 showed that this hypothesis was supported ($\beta = 0.040$, $t = 2.668$, $p > 0.004$). As earlier stated, H3 proposed that Avoiding (AVO) style of conflict management will be positively related to employee job satisfaction (EJS). Results shown in Table 2 and Figure 3 have revealed a significantly positive relationship between AVO and EJS ($\beta = 0.481$, $t = 83.18$, $p < 0.000$). Hence, supporting H3. As shown in Table 2, the fourth hypotheses(H4) was not supported, as accommodating (ACC) style of conflict was not significantly associated with EJS in the hypothesized direction ($\beta = 0.041$, $t = 0.742$, $p < 0.229$). The fifth Hypotheses(H5) examined the effect of compromising style of conflict management on employee job satisfaction (EJS). Expectedly, Table 2 showed that this hypothesis was supported ($\beta = 0.043$, $t = 2.733$, $p > 0.003$).

Table 2: Results of Structural model assessment without interactions

Hypotheses and relation	Beta	SE	T/value	P/value	Decision
H1: COL →EJS	0.025	0.015	1.995	0.045***	Supported
H2: DOM →EJS	0.040	0.015	2.668	0.004***	Supported
H3: AVO →EJS	0.481	0.012	83.18	0.000***	Supported
H4: ACC →EJS	0.014	0.013	0.742	0.229	Not Supported
H5: COP →EJS	0.043	0.016	2.733	0.003***	Supported

Note: ***p < 0.01 (one-tailed test)

Source: Researcher

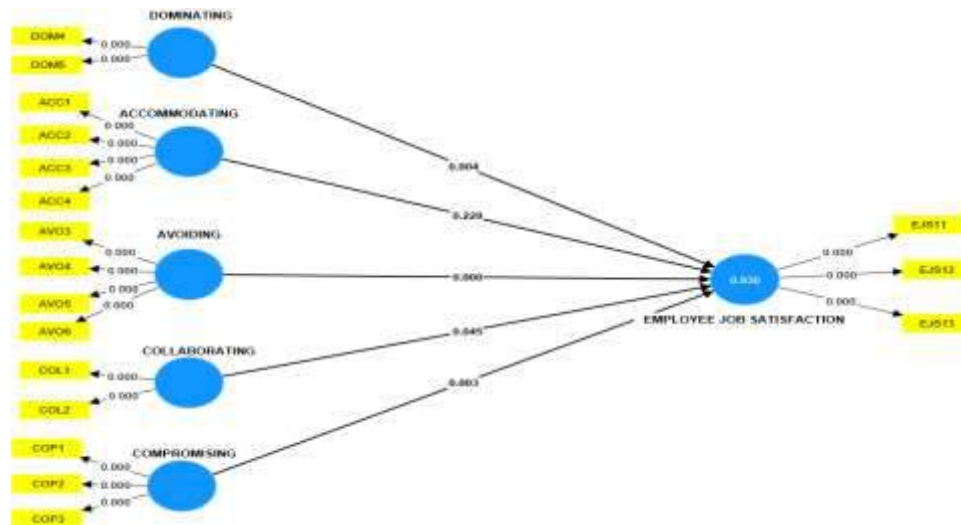


Figure 3: Structural model without moderator variable

8.1.2.2 Results of structural model with interaction

As earlier stated, hypothesis six(H6) predicted that the relationship between COL and EJS is moderated by ORT. Precisely, this kind of relationship is stronger when the level of ORT is higher than when ORT is low. As expected, the findings depicted in Table 3 and Figure 4 demonstrated that the interaction terms representing COL X ORT ($\beta = 0.02, t = 2.993, p < 0.001$) were statistically significant. Hence, H6 was supported. Originally, both hypotheses (i.e. H8 and H10) stated that the relationship between both AVO and COP styles of conflict management and employee job satisfaction (EJS) are moderated by organisational trust (ORT). Expectedly, the results shown in Table 3 and Figure 3 demonstrated that the interaction terms representing AVO X ORT ($\beta = 0.01, t = 2.950, p < 0.001$) and COP X ORT ($\beta = 0.04, t = 1.998, p < 0.001$) were statistically significant. Hence, H8 and H10 were supported.

On the other hand, the findings shown in Table 3 and Figure 4 did not support hypotheses seven (H7) and(H9), which stated that organisational trust (ORT) moderate the relationship between dominating (DOM) conflict management style and employee job satisfaction (EJS)

Table 3: Results of Structural model assessment with interactions

Hypotheses and relation	Beta	T/value	P/value	Decision
H6: COL X ORT→EJS	0.02	2.993	0.001***	Supported
H7: DOM X ORT→EJS	0.03	0.379	0.353	Not supported
H8: AVO X ORT→EJS	0.01	2.950	0.002***	Supported
H9: ACC X ORT→EJS	0.01	0.114	0.455	Not supported
H10: COP X ORT→EJS	0.04	1.998	0.003***	Supported

Note: ***Significant at 0.01 (1-tailed)

COL (collaborating), ORT (organisational trust), EJS (employee job satisfaction), DOM (dominating), AVO (avoiding), ACC (accommodating), COP (compromising).

Source: Researcher

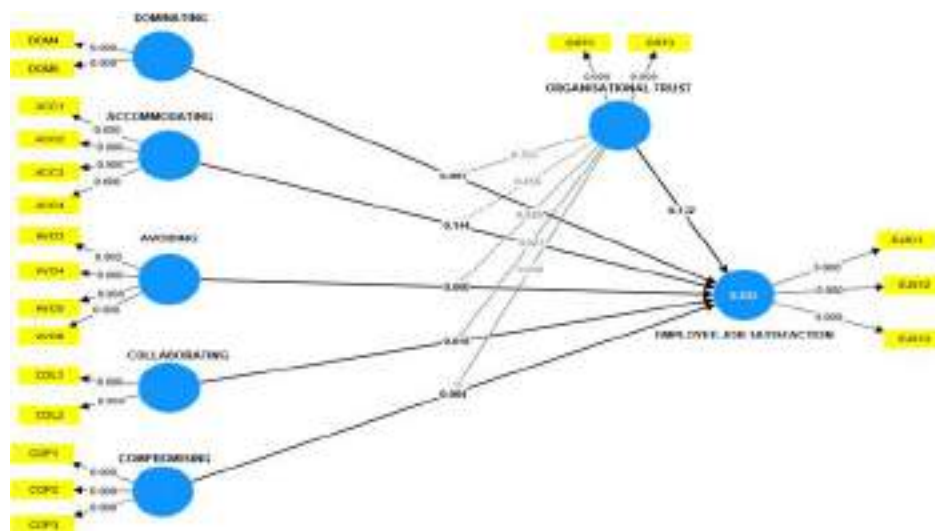


Figure 4: Structural model with interactions

9.1 DISCUSSION

The primary aim of this study was to examine the moderating effect of organisational trust the links between conflict management styles and employee job satisfaction among academic and non-academic staff of Nigerian public universities. This study demonstrated that the full PLS path model had reasonable explanatory power with the data, validating seven of ten hypotheses. Specifically, the findings showed that collaborating, dominating, avoiding, and compromising styles of conflict management were significantly and positively related to employee job satisfaction. However, accommodating style in conflict management was not found to be related to employee job satisfaction. With respect to organisational trust as a moderator, the findings revealed that organisational trust moderated the link between collaborating, avoiding and compromising styles of conflict management and employee job satisfaction. But, it did not moderate the relationships between both dominating and accommodating styles of conflict management and to employee job satisfaction. Taken together, the current study has advanced the understanding of the key determinants of employee job satisfaction and, in particular, the moderating effects of organisational trust.

Hypotheses H1, H2, H3 and H5 stated that collaborating, dominating, avoiding and compromising conflict management styles significantly exert influence on employee job satisfaction respectively. Statistically, the current findings on the aforementioned styles revealed a positive link with employee job satisfaction, thus, supporting H1, H2, H3 and H5. These findings further reaffirm Rahim's (2002) claim that the crucial factors that influence employees' job satisfaction is the effectiveness in handling conflict that transpires in an organisation. All these positive outcomes of conflict management styles in organisation will keep employees satisfied.

The current results also appear to be in conformity with the results of previous researchers (e.g., Griffin &Steen ,2011; Farooqi, 2014, Tetteh & Obuobisa-darko, 2016; Briggs, 2020). For example, the field study of Griffin and Steen (2011) have shown that the conflict management styles of collaborating and compromising which ascribed to principals were positively related to secondary level teachers' job satisfaction in higher secondary schools. Further the outcome of their study suggested that the principals and teachers were inclined to resolve conflicts that occurred using these two styles as they believe it will heighten the relationship between the principals and teachers. Therefore, they will be satisfied to their jobs. Similarly, Farooqi (2014) revealed that collaborating conflict management style is usually linked to several positive organisational outcomes such as job satisfaction, productivity, effectiveness and job performance. In a related study by Briggs (2020), among 200 employees of State and Federal ministries in Rivers State of Nigeria reported that avoiding and dominating conflict management styles were related to higher incidence of employee job satisfaction. In addition, Tetteh and Obuobisa-darko (2016) reported a significant positive relationship between a manager's avoiding style and performance rewards of subordinates. On same vein, Ahmed (2015) found dominating conflict management styles among others had significant effect on employee job satisfaction level.

Unexpectedly, no significant relationship was found between accommodating conflict management style and employee job satisfaction, leading to the rejection of H4. Nonetheless, the current result appears to be consistent with other studies that examined similar issue on



accommodating conflict management style (Chen, Zhao & Liu, 2012; Alzahrani, 2013). For example, Alzahrani (2013), in a study among Saudi Arabian and American faculty members reported an insignificant relationship between accommodating conflict management style and employee job satisfaction. Similarly, Chen, et al. (2012) found no significant relationship between accommodating conflict management style and job satisfaction among Chinese employees. The possible explanation for the insignificant result might be related to the assertion that the style supports uncooperative behavior and offers no chance to the employees to make their contribution which in turn influences the employees' job satisfaction.

The incorporation of organisational trust as a moderator was theorized to play a significant role in strengthening the positive effects of conflict management styles on employee job satisfaction. As expected, this study revealed a moderated relationship between collaborating, avoiding and compromising conflict management styles and employee job satisfaction, therefore, supporting hypotheses H6, H8 and H10. The current results appear to be in line with prior studies that found the moderating effect of organisational trust (Triplett & Loh, 2017; Ozyilmaz, Erdogan, Karaeminogullari, 2017; Ramos, Ferreira & Martins, 2021; Khan, Sajjad, Orangrab & Tariq, 2023). For instance, a study by Triplett and Loh (2017) found organisational trust to moderate the association between work locus of control and psychological safety. Similarly, Ramos et al. (2021) also revealed a moderated relationship between person-organisation fit and turnover intention sampled among 381 workers of a multinational company in Brazil. In a recent study of 252 bank employees in District Vehari of Pakistan, Khan et al. (2023) showed that the relationship between job stress and intention to leave was moderated by organisational trust. In this study, however, contrary to expectation, no moderated relationship was found between dominating and accommodating conflict management styles and employee job satisfaction, and therefore H7 and H9 were not supported.

In sum, this study once again confirmed that the use of collaborating and compromising conflict management styles by Organisation results in greater level of employee job satisfaction. Prior studies have also suggested that the use of collaborating and compromising styles plays a huge role in producing positive outcomes in the workplace.

10.1 THEORETICAL IMPLICATIONS

Firstly, the current study has offered a theoretical implication by providing additional empirical evidence in the domain of conflict management strategy. Prior studies have heavily explored the effects of conflict management styles and employee job satisfaction in the western context. Instead of focusing on western based kind of relationship this study extended the theoretical research by examining the study variables. Using these variables, this study was able to ascertain that the combination of the different styles of conflict management are more likely to demonstrate greater employee job satisfaction. Specifically, it was clear that the findings of the present study have significant implications for both the academic and non-academic members' level of job satisfaction. What remains unclear is whether the effects of conflict management styles on employee job satisfaction could be generalized to a non-western work setting due to the differences in the nature of the job, and, thus, future research needs to be conducted to investigate this.

Secondly, this study has offered a theoretical implication by providing additional empirical evidence in the domain of prior studies that have reported significant relationships regarding the moderation effects of organisational trust. However, the current study offered empirical evidence of the power of organisational trust to moderate significantly between collaborating, avoiding and compromising conflict management styles. This study has exceeded beyond a mere validation of the positive effects of conflict management styles on employee job satisfaction as reported in previous literature (e.g. Griffin & Steen, 2011; Farooqi, 2014; Tetteh & Obuobisa-darko, 2016; Briggs, 2020). Undoubtedly, the interactive effect allows for a better understanding of the dynamics that exist between conflict management styles and employee job satisfaction. As such, the current study has reinforced the arguments made Ramos, et al. (2021) and Khan, et al., (2023) on the potentially significant role of organisational trust construct as a moderator.

An extensive review of the literature indicates that only a few studies have been conducted on the conflict management styles-employee job satisfaction link (Griffin & Steen, 2011; Alzahrani, 2013; Ahmed, 2015; Anastasiou, 2020; Hardin, et al., 2021). Hence, the current study contributes further to the existing conflict management styles-employee job satisfaction literature. However, much more about the theoretical relationships conflict management styles-employee job satisfaction remained unexplained, especially in countries such as Nigeria and in the higher education sector where no similar research had been done, with exception of a study which focused on only conflict management rather than on the individual styles by Mgbemena, Oraegbunam, Uzodike, and Onyekaonwn (2022) among personnel in Nigeria Bottling Company. The rest of conflict management styles-employee job satisfaction studies were conducted in the developed western societies. The context of the present study (i.e., Nigeria) is a multi-ethnic, multi-religious, multi linguistic, and the most populated black nation in the entire world. Thus, a study of this nature is likely to be a good contribution to the extant body of knowledge.



This study also extended the conflict management styles literature given that very few studies have measured the styles of conflict management as separate variables. This study tested the concept's specific styles as separate constructs, which were found to be significantly predicting employee job satisfaction. However, more research is needed to further validate its importance in predicting employee job satisfaction.

11.1 PRACTICAL IMPLICATIONS

The findings from this study have several implications for management with regards to the importance of conflict management styles, and the influence of organisational trust. They also provide guidance on how to encourage high level of satisfaction and conflict resolution among employees.

First, this study offers evidence on the importance of applying conflict management styles in resolving issues in the organization. Its application as a strategy has many positive outcomes. Therefore, the management of the various tertiary institutions can take cue and can apply the results of the current study use to promote harmonious work environment. Against this backdrop, the management of tertiary institutions should prioritize, promote and strengthen the application of the different styles of conflict management in their institutions. Doing so may minimize on the negative feeling and produce a greater sense of satisfaction among employees at the workplace. Doing so should make employees feel appreciative and respected by their Management

Finally, the current study uncovered organisational trust as an important moderating variable that strengthens the effects of conflict management styles on employee job satisfaction.

12.1 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

First, the study should determine the method. However, at times, the progression of the study determines which research method is the most appropriate. Thus, this study employed a cross-sectional study such that data were collected once within a relatively short period of time. But a cross-sectional study could not offer insights into the cause-and-effect relationships. This is because a cross-sectional study provides a snapshot of a single moment in time, which does not consider what occurs before or after the snapshot is taken. That would be the reason why a researcher should start with a cross-sectional method to first establish whether there are relationships between certain constructs. Such an attempt would then facilitate longitudinal studies among future researchers because it is more likely to determine causal relationships among constructs by virtue of its scope.

Secondly, the present study considered only academic and non-academic staff of some selected public tertiary institutions located in North-Central and North-Western regions of Nigeria. Therefore, this study should be replicated in other regions of Nigeria and in other types of higher education institutions like private universities, Polytechnics, Monotechnic, Specialized Universities and institutes, School of Nursing, Colleges of Education, and Colleges of Health Technology in order to increase the generalizability of the results.

Finally, the independent variables examined in the present study were confined to conflict management styles. Perhaps, there are other factors of employee job satisfaction that should be given a considerable attention in the Nigerian public university, such as employee engagement, job identification, organisational frustration, commitment. Hence, future researchers should incorporate them in future research.

13.1 CONCLUSION

Theoretically, important gaps exist in the literature with regards to the links between conflict management styles, and employee job satisfaction. Past studies in this area have not addressed the following in their study: (1) the moderating influence of organisational trust on the relationship between conflict management styles and employee job satisfaction. The current research study has enhanced the literature by further affirming prior results regarding the significant positive relationship between conflict management styles and employee job satisfaction in a newer context (Nigeria) and setting (public university). The current study demonstrated that collaborating, dominating, avoiding and compromising conflict management styles significantly and positively influenced employee job satisfaction. Against these backdrops, the current study will be relevant to the Nigerian public university system that is currently grappling with the problem of increasing and incessant strikes usually embarked upon by both academic and non-academic staff.

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ANALYSIS OF LABOUR WELFARE MEASURES AND ITS IMPACT ON JOB SATISFACTION: AN EMPIRICAL STUDY ON MAYURHANJ DISTRICT OF ODISHA

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ABSTRACT

The aim of this research is to examine the impact of labour welfare measures with different dimensions of work provision requirement on job satisfaction. This study observed to know that Labour welfare measures play a significant role in influencing the level of job satisfaction of employees and help the employers in indifferent ways. So certain amount of investment for the success and the progress of the organizations or the construction sites and somehow for the society. Three hundred building construction workers are participated in the cross-sectional survey, which used a structured questionnaire that they self-administered. The universe of the study includes different construction sites within the Mayurbhanj district of Odisha. After collecting the data, they were coded and analysed by using SPSS. Various statistical tests were applied to test the hypotheses and matching variables. Multiple regression analysis used to show the relationship between different labour welfare measures of OB&OCWWB and their job satisfaction. Results indicated that there is a significant impact of labour welfare measures on job satisfaction.

KEY WORDS: Welfare Measures, Job Satisfaction, Construction Worker, Welfare Board, Construction Sites.

1. INTRODUCTION

In the current rapid changing work environment, the human resource is regarded as the most powerful asset for every organization and construction site. Despite the advancement of technology, the role of workers continue to play an important role in every organisation or workplace. The success of any organization or work environment directly depends on efficient use of human resources. According to social institutions, industrialization level and overall level of social and economic development, the concept of labour welfare is basically dynamic and has been interpreted in different ways for different country from time to time and even in the similar country. The provision of various amenities and facilities within and around the work place for the betterment of employees is known as welfare measures.

Welfare facilities provided by the organisations to their employees in an effort to maintain the motivation levels high. Welfare measures boost the employee's productivity. The various welfare measures offered by the employer will immediately effect on the confidence, health, physical and mental productivity alertness, and overall health, all of which will lead to increased production. The International Labour Organisation (ILO) report states to labour welfare as, "Such services, facilities and amenities as may be established in or in the vicinity of undertakings to enable the persons employed in them to perform their work in healthy, congenial surroundings and provided with amenities conducive to good health and high morale." (Chaubey, & Rawat, 2016). This welfare may take any form or amount, not just money. The welfare of workers comprises keeping a close watch on working conditions, promoting cooperation between employers through the development of a health infrastructure, industrial relations, and insurance for workers' families against illness, accidents, and unemployment. The concept of labour welfare is elastic and versatile, and it varies greatly depending on places, times, industries, countries, social norms and values, the level of industrialization, the general social economic development of people and political ideologies prevailing at particular moments (Manasa, 2015).

In recent years, the approach of construction workers' welfare measures are recognised by creating a nurturing working environment. Usually, the construction industry has been identified as labour-intensive work, absence of job security, and less care about health and safety of the workers. However, it is observed that expenditure in the welfare of construction workers not only improves their job satisfaction but also gives the productivity and long-term sustainability of the industry. In this study investigates the relationship between welfare measures implementation in the construction sector and its impact on job satisfaction among building construction



workers. By investigating the features such as health and safety protocols, training programs, accommodation facilities, and overall working conditions.

2. LITERATURE REVIEW

Prasad et al. (2011) the study explain that the building and construction industry in India is recognised as highest labour intensive and economic activity after agriculture. This industry is demanded both skilled and semi-skilled labour force. The main focus of the study were determine how commonly known welfare programmes are how far along with the programmes are implemented and where obstacles may be encounter. By using validated questionnaire, the data was collected from 189 respondents and examined by using statistical software to assess awareness and challenges of the schemes. The chi-square test and a comparative research have been used to verify the inferences of the analysis. The outcome of the study shows that 92.5% of the workers have been denied access to welfare benefits. Only 24% participants were aware about the welfare measures.

Das et al. (2012) the concept of "social security" describes a person's safety in all spheres of their existence, such as their house, place of employment, and neighbourhood. With the aid of Social Security, a programme created to cover both regular expenses and unanticipated events, a decent standard of life may be maintained. It is a fundamental human right, not a gift. However, women have the least access to benefits in the unorganised economy. The purpose of this study is to assess how well women in Odisha's informal sector are shielded from monetary distress. With an eye on the study's objectives, a representative sample was polled in the districts of Keonjhar, Mayurbhanj, and Cuttack. A systematic questionnaire about the social security programmes offered by the Government of Odisha was presented to 100 randomly selected women from each district. For the wellbeing of its residents, Odisha has established three programmes: the Madhu Babu Pension Yojana (MPY), the National Family Benefit Scheme (NFBS), and the Old Age Pension Programme (NOAP). However, they are excluded from the various social security programmes that are common in the field of organised enterprise.

Mishra (2017) this study states that in India over 93% of all workers are employed in the unorganised sector. Job insecurity and workplace hazards are two significant issues that India's unorganised sector employees are faced daily. The objectives of the paper are to talk about the term informal economy and the condition of workers in unorganised sector and government initiatives for worker's welfare. The observations show that government's efforts to cope with the situation and the state of employee in the informal sector have been declining. Further the paper studied the key initiatives of the government of India in the unorganised worker's social security act 2008.

Ulle et al. (2018) this study explain the labour welfare measures at Go Go International Private Limited and evaluate the relationship between labour welfare measures and employee satisfaction. The majority of welfare facilities deal with sanitation and hygiene which does not create dissatisfaction among professional to provide welfare measures. The term of labour welfare programme include the protection advancement and also refers to provide improved working conditions such as good lighting, warm control, cleanliness, toilet, drinking water facilities and safety initiatives. The study based on descriptive statistics.

Ananda and Siddegowda (2020) in their present study identified the labour welfare measures used in the building construction sector. The cross sectional research has been used in this study. On basis of primary data, the interview schedule was done to acquire the data. The researcher has computed factor analysis using the data they have collected. The study found that toilet accommodation received the highest rating while drinking water received the lowest rating. The welfare measures programme's factors were subjected to a principal component analysis (PCA) which shows that the factors had demonstrated their intuition for many components.

3. STATEMENT OF THE PROBLEM

The construction sector in spite being a largest sector providing employment opportunities lacks the implementation of laws in wage distribution, conducive work environment, conveyances etc. Nearly 90% of the workers are unorganized and do not have the idea of laws that exist in favour of them since most of them are illiterates and uneducated. Many of them don't get registered under any welfare board that is made available for them. The welfare fund that is collected from the builders and contractors as cess which is not fully utilized.

At present study many of the construction workers are not registered under any welfare boards and so are not the beneficiaries of the welfare fund extended towards protection of labourers. The secondary data collected from Odisha Building and Other Construction Workers Welfare Board and welfare fund reveals that utilization of funds in construction sector would surely help them. But unfortunately most of the construction workers don't get registered and the welfare fund is also not efficiently utilized. Further, the empirical study on these factors are rarely made. The present study confines itself to the registration of construction workers under Odisha Construction Workers Welfare Board and the benefits extended under the board towards these workers. The



Welfare Fund and its utilization are also considered. The construction workers only within Mayurbhanj District of Odisha are selected for the study.

4. OBJECTIVE

The present research work has been taken up with the following objective;

- To study the impact of different labour welfare measures of OB&OCWWB on job satisfaction of construction workers in Mayurbhanj District of Odisha.

5. HYPOTHESES

H₀: The different welfare measures have no significant impact on construction worker's job satisfaction.

6. RESEARCH METHODOLOGY

The present study is a descriptive study based on primary as well as secondary data. To reach the specified objective, and verify the hypothesis, a survey of 300 construction workers were conveniently selected from various construction sites in Mayurbhanj Districts. The secondary data were collected through several books, magazines, research journals and other related academic and other sources. A planned questionnaire was created that covered different aspects of labour welfare measures and how workers perception felt on its outcomes. The questionnaires comprised of two sections. The first section which emphasizes on the demographic facts of the subjects includes age, gender, educational qualification, tenure of job, type of work, living house, etc. are measured on a nominal scale. The subsequent section contains questions based on sources of employment, income level, expenditure, borrowings, savings, motivational factor of choosing construction work, different benefits received by the workers and their job satisfaction. After gathering information the factors that led to their involvement in construction work, and the issues they encountered, 300 construction employees from the chosen areas were interviewed. After collection of data it was revised, coded, put into SPSS software. Data was processed using SPSS 20 software and then thoroughly arranged, tabulated and proper analysis was carried out some of the statistical techniques and tools like percentage, multiple regression analysis and ANOVA test was carried out to check the significance of relationship among the variables under consideration.

7. ODISHA BUILDING AND OTHER CONSTRUCTION WORKERS WELFARE BOARD

The Construction Workers Welfare Board was established by the Government of India under Regulation of Employment and Conditions of Service Act, 1996. The central objective of the board is to control the employment and working conditions of building and other construction workers and to provide for their safety, health and welfare measure and for other matter connected therewith. The Odisha Building & Other Construction Workers' Welfare Board has been established on 03.01.2004 under section 18 of the Building & Other Construction Workers (RE&CS) Act, 1996 to manage its Fund and funding benefits to the beneficiaries registered under it. It has been last reconstituted on dated 17-12-2014. The Govt. of Odisha in Labour & ESI Department vide Resolution No. 12653 dated. 15.12.2008 has directed that a 1% cess will be collected on the building costs incurred by an employer or constructor. The cess collected has been deposited in the fund of Odisha Building & Other Construction Workers' Welfare Board for welfare of the registered building workers.

7.1 THE BENEFITS UNDER THE WELFARE BOARD

Building and other construction workers' employment and working conditions are governed by the welfare measures of OB&OCWWB, which also address other issues related to or coincidental to these regulations and protect their safety, health, and welfare. The Board has governed its own fund in form of the Odisha Building and Other Construction Workers' Welfare Fund under rule 263 of the Orissa Building and Other Construction Workers' (RE & CS) Rules, 2002. The following table-1 shows some of the benefits provided by welfare board to the beneficiaries.

Table-1 Benefits under Welfare Board

Sl. No.	Name Of the Benefits	Legislation	Amount of Benefits
1	Death Benefits	Section 22 (1) (h) of Rule 271	Normal Death- Rs. 1,00,000
			Accidental Death- Rs. 2,00,000
2	Funeral Assistance	Section 22 (1) (h) of rule no. 278 A	Rs. 5,000
3	Educational Assistance	Section 22 (1) (h) of rule no. 278(A)	For Class 11th/12th- Rs. 5,000/- per annum
			For Classes of B.A./ B.Sc./ B.Com./PG Studies- Rs. 7,000/-
			For ITI- Rs. 7,000/- per annum



			For Diploma/ Polytechnic- Rs.10,000/- per annum
			For other Higher Studies- Rs.40,000/- per annum
4	Assistance in Case Of Accident	Section 22(1) (a) of Rule No. 270	Permanent total disability due to accident- Rs. 1,50,000/-
			Loss of one limb/ eye- Rs. 80,000/-
			Permanent disability without loss of two limbs/ eyes- Rs. 40,000/-
5	Reimbursement of Medical Expenses for Treatment of Major Ailments	Section 22 (1) (f) of Rule No. 276	Rs 3,000,00/-
6	Marriage Assistance	Section 22 (1) (h) of Rule No. 278 (B)	Rs. 50,000/-
7	Maternity Benefit	Section 22(1)(g) of Rule No. 277	Rs. 10,000/-
8	Assistance for Purchase of Working Tools and Safety Equipment	Section 22 (1) (h) of Rule No. 278 (2)	Working Tools- Rs. 4,000/-
			Safety Equipments-Rs. 1000/-
9	Assistance for Purchase of Bi- Cycles	Section 22 (1) (h) of Rule No. 278 (3)	Rs. 4,000/-
10	Financial Assistance for Skill Up- Gradation	Section 22 (1) (h) of Rule No. 278 (1)	Rs. 2,000/- per month towards stipend for training (maximum for six months)
11	Nirman Shramik Pucca Ghar Yojana in Rural Areas	Resolution No. 9626 dated 07.11.2015	IAP District- Rs. 1.30 lakhs and Non- IAP District- Rs. 1.20 lakhs

Sources: Labour & ESI Department, Odisha

a. DEMOGRAPHIC CHARACTERISTICS OF CONSTRUCTION WORKERS:

The analysis presented in the table-2 reveals that sample is dominated by the young respondents ranging in the age group of 46-60 years as it contributes 64.67 percent in the sample. Majority of the respondent are male and ST category. In the sample 49% of the respondents are illiterate and most of the respondents have 3 to 5 family members (51%) in their family. Most of the respondents are unskilled (71%) workers and most of them are lived in tiled (43%) and thatched (34.67%) houses. It has been found that majority of the employees (59%) are worked 8 hours in a day; associated with the construction works (30%) from 7 to 9 years. Study also reveals that there are 57.33% workers are registered under Odisha Building & Other Construction Worker’s Welfare Board. This registration entitles them to various welfare benefits for themselves and their families.

Table-2 Demographic Statistics of the Construction Workers

Variables	Category	Frequency	Percent	Variables	Category	Frequency	Percent
Gender	Male	186	62.00%	Ownership of the House	Owned	229	76.33
	Female	114	38.00%		Leased	67	22.33
Age	18-30	40	13.33%		Rented	4	1.34
	31-45	66	22%	Tenure of job	Permanent	98	33%
	46-60	194	64.67%		Temporary	115	38%
General	0		Occasional		87	29%	
Caste	OBC	20	6.67%	Duration of Working Hours	Less than 8 hours	23	8%
	SC	42	14%		8 hours	177	59%
	ST	238	79.33%		More than 8 hours	100	33%



Educational Qualification	Illiterate	147	49%	Earning member	One	81	27
	Primary	97	32%		Two	177	59
	Middle School	50	17%		Three	30	10
	Secondary	6	2%		Four	11	3.67
Below 3	12	4%	More than Four		1	0.33	
Family Size	3 to 5	152	51%	Registration as a construction	Yes	172	57.33%
	5 and above	136	45%		No	128	42.67%
Type of Work	Unskilled	213	71%	Year of experience	Less than 5 years	87	29.00%
	Skilled	87	29%		5 to 7 years	45	15.00%
Type of Living House	Concrete	64	21.33%		7 to 9 years	90	30.00%
	Tiled	129	43%		9 years and above	78	26.00%
	Thatched	104	34.67%				
	Reinforced	3	1%				

Sources: Primary Data

b. DIFFERENT BENEFITS RECEIVED BY RESPONDENTS:

In any organisation or construction site, Construction worker welfare measures are initiated by the organisation with the purpose to increase their job satisfaction, improve their motivation and assurance toward organisation. In this present study out of 300 respondents, 172 respondents are registered construction workers under OB&OCWWB. The registered construction workers have get a labour card and ensure the job security and health security from the government or from the welfare board.

Table-3 Different Benefits Received by Construction Workers

Name of Benefits	No. of Benefits	Percentage of Beneficiary
Death Relief	56	18.66
Funeral Assistance	26	8.66
Assistance for Purchase of Safety Equipment	81	27
Financial Assistance For Children Education	46	15.33
Maternity Benefits	22	7.33
Marriage Benefits	58	19.33
Assistance for Purchase of working Tools	70	23.33
Assistance for Purchase of Bicycle	149	49.66
RPL & Skill Development Training	10	3.33

Sources: Primary Data

The information presented in the above table-3 shown that out of 172 respondents, 149 (49.66%) workers are received assistance for purchase of bicycle from Odisha labour welfare board. This assistance is highest from all of the benefits received by the workers. After bicycle assistance, second highest assistance is assistance for purchase of safety equipment which is 27%. After that, assistance for purchase of working tools is 23.33%, marriage benefit- 19.33%, death benefit- 18.66%. 15.33% of respondents get assistance for their children education which is briefly discussed in table-1. Similarly in funeral assistance, maternity benefit and RPL& skill development training 8.66%, 7.33% and 3.33% respondents get benefits respectively.

c. REGRESSION ANALYSIS

This regression analysis was carried out to express the labour welfare measures in generating the job satisfaction of the construction workers. In this study the multiple regression analyses was used to assess the impact of different welfare measures on the job satisfaction of the employees.



Table-4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.923 ^a	.852	.848	.194	1.841

a. Predictors: (Constant), Recognition of prior Learning and skill development training, Maternity Benefits, Marriage Benefits, Financial Assistance for children education, Assistance For Purchase of Safety Equipment, Death Benefit, Funeral Assistance, Assistance for purchase of working tools, Assistance for purchase of Bicycle
 b. Dependent Variable: Job Satisfaction

The table-4 shows the model summary and overall fit statistics. In which R denotes the correlation between observed and predicted values of the dependent variable. The value of R ranges from -1 and 1. Small values indicate that the model does not fit the data well. In this case, R = .923 which is good fit of the model. We find that the adjusted R² of the model is 0.848 with the R² = .852 that means that the multiple regression explains 85.2 percent of the variance in the data.

Table-5 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	62.799	9	6.978	186.198	.000 ^b
1 Residual	10.868	290	.037		
Total	73.667	299			

a. Dependent Variable: Job Satisfaction
 b. Predictors: (Constant), Recognition of prior Learning and skill development training, Maternity Benefits, Marriage Benefits, Financial Assistance for children education, Assistance For Purchase of Safety Equipment, Death Benefit, Funeral Assistance, Assistance for purchase of working tools, Assistance for purchase of Bicycle

The above table-5 shows the F-test .The F-test statistic is the regression mean square divided by the residual mean square. An F-test in multiple regression compares the fits of different linear models. The P value for the F-test of overall significance test is less than the significance level, the null-hypothesis can be rejected. The dependent variable job satisfaction was regresses on predicting variable of - recognition of prior Learning and skill development training, Maternity Benefits, Marriage Benefits, Financial Assistance for children education, Assistance For Purchase of Safety Equipment, Death Benefit, Funeral Assistance, Assistance for purchase of working tools, Assistance for purchase of Bicycle. The independent variables significantly predict the job satisfaction of the respondents, F (9,290) = 186.198, P< 0.001 which indicates that factors under study have a significant impact on job satisfaction of the respondents.

Table-5 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.079	.016		4.810	.000
	Death Benefit	.315	.031	.247	10.067	.000
	Funeral Assistance	.117	.042	.066	2.766	.006
	Assistance For Purchase of Safety Equipment	.253	.031	.226	8.273	.000
	Financial Assistance for children education	.189	.034	.137	5.606	.000



Maternity Benefits	.029	.045	.015	.646	.519
Marriage Benefits	.153	.031	.122	4.945	.000
Assistance for purchase of working tools	.177	.029	.151	6.022	.000
Assistance for purchase of Bicycle	.494	.034	.499	14.737	.000
Recognition of prior Learning and skill development training	.110	.063	.040	1.738	.083

a. Dependent Variable: Job Satisfaction

In the above table, the analysis shows that Death Benefit had a positive effect on job satisfaction of ($\beta = 0.247$, $t = 10.067$, $p < 0.001$). It means those workers who avail the death benefit, will increase 24.7% of their job satisfaction and shows 1% level of significance. It shows that there is a positive impact on dependent and independent variable. Similarly the other benefits like, Funeral Assistance, Assistance For Purchase of Safety Equipment, Financial Assistance for children education, Marriage Benefits, Assistance for purchase of working tools, and Assistance for purchase of Bicycle are significant at 1% level; but increase in percentage of job satisfaction is different for different welfare measures. The analysis shows that Funeral assistance had a positive effect on job satisfaction ($\beta = 0.066$, $t = 2.766$, $p = 0.006$). It shows that when the registered workers get funeral assistance then job satisfaction of the workers increased by 6.6 %, for Purchase of Safety Equipment- 22.6%, for Assistance for children education- 13.7%, for Marriage Benefits- 12.2%, for purchase of working tools- 15.1%; and for purchase of bicycle- 49.9%. From the coefficient table it shows that assistance for purchase of bicycle has more impact on job satisfaction on the respondents. In case of Recognition of prior Learning and skill development training the significance level is 10% ($\beta = 0.040$, $t = 1.738$, $p = 0.083$). Under this benefit only 10 respondents avail this training according to table-3 and for which 4% increase in job satisfaction. In case of maternity benefit ($\beta = 0.015$, $t = 0.646$, $p = 0.519$) there is no significance between dependent and independent variables.

From the above multiple regression analysis it is shown that maximum independent variables of different benefits have positive impact on dependent variable. So in this case the null hypothesis is rejected and the alternative hypothesis is accepted. Assistance for purchase of bicycle, is the predictor variable which has the highest number of beneficiary in the study area avail 49.66%.

CONCLUSION

According to the results of multiple regression analysis, it was found that welfare facilities positively related with job satisfaction of the construction workers. The findings of this research study shall be very important on the theoretical as well as practical scenario. The findings of the study are important to improve job satisfaction of the construction workers in the construction sites. The apparent output of labour welfare measures are as follows: Sustainable livelihood, Improves physical & mental health, Improves standard of living, Increases Commitment towards work, Increases work motivation, Healthiness and security measures, Economic independence, Educational improvement of children. Majority of respondents believed that welfare facilities implementation increase motivation and productivity. Accordingly to this study welfare facilities positively correlated with job satisfaction of the employees. Future studies could discover other critical work provision necessity dimensions about construction sector. Moreover, upcoming research could examine the influence of workers satisfaction on promotion and growth of the construction sector.

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ASPECTS OF FORTH BHAVA

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ABSTRACT

This study did under the title of 'The fourth bhava is a review' is exceptionally valuable to be aware of house, vehicle, mother, property, training in one's life; with this, it was finished to be aware exhaustively and to be useful in doing a lot more examinations. The speculation of the review is to make and affirm the standards for the investigation of 'fourth sin' and to affirm that the impact of the planets Moon, Mercury and Venus, which are considered as the planets for the review, is available in the horoscopes.

KEYWORDS- Bhava, Lagna, Rahu, Kalatra Sthana, Bhagya Sthana

I. INTRODUCTION

In the cosmic power, astrology can be said to be a combination of astronomy, mathematics and spirituality. Looking at when astrology was consulted, astrology was used to mark the day of invasion of nations, coronation of kings and medical matters. Later it is said that astrology was used only for the royal family.

That is what all our people followed later on. In India, astrology was based on the stars and zodiac signs in the sky. Later it developed to the extent that future results can be seen with individual birth horoscopes. Ancient astrological hymns, venbhas, books of Siddhas and northern astrological books help guide astrologers.

And they have their own astrologers. We get astrological knowledge through them. Vedic Astrology is considered as the fifth and primary Vedic branch. In astrology, the benefit is given by a few categories. They are Arudam, Vastu, Parrot Astrology, Nadi, Palmistry, Numerical Astrology, Name Astrology, KP Astrology, Genetic Astrology and many more are growing nowadays.

Astrology and astrology are not separate sciences but they are interrelated. In today's world we think of astronomy as a practical science and astrology as a theory and analysis without any scientific connection. Astrology and Astrology have been revered and followed by the people who originated in India more than 7000 years ago.

In fact, astronomy describes the position of stars and planets in our solar system, galaxies and the entire universe. Astrology is a scientific statement that talks about how the positions of the planets in our solar system will affect all human beings at what time in our life journey. Astrology is an excellent mathematical method of accurate calculation to know the desired result of the country and horoscope through planets, rasi and stars, to determine the future events and to know the future events. They predicted future events based on nature and visible planets.

II. ASTROLOGY – SPIRITUALITY – SCIENCE

The word astrology is derived from the Sanskrit word Jyotish. Indian Astrology is commonly known as Vedic Astrology. Astrology is a belief that the future can be predicted based on the movements of the planets. A large number of people living in many parts of the world believe in this. Taking the time of birth of a child and calculating the position of Navagrahas at that time is called Jataka. The baby's rasi, nakshatra and grammar are indicated by the position of navagrahas.

III. FORTH BHAVA PREDICTION RULES

Rule No.1

Subagrahas are associated with 4th Bhava

Rule No.2

4th Bavadhipathi, Rulership, Ascendant.

Rule No.3

Uchha, Neechha, Vagragrahas are associated with 4th Bhava

Rule No.4

Planets Moon, Mercury and Venus are associated with 4th Bhava



IV.HOROSCOPE TABLES

Example Horoscope : 01

Date of Birth : 19.08.1994 Time of Birth : 010.20 PM
 Place of Birth : Rameshwaram Lagna : Aries
 Signs : Taurus Star : Karthiga - 3
 DasaBhukthi : Moon Dasa 02 Years 00 Month 24 Days

	LAGNA KETU		MARS
SATURN	RASI		
MOON			MERCURY SUN
		JUPITER RAGU	VENUS

	MOON SUN	RAGU	MERCURY VENUS
JUPITER SATURN	NAVAMSA		
			LAGNA
MARS	KETU		

Rules Applied in Horoscope Table

• As the 7th aspect of study No. 1, Valarpraisandra is aspecting the 4th sin, the Jataka is living in a very good condition with own property, vehicle, etc. And he was growing up in his mother's embrace. He is adept at playing various musical instruments. Jataka's wife is very beautiful, loving and kind. He is the highest earner in the county.

Example Horoscope : 02

Date of Birth : 04.03.1994 Time of Birth : 11.25 AM
 Place of Birth : Manapparai Lagna : Taurus
 Signs : Scorpio Star : Anusha 4
 DasaBhukthi : Saturn Dasa 03 Years 09 Month 26 Days

VENUS		LAGNA KETU	
MARS SUN SATURN	RASI		
MERCURY			
	RAGU MOON	JUPITER	

SUN	JUPITER		LAGNA
KETU	NAVAMSA		VENUS
SATURN			RAGU
	MOON MARS		MERCURY

Rules Applied in Horoscope Table:

• As per Study No. 3 the 4th Bhava is aspected by 8th lord Guru and 12th lord Mars so the Jataka has sold his father's property and used it for treatment.



WOMEN IN THE FAMILY: CHANGING DYNAMICS AND PERSPECTIVES

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INTRODUCTION

This document summarizes the complex and changing position of women in the home. Women have moved beyond home duties due to societal, economic, and cultural changes. This study examines the historical backdrop of women's household duties, underlining traditional expectations and societal conventions.

Education, employment, and legislation have changed women's family dynamics, as the study examines. It examines women's dual roles as caregivers and professionals, highlighting their problems and potential.

Additionally, the article examines the intersections of gender with other social categories including race, class, and ethnicity to better comprehend women's unique familial experiences. It also examines how men challenge gender roles to create more fair families.

This study analyzes women's role in the changing family unit. It illuminates the ongoing attempts to establish gender equality in the family by exploring historical precedents and present trends, emphasizing the different contributions of women in molding society.

Family dynamics underpin cultural, social, and economic systems. This rich tapestry centers on women, whose family roles have changed over time. Women were traditionally relegated to childcare and homemaking. However, improved educational possibilities, changing economic landscapes, and changing cultural attitudes transformed society in the latter half of the 20th century.

This study examines the diverse role of women in the family, tracing their historical roots and underlining the catalytic forces that have shifted the paradigm. The study examines how societal expectations, legislative developments, and individual decisions have affected women's family roles today.

As more women become caretakers and professionals, the problems and potential of this duality become apparent. Gender intersects with race, class, and ethnicity, complicating these experiences. This research explores these complex layers to reveal women's varied responsibilities in different families.

This study also seeks to understand family dynamics holistically by acknowledging men's transformative potential to challenge and reshape gender roles. We examine historical and present patterns to explain family gender equality efforts and emphasize the need to embrace and appreciate women's unique contributions to society. This inquiry contributes to family studies research and offers politicians, educators, and individuals seeking more fair and inclusive family systems practical insights.

OBJECTIVES

The goals of a study on women's family roles and issues depend on its focus and scope. However, researchers may consider these general objectives:

Explore Historical viewpoints: Examine historical viewpoints on women's roles in the home to see how societal conventions have changed.

Assess women's roles in modern families, including gender roles, division of labor, and decision-making.

To Identify Challenges Faced by Women: Document gender-based expectations, limited decision-making capacity, and unequal duty distribution in the family.



The Impact of Societal Changes: Examine how cultural transformations, economic advancements, and legislative reforms affect women's responsibilities and challenges in the household.

To Explore Intersectionality: Examine how race, class, ethnicity, and socioeconomic status affect women's experiences and challenges in different families.

To Assess Education and Career Opportunities: Examine how education and career opportunities affect women's responsibilities and autonomy in the home, contributing to or challenging traditional gender norms.

To Highlight Women's Contributions Beyond the Family: Examine women's diverse roles as professionals, community leaders, educators, and social change activists.

Explore how women handle family issues and find coping methods and resilience elements that empower them.

The Intersection of Work and Family Life: Examine the problems and opportunities women face in balancing work and family life, examining the effects on their well-being and family dynamics.

To Propose Remedial Measures: Based on the findings, suggest ways to improve women's roles in the household. This may include policy, educational, and community interventions.

Provide insights and perspectives on women's roles in the family to contribute to academic discourse on gender studies, family dynamics, and social sciences.

To Raise Awareness and Promote Advocacy: Challenge gender-based norms and raise awareness of family women's issues.

These objectives enable a complete examination on women's family roles and issues. Researchers can adapt these aims to their study's goals.

METHODOLOGY

This study uses secondary data.

LITERATURE REVIEW

This article examines 15 years of study on four elements that affect women's career continuity: husband's attitude toward his wife's paid employment, financial considerations, family obligations, and wife's personality traits. This review addresses career counselor challenges and offers job-related techniques to help clients achieve this balance. Women's capacity to combine family and profession will be crucial to their success and longevity in the workforce [1].

This study examines how women's present role choices, role fulfillment, and self-esteem affect their perceptions of their mothers' role choices and satisfaction and their previous relationship with their moms. Interviews and self-report inventories were performed by 67 married preschool mothers. The results showed that women's primary role decisions of career, non-career work, or homemaking were influenced by their mothers' messages. Women at home and career women reported higher decision-making power than non-career working women. A caring and accepting relationship with the mother, with low antagonism and psychological control, significantly improved women's self-esteem and role fulfillment ($p < .05$). However, retrospective reports of mothers' roles and role satisfaction did not affect women's self-esteem or role satisfaction [2].

Previous research on wives' economic resources and marital stability has used four viewpoints. This article evaluates them. These hypotheses were investigated using event history methods and 1980–1997 panel data for 1,704 Marital Instability Over the Life Course study participants. Wives' economic resources were measured by cash income and proportion of family income. The odds of divorce were highest when wives contributed 40% to 50% of the household income, forming an inverted U-shaped curve. In dollars, spouses' income was positively, linearly associated with divorce odds. These findings strongest support an equal dependency perspective, which holds that economic dependence and obligation affect marital stability [3].

Especially in dowry situations, Indian mothers-in-law are legally liable for abuse against their daughters. This paper examines whether sociological, psychodynamic, and feminist explanations are sufficient and argues that policy and research must include deeper understandings of the relationship between violence, abuse, and the continuum of everyday power and control in middle-class Indian households to protect women from abuse. Importantly, policy and research must consider the socio-cultural desire for sons. Daughters are inferior, but sons' mothers are elevated. Even ignoring socialization into traditional gender roles, this fosters a



tight attachment between mothers and sons that produces conflict between mothers- and daughters-in-law once boys marry. Patrilocality, where boys stay with their parents after marriage and married women join their spouses at their in-laws' home, complicates these tensions. Thus, mothers-in-law, having finally gained authority, frequently have a stake in maintaining control over their daughters-in-law. This culturally distinctive patriarchal bargain has substantial psychological and gender inequality ramifications for Indian society [4].

This article addresses gender in disability caregiving based on a qualitative study of families of disabled children. Findings show that caring has at least three meanings: (a) "caring for," which refers to caregiving work, (b) "caring about," which refers to love, and (c) "the extended caring role," when mothers of disabled children care for a broader societal issue. Traditional disability family studies and women's current status are explored in light of the findings, which imply that gender still determines care obligations [5].

A survey in Lahore and Bahawalpur found that 57% of mother-in-law wanted more children, 66% of sons loved mothers, and 62% of mothers controlled home money. This study found that 29 (58%) Lahore families had 0-2 children, while 14 (28%) Bahawalpur families did. In Bahawalpur, 23 (46%) mother-in-laws preferred their daughter-in-law to have more children, compared to 34 (68%) in Lahore ($p=0.02$). In Bahawalpur, 33 (66%) and in LHR 34 (68%) mother-in-laws believed having more children will harm their daughter-in-law. Mother-in-law's desire for more grandkids has a substantial inverse effect on her daughter-in-law's family size ($p=0.4$). Most mother-in-laws recognized more children meant poorer care. Most mother-in-laws control the household budget, and their son favored them [6].

Mother-daughter relationships are unique and crucial throughout life. How adult daughters build and perform the daughtering role is understudied. This study examines how daughters discuss daughtering and their social role. The findings show how daughters place themselves in families and society. This study contains 33 adult daughter interviews about their mothers. We explore how daughters, as role players, set role expectations and evaluate their performance. Respect, protection, mothering, and connection were found to be good daughtering roles. Daughters evaluate themselves based on these role expectations, according to our findings. [7].

Using household fixed effects, we compare the participation and time utilization of married and unmarried women ages 15 to 60 in a home. Our sample includes unmarried daughters, daughters-in-law, and mother-in-laws. We compare only the unmarried daughters and daughters-in-law because the mother-in-law is usually older. Our reference group for married women in the household is the unmarried daughter of similar age and education. It's unclear why the married woman or daughter-in-law wouldn't work when other females of similar age and education can take care of the children and other household responsibilities. Our hypothesis is that domestic activity and caregiving time variations between these women are linked to their home status and hierarchy, depending on age, education, and other factors [8].

Great apes, our closest relatives, live longer and mature later than most mammals, and modern humans may live longer. Evolutionary life-history theory explains cross-species differences and covariation. That supports the idea that grandmothers' unique function caused the first widely successful Homo species to move from an ape-like ancestral pattern to one more like ours. This idea links four distinct human life histories: potential longevity, late maturity, midlife menopause, and early weaning with next offspring created before the previous newborn can feed itself. After discussing the problem, I use modern humans and chimpanzees to represent genus Homo and australopithecines, respectively, to focus on two corollaries of this grandmother hypothesis: 1) ancestral age-specific fertility declines persisted in our genus, and 2) physiological performance slowed down. The sparse data show parallels in age-specific fertility decrease and differences in somatic durability, supporting the idea that ancient grandmothers' "reproductive" activity promoted longevity in our genus [9].

Demographic and societal developments create micro-level and internal structural factors that affect caregiving in elder families. Much of the caregiving research on aging has concentrated on traditional family structure, thus macro-level changes have received little attention. Contemporary culture is adopting diverse family arrangements, making the nuclear family model rarer. Relatives provide most elder care, though roles vary by family structure. Both conventional and pluralistic families struggle to meet the care demands of their oldest members, putting some older persons at danger. Family risk and resilience in caring for aging relatives need further study, especially in pluralistic family life models [10].

Among other reasons, 'commitment to family responsibility' and 'lack of gender sensitive policies by the employer' hinder women's career advancement to senior positions. Family duty affects women professionals' growth, according to senior and middle-level professionals more than junior professionals. Women professionals' career choices are heavily influenced by family. Family responsibilities is usually assigned to the female spouse. Professional women agree that children's duty limits their advancement. They feel they can't reach their full potential and sometimes have to sacrifice their careers for family. They also think putting career before family leads to social rejection, and at the middle of their career, the need to comply to society norms may be greater.



The research shows that women professionals expect organizations to help them achieve work-life balance and career advancement. A large number of respondents choose flexible working hours, daycare, emergency care for children and seniors, non-work commitment support, wellness, and personal development programs. Half of women professionals consider "flexibility in work location" (telecommuting) as a support option. Middle and junior-level workers need these work-life accommodations more than seniors [11].

Americans are divided on family. Most think the "American family" is struggling. They may list the facts: spouses and couples are divorcing, millions of children being raised by their moms, and traditional values are crumbling. Americans score the "American family" poorly. Ironically, most think their family is fine. Americans score their families at 3.5 or higher on traits like caring, loving, always ready to help, enjoyable to be with, emotional support, and close. 7/10 Americans feel their families bring them the most joy [12].

DAUGHTER ROLE IN FAMILY

DAUGHTERS' ROLES CHANGE THROUGHOUT TIME and are shaped by cultural, societal, and individual influences. Daughters were traditionally expected to nurture, care for, and maintain family relationships. The position of daughters in modern families has changed due to societal developments, gender standards, and individual agency. This evolution has many aspects:

Daughters are traditionally nurturers, caring for younger siblings and contributing to family well-being. In many cases, daughters balance caregiving with personal and career goals.

Daughters' educational and career goals are increasingly valued and supported in modern culture. Daughters challenge gender conventions and help their family financially by going to college and working.

Changemaker: Daughters challenge and change gender roles and society expectations. The pursuit of education, employment, and independence changes perspectives of women's skills and duties within and outside the home.

Daughters' empathy, communication, and support strengthen family relationships. Emotional intelligence and relationship abilities help families stay together.

Cultural Transmission: Daughters may help preserve and transmit culture. They preserve family heritage by continuing family traditions, values, and cultural practises.

The changing role of daughters stresses autonomy and individuality. Modern girls can choose marriage, career, and lifestyle based on their interests.

Daughters and partners share parenting as they become mothers. This shared child-rearing responsibility indicates shifting family dynamics and more egalitarian parenting.

Daughters often push for gender equality, especially in modern times. They battle stereotypes, advocate for equal chances, and help society value women's strengths.

Finally, daughters now have a more diverse and empowered position in the household. Daughters now balance household expectations, societal developments, and personal aspirations, enriching family life and society.

WIFE ROLE

The position of a wife in the household has changed greatly over time. Traditional expectations prioritized homemaking and husband support, but modern dynamics accept wives' broad and developing roles in households. The wife's role includes numerous parts:

Partner and Equal: Modern wives are partners and equals to their husbands. Strong and resilient families depend on shared decision-making, mutual support, and collaboration.

Homemaker and Caregiver: Modern ladies integrate homemaking with personal and professional goals. Domestic duties are routinely addressed in modern relationships.

Many wives pursue employment and professional goals to support the family financially. This change undermines gender roles and makes financial independence a marriage obligation.



Emotional Support: Wives provide support, understanding, and a nurturing environment. Emotional intelligence and good communication are essential for family harmony.

Parenting Partner: Wives and husbands often make decisions, nurture, and guide their children together. This collaborative parenting style breaks with gendered child-rearing.

Individual Pursuits: Modern spouses are encouraged to pursue their education, career, and personal development goals. Personal development and family obligations are prioritized.

Advocate for Equality: Wives often promote gender equality in their homes and society. It may involve challenging preconceptions, encouraging equal opportunities, and cultivating respect and equity.

Crisis Manager and Problem Solver: Wives generally handle family crises. Their resilience and capacity to solve problems strengthens the family.

Cultural and Social Navigator: Wives may help family members assimilate into social networks, traditions, and community life.

Life-Long Learner and Growth Facilitator: Wives encourage a family-wide learning and growth perspective. This focus on development makes the family more adaptable and vital.

The conventional wife role has expanded to include a variety of obligations and opportunities. Modern marriages are more egalitarian, with the wife's position determined by shared beliefs, mutual respect, and personal and communal progress.

MOTHER'S FAMILY ROLE

A mother's job is vital and multifaceted, covering many responsibilities that help the family thrive. A mother's role might vary by culture and circumstance, but several fundamentals are common:

Nurturer and Caregiver: Mothers must nurture their children. This includes feeding, clothing, and providing a safe environment, as well as emotional support and direction.

Educational Support: Mothers help their children learn by promoting intellectual curiosity, nurturing a love of learning, and helping with schoolwork. Their children's education is supported from early childhood to puberty.

Mothers love, understand, and support their families. Their loving environment promotes emotional well-being and helps family members overcome problems.

Health and Well-Being: Mothers often manage family health. Medical appointments, a balanced diet, and good living habits are included.

Domestic Management: Mothers traditionally plan meals, organize, and supervise home duties. Modern family relations often involve shared obligations.

Mothers and fathers or partners share parenting duties. Make decisions together, discipline children, and provide a healthy environment for their growth.

Cultural Transmission: Mothers pass on cultural values, customs, and beliefs to their children. They contribute to family culture and may help preserve and carry on traditions.

Career and Personal Balancing Act: Modern mothers mix family duties with careers and hobbies. This takes good time management and a family that recognizes the mother's goals.

Advocate for Children: Mothers typically fight for their children's rights and needs. This advocacy covers education, society, and health.

Life Skills: Mothers help their children learn problem-solving, communication, empathy, and resilience. These skills are essential to their social and personal growth.



Crisis Management: Mothers generally lead family crisis management. Family resilience is strengthened by their emotional support and practical solutions.

In conclusion, a mother's function in the family is complicated and dynamic, involving caring, educational support, emotional nurture, and family administration. Modern attitudes value mothers' different roles in families and emphasize teamwork and shared responsibility.

MOTHER-IN-LAW ROLE

A mother-in-law's function in a family depends on cultural conventions, personality, and family dynamics. In many cultures, the mother-in-law is a powerful player in family concerns. Modern views recognize a more nuanced and diversified collection of mother-in-law duties, including:

Family Stewardship: In certain families, the mother-in-law acts as matriarch and advises on family concerns. This function frequently entails maintaining family customs.

In modern times, the mother-in-law may mentor and assist her children-in-law. This can include advise on family obligations, relationships, and sharing experiences to ease family integration.

Childcare and Domestic Assistance: Some mother-in-laws help with childcare and housework. This support can aid younger family members, especially during busy or difficult times.

Cultural Transmission: Mother-in-laws can pass on family values, traditions, and rituals like mothers. They may help carry on family traditions and preserve cultural identity.

Mediator and Peacemaker: A mother-in-law may mediate family disputes. Her perspective and expertise can help resolve family disagreements and promote unity.

A mother-in-law must respect her children and their spouses' liberty in modern families. This includes respecting their independence, supporting their choices, and not interfering in their personal lives.

Emotional Support: Mother-in-laws can support their children and husbands. This includes listening, comforting, and promoting a sense of belonging in the extended family.

As a grandmother, the mother-in-law may interact with her grandchildren. This can include spending time with them, giving advice, and improving their well-being.

Changes in society are affecting the position of a mother-in-law in modern families. In modern family configurations, many mother-in-laws recognize their children's and spouses' different roles and responsibilities.

It is important to remember that mother-in-law duties differ depending on relationships, culture, and personal preferences. Family dynamics thrive on open communication, mutual respect, and adaptability.

DAUGHTER-LAW ROLE

Daughters-in-law play different roles in families depending on culture, society, and individuality. Daughters-in-law are usually newcomers who marry into their husbands' families. Cultural and community expectations and obligations for this function may vary. Here are some general daughter-in-law duties:

Bridge between Families

Daughter-in-laws often bridge the gap between their natal family and their husband's family. They can help strengthen the two families' bonds.

Building Relationships

Strong in-law ties are valued. Bonding with parents-in-law, siblings-in-law, and other extended family members. This fosters family harmony.

In Support of Husband

Daughter-in-laws must emotionally and domestically support their husbands. This typically requires teamwork to solve problems and make decisions.



Looking after kids

Daughter-in-laws often raise children as mothers. This includes caring for, teaching, and protecting the family's children.

Household duties

Daughters-in-law are traditionally expected to cook, clean, and manage the household. Changing roles mean many families now share responsibilities more evenly.

Family Tradition Adjustment

Daughter-in-laws must adjust to and participate in family rituals. This includes festivals, family celebrations, and cultural respect.

Career and Personal Goals

The modern daughter-in-law recognizes women's career and personal goals. Some families and cultures support career aspirations.

Balance Autonomy and Integration:

Maintaining independence while assimilating into the family is difficult. The daughter-in-laws may have to balance expectations with their own ideals.

As societies change, these expectations and roles may shift. Cultural standards, family values, and individuals affect the daughter-in-law's role. Modern families allow for more individual expression and choice due to their flexibility and egalitarianism.

GRAND MOTHER ROLE

Grandmothers have particular cultural, emotional, and practical roles. Grandmothers serve many functions that help the family thrive. Common grandmother roles:

Grandmothers offer knowledge and life lessons. They teach younger generations about culture and family through stories, lessons, and observations.

Grandmothers provide emotional support and family security. When situations are tough, their stable and compassionate presence might help.

Many grandparents help with childcare. They can babysit, take up kids from school, and aid parents, relieving the younger generation.

Cultural and Family Traditions: Grandmothers typically preserve and carry on family practices. They may help the family maintain continuity and identity.

Grandmothers typically pass along family recipes and cooking traditions using their culinary skills. Meal preparation brings the family together and brings memories.

Grandmothers' stories help grandkids learn and imagine. They may tell family stories, cultural tales, and values.

Mediator and Peacemaker: Grandmothers can soothe and reconcile family conflicts. Their impartiality and experience can ease tensions.

Building close ties with grandkids is important for grandparents. Quality time, activity, and love improve family well-being.

Grandmothers help family members of different ages bond. They help family members appreciate and learn from one other.

Educational Support: Grandmothers can help with homework or share their skills. Their involvement in grandchildren's education promotes lifelong learning.

Some grandmothers provide spiritual and moral counsel. They may pass on religion, ethics, and morality to their grandkids.

Grandmothers typically make celebrations and festivities joyful. They help create memorable moments by organizing family gatherings and cultural events.



Grandmothers enrich and stabilize families with their many functions. Cultural conventions, family relationships, and personal preferences might determine roles.

OTHER FEMALE ROLES

Women are crucial to society beyond family. Women's responsibilities have changed over time, and modern communities respect their many contributions. Additional female roles:

Teachers, professors, and administrators: Women make major contributions to education. They affect early childhood and higher education.

Women doctors, nurses, researchers, and administrators are prominent in healthcare. Their expertise is vital to public health.

Business, political, and non-profit leaders are women. They influence policy, decision-making, and institution direction.

Women entrepreneurs: Many women start and run enterprises in many fields. They innovate, create, and are resilient in business.

Scientists and Researchers: Women advance science. They improve civilization through biology, chemistry, physics, and technology.

Women are vital to the technology industry as software developers, engineers, data scientists, and executives. Their innovations shape the digital world.

Women artists and creatives include musicians, writers, painters, filmmakers, and entertainers. They enrich culture with distinct perspectives and inventiveness.

Social Workers and activists: Women social workers, counselors, and activists address poverty, inequality, and mental health. They advance social justice and assist vulnerable groups.

Women lawyers, judges, legal experts, and advocates help the legal system work fairly and effectively.

Sports Professionals: Women flourish as athletes, coaches, and administrators. They promote health and fight sports gender stereotypes.

Environmentalists: Women safeguard and conserve the environment. Environmental scientists, activists, and legislators fight climate change and promote sustainability.

Journalism and Media Professionals: Women journalists, editors, and media professionals shape public debate and offer varied viewpoints on current events.

Women philanthropists and humanitarians donate time, resources, and activism to address social concerns and better communities.

Military and Defense: Women are soldiers, officers, and strategists. They boost national security.

Diplomats in International Relations: Women represent their nations and promote global understanding in diplomacy.

These professions demonstrate the diverse and important contributions of women across sectors, emphasizing the need for gender equality in all facets of society.

FAMILY ISSUES FOR WOMEN

Family dynamics vary significantly, and many societies have made improvements, yet women may still face problems. Cultural, societal, economic, and individual factors might affect these issues, which are not universal. Common family issues for women include:

Traditional gender role assumptions may limit women to caregiving and homemaking. These assumptions can limit women's personal and professional growth.

Unfair Distribution of Household Responsibilities: Women do more cooking, cleaning, and childcare. The unequal distribution of home responsibilities can affect women's education and professions.



Limited Decision-Making ability: In crucial family matters, women may have limited decision-making ability. This loss of autonomy can hinder their ability to control their lives and their children's.

Economic Dependence: Women without financial freedom are prone to economic dependence on a spouse or partner. Financial reliance might limit their life choices and ability to leave abusive situations.

Lack of Education: Some countries restrict women's education, limiting their personal and professional advancement. Without education, women may struggle to break gender roles.

Reproductive and Maternal Health Issues: Women may have trouble getting healthcare, family planning, and maternal care. These issues can harm women and their families.

Violence and Abuse: Some women face domestic violence, emotional abuse, and coercive control. Fear and stigma can discourage women from getting help and leaving violent relationships.

Cultural and Religious Constraints: Cultural and religious standards and expectations may restrict women's behavior, restricting their household liberty. This can impair life, education, and relationship decisions.

Pressure to Conform: Beauty, body image, and behavior norms may pressure women to conform. Pressure can cause low self-esteem and mental health difficulties.

Work-Life Balance: Women struggle to balance work and family. Pressure to do both roles well can cause stress and inadequacy.

Parenting Challenges: Mothers may struggle to balance parenting with other obligations. Society's "perfect mother" expectations and work, childcare, and personal well-being issues are included.

Heritage and Property Rights: In some cultures, women may struggle to inherit family assets and become financially independent.

Social pressure and fear of condemnation may keep women in unpleasant or abusive marriages in stigmatized societies.

Recognizing these barriers and working for supportive and fair family contexts where women can thrive and make choices that support their goals and well-being is vital. Society and policy can help solve these issues and promote gender equality in families.

REMEDIES

Individual, societal, and policy reforms are needed to address family women's issues. Some ways to strengthen women in the home and promote gender equality:

School and Awareness: Encourage gender stereotype-busting initiatives that promote women's equal chances in school, careers, and personal growth.

Legal Reforms: Promote and implement family law reforms that protect women's rights, including domestic violence, property rights, and marriage. Enforce legislation to protect women from discrimination and abuse.

Economics: Promote women's economic empowerment through education, vocational training, and entrepreneurship. Support equal pay for equal labor policies.

Reproductive and maternal health services should be available to women. Address healthcare hurdles and raise women's health awareness.

Family Planning and Reproductive Rights: Help women make informed life and body choices. Provide contraception and sexual education.

Parental Leave Policies: Support inclusive parental leave policies that help women and men balance work and family. This can help distribute caregiving chores more evenly.

Promoting Work-Life Balance: Encourage employers to embrace work-life balance, flexible working, and family-friendly policies. This can assist women balance work and family.



Counseling and Support Services: Help women with domestic violence, emotional abuse, and mental health difficulties. Provide helplines and shelters.

Community Engagement: Discuss gender equality and oppose negative cultural traditions. Promote women's rights and men's gender equality advocacy in the community.

Promoting Gender-Equal Parenting: Challenge gender roles to promote shared parenting. This involves supporting active fatherhood and appreciating both parents' role in child rearing.

Skills-Building Programs: Help women improve their financial literacy, entrepreneurial, and professional skills. This can boost economic independence.

Mentorship Programs: Connect women with mentors to help them navigate educational and professional routes.

Promote Women's Leadership: Help women lead in politics, business, and community organizations. Systemic change requires leadership representation.

Media Representation: Challenge harmful preconceptions and promote truthful and uplifting media portrayals of women.

Inclusive Policies: Promote inclusive policies that address the needs and concerns of women of varied races, socioeconomic levels, and abilities.

These cures are linked and may require collaboration from individuals, communities, governments, and organizations to generate sustainable change. Systemic challenges and cultural attitudes must be addressed to make the family more fair and helpful for women.

ARE MATRIARCHAL FAMILIES A SOLUTION?

Matriarchal households, where women lead and make decisions, are an alternative to patriarchal families. Although matriarchy has some advantages, family structures' efficiency depends on many aspects, and there is no single solution. Here are some matriarchal family pros and cons:

Advantages

Matriarchal households may prioritize gender equality and balance in decision-making, creating a more egalitarian environment that values all family members.

Empowerment of Women: Matriarchal homes allow women to lead, make decisions, and pursue personal and professional goals without gender-based restraints.

In matriarchal homes, when women are powerful, power relations may change away from patriarchal standards, reducing gender-based violence and abuse.

Diverse Perspectives: Women offer various experiences and viewpoints to decision-making, which may enhance matriarchal families.

Gender stereotypes: Matriarchal households challenge gender stereotypes, giving family members more freedom to determine their roles and duties.

Considerations

Individual and Cultural Variations: Matriarchal families' efficacy depends on personalities, cultures, and family dynamics. What works for one family may not for another.

Balance Power Dynamics: Matriarchal households strive for gender balance, but power dynamics must not be reversed, which could lead to domination and exclusion. Healthy communication and teamwork are crucial.

Acceptance and Resistance: Traditionalists may oppose matriarchal families. Breaking stereotypes and social norms may help you get acceptance.



Regardless of family arrangement, shared responsibility and effective communication are essential. Everyone in matriarchal homes should cooperate and make decisions together.

Families should respect individual preferences. Traditional structures may suit some family members, while egalitarian ones may suit others.

Support Systems: Like any family, matriarchal families benefit from strong extended family, friend, and community support. Building a support network can help with issues.

In conclusion, matriarchal families can challenge gender stereotypes and promote equality, but any family structure relies on communication, mutual respect, and individual needs and preferences. Family dynamics require flexibility and knowledge of different ways families can thrive.

CONCLUSION

In conclusion, family roles for women are varied, diverse, and changing. Women, once confined to household duties, now contribute to family, community, and the workplace. They struggle with gender role expectations, unequal home obligations, and limited decision-making power, highlighting the ongoing quest for gender equality in families.

Education and awareness efforts, legal reforms, economic empowerment, and work-life balance can solve these issues. Recognizing women's unique contributions as educators, healthcare professionals, leaders, and entrepreneurs emphasizes the need for an inclusive and equitable society.

While matriarchal households have benefits, family structures' efficacy depends on individual and cultural factors. Matriarchal families empower women, promote equality, and give various perspectives, but they require careful power dynamics and shared responsibilities.

Creating healthy family situations for women requires individual, cultural, and policy reforms. We may develop families that empower women and improve society by embracing gender equality, challenging traditional norms, and valuing the various contributions of all family members.

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INNOVATIVE LEARNING PATHS: A THEORETICAL APPROACH TO MANPOWER TRAINING FOR LIBRARY PROFESSIONALS IN A TECHNOLOGY DRIVEN ENVIRONMENT

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ABSTRACT

This research paper delves into the realm of innovative learning paths designed to optimize the training of library professionals within the dynamic landscape of a technology driven environment. The theoretical framework expounded in this study addresses the transformative role of library professionals in the digital era and puts forth strategic insights for cultivating indispensable technological competencies. As libraries evolve into hubs of digital information, it becomes imperative to equip library professionals with the requisite skills to navigate, curate, and disseminate information effectively.

The significance of this study lies in its contribution to the ongoing discourse on redefining the role of library professionals in an increasingly digital world. Libraries, once repositories of printed knowledge, are now multifaceted entities that demand proficiency in diverse technologies. This research paper contributes by proposing a theoretical framework that not only identifies essential technological competencies but also outlines innovative learning paths to nurture these skills.

The originality of this study lies in its synthesis of existing literature, theoretical frameworks, and practical insights into a cohesive approach tailored to the unique challenges faced by library professionals. By amalgamating various theoretical perspectives, the study provides a novel framework that transcends traditional training methods. The innovative learning paths proposed include online courses, immersive experiences, and collaborative projects, creating a holistic approach that addresses the multifaceted nature of technological integration in library services.

The outcomes of this study are twofold. Firstly, it underscores the importance of continuous learning and adaptation for library professionals to remain at the forefront of technological advancements. Secondly, the theoretical framework presented serves as a guide for the development and implementation of effective training programs, ensuring library professionals are not just proficient but pioneers in leveraging technology to enhance library services. By fostering a culture of perpetual learning, this research contributes to the sustained relevance and excellence of library professionals in the ever evolving digital landscape.

KEYWORDS: *Manpower Training, Digital Literacy, Continuous Learning, Library Services, Lifelong Learning, Digital Transformation.*

1.0 INTRODUCTION

1.1 Background of the study

The information landscape is undergoing unprecedented transformations propelled by rapid technological advancements. Traditional roles of libraries as static repositories of knowledge have given way to dynamic hubs of digital information and interactive learning. Libraries are not only custodians of books but are now at the forefront of managing and disseminating a vast array of digital resources. The advent of technologies such as artificial intelligence, machine learning, and augmented reality has ushered in a new era, demanding that libraries evolve to meet the expectations of an increasingly digital savvy society.

In this evolving information ecosystem, libraries face the dual challenge of preserving their foundational commitment to information accessibility while navigating the complexities of emerging technologies. The shift towards digital platforms, online resources, and interactive media requires library professionals to possess a diverse set of skills beyond traditional cataloguing and archiving. The demand for tech savvy professionals who can harness the power of technology to enhance library services is more pronounced than ever.



1.2 Purpose of the Study

This research paper is driven by the imperative to address the changing landscape of library services in the digital age. The purpose of the study is to present a theoretical approach to manpower training that responds effectively to the evolving demands placed on library professionals. The central focus is on identifying and implementing innovative learning paths capable of enhancing technological competencies among library personnel.

1.3 The Objective of this study

1. To analyse the current challenges faced by library professionals in adapting to the technological shifts in the information landscape.
2. To develop a comprehensive theoretical framework that aligns with the emerging needs of library professionals in a technology driven environment.
3. To propose innovative learning paths within the theoretical framework, facilitating the acquisition of essential technological competencies for library professionals.

By addressing these objectives, the research aims to provide valuable insights into the development of strategic approaches for manpower training in libraries. It seeks to contribute theoretical foundations that not only acknowledge the challenges posed by technological advancements but also offer practical solutions for empowering library professionals to thrive in this digital era.

2.0 LITERATURE REVIEW

2.1 Evolving Role of Library Professionals

The changing role of library professionals in response to technological developments has been a subject of extensive research. As emphasized by Borgman (2015), the digital age has propelled libraries into dynamic information hubs, necessitating a paradigm shift in the skill set of library professionals. In her work, Borgman highlights the evolving role of librarians from mere custodians of information to active facilitators of knowledge creation and dissemination in a technology driven environment. Additionally, Harris and Dewdney (2017) argue that technology has transformed libraries into collaborative spaces where professionals engage with users in innovative ways, requiring continuous learning to stay abreast of emerging tools and platforms.

To further underscore the importance of continuous learning, Zweizig (2020) points out that the traditional tasks of librarians, such as cataloguing and reference services, now intersect with digital literacy, data management, and information visualization. This evolution demands that library professionals not only acquire new skills but also cultivate a proactive approach to technological advancements.

2.2 Current Trends in Manpower Training

In examining the current trends in manpower training for library professionals, Smith and Thompson (2018) highlight the shift towards personalized and technology driven learning experiences. They argue that successful training programs leverage online platforms, interactive simulations, and virtual collaborations to accommodate diverse learning styles. Smith and Thompson's findings align with the work of Jackson et al. (2019), who emphasize the importance of incorporating hands on experiences and real world projects into training curricula. This trend reflects the recognition that effective training goes beyond traditional classroom settings, embracing experiential learning to enhance practical skills.

Furthermore, Williams and Brown (2021) emphasize the emergence of micro learning modules and just in time training strategies. These approaches aim to provide timely and targeted learning experiences, addressing specific technological challenges encountered by library professionals in their daily tasks. The literature suggests that a blend of formal and informal training methods, incorporating digital resources, webinars, and collaborative platforms, enhances the adaptability of library professionals to the evolving demands of their roles.

2.3 Theoretical Frameworks in Technology Enhanced Learning

In the realm of technology enhanced learning, various theoretical frameworks provide valuable insights for designing innovative learning paths. Siemens' (2004) theory of connectivism, for instance, posits that learning is a networked process, emphasizing the importance of building connections and leveraging collective knowledge. This framework aligns with the collaborative nature of library services in a digital age, advocating for training approaches that foster networking and knowledge sharing among professionals.

Additionally, Garrison and Anderson's (2003) Community of Inquiry model offers a theoretical foundation for the development of collaborative and inquiry based learning paths. This model emphasizes the interplay between cognitive, social, and teaching presences, providing a comprehensive framework for designing training programs that address the multifaceted nature of library professionals' roles in a technology driven environment.



Furthermore, Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) framework integrates technological knowledge with pedagogical and content knowledge. This framework is particularly relevant for designing training programs that not only focus on technological skills but also consider their integration into the broader educational context within libraries.

3.0 THEORETICAL FRAMEWORK

3.1 Technological Competencies for Library Professionals

In the rapidly evolving landscape of library services, technological competencies for library professionals have become pivotal for ensuring the effective integration of technology into their roles. The identification and definition of key technological competencies serve as the foundation for this theoretical framework.

The following competencies are crucial for library professionals operating in a technology driven environment:

- ❖ **Digital Literacy:** Library professionals need to possess a strong foundation in digital literacy, encompassing the ability to navigate digital interfaces, evaluate online information, and utilize digital tools for information retrieval.
- ❖ **Data Management:** Proficiency in handling and managing data is essential, including skills in data curation, data analysis, and understanding data privacy and security considerations.
- ❖ **Information Architecture:** Library professionals should be adept at organizing and structuring digital information to enhance accessibility. This includes knowledge of metadata standards, taxonomy development, and database management.
- ❖ **User Experience (UX) Design:** Understanding the principles of UX design is crucial for creating user friendly interfaces and enhancing the overall experience of library patrons interacting with digital platforms.
- ❖ **Information Retrieval Systems:** Library professionals must be familiar with a range of information retrieval systems, including search engines, databases, and digital repositories, ensuring efficient access to diverse information sources.
- ❖ **Emerging Technologies:** Keeping abreast of emerging technologies, such as artificial intelligence, augmented reality, and block chain, is vital for library professionals to anticipate and adapt to future trends in information services.

This framework recognizes that these technological competencies form the core skill set required for library professionals to navigate the complexities of a technology driven environment.

3.2 Innovative Learning Paths

Building upon the identified technological competencies, this section proposes the development of an innovative theoretical model for learning paths tailored to the unique needs of library professionals. The model integrates various learning paths, leveraging contemporary educational approaches to enhance the technological skills of library professionals.

- ❖ **Online Courses and Webinars:** Leveraging online courses and webinars allows library professionals to engage in self-paced learning, accessing modules that specifically address technological competencies. Platforms like Coursera, edX, and webinars hosted by industry experts provide flexibility in learning.
- ❖ **Immersive Experiences:** Immersive experiences, such as virtual reality (VR) and augmented reality (AR) simulations, offer an innovative approach to hands on learning. These experiences can simulate real world scenarios, allowing library professionals to apply their technological competencies in a risk free environment.
- ❖ **Collaborative Projects:** Engaging in collaborative projects fosters a culture of teamwork and knowledge sharing. Library professionals can work on digital initiatives, such as digitization projects, online exhibitions, or collaborative research, enhancing their practical application of technological competencies.
- ❖ **Mentorship Programs:** Establishing mentorship programs connects library professionals with experienced mentors who guide them in acquiring and applying technological competencies. This personalized approach encourages continuous learning and professional development.
- ❖ **Gamified Learning Platforms:** Gamification of learning introduces an element of fun and competition, motivating library professionals to actively participate in building and refining their technological competencies. Gamified platforms can simulate challenges related to information management and retrieval.
- ❖ **Cross disciplinary Training:** Encouraging cross disciplinary training exposes library professionals to diverse perspectives and skill sets. Collaborative learning with professionals from related fields, such as computer science or data science, enhances the integration of technological competencies within library services.

By integrating these learning paths, the theoretical model aims to create a dynamic and comprehensive approach to training library professionals. This model acknowledges the multifaceted nature of technological competencies and provides a flexible framework adaptable to the evolving landscape of library services in a technology driven environment. The combination of traditional and innovative learning paths ensures a holistic approach to skill development, fostering a tech savvy and adaptive community of library professionals.



4.0 IMPLEMENTATION STRATEGIES: PRACTICAL GUIDELINES

The theoretical framework presented for the innovative learning paths and technological competencies for library professionals requires a thoughtful and strategic implementation plan. This section outlines practical guidelines for the effective execution of the proposed theoretical framework, taking into consideration real world constraints such as budget limitations, time management, and scalability.

4.1. Conduct a Technology Skills Assessment

Before implementing the framework, conduct a comprehensive assessment of the current technological skills of library professionals. This assessment will serve as a baseline for designing targeted training programs.

4.2. Develop a Prioritized Training Roadmap

Prioritize technological competencies based on their relevance and urgency for library professionals. Create a phased roadmap that ensures a systematic and manageable progression of skill development.

4.3. Utilize Existing Resources

Maximize the use of existing resources, such as online learning platforms, open educational resources, and institutional partnerships. Leverage free or low cost courses, webinars, and materials to optimize budget allocation.

4.4. Establish Collaboration with Educational Institutions

Forge partnerships with local universities or online education providers to explore discounted rates for bulk enrolment or collaborative training programs. This can provide cost effective access to quality educational resources.

4.5. Implement Blended Learning Approaches

Blend online courses with in person workshops or seminars to cater to different learning styles. This hybrid approach ensures flexibility while maintaining a level of face-to-face interaction, especially beneficial for practical skill application.

4.6. Leverage Internal Expertise

Identify in-house experts or individuals with advanced technological skills within the organization. Encourage the sharing of knowledge through internal workshops, lunch and learn sessions, or mentorship programs.

4.7. Prioritize High Impact Technologies

Focus training efforts on high impact technologies that align with the organization's strategic goals. This ensures that resources are allocated to areas that will have the most significant positive impact on library services.

4.8. Establish a Continuous Learning Culture

Foster a culture of continuous learning within the organization. Encourage library professionals to dedicate regular time to ongoing professional development, reinforcing the idea that learning is a continuous and integral part of their roles.

4.9. Implement a Recognition and Reward System

Introduce a recognition system that acknowledges the efforts and achievements of library professionals in acquiring and applying technological competencies. This can include certificates, badges, or even professional development opportunities.

4.10. Monitor and Evaluate Progress

Establish key performance indicators (KPIs) to monitor the progress of individual library professionals and the overall effectiveness of the training programs. Regularly evaluate and adjust the training roadmap based on feedback and outcomes.

4.11. Scalability Considerations

Design the implementation plan with scalability in mind. Develop modular training programs that can be easily expanded to accommodate new technologies or changing organizational needs.

4.12. Encourage Peer Learning and Collaboration

Foster a collaborative learning environment where library professionals can share experiences, insights, and challenges. Implement peer-to-peer learning mechanisms to encourage knowledge exchange within the organization.

4.13. Create a Centralized Resource Hub

Develop a centralized digital repository or resource hub where library professionals can access training materials, best practices, and relevant information. This hub serves as a go to place for continuous learning.



4.14. Address Time Constraints with Micro learning

Recognize time constraints faced by library professionals and incorporate micro learning modules. Short, focused modules can be integrated into daily routines, making it easier for individuals to engage in continuous learning without overwhelming schedules.

4.15. Seek External Funding Opportunities

Explore external funding opportunities, grants, or partnerships with government agencies or foundations that support workforce development. External funding can provide additional resources to enhance the scope and quality of training programs.

By adhering to these practical guidelines, organizations can implement the theoretical framework effectively, ensuring that the development of technological competencies among library professionals is not only impactful but also feasible within the constraints of budget, time, and scalability. This strategic approach promotes a sustainable and adaptable training initiative that aligns with the organization's goals and the evolving landscape of library services.

5.0 CONCLUSION

In the midst of the rapidly evolving digital landscape, this theoretical exploration of innovative learning paths for the training of library professionals offers valuable insights into addressing the changing demands of a technology driven environment. The theoretical framework, encompassing key technological competencies and innovative learning paths, holds significant implications for the future development of library professionals. This conclusion summarizes the key findings, discusses their implications, and provides recommendations for further research and practical applications.

5.1 Key Findings

- Evolving Role of Library Professionals:** The review of literature underscores the transformative journey of library professionals from traditional custodians of information to active facilitators of knowledge creation in the digital era. The changing landscape necessitates a shift in skill sets towards digital literacy, data management, and emerging technologies.
- Current Trends in Manpower Training:** The examination of current trends in manpower training reveals a shift towards personalized, technology driven, and experiential learning. The integration of online courses, immersive experiences, and collaborative projects is emerging as a successful strategy to enhance the adaptability and practical skills of library professionals.
- Theoretical Framework:** The theoretical framework presented in this paper outlines key technological competencies essential for library professionals. It also proposes innovative learning paths, including online courses, immersive experiences, collaborative projects, and mentorship programs, to foster the development of these competencies.
- Practical Guidelines for Implementation:** The practical guidelines for implementing the theoretical framework emphasize the importance of strategic planning, resource optimization, and the creation of a continuous learning culture. Scalability considerations, recognition systems, and leveraging internal expertise are integral components of the implementation plan.

5.2 Implications

The implications of this theoretical approach are significant for both the academic discourse on library science and the practical aspects of library services. By embracing the proposed framework, library professionals can adapt to the evolving demands of their roles, ensuring that libraries remain dynamic and responsive in the digital age. The emphasis on continuous learning and the integration of innovative learning paths aligns with the ethos of lifelong learning and professional development.

Furthermore, organizations that implement this framework are likely to witness improved efficiency, enhanced user experiences, and increased relevance in the communities they serve. The strategic acquisition of technological competencies positions library professionals as proactive contributors to the digital transformation of information services.

5.3 Practical Applications

- Professional Development Programs:** Libraries and professional associations can design and implement targeted professional development programs based on the theoretical framework. These programs can be tailored to meet the specific needs of library professionals and facilitate the integration of technological competencies.
- Institutional Policy Development:** Organizations can use the framework to inform the development of institutional policies related to continuous learning and technology adoption. This includes allocating resources, establishing mentorship programs, and creating a conducive environment for skill development.
- Collaborative Initiatives:** Encourage collaborative initiatives among libraries, educational institutions, and technology companies to create a shared ecosystem for learning and skill development. Collaborations can enhance the accessibility of resources and create synergies for addressing common challenges.



In conclusion, this theoretical approach to manpower training for library professionals offers a comprehensive and forward looking strategy to navigate the complexities of a technology driven environment. By implementing the proposed framework and considering the recommendations for further research and practical applications, libraries can cultivate a workforce that is not only proficient in technology but is also poised to lead and innovate in the ever evolving landscape of information services.

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THE PERCEIVED SUITABILITY, ACCEPTABILITY AND DURABILITY OF IMPROVISED EQUIPMENT IN FITNESS EDUCATION

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ABSTRACT

This descriptive study generally aimed to investigate the perceived suitability, acceptability, and durability of the proposed six (6) improvised fitness equipment to address the scarcity of costly equipment detrimental to the delivery of effective teaching learning process. The researcher made use of a validated survey questionnaire administered to student and teacher respondents. Data collected were statistically treated using frequency, percentage, and weighted mean. Analysis of data showed that students and teachers participated in the conduct of this study assessed the six (6) proposed improvised fitness equipment as very suitable, very acceptable, and very durable. Findings of the study support the claim that the six (6) improvised equipment can be considered as alternatives for the limited and costly equipment to reinforce learning and attain educational goals.

INTRODUCTION

The advantages of physical education are massive in number in terms of long term and short-term benefits. But just like other subject areas, teaching physical education is not a bed of rose. PE teachers faced hurdles that hamper the effective delivery of learning.

Tagare (2022) mentioned some problems encountered by the teachers include the transition period or gaps from K-12 to tertiary. Allotment of budget for the purchase of equipment, tools, and facilities essential for the effective teaching of PE is also another issue. The existence but scarcity of these tools and equipment are not proportion to the number of enrollees, thus, shortchanging learning opportunities to learners affecting learning outcomes. These seem to be very trivial to higher institutions which have less regard on the importance of physical education. Investing in the education and development of skills of learners in PE seems to be too expensive for other school managers. Others resort to partnership with other institutions and local government units to address these concerns.

It is in this light that this study looks at ways to address this predicament vis a vis the improvisation of costly fitness equipment. Specifically, this study answers the question “Are the Improved Fitness Education Equipment Good Substitutes in terms of their Suitability, Acceptability and Durability?”

The study covers improvised physical education equipment made from recyclable and cheap materials as possible substitutes to high-end and more expensive P.E. equipment for fitness education. For the purpose of this study, fitness education is considered a specialized area of Physical Education. In teaching fitness education, a Physical Education instructor makes use of high value and expensive equipment that are suited for ensuring that specific areas of the body become fit through exercise and workouts. However, it is sometimes the case that P.E. teachers, due to budget constraints, resort to simulation during fitness education sessions rather than the actual use of said fitness equipment. In effect, equipment even serves as a hindrance to some schools which cannot afford them; thus, the need to look for ways to improve the physical fitness of students through the use of improvised equipment that are affordable by schools, given their tight budgets.

METHOD

This study utilized descriptive method of research to determine the perceived suitability, acceptability, and durability of improvised equipment in fitness education. A researcher can perform descriptive research utilizing many approaches such as observation, case study, and survey. All primary data collection methods are covered by these three, which provides a multitude of information. The goal of descriptive research is to describe a population, situation, or phenomena correctly and thoroughly. It can answer the questions what, where, when, and how, but not why. When the goal of the research is to discover traits, frequencies, trends, and classifications, descriptive research is an excellent choice. It is useful when little is known about a topic or problem (McCombes, 2022). In this study,



survey was the data collection used to describe the perception of end-users and teachers on the suitability, acceptability, and durability of the improvised fitness equipment fitness education. A simple frequency count, a type of descriptive statistics, was utilized. Frequency statistics simply counts the number of times that a variable occurs.

RESULTS

This section presents the data obtained from the results of the supervised surveys of first year students who took up the subject “Physical Fitness and Self-Testing Activities” and the responses of the three PE teachers who handled the circuit training for the use of the six improvised equipment during the same semester. It presents the results of the description of respondents’ perception on the suitability, acceptability, and durability of the six (6) improvised equipment, the identified lessons extracted from the comments and suggestions provided by the respondents with respect to the suitability, acceptability, and durability of the improvised equipment.

I. Respondents’ Perception on the Suitability, Acceptability and Durability of the Six (6) Improved Equipment

A. Students’ Perception on the Suitability

Table 2 shows that the student participants have rated all the improvised fitness equipment as very suitable ($M = 3.62, SD = 0.412$) ($M = 3.62, SD = 0.412$). This explains that the provided improvised equipment are suitable for teaching and learning purposes. Designs were still derived from the original structure and purpose of the costly equipment which makes the equipment suitable for the learners use.

Table 2			
<i>Suitability of the Improved Fitness Equipment According to the Student Participants</i>			
Improved Equipment	Mean	Standard Deviation	Verbal Interpretation
1. Aero Step	3.62	0.524	Very Suitable
2. Agility Ladder	3.63	0.537	Very Suitable
3. Dumb Bell	3.70	0.534	Very Suitable
4. Jumping Rope	3.75	0.528	Very Suitable
5. Kettle Bell	3.56	0.597	Very Suitable
6. Medicine Ball	3.47	0.671	Very Suitable
Overall	3.62	0.412	Very Suitable

B. Students’ Perception on the Acceptability

Table 3 shows that the student participants have rated all the improvised fitness equipment as very acceptable ($M = 3.64, SD = 0.424$) ($M = 3.64, SD = 0.424$). Regarded by student participants as suitable and important, it is expected that with these characteristics, the six (6) improvised equipment are acceptable based on the learners’ perspective.

Table 3			
<i>Acceptability of the Improved Fitness Equipment According to the Student Participants</i>			
Improved Equipment	Mean	Standard Deviation	Verbal Interpretation
1. Aero Step	3.68	0.506	Very Acceptable
2. Agility Ladder	3.69	0.503	Very Acceptable
3. Dumb Bell	3.68	0.488	Very Acceptable
4. Jumping Rope	3.71	0.531	Very Acceptable
5. Kettle Bell	3.56	0.626	Very Acceptable
6. Medicine Ball	3.54	0.643	Very Acceptable
Overall	3.64	0.424	Very Acceptable

C. Students’ Perception on Durability

Table 4 shows that the student participants have rated all the improvised fitness equipment as very durable ($M = 3.61, SD = 0.424$) ($M = 3.61, SD = 0.424$). The six (6) improvised fitness equipment were assessed as sturdy for maximum use.



Table 4			
<i>Durability of the Improvised Fitness Equipment According to the Student Participants</i>			
Improvised Equipment	Mean	Standard Deviation	Verbal Interpretation
1. Aero Step	3.55	0.567	Very Durable
2. Agility Ladder	3.63	0.587	Very Durable
3. Dumb Bell	3.63	0.630	Very Durable
4. Jumping Rope	3.73	0.553	Very Durable
5. Kettle Bell	3.56	0.641	Very Durable
6. Medicine Ball	3.56	0.733	Very Durable
Overall	3.61	0.424	Very Durable

D. Teacher-Respondents’ Perception on the Suitability, Acceptability and Durability of the Improvised Equipment

Table 7 shows that the teacher participants have rated all the improvised fitness equipment as very suitable, very acceptable and very durable. These findings converge with the result of the student participants as the equipment were assessed in terms of suitability, acceptability and durability.

Table 7			
<i>Rating of Improvised Fitness Equipment According to the Teacher Participants (n=3)</i>			
Criteria	Mean	Standard Deviation	Verbal Interpretation
Suitability	3.67	0.577	Very Suitable
Acceptability	4.00	0.000	Very Acceptable
Durability	4.00	0.000	Very Durable

DISCUSSION

Based on the results of the survey, the student participants find the six improvised equipment, namely the aero step, agility ladder, jumping rope, dumb bell, kettle bell and medicine ball, very durable, very suitable and very acceptable.

Suitability in a general context is defined as the appropriateness of the improvised materials or equipment in the absence of the actual one without compromising the beneficial outcomes and serving the purpose of its use. Okori and Jerry (2017) described this characteristic of improvisation as a primary consideration in designing improvised equipment especially in teaching. With this characteristic as reference, the six (6) improvised equipment were perceived as suitable in learning fitness and Physical Education competencies because these were modelled and designed after the actual equipment with only difference on the material used and commercialized standards.

On the other hand, Arante (2018) highlighted that acceptability of improvised equipment depends on the extent of usability and characteristic in terms of economy compared with the costly commercialized equipment which cannot be provided by colleges with reference to availability. Based on the computed cost of the materials used in developing the improvised equipment, the proponent saves 90.91% budget compared to the purchasing price of actual equipment. The computed cost of the improvised equipment is P668.25 which are as follows: (a) agility ladder -P85.00, (b) aero step -P157.00, (c) dumbbell-P133.00, (d) medicine ball-P136.00, (e) kettle bell -P78.75, and (f) jumping rope -P78.50. While the commercialized price of actual equipment is P7,350.00 which were indicated as follows: (a) agility ladder -P1,395.00, (b) aero step -P2,235.00, (c) dumbbell-P450.00, (d) medicine ball-P1,415.00, (e) kettle bell -P1,200.00, and (f) jumping rope -P655.00.

In terms of durability, half of the student population utilized the improvised equipment without any encounter of malfunction and damaged. The ability to last a long time without noticeable deterioration is referred to as durability. A long-lasting substance benefits the environment by saving resources, decreasing waste, and lowering the environmental effect of maintenance and replacement. In this case, all of these requirements were met based on the assessment of the respondents.



These findings as experienced by the student participants in the study validate the idea presented over the last four decades by different authors regarding employing used or old materials to create equipment for physical education or re-creation. Some authors have described the improvised equipment as “low-cost” or “inexpensive” (Jackson & Bowerman, 2009), but most of them refer to these materials as “homemade material or equipment” (Walkwitz, 2005). Still some authors say that these equipment are “nontraditional” (Maeda & Burt, 2003) or “recycled” materials (Grigg, 2009) that are not difficult to adapt and use in physical education (Moss, 2004). Additionally, many authors believe that homemade equipment should be done by teachers who feel that they need extra materials to enhance their physical education programs (Jackson & Bowerman, 2009; Kozub, 2008; Maeda & Burt, 2003; Moss, 2004; Walkwitz, 2005). Other authors believe that these materials could be built with the teachers and students working together, depending on how difficult the construction process seems to be (Grigg, 2009).

Teacher-respondents rated all the improvised fitness equipment as very suitable, very acceptable and very durable. These converge with the results of the administered questionnaire to students.

Ndihokubwayo et. al., (2018) explained that it is essential for teachers and students to be on the same page when it comes to understanding the purpose of using improvised materials not just to augment the scarcity of available learning materials but primarily to provide equally relevant and quality teaching-learning process. Through the use of improvised materials, both students and teachers were exposed to creativity and innovative ways to combat hurdles that impedes effective learning. Results on the converged assessment of teachers and students on the suitability, acceptability and durability of improvised materials is an indication that both end-users have positive reception on the use of these as effective fitness equipment.

Based on the findings of the study, the following conclusions were proposed:

1. Student-respondents evaluated the proposed 6 (six) improvised fitness equipment as very important in learning journey and taking physical education subject. The absence of these equipment does not hinder the delivery of effective teaching and learning process. These were also assessed as very suitable as alternative equipment in learning fitness and competencies in PE. With regard to acceptability, since these equipment were considered very suitable for learning, acceptability follows. Aside from suitability and acceptability, another characteristic that was measured was durability. Fortunately, improvised equipment were assessed as very durable. This connotes that students and teacher can maximize the use of these learning equipment to reinforce learning and address concerns in the absence of costly equipment.

More than half of the student-respondents experienced the use of these equipment and find these learning equipment very comfortable to use in spite of nature as alternative or improvised structure.

2. Teacher respondents assessed improvised equipment as very suitable, very acceptable, and very durable. These findings converged with the results analyzed from the data gathered on participants’ responses. The two groups of respondents shared the same perspective on the potentials of these equipment in addressing the scarcity of costly equipment and impeding effect of this scenario.

Based on the findings of the study and the aforementioned conclusions, the following are hereby recommended:

1. It is recommended that the six (6) improvised fitness equipment have to be proposed to higher educational institutions experiencing scarcity of costly fitness equipment as such to address concerns affecting the effective delivery of classroom instruction because of this existing problem. The suitability, durability, and acceptability of the equipment in the academe passed scrutinous evaluation of end-users and experts.
2. Teachers from Higher Educational Institutions should consider the utilization of these improvised equipment whether for effective delivery of teaching and learning or for fostering fitness among students and school personnel. The presence of these equipment must be maximized through the help of teachers to serve the ultimate purpose of such initiative.
3. End-users have to be oriented on how the equipment were made to ensure the maximum use and shell life of the equipment.
4. These equipment are not just for academic use but even for fitness and health programs. Data and findings were validated using different approaches. This establishes a robust claim that the improvised equipment serves the designed ultimate purpose in providing economically designed but durable, sustainable, and acceptable learning and fitness equipment. It is also recommended that the use of recycled materials and cheaper budget allotment may proposed a high percentage of fitness equipment availability for learners used.
5. Findings of this study may be used as reference for future researchers inclined to conduct study pertaining to the provision and effective use of improvised fitness equipment.

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EXPRESSION OF ISSUES OF PERSONAL DEVELOPMENT IN KAYKOVUS' WORK "KABUSNAMA"

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ABSTRACT

This article discusses the pedagogical views contained in Kaykovus' "Kabusnama", which has a special place in Eastern pedagogy. Systematic thoughts on the issue of personality development in today's modern pedagogy are also expressed.

KEY WORDS: *personal development, modern pedagogy, philosophy, "Kabusnama", primary education, family's tradition, ancient Eastern culture, Eastern pedagogy, bibliographic literature, future generations.*

Before analyzing Kaykovus' ideas from a pedagogical point of view, it is necessary to dwell on the aspects that are the basis of his educational teaching. Because according to the general concept of pedagogical research, the logical basis of his pedagogical teaching is formed based on the important positions of this or that scientist's point of view. At that time, the theological morality of Islam prevailed. The moral traditions of the Muslim East developed rapidly on the basis of the Qur'an and Hadiths and their various interpretations. Muslim religious morality has played an important role in regulating the behavior of millions of people in family, life and society, and in forming their moral culture and conscience.

Religion, including Islam, does not create specific moral categories. It compares with long-established concepts (goodness, evil, duty, honor, virtue, happiness, etc.) that "migrated" from the fund of people's experience. Religious-Muslim morality was the way of the emergence of Kaykovus's pedagogical teaching. He was able to form the moral image of a noble person in "Kabusnama". In his opinion, goodness does not consist only in following religious rules, all people are perfect only when they wish good not only for themselves but also for their loved ones and the whole human race. Therefore, as a Muslim, Kaykovus kept and respected the norms of Muslim ethics and knew Islamic theology well, his pedagogical concept was built on the basis of the requirements of Muslim ethics. However, it is important not to think that Kaykovus is selfish in expressing his thoughts or that he could not leave the framework of Muslim morality.

Pedagogical ideas in "Kabusnama" are the result of Kaykovus' personal attitude to moral issues and are recognized as the result of life wisdom. It should be considered as an image and creative processing of educational categories and views on the formed moral way of life. All this is reflected in the experience of a person.

In "Kabusnama", the scientist-pedagogue describes the true image of an educated, highly moral person, raising them to the level of a moral ideal that anyone can imitate. If any pedagogical teaching does not aspire to the future, to moral maturity, it will lose its theoretical and practical significance. So, here is the importance of Kaykovus' pedagogical teaching. In fact, "Kabusnama" was based on these important issues of how a mature person should behave in various life situations. The specific goal based on the pedagogical ideas of Kaykovus is to form a unique life position of each person.

Kaykovus' closeness to innovative traditions, special respect for the human mind, knowledge and art, and striving to connect theory and practice based on the achievements of advanced science and culture of that time are important features of his work. In particular, it is better to reconsider the opportunity to solve all social problems that arise in different situations of life. For example, the idea that an intelligent and educated person should be generous, virtuous, highly moral and kind was not the basis of his pedagogical teaching. According to him, generosity and moral qualities cannot be achieved by intelligence and knowledge. This idea is not new for Eastern medieval pedagogy. But the crux of the problem is the author's use of this idea, on the one hand, it showed that pedagogical traditions can be recognized and used in the education of the next generation, on the other hand, it proved its irrelevance in the next stages. That's why Kaykovus makes the following request to his son: "Don't overdo it and treat irresponsibility as a crime. Be in the middle in everything", because the teacher of our religion said: "The best thing is in the middle". Thus, after giving a general description of the formation of Kaykovus' pedagogical ideas, we will analyze the content of education in "Kabusnama" in harmony with folk pedagogy.



There is a folk wisdom that says, “The owner of the past is the owner of the future”. In order to strengthen the foundations of society, the need to increase attention to the education of morality, goodness, and faith is increasing day by day. In this good work, it is important to be able to use the educational heritage of the past, nourished by the experience of public education, based on the requirements of the time. Because folk pedagogy is a priceless treasure of national education, a spiritual life experience. It is in the interest of a civilized country and the demand of the times to base the experience of today’s people on the education of the future generation.

Since “Kabusnama” is one of the cultural and educational works of the Middle Ages, it was impossible not to pay attention to the coherence of its pedagogical ideas with folk pedagogy. The unity of Kaykovus’ ideas with educational ideas and folk wisdom of that time should be recognized as evidence for the stated idea and understood as a real historical event. As the author said, “If you learn to imagine what you see, it will be easy to realize what you have in mind,” he skillfully used meaningful phrases and proverbs according to the content of his work. He expresses his pedagogical thoughts in the style of “Eyes in the Heart”. The results of the research not only determine the coherence of Kaykovus’ ideas with folk pedagogy but also prove that folk art was one of the sources of Kaykovus’ teaching. The main task of education is to acquire knowledge based on folk teachings.

Kaykovus presented a wide range of educational content, which included all philosophical ideas. He revealed the connection between education and social structure. Pedagogical activity has become an integral part of Kaykovus’ life and thinking. Kaykovus’ pedagogical ideas stemmed from his philosophical views on the human world and their connection.

Kaykovus assessed education as an important foundation of human life and said it is preferable to start it from an early age. He believed education was powerful, but not the most powerful way to shape a person. It is important not to forget that pedagogical influence is limited by the complex and conflicting nature of a person, such as day and night, good and bad. The teacher should take such contradictions into account and prepare the student to overcome negative actions and life difficulties. In fact, education should ensure that the child gradually enters the school of life. Such training is carried out by an experienced teacher on the basis of a close spiritual connection between the teacher and the student. Kaykovus demanded that education should be comprehensive for all people, be they intellectual geniuses or military men. However, according to Kaykovus, real valuable knowledge (wisdom, philosophy) is not available to everyone. In particular, he believed that ignorant people who do not want to understand their darkness are not capable of knowledge.

In “Kabusnama” Kaykovus talks about the comprehensiveness of education and training. In order to develop the traditions of the Middle Ages, he advocates learning “physical training and healthy life for the body to be strong, and science and craft for the health of the soul [1].”

Kaykovus saw education as preparation for life experience. Speech and theoretical sciences include rhetoric, geometry, astronomy, music, medicine, agriculture, commerce, government, teaching, and others. So, we are surprised by the viability of Kaykovus’ ideas. Because world pedagogy has been rapidly developing lifelong ideas of education since 1960 [2].

In modern civilization, these ideas are of great importance as a response to the changes in the structure of production in the world community, the internationalization of social life, the development of new technologies, information, and the transition to a digitally oriented world. Also, the population's demands for education and qualification have increased. Lifelong education is based on interdependence between school (institution) and non-school (informal) education and training, stimulation of lifelong development of the individual. Continuing education aims to create a seamless transition between pre-school, out-of-school, and school institutions, as well as independent education and training programs. It involves the development of a gradual and repetitive education system, as well as the enhancement of extracurricular educational programs. The ultimate goal is to provide ongoing education and training opportunities for active members of society, enabling them to continuously develop their skills and knowledge.

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A REVIEW ON FLOATING DRUG DELIVERY SYSTEMS

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ABSTRACT

Oral drug delivery is a convenient and easy method for administering drugs, but it has disadvantages such as inability to determine the site of action, low bioavailability, and potential interactions with the gastric gastrointestinal tract. Gastro-retentive drug delivery systems offer a novel approach, allowing controlled drug release to prolong absorption and transport the medication to its intended location. This method requires increased gastric residence time, increased bioavailability, reduced drug waste, and increased solubility. It is particularly useful for local action in the stomach, such as treating peptic ulcers or drugs less soluble in basic pH sites. Floating Drug Delivery System (FDDS) is a novel approach targeting the upper GIT of the stomach, enhancing absorption and bioavailability. This system, formulated with a hydrodynamically balanced system (HBS), gradually releases the medication at a regulated pace, allowing it to stay in the stomach and improve the availability of drugs with low stability. This extended duration of gastric residence time (GRT) and improved plasma drug concentration fluctuations are key benefits. HBS systems can release medication gradually in the stomach due to their low bulk density, addressing short gastric residence time issues.

INTRODUCTION

Oral drug delivery is the simplest form of drug delivery and has been used since older times. Oral drug delivery allows us to deliver the drug with very ease and convenience. GIT allows us to incorporate various polymers that can be used to enhance drug delivery. Many drugs are not absorbed from the GIT (gastrointestinal tract) due to their incompatibilities in the GIT area. (1)

Oral dosage form allows multiple advantages like ease of administration, patient adherence, and easy to incorporate different types of sustained and controlled formulations. However conventional drug delivery has some disadvantages like its unable to determine the site of drug action, has low bioavailability, degradation by the gastric HCL, low absorption of some drugs, interaction with the bile juice etc (2). Many drugs that are absorbed easily from the GIT are eliminated quickly from the systemic circulation due to short half-lives. To keep these medications in the systemic circulation and provide the best possible therapeutic benefit, they must be taken several times. A revolutionary method of medication administration that enables the use of specialised procedures is the gastro-retentive drug delivery system. And some drugs are formed in a way that they release the drug in a controlled way i.e. controlled drug delivery. Controlled drug delivery allows the drug to be released in a slower rate extends the absorption time to obtain a prolonged drug delivery, and delivers the drug to the site of action. (1).

1. When the site-specific drug delivery is formulated, it is necessary to gastric residence time is increased and the bioavailability is gradually increased, drug waste is reduced, drug solubility is increased.
2. It can be helpful if there is a requirement to have a localised effect on the stomach, such as when treating a peptic ulcer, therefore it is an approach in treating ulcers and if the drug is less soluble in a high pH environment.

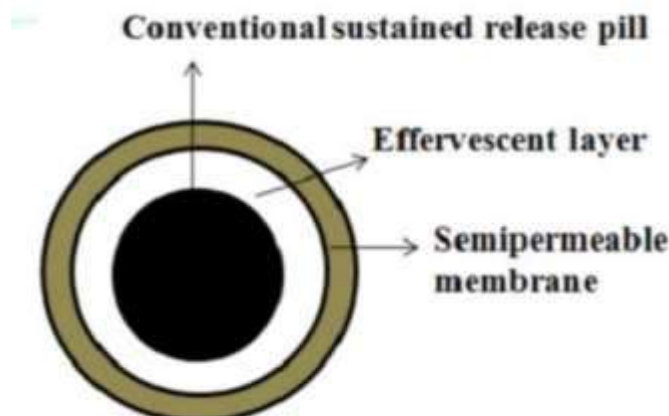


Fig.1- Different layers of FDDS (tablets) (1)

GRDDS is a novel approach targeting the drug to upper GIT, improving drug solubility, enhancing absorption, and improving bioavailability. In recent years, numerous strategies have been formulated and explored for gastroretentive drug delivery. These include sinking systems with high density that remain at the stomach's base, floating systems with lesser density that float in the gastric fluid, mucoadhesive systems that adhere to the stomach mucosa, and un-foldable, extendible, or swellable systems that impede the release of dosage forms through the pyloric sphincter. Additionally, superporous hydrogel systems and magnetic systems have also been developed. (1)

To allow the drug to stay in the stomach (upper GIT) and to improve the availability of drugs with low stability, Floating Drug Delivery System (FDDS) are formulated. The hydrodynamically balanced system (HBS), also referred to as a floating drug delivery system, floats on the gastric contents and gradually releases the drug at a controlled rate. Following the medication's release, the stomach's residual contents are emptied, resulting in a longer gastric residence time (GRT) and better control over changes in plasma drug concentration. (1).

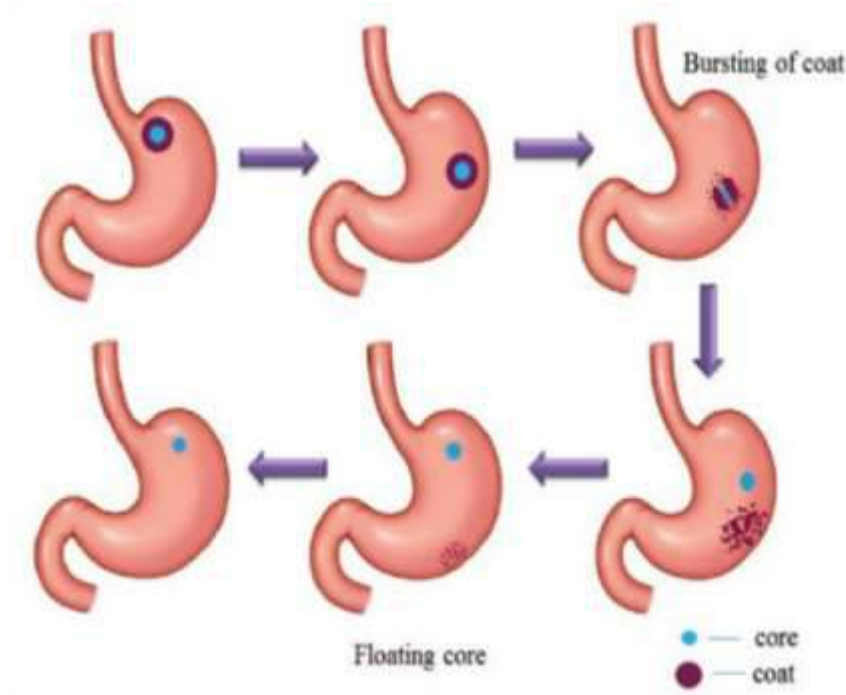


Fig2. Schematic representation of Floating DDS (10)

The principle of the FDDS is that Drug dose forms are designed to have a lower weight than the stomach fluid so that they can float, and increase the gastric residence time, which will allow the drug to be released in a controlled way throughout floating (2).

The importance of contact time with the small intestinal mucosa for drug absorption is widely recognized. Therefore, the duration of small intestinal transit is a crucial factor for drugs that are not fully absorbed. The ability to prolong retention time offers multiple benefits, such as extending the effectiveness of drugs with short half-lives, improving drug bioavailability, minimizing side effects, reducing the frequency of dosing, saving medication, enhancing solubility for medications that are not well soluble at high pH levels, enhancing treatment, and eventually boosting patient adherence. (1)

DRUGS SUITABLE FOR FORMING FLOATING TABLETS

1. Those drugs with narrow absorption range in Gastro intestinal tract. (Riboflavin, Furosemide, PABA derivatives)
2. Drugs whose site of action is stomach. (Antacids)
3. Drugs that degrade and are unsuitable for intestinal and colonic-environment. (ranitidine, metronidazole, captopril)
4. Medications which solubilize less in basic pH. (diazepam, verapamil)
5. Medications that react with the good bacteria in the colon. (Amoxicillin) (2).

ADVANTAGES OF THE FDDS

1. Floating DDS can be useful for drugs giving local action in Upper GIT like antacids
2. In conditions like diarrhoea, floating tablets can be useful for its treatment.
3. Drugs that have limited absorption receptors can be given by this.

4. Drugs with acidic pH can cause irritation in the stomach and they can be given by FDDS.
5. FDDS cause fast action in comparison to the conventional drugs e.g. Effervescent tabs and powder. (2)
6. Improves bioavailability of drugs.
7. Enhanced 1st pass metabolism.
8. Fewer doses are required as drug release is extended.
9. Plasma drug level is maintained at a constant level.
10. Selectivity of receptors is enhanced. (11)

CLASSIFICATION OF TYPES OF FLOATING DDS

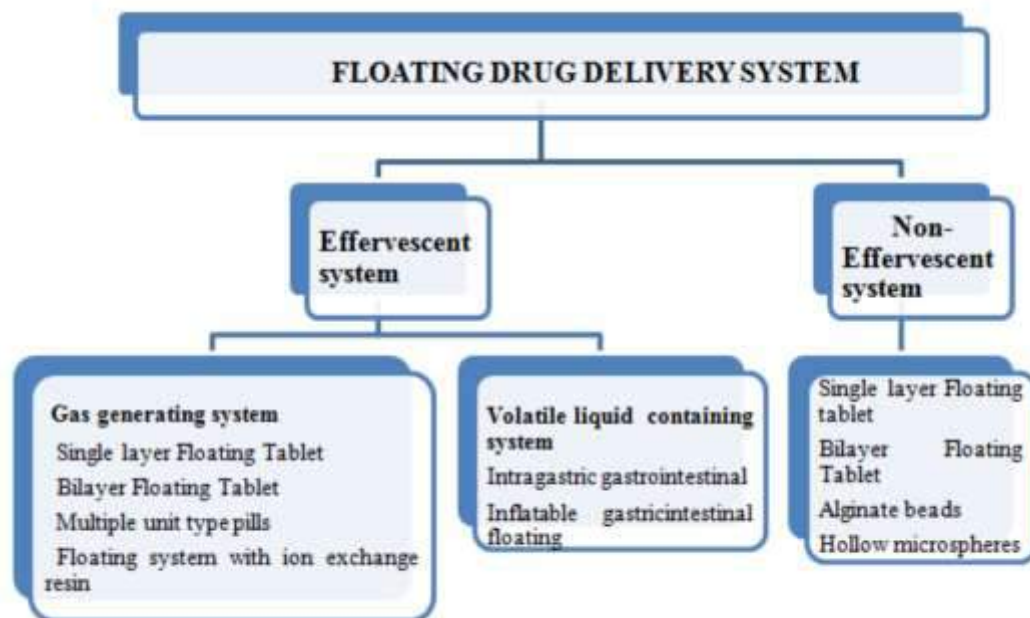


Fig.2- Types of FDDS. (3)

APPLICATIONS OF FLOATING DRUG DELIVERY SYSTEM

Because of the narrow absorption window of some drugs in the upper gastrointestinal tract, drugs with low bioavailability can be given by floating drug delivery in several ways. By keeping the dosage form where it is absorbed, it increases the bioavailability. Here is a summary of them:-

1. Sustained Drug Delivery
HBS have the ability to hold in the stomach for long periods and release the drug gradually. Thus, these methods can address the problem of the short stomach residence time that occurs when using an oral CR formulation. These systems' bulk densities of less than 1 allow them to float atop the contents of the stomach. These systems are really big, and it's not allowed to pass via the pyloric aperture. Nicardipine HCL sustained-release floating capsules were recently created and tested in vivo. (1)
2. Site-Specific Drug Delivery
For drugs like furosemide and riboflavin, which are mostly absorbed from the stomach or the proximal section of the small intestine, these systems are quite helpful. Furosemide is primarily absorbed in the stomach and then in the duodenum. There have been reports of the creation of a monolithic floating dosage form that has a longer length of stomach residence and improved absorption. The floating tablet's AUC was around 1.8 times higher than that of traditional furosemide tablets.
3. Absorption Enhancement
Pharmaceuticals with Low bioavailability sites in the upper gastrointestinal tract might be used to build floating medication delivery devices that maximise absorption. (1)

MANUFACTURING OF FLOATING TABLETS

Methods of manufacture for the floating medication delivery system:

The following procedures are used to make the floating tablets based on the qualities of the medicine and excipient, the required duration (immediate or sustained), the drug's stability (against temperature, oxidation, etc.), and their practicality. (11)

- A. Dry granulation
- B. Wet granulation
- C. Direct compression



EVALUATION OF FDDS

Interaction between Drug & Excipients:

Utilizing FTIR, drug-excipient (DE) interactions are conducted. The DE interaction is indicated by the emergence of a new high and/or the loss of the original medication or excipient peak. In addition to the evaluation parameters already indicated, the impact of ageing can be examined using a DSC or hot-stage polarising microscopy. (11)

Precompression and post-compression parameters:

Pharmacopeial standards should be followed when monitoring precompression factors like bulk density, compressibility index, and angle of repose, and post-compression characteristics such as hardness, friability, and weight uniformity.

Morphology and surface topography:

Contact angle metre, scanning electron microscopy (SEM), atomic force microscopy (AFM) which must be running at a 10 k.v. acceleration voltage, and contact profilometer 40 were used to determine the surface topography and structures. (11)

Time of Total Floating of tablet: The amount of time that passes after the tablet is inserted into the medium until it rises to the upper third of the dissolving vessel is known as the floating lag time. The amount of time that the dosage form floats is known as the floating/flotation time/Total floating time. The USP dissolving apparatus is typically used as the dissolving medium for these experiments, which are typically conducted in Simulated Gastric Fluid (SGF) or 0.1 N HCl (900ml) kept at 37°C.

Tablet Swelling Index

The tablets (W1) are weighed and then put in a glass container with 200 mL of 0.1 N HCl that is kept in a H₂O bath (37 ± 0.5°C). The pill is taken out at regular intervals, and any extra liquid on the surface is gently wiped away with filter paper. Next, the enlarged tablet is weighed again (W2).

$$\text{Swelling index} = \frac{W2 - W1}{W1}$$

Weight gain and water uptake

By taking into account the swell behaviour of the floating dose form, weight growth or water uptake may be investigated. (11)

Entrapment Efficiency

The drug's phase distribution in the prepared formulations could be accurately measured using the percentage entrapment efficiency. The medication is extracted using an appropriate technique, examined, and computed from:

$$\text{Entrapment efficiency} = \frac{\text{Practical drug loading}}{\text{Theoretical drug loading}} \times 100$$

Drug release testing: In vitro drug release investigations are often tested using simulated intestinal and stomach fluids that are kept at 37°C. The USP dissolution apparatus⁴⁶ is used to conduct dissolution testing. Pharmacokinetic studies: A computer was used to determine the AUC (Area under Curve), C max, and time to reach the maximum plasma concentration (Tmax). A Student t test was used for statistical analysis, with a significance threshold of p, 0.05. (11)

Evaluation of compression parameters of floating DDS:

1. **Tablet shape:** After being examined under a microscope, tablets from every formulation batch should be spherical and free of fractures. (4)
2. **Thickness:** A Vernier calliper can be used to measure each tablet's crown thickness.
3. **Hardness:** The tablet's hardness is basically evaluated using the Monsanto hardness tester. The observed hardness of each tablet formulation varied, ranging from 3.8 to 5.1 kg/cm². This ensures that every composition has favourable handling characteristics.
4. **Weight variation test**
An electronic balance is used to weigh each formulation separately. That data was used to compute the average weight. The per cent deviation was calculated by comparing each tablet's weight to the average weight of tablets. (4)
5. **Friability test**
It was performed using the friability apparatus. SOPs are followed for the standard performance of the apparatus. Each formulation was given three precisely weighted pills, which were then placed within the friability chamber. There were 100 revolutions of the apparatus. After each rotation, the pills were weighed again to ascertain the weight reduction. A loss in weight of more than 1 per cent is not acceptable.

**6. Uniform drug content**

The five pills in each formulation are weighed, mashed up in a mortar, and mixed together. Then, 10 mg of the material were added to a 100 ml volumetric flask. The drug's standard calibration curve was used to calculate the pantoprazole concentration in ug/ml.

The medication was allowed to dissolve in the 0.1N HCL solvent, the mixture was filtered, and 1 ml of the sample was put in a 50 ml volumetric flask. It was then adjusted with 0.1NHCL to the 50 microliters and subjected to spectrophotometry at 291 nm 15.

7. Studies on in vitro dissolution: (4)

The in vitro release of the pantoprazole floating tablet was calculated using the paddle method of the USP dissolving test device. 900ml of 0.1nhcl was used for the dissolving test, which was run at 370 0.50c and 100 rpm. A fresh dissolution media was added to the five millilitres of solution that had been removed from the dissolving apparatus. After being filtered, the samples' absorbance at 291 nm was measured using a u-v visible spectrophotometer. Plotting the cumulative percentage of drug release versus time allowed for the calculation of the controlled release.

8. Time spent in vitro:

The buoyancy lag time is the length of time required for the tablet to rise to the surface and float. Using the floating lag time test, the drifting behaviour was verified and it was measured how long the floating tablets floated. The in vitro residence period was calculated using the floating lag time method. The tablets were submerged in the 0.1NHCL dissolving medium, and the duration of time it took for them to float to the surface was noted.

9. FT-IR study of drug-polymer interaction:

Drug-polymer interaction was investigated using FT-IR. Pantoprazole, HEC, and -cyclodextrin infrared spectra. (4)

CONCLUSION

Gastro-retentive floating drug delivery devices have become a significant tool for improving the bioavailability and regulated distribution of numerous drugs. The delivery of molecules with a window of absorption, substantial first pass metabolism, and poor bioavailability will be optimised by the developing improved delivery technology. A floating medicine delivery system appears to be a promising strategy for gastric retention. Many organisations are concentrating on marketing longer gastric retention, despite the fact that there are numerous challenges to overcome. The creation of a suitable FDDS is a significant task, and research will not stop until the best approach that is feasible for industrial use is discovered.

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TRIBES OF TELANGANA: NUTRITIONAL STATUS, HEALTH CONDITIONS AND QUALITY OF LIFE - A STUDY OF ADILABAD DISTRICT

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ABSTRACT

Introduction: India's agricultural output has recently been self-sufficient; the issue of malnutrition still exists and is still regarded as one of the most important problems. The quality-of-life index is a composite criterion used in public health management and policy analysis to assess the well-being of communities or groups of people based on a variety of social, physical, psychological, and economic characteristics.

Methodology: The study was conducted in Adilabad district of Telangana state with an aim of assessing nutritional level and its influence on tribal quality of life. The study adopted a cross-sectional descriptive research design with cluster sampling technique of probability sampling method and the sample size of the current study is 379. The tools including Sociodemographic data sheet, Mini Nutritional Assessment scale and WHO Quality of life.

Results: The study findings show the statistically positive correlation between nutritional level and quality of life domains such as physical, psychological, environmental quality of life and social relationships.

Conclusion: The study findings indicating the influence of nutritional level on tribal quality of life. It is important to addressing nutritional deficits among the tribal and it is evidence to understand how the quality of life has been increasing in tribal who has good nutritional levels.

KEYWORDS: Tribal, Nutrition, quality of life

INTRODUCTION

The Scheduled Tribes (ST) are recognized under Article 342 of the Constitution of India, but despite specific policy provisions, health, and socioeconomic underdevelopment has been a long-standing policy concern with the ST population, who account for 8.6% of India's population. India's commitment to the 2030 Sustainable Development Goals (SDGs) provides a new catalyst to promote the welfare of STs^[1]. The fundamentals of nutrition are necessary for a human to survive. It encompasses not only the consumption of nutrients but also their appropriate use for the body's growth and development. The community's socioeconomic standing, local vegetation, environment, and eating patterns all greatly impact nutritional status. Although India's agricultural output has recently been self-sufficient, the issue of malnutrition still exists and is still regarded as one of the most important problems^[2]. Planners and administrators are paying attention to and prioritizing tribal populations, which make up 8.2% of India's total population, in their developmental initiatives. Evaluating nutritional status is seen as an indicator of health, and in order to improve the well-being of these marginalized communities, planners must have a thorough understanding of the food and nutrition conditions in tribal communities marginalized^[3]. The state of a person's life is referred to as their quality of life. Quality of life encompasses more than just an individual's subjective sense of well-being; it also includes mental, social, occupational, spiritual, marital, and physical functioning^[4]. The quality-of-life index is a composite criterion used in public health management and policy analysis to assess the well-being of communities or groups of people based on a variety of social, physical, psychological, and economic characteristics^[5]. The primary goal of evaluating life quality is to provide people the chance to live longer, healthier, more fulfilling lives in a pleasant environment. Measuring a society's quality of life will enable development authorities to pinpoint problem areas and offer practical management recommendations for enhancing the wellbeing of its citizens.^[6]

REVIEW OF LITERATURE

Ghosh et al., (2018)^[7] 226 adults (111 males and 115 females) in the Sabars of the Bankura District in West Bengal, India, had their nutritional status examined. The incidence of undernutrition among all sexes combined was 51.8%. The incidence of undernourishment was notably elevated. The incidence of undernutrition among all sexes combined was 51.8%. In comparison to men (46.8%), females had a substantially greater prevalence of undernutrition (56.5%) (chi-square = 6.530, df = 2, p < 0.05). As people became older, undernutrition became more common.

Gopinath et al., (2018)^[8] have shown that Age, birth weight, family type, and length of healthcare all had a strong correlation with



malnutrition. According to Rao et al. (2006), children from joint families had a considerably higher rate of stunting (46.8%) than children from nuclear families (44.5%) or extended nuclear families (40.6%). Children whose moms worked everyday were more likely to be underweight (weight for age) and undernourished (MUAC for age) than children whose mothers were housewives or involved in agriculture (58.9% underweight and 43.6% undernutrition, respectively) (Chakrabarty, 2006).

Bhandari et al., (2019)^[9] investigated the relationship between adult Sabars in the Bankura district of West Bengal, India, and socioeconomic factors and their nutritional state using a cross-sectional research. When comparing literate adult Sabar to illiterate adult Sabar, the prevalence of undernutrition (measured by BMI) was significantly higher in the former (60%) while the normal rate of undernutrition was lower in the latter (39%) in non-literate adults Sabar than in the former (58.3%). However, overweight is more common in literate adults Sabar than in the illiterate adults Sabar.

In Bheenaveni's (2020)^[10] work, an indigenous perspective on the epidemics of health and disease is presented, along with a discussion on combating COVID-19 through the utilization of variolation with the aid of an herbal leaf known as "Amma talli". This age-old traditional practice come from the wisdom of tribes and nomads in Telangana State, India. More importantly, this practice is almost similar to modern medical science.

OBJECTIVES OF THE STUDY

- To study the socio-demographic-profile of the tribal population
- To assess the level of nutritional status and quality of life among tribal and their relationship.

METHODOLOGY

The study was conducted in Adilabad District of Telangana State with Quantitative technique of descriptive research design was used to understand the nutritional status and quality of life among tribal respondents and their relationship and the cluster sampling technique of probability sampling method was applied to select the sample. The Size of the sample unit was determined from the total population of three clusters, 33,012. Krejcie and Morgan's sample determination has been applied to the total tribal population from three clusters including Utnoor, Jainoor, and Indervelly, and the derived sample size of the current study is 379. The appropriate tools were administered to the study participants including, sociodemographic data sheet, quality of life [WHOQOL] and Mini Nutritional Assessment tool [Short form]. The data was analyzed using descriptive statistics and Pearson Correlation was used to assess the relationship between nutritional status and quality of life and SPSS {Statistical Package of Social Sciences} Version 28 was used to analyze the data.

FINDINGS AND RESULTS

Sl. No.	Socio-Demographic Details	Frequency n=379	Percentage %
1.	Age range	20-40	36.9
		41-60	40.6
		61-80	17.7
		80 above	4.7
2.	Gender	Male	61.2
		Female	38.8
3.	Education	Illiterate	54.6
		Literate	45.4
4.	Number of family members	0-3 members	40.9
		More than 3	59.1
5.	Marital status	Married	81.3
		Unmarried	8.7
		widowed	10.0
6.	Type of family	Nuclear family	66.8
		Joint family	33.2
7.	Number of dependents	Less than two members	59.6
		More than 2 Members	40.4
8.	Level of Nutrition	Normal nutritional status	45.1
		At risk of Malnutrition	35.1
		Malnourished	19.8



The results of table 1 represents the sociodemographic profile of the study participants, with respect to the age range the age group of participants who belong to the highest percentage of respondents—40.6% [n=154]—is 41–60 years old; the age group of participants who belong to the lowest percentage of respondents—4.7% [n=18]—is 20–40 years old; and the age group of participants who belong to the age group of 61–80 years old is 17.7% [n=67]. The majority of the study respondents 61.2% [n=232] were males and remaining 38.8% [n=147] were females. the significant proportion of the respondents 54.6 % [n=207] are illiterates and 45.4% [n=172] of the respondents were literates. more than half of the percentage of the respondent families 59.1% [n=224] are having more than 3 members in their family and remaining 40.9% [n=155] of the respondent families are having 0-3 members in their family. The majority of the respondents 81.3% [n=308] are married, 10% [n=38] of the respondents were widows and least majority of the respondents 8.7% [n=33] were unmarried. The highest percentage of respondents 66.8% [n=253] belong to the nuclear family and rest of the respondents 33.2% [n=126] belong to joint family. the majority of the respondents 59.6% [n=226] have less than two members of dependents in their family and 40.4 % [n=153] of respondents have more than two members of dependents in their family. The results indicating that 19.8% [n=75] of the tribal are malnourished and 35.1% [n=133] tribal are at risk of malnutrition this is the evidence that the majority of the tribal are at risk of malnutrition and malnourished than the other category of nutritional status and 45.1% [n=171] tribal had normal nutritional status.

Table: 2
Correlation between nutritional level and quality of life among tribal respondents

		Nutritional level	Physical quality of life	Psychological Quality of life	Social Relationships	Environment Quality of life
Nutritional level	Pearson Correlation	1	.157**	.139**	.158**	.110*
	Sig. (2-tailed)		.002	.007	.002	.032
Physical quality of life	Pearson Correlation		1	.946**	.822**	.621**
	Sig. (2-tailed)			.000	.000	.000
Psychological Quality of life	Pearson Correlation			1	.869**	.654**
	Sig. (2-tailed)				.000	.000
Social Relationships	Pearson Correlation				1	.763**
	Sig. (2-tailed)					.000
Environment Quality of life	Pearson Correlation					1
	Sig. (2-tailed)					
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The table 2 depicts the results of Pearson Correlation between nutritional level of tribal respondents and their quality of life. The results indicated that there is a statistically positive correlation found between nutritional status and Physical quality of life [r=0.157**, p=0.002], Psychological quality of life [r=0.139**, p=0.007], Social relationships [r=0.158**, p=0.002], and Environmental quality of life [r=0.110*, p=0.032]. Within the domains of quality of life, the results showed a statistically significant positive correlation between Physical quality of life and psychological quality of life [r=0.946**, p<0.001], social relationships [r=0.822**, p<0.001] and environment quality of life [r=0.621**, p<0.001]. Similarly, Psychological quality of life positively correlated with social relationships [r=0.869**, p<0.001] and environment quality of life [r=0.654**, p<0.001]. Social Relationships is positively correlated with Environmental quality of life [r=0.763**, p<0.001].

CONCLUSION

The study aimed to assess the relationship between nutritional status and its relationship with tribal quality of life. The study findings indicating the influence of nutritional level on tribal quality of life. It is important to addressing nutritional deficits among the tribal and it is evidence to understand how the quality of life has been increasing in tribal who has good nutritional levels. A periodical nutritional assessment has to be done by the government bodies who have actively involved in tribal affairs in each tribal villages to identify and address their nutritional issues by providing nutritional supplements.



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A STUDY ON GROWTH OF THE FACE TALCUM POWDER MARKET AND ITS FUTURE TREND IN THE MARKET

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ABSTRACT

“Ayurveda combines the goodness of nature with balanced, time tested prescriptions, to provide natural and clean beauty solutions”. This study analyzed the export data of the face talcum powder for past 10 years and also predicts the future export trend for the talcum powder. Comparing to the last years the future market of the talcum powder will increase year by year. The growth of talcum powder was increased in 2017-2018, after that the pandemic arises the growth of talcum powder was slightly decreased.

INTRODUCTION

“Reveal the beauty of nature on your skin with our herbal face talcum powder – where natural ingredients meet timeless beauty.” Herbal face talcum powder is a natural alternative to regular talcum powder made from herbal ingredients. Unlike traditional talcum powders that often contain talc and might have health concerns, herbal face talcum powder uses herbs and natural substances. These powders contain rose petals, fullers earth powder, arrow root powder, corn flour starch and sometimes almond oils known for their skin-nourishing and soothing properties. In these powders, each offers specific benefits to the skin. The purpose of herbal face talcum powder is multi-fold. It aims to address various skin concerns such as excess oiliness, acne, irritation and to provide a refreshing feel. Additionally, these powders help absorb moisture, leaving the skin soft, smooth and rejuvenated.

HERBAL FACE TALCUM POWDER BENEFITS FOR SKIN

Herbal talcum powder, comprising of corn flour, arrowroot, multanimitti (Fuller's earth), rose petal powder and almond oil, offers diverse skincare benefits. Corn flour and arrowroot absorb excess oil and soothe, ideal for oily and sensitive skin. Multani mitti acts as an oil-absorber, exfoliant and skin cooler, beneficial for oily and irritated skin. Rose petal powder's antioxidants and hydration protect against radicals and moisturize. Almond oil's moisturizing and soothing properties maintain skin suppleness. Together, they offer oil absorption, soothing, exfoliation, and hydration, improving skin health.

COUNTRY	VALUE (USD MILLION)
INDONESIA	2.02
UAE	1.74
BANGLADESH	1.34s
SOUTH AFRICA	1.08
ISRAEL	1.05

HERBAL FACE TALCUM POWDER IN THE WORLD MARKET

The worldwide talcum powder market is expected to increase significantly from 2022 to 2028. As of 2020, the market is growing steadily and with key players adopting effective strategies, it is anticipated to continue growing in the upcoming years.

Due to the impact of the COVID-19 pandemic, the global talcum powder market size is estimated to be worth USD million in 2022. It is expected to undergo adjustments and reach a revised size of USD million by 2028, showing an impressive Compound Annual Growth Rate (CAGR) during this period. Taking into account the economic changes caused by the health crisis, Talcum Powder, classified by type, represented percentage of the global market in 2021 and is projected to reach a value of USD million by 2028, growing at a revised



percentage CAGR after the COVID-19 period. In terms of application, Talcum Powder was the leading segment in 2021, holding over percent market share and expected to experience a CAGR throughout the forecast period.

Source : (Talcum Powder Market Study Providing In-depth Analysis on Top Key Companies Yardley London, Golcha Group, Vasa Cosmetics Private Limited and More).

HERBAL FACE TALCUM POWDER IN INDIAN MARKET

The talcum powder market in India shrank significantly to \$X in 2021, showing a decrease of -19.7% compared to the previous year. Overall, there has been a noticeable reduction in consumption. The market experienced its fastest growth in 2019, increasing by 3%. Although the market reached a peak of \$X in 2012, consumption remained lower from 2013 to 2021 estimated at export prices.

However, there has been a slight decline in production over the reviewed period. The most significant growth occurred in 2013 when production increased by 8.8%, reaching the highest level at \$X. From 2014 to 2021, the growth in production remained somewhat lower in 2021, the export of talcum powder and other cosmetic powders experienced significant growth, increasing by 66% to X tons after two years of decline. Overall, the total exports showed a noticeable increase from 2012 to 2021, growing at an average annual rate of +3.4% over the nine-year period. Although there were fluctuations, the trend suggests continued growth in the near future.

In terms of value, talcum powder exports reached \$X in 2021, with an average annual growth rate of +2.7% from 2012 to 2021. However, there were fluctuations and in 2021, exports decreased by -13.9% compared to 2018. The most rapid growth occurred in 2013 with a 73% increase, reaching the peak at \$X. Unfortunately from 2014-2021 the export growth did not regain the momentum.

Source: <https://www.indexbox.io/store/india-talcum-powder-and-other-powders-for-cosmetic-use-market-analysis-forecast-size-trends-and-insights/>

HERBAL FACE TALCUM POWDER IN TAMILNADU MARKET:

Tamil Nadu in southern India observed growing demand for herbal talcum powder across various districts. Chennai, a key urban center, experienced increased interest due to a health-conscious consumer base. Coimbatore saw a surge driven by preferences for safer skincare options. Madurai showcased rising demand, reflecting the region's embrace of traditional remedies. Tiruchirappalli witnessed a shift towards healthier skincare choices in line with consumer trends. Factors such as promoting Ayurvedic ingredients, concerns about synthetic chemicals and a wellness-oriented approach fueled the growth. Local and national brands offering herbal talcum powder formulations with indigenous ingredients contributed to their popularity.

REVIEW OF THE LITERATURE

Saifullah Jamali, Nek Muhammad Shaikh, Muhammad Aslam Khoso, Yasir Jamil, Waseem Ahmed Bhutto, Abdul Majid Soomro, Riaz Hussain Mari (2022) Our investigation on tellurium (Te) and neon (Ne) dynamics revealed decreasing plasma parameters with increasing delay time, focusing on inverse bremsstrahlung absorption coefficient fluctuations. In talcum powder, calcium (Ca) concentrations were consistently highest, crucial for UV protection and skin cell regulation. LIBS detected lead, zinc, and cadmium in beauty products in a study on cosmetic safety. In Nigeria, Yebpella et al. used LIBS to identify heavy metals in cosmetics.

Ghana Rehman, Iftikhar Hussain Bukhari, Muhammad Raiz, Nasir Rasool, Amna Akalid, Uzma Sattar & Hafiza Sumaira Manzoor (2013) This study assessed Cadmium, Cobalt, Lead, Copper, and Chromium levels in 30 talcum powder brands using Atomic Absorption Spectroscopy (AAS). Concentrations, measured in parts per million (ppm) after acid digestion, indicated all metals within safe limits. Nevertheless, excess amounts could pose risks. The ATSDR and EPA compiled a list of top 20 hazardous substances to address environmental concerns.

Davendralingam Sinniah (2011) IARC classifies talc with asbestiform fibers as carcinogenic, but evidence is insufficient for talc without such fibers. Inhalation of talc can lead to pulmonary issues. China used rice-based cosmetic powder since 500 BC. Public awareness is crucial for talcum powder risks, especially for vulnerable groups. A 1992 EPA study found 5% of talc used in cosmetics, highlighting potential health concerns.

Rohit Kumar Bijauliya, Shashi Alok, Mayank kumar, Dilip kumar Chanchal and Shrishti Yadav (2017) Herbal medicines encompass herbs, materials, and preparations, including herbal cosmetics. Dr. Albert Kligman coined the term in 1984 for substances with both cosmetic and therapeutic benefits. In India, 70% rely on herbal remedies, emphasizing the need for quality control in herbal cosmetics for prolonged safety and efficacy. Ancient practices like lepa, alepa, and pralepa maintained beauty balance with nature's offerings.



K.SAlmurgen, S Fabdulsani, M.K Muhamad Azim, N N Ismail, K.ANaseer, Mayeen Uddin Khandaker, Sulthan J.Alsufyani, F H Alkallas, Hadeel F. Almajid, D A Bradley (2023), Baby powders with heavy metal contamination pose health and environmental risks, emphasizing the need for consistent monitoring and quality control. Among studied brands, Zwitsal led in contributing to inhaled radioactive materials (31.05%), followed by Pureen (30.13%), Carrie Junior (24.24%), and Johnson's (14.58%). An ICP-MS analysis assessed toxic heavy metal presence in these widely used baby powders in Malaysia.

Rafael Delgado a, María Virginia Fernández González a, Merieme Gzouly a, Alberto Molinero-García a, Ana Cervera-Mata a, Manuel Sánchez-Marañón a, María Herruzo b, Juan Manuel Martín-García (2020). Examined seven talcum powders from Spanish pharmacies; four met both "cosmetic" and "pharmacopoeia" standards. Microscopic study (SEM) revealed talc's favorable physical and chemical properties, making it suitable for skin use. Talc's flexibility allows it to slide and mold to the skin, while its low hardness prevents skin scratching during friction, enhancing its application.

Lovepreet Kaur, Ajeet Pal Singh, Amar Pal Singh (2021) Herbal cosmetics, rooted in ancient traditions, emphasize natural beauty by combining cosmetic elements with herbal substances. In India, 70% choose herbal cosmetics for healthcare and daily use, prioritizing accessibility and minimal side effects over chemicals. Globally, cosmetics are crucial for enhancing facial appearance, with herbal options favored for their natural benefits and fewer side effects.

OBJECTIVE

The objective of this article analyzing past and future export data of the face talcum powder could provide insights into trends, market growth, and potential opportunities or challenges for exporters within the face talcum powder industry.

NEED OF THE STUDY

The need of the study is to bring awareness about the talcum powder which is branded on market i.e., based on a chemical mixed talcum powder and to create preference of consumer towards herbal talcum powder and also make the upcoming generation to switch on herbal products.

METHODOLOGY

The secondary data were collected about the export of the talcum powder and it predicts the future trend of the market so the herbal face talcum will have the chances to capture the future talcum market.

SOURCE OF DATA

SECONDARY DATA

The secondary data was collected through the connect2 India website. Past ten years data was collected and analyzed the future trend and predict the future market of the talcum.

STATISTICAL TOOL

Data collected was analyzed using statistical tool is trend analysis.

EXPORT OF TALCUM POWDER

Table 1

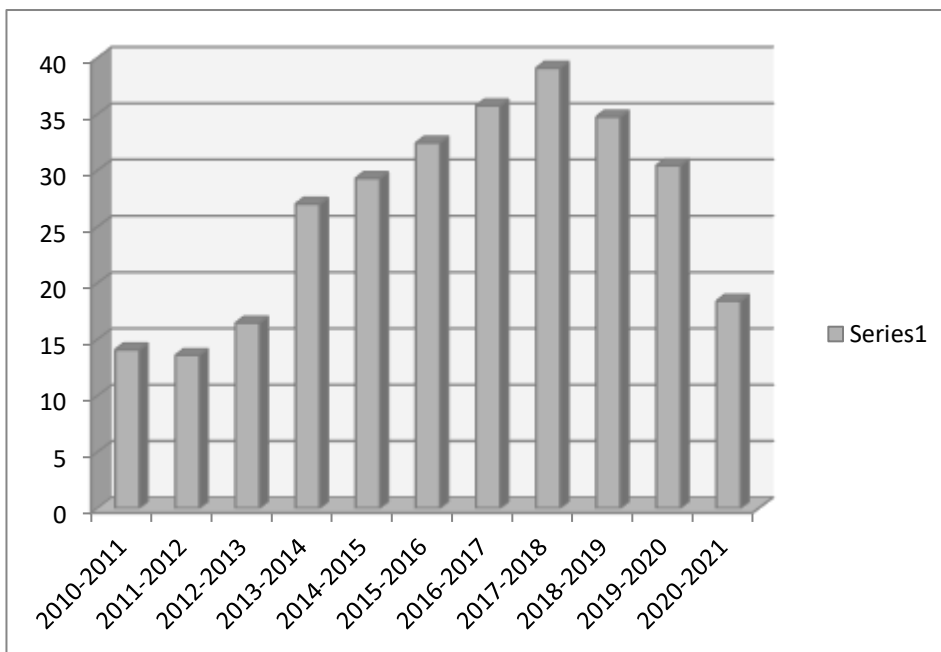
YEAR	VALUES IN USD	PERCENTAGE %
2010-2011	14.08	4.83
2011-2012	13.59	4.66
2012-2013	16.45	5.65
2013-2014	27.03	9.28
2014-2015	29.31	10.06
2015-2016	32.45	11.14
2016-2017	35.76	12.27
2017-2018	39.1	13.42
2018-2019	34.76	11.93
2019-2020	30.45	10.45
2020-2021	18.41	6.32
TOATAL	291.399	100



The above table 1 gives the export data of the talcum powder and it is traded globally, and the export data indicates that around 115 countries and territories actively import it from India. The total value of these exports amounts to 18.41 USD million. For exporters interested in selling talc powder, Connect2India provides a comprehensive guide on how to export it from India. The data includes analysis and resources related to talc powder exports.

The top five countries that import talc powder from Indian exporters are highlighted, contributing to a total export value of 7.23 USD million, which represents 39.27% of the overall talc powder exports.

To help Indian exporters target specific regions, the export analysis of talc powder is presented in a map format. This visual representation assists exporters in identifying their preferred export destinations.



EXPORT DATA CHART

PROJECTION TABLE

Table 2

YEARS	VAUE(USD)	X	XY	X2
2010-2011	14.08	-5	-70.4	25
2011-2012	13.59	-4	-54.36	16
2012-2013	16.45	-3	-49.35	9
2013-2014	27.03	-2	-54.06	4
2014-2015	29.31	-1	-29.31	1
2015-2016	32.45	0	0	0
2016-2017	35.76	1	35.76	1
2017-2018	39.1	2	78.2	4
2018-2019	34.76	3	104.28	9
2019-2020	30.45	4	121.8	16
2020-2021	18.41	5	92.05	25
TOTAL	291.399	0	174.61	110



FUTURE PROJECTION TABLE

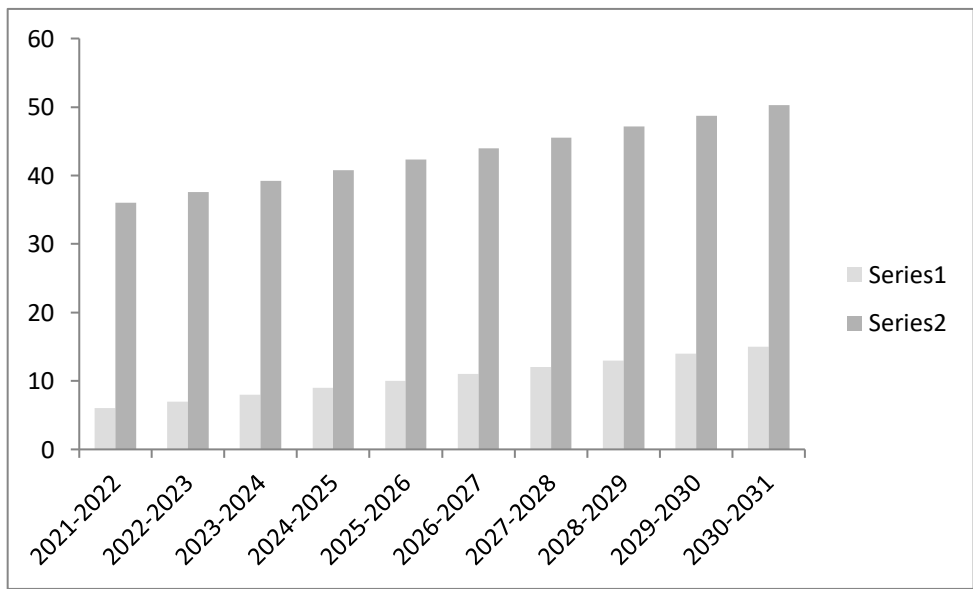
Table 3

YEAR	X	YC
2021-2022	6	36.01
2022-2023	7	37.60
2023-2024	8	39.18
2024-2025	9	40.77
2025-2026	10	42.36
2026-2027	11	43.95
2027-2028	12	45.53
2028-2029	13	47.12
2029-2030	14	48.71
2030-2031	15	50.30

The above table 3 shows that the growth of talcum powder was increased in 2017-2018. After that the pandemic arises the growth of talcum powder was slightly decreased.

But in the future prediction after the pandemic period, in the upcoming years the growth of talcum powder is going to increase in a voluminous way .the prediction is going in a possible way that the inauguration of herbal cosmetic in the world. After the covid period everyone turns up to the organic and herbal products, that in turn brings the growth of herbal talcum powder among the consumers and people.

PROJECTION CHART



CONCLUSION

This study analyzed the export data of the face talcum powder for past 10 years and also predicts the future export trend for the talcum powder. Comparing to the last years the future market of the talcum powder will increase year by year. This study suggests that the talcum market will attain boom, so that you can also introduce the natural herbal face talcum powder it will capture the future talcum market. Innovative product formulation, enhance quality standards, and strategic market expansion could pave the way for sustained growth in the talcum powder export industry.



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FROM CENTRAL ASIA TO PANIPAT: BABUR'S POLITICAL IMPACT ON 16TH-CENTURY HISTORY

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ANNOTATION

This article delves into the transformative journey of Zahir-ud-Din Muhammad Babur, the founder of the Mughal Empire, from his Central Asian roots to the pivotal Battle of Panipat in 1526. Examining Babur's early life, conquests, and the decision to invade India, it explores the strategies deployed during the Battle of Panipat and the establishment of the Mughal Empire. The narrative unfolds the cultural and architectural contributions of Babur, emphasizing his legacy and the enduring political impact on the 16th-century history of the Indian subcontinent. Drawing insights from the Baburnama, this article provides a comprehensive perspective on how Babur's journey reshaped the political landscape of the era.

KEYWORDS: Babur, Central Asia, Uzbekistan, Timur, Genghis Khan, Mongol Empire, Kabul, Battle of Panipat, Ibrahim Lodhi, Mughal Empire, India

INTRODUCTION

Zahir-ud-Din Muhammad Babur came from the Barlas tribe of Mongol origin, but isolated members of the tribe considered themselves Turks in language and customs through long residence in Turkish regions. Hence, Babur, though called a Mughal, drew most of his support from Turks, and the empire he founded was Turkish in character. His family had become members of the Chagatai clan, by which name they are known. He was fifth in male succession from Timur and 13th through the female line from Genghis Khan

MATERIALS AND METHODS

Babur, born on February 14, 1483, in present-day Uzbekistan, belonged to the illustrious Timurid dynasty. He was the descendant of Timur on his father's side and Genghis Khan on his mother's side. Babur's early years were marked by political instability and military struggles in Central Asia.

His father, Umar Sheikh Mirza, was a direct descendant of Timur, the Central Asian conqueror and founder of the Timurid Empire. Babur inherited a rich cultural and military legacy from both the Timurid and Genghis Khan lineages.

Babur's Timurid lineage instilled in him a sense of legitimacy and entitlement to rule, as the Timurids were regarded as inheritors of the great Central Asian conqueror Timur. The legacy of Timur emphasized the importance of military prowess and the establishment of powerful empires.

On his mother's side, Babur traced his ancestry to Genghis Khan, the founder of the Mongol Empire. This lineage provided him with a connection to one of the most formidable military forces in history, shaping his military strategies and tactics.

The amalgamation of Timurid and Mongol influences significantly impacted Babur's ambitions and military strategies. He inherited a thirst for conquest and a vision of building a powerful empire from Timur. Genghis Khan's military legacy inspired Babur with innovative tactics and strategic thinking.

Babur's early military campaigns in Central Asia, including the capture of Kabul in 1504, showcased his determination to carve out a domain for himself. However, faced with continuous challenges in Central Asia, he turned his gaze towards the Indian subcontinent.

The Timurid and Mongol heritage instilled in Babur a sense of destiny and a belief in his ability to establish a lasting empire. These influences played a pivotal role in shaping his ambitions and the military strategies he employed in his quest for power



Zahir-ud-Din Muhammad Babur embarked on a series of early conquests that laid the foundation for his later achievements, including the establishment of the Mughal Empire in India.

Babur's early struggles revolved around the Fergana Valley, his ancestral kingdom. At the tender age of 12 in 1494, he ascended to the throne of Fergana, only to face internal dissension and external threats. The constant struggle for control resulted in the loss of Fergana, forcing Babur into exile.

Undeterred, Babur, determined to reclaim his Timurid heritage, achieved a significant triumph in 1497—the capture of the illustrious city of Samarkand. However, the glory of victory was short-lived as retaining control proved challenging amidst fierce resistance and internal strife. The loss of Samarkand marked a period of uncertainty for Babur, compelling him to seek new territories.

Frustrated by the tumultuous politics of Central Asia, Babur redirected his focus westward. In 1504, he set his sights on Kabul, strategically positioned at the crossroads of major trade routes. The capture of Kabul became a pivotal moment, providing Babur with a stable base that secured him against external threats. This conquest not only offered stability but also served as a launching pad for his future ambitions.

In the early 16th century, Zahir-ud-Din Muhammad Babur embarked on a series of military campaigns that would eventually lead him towards the Indian subcontinent. One of the crucial milestones in his early conquests was the capture of Kabul in 1504.

In 1504, Babur launched a military campaign to conquer Kabul. The city's capture was not merely a territorial acquisition but a strategic move to secure a stable base for Babur's ambitions. Kabul offered a defensible stronghold against external threats and provided the resources needed to sustain and expand his rule.

The capture of Kabul played a dual role in Babur's trajectory. Firstly, it provided him with a much-needed respite from the political turmoil of Central Asia, offering a relatively stable environment to consolidate power. Secondly, Kabul served as a launchpad for Babur's future ambitions, becoming the strategic foothold from which, he would later venture into the Indian subcontinent.

The stability afforded by Kabul allowed Babur to regroup, replenish his resources, and plan for larger conquests. This conquest laid the groundwork for the grander stage of empire-building that would unfold in the years to come. Babur's capture of Kabul not only secured a vital territory but also demonstrated his ability to strategically navigate the complex political landscape of the region.

The significance of Kabul in Babur's early conquests cannot be overstated. It became the foundational piece in the mosaic of his empire-building aspirations, setting the stage for the subsequent events that would culminate in the historic Battle of Panipat and the establishment of the Mughal Empire in the Indian subcontinent.

The events leading up to the Battle of Panipat in 1526 were multifaceted and influenced by a complex set of political and military circumstances. Zahir-ud-Din Muhammad Babur's decision to invade India and confront Ibrahim Lodhi's forces at Panipat was driven by a combination of strategic calculations, regional power dynamics, and his own ambitions.

Babur's early conquests, particularly the capture of Kabul in 1504, provided him with a stable base and access to valuable resources, setting the stage for his expansion into the Indian subcontinent. The political landscape in northern India was dominated by the Lodi dynasty, with Ibrahim Lodhi as the Sultan. The Lodis faced internal dissent and external threats, creating vulnerabilities that Babur sought to exploit.

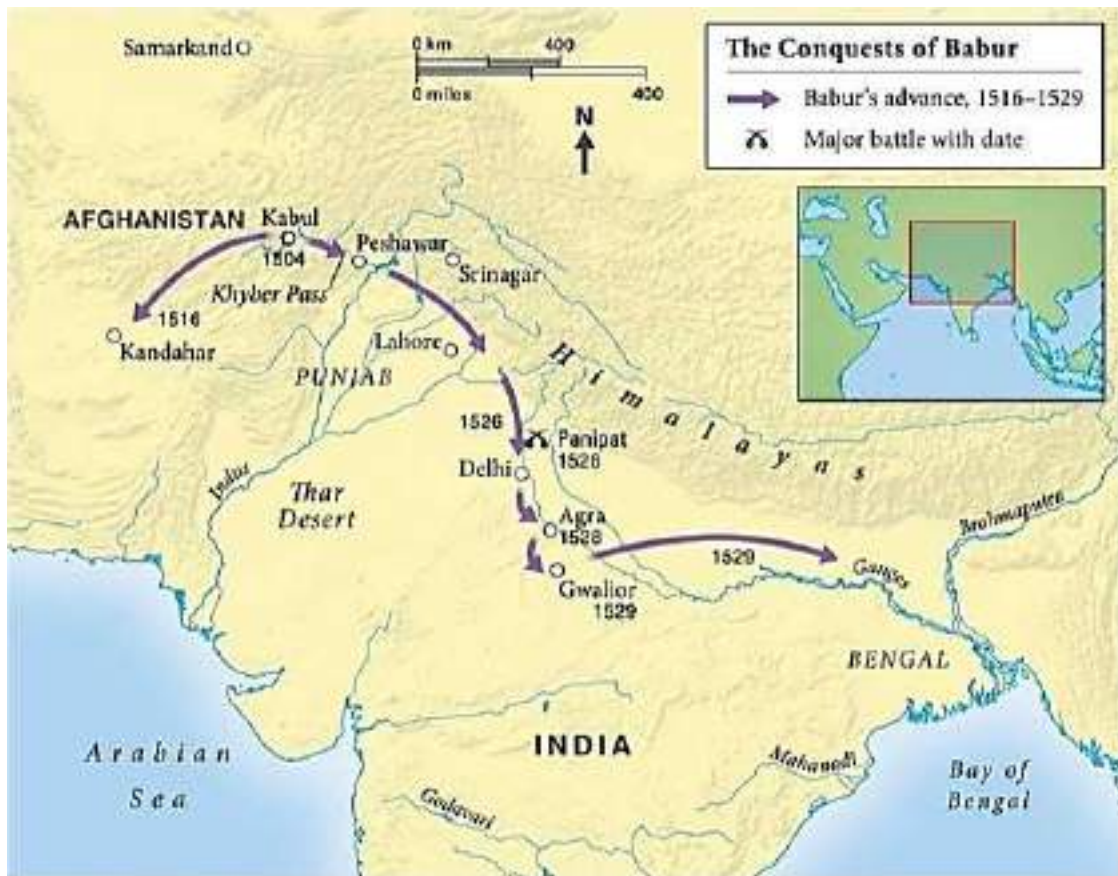
In 1526, Babur's military campaign culminated in the Battle of Panipat. The strategic importance of Panipat, a historically significant battlefield, was not lost on Babur. The decision to confront Ibrahim Lodhi's forces at this location was influenced by its central position and the advantage it provided in terms of logistics and mobility.

Babur's invasion was not merely opportunistic; it was a strategic move to establish his authority in the Indian subcontinent. The battle itself, fought on April 20, showcased Babur's military prowess and innovative tactics, particularly his effective use of artillery. The victory at Panipat marked a significant turning point in the power dynamics of northern India, leading to the establishment of the Mughal Empire.

In examining the circumstances, it becomes clear that Babur's decision to invade India was guided by a mix of geopolitical opportunities and regional instabilities. The weaknesses within the Lodi dynasty presented an opening that Babur skillfully exploited to fulfill his broader ambitions. The Battle of Panipat, while a product of these circumstances, also demonstrated Babur's military acumen and strategic vision, solidifying his place in history as the founder of the Mughal Empire in India.

Babur leveraged his knowledge of Central Asian warfare, incorporating advanced artillery techniques and strategic formations. His effective use of cannons, a relatively new element in Indian warfare, proved instrumental. The battlefield dynamics witnessed Babur's forces strategically positioning themselves, exploiting the geography, and employing timely maneuvers to gain an upper hand.

The consequences of Babur's victory were profound. The Lodi dynasty was decisively defeated, and Ibrahim Lodhi lost his life in the battle. This marked the end of the Delhi Sultanate and a significant shift in power. Babur's triumph at Panipat not only solidified his control over northern India but also demonstrated the potency of Central Asian military strategies in the subcontinent.



The immediate political impact was the establishment of the Mughal Empire. Babur, now the undisputed ruler, set the foundations for a new era. His victory at Panipat paved the way for the consolidation of power, as he strategically navigated the complexities of governance, winning the support of diverse communities within the empire.

Babur's reign marked a synthesis of Timurid administrative practices and local Indian traditions.

His efforts to integrate diverse cultures and religions within the empire contributed to its stability. The establishment of the Mughal Empire, with Babur as its first emperor, set in motion a series of events that would shape the course of Indian history for generations to come. The cultural and architectural legacy of the Mughals, born out of Babur's conquests, would leave an indelible mark on the subcontinent, representing the beginning of a vibrant and enduring imperial legacy.

In summary, Zahir-ud-Din Muhammad Babur's journey from Central Asia to the Battle of Panipat in 1526 left an indelible and enduring political impact on 16th-century history in the Indian subcontinent. His early conquests, starting with the capture of Kabul in 1504, strategically paved the way for the establishment of the Mughal Empire. Babur's decision to invade India, culminating in the pivotal Battle of Panipat, marked a transformative moment, exploiting regional vulnerabilities within the Lodi dynasty.

The enduring political impact of Babur's journey lies in the establishment of the Mughal Empire, a political entity that would shape the course of Indian history for centuries. His ability to synthesize Timurid and Indian traditions during his reign provided a stable foundation, fostering cultural integration and inclusive governance. This synthesis not only secured the Mughal Empire's longevity but also left an everlasting mark on the subcontinent's political landscape.



CONCLUSIONS

Babur's strategic vision, military prowess, and success at Panipat set a precedent for future Mughal rulers, creating a dynasty that would wield significant influence over India for generations. The Mughal Empire's enduring political impact manifested in its contributions to governance, art, architecture, and cultural diversity. Babur's journey, from Central Asia to Panipat, stands as a pivotal chapter, shaping the trajectory of 16th-century history in the Indian subcontinent with a legacy that resonates through the annals of time.

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SOCIO-ECONOMIC CONDITION OF TRIBAL POPULATION OF MAJHUA BUSTY, JALPAIGURI DISTRICT, WB

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ABSTRACT

India's tribal community's livelihood is a multifaceted phenomenon with a dynamic and complex nature. North Bengal region has been home to numerous primitive tribal communities since Colonial rule. Having their own traditional, ritual and economic practices, the study of tribal community of North Bengal is of primary importance. The purpose of this study is to analyse the socio-economic status and livelihood concerns of the Tribal community in Majhua Busty, Jalpaiguri. The study revealed that the Mech and Santali communities in Majhua busty are in deplorable state in terms of various parameters namely poor education, poor sanitation and drinking water facility, lack of permanent source of income. The study endeavours to suggest measures to address socio-economic challenges faced by Tribal communities.

KEY WORD: *Tribal Community, socio economic, Meche, Santhal*

INTRODUCTION

The Tribal communities in India have existed since the ancient times. They have their own unique culture, tradition and economic practices. The Majority of the tribal communities in North Bengal reside in Jalpaiguri, Alipurduar, Darjeeling and Cooch Bihar districts. North Bengal is not as well developed as other parts of west Bengal in terms of infrastructure, civic amenities and human development indicators. North Bengal is the home of different ethnic groups like the Rajbansis, Koches, Gorkhas, adivasis for over a long period as a result of colonial rule, growth of the tea industry and Partition in 1947. However, the condition of the primitive tribe of North Bengal has been dismal in spite of the government efforts. Therefore it is necessary to study the living conditions, educational status and source of income of these tribal communities. This study is designed to study the livelihood pattern and the socio-economic condition of the primitive tribe of North Bengal and identifying the suitable strategy for further advancement.

LITERATURE REVIEW

The livelihood of Tribal community in India is a multidimensional phenomenon which has dynamic and complex nature. Since ages, tribal people have been residing into the lap of the forest as well as nature. Their culture, tradition and even economy are associated with nature, which has also kept tribal societies under isolation as compared to the mainstream societies. Several studies have showed that in India the main source of tribal livelihood is agriculture, especially forest-based, which plays vital role in national economy. Elahee (2013) studied that Tribal people identify themselves as aborigines in our country. It is a vulnerable section of our society who lives in a natural and unspoilt environment, far from civilization, with its values, customs and beliefs. Tribal groups with pre-agricultural stage development and very low literacy population are defined as primitive tribal groups. Sarker (2014) reported that Tribal populations are very friendly with nature for cattle and food. Nature is revealed to have enough resources for tribal. Deka (2016) has studied the rates and living standards of tribal literacy communities are very low compared to other communities. Oraon (2012) reported that livelihoods based on small and marginal land farmers are increasingly unsustainable, which compelled them to look alternative means of subsistence. Sarker (2014) reported that Tribal populations are very friendly with nature for cattle and food. Awais (2011) has presented his study that agriculture is still primary occupation which has been the reason for their backwardness. Kulkarni (1980) has presented the problems of tribals in Maharashtra vary from tribe to tribe and from region to region. Most of the tribal workers are farmers and the tenant workers and the rate of economic development of all the tribal communities have been extremely low in spite of special programmes for them. Moreover the proportion of income derived from agricultural activity decreased and there is tendency of migration and non-farm activity(Deb et al., 2002). Tribal people of West Bengal are facing a large scale economic and livelihood insecurity due to the lack of employment opportunities in villages. There are numerous issues of sustainable livelihood among the scheduled tribe population in this region. Ongoing pressure on forest resources is leading to a decline in their traditional occupation. Government control and the exchange of forest land are weakening valuable tribal land. (Mallik, 2013) study highlighted that there have been less number of the institutional opportunities given by the government to upgrade their income opportunities. Forest degradation, Institutional disappointments, absence of government strategies, poor communication, absence of social services like health care, education, employment, etc have cut down the livelihood options quickly expanding poverty. So, from the above discussion it can be said that livelihood options and opportunities are very less for sustaining a meaningful living.



RESEARCH GAP

Several studies have investigated on sustainable livelihood and livelihood strategy of Tribal Communities. However, not enough work has been done to understand the indigenous population’s livelihood possibilities at the micro-household level. Studies examining the livelihood elements in relationship to the geographic region are lacking. What are the livelihood strategies? How stable is the income of the tribal household? Some of these questions are intended to be addressed by this study.

RESEARCH OBJECTIVES

1. To study the pattern and primary source of livelihood of the tribal community of Majhua Busty
2. To investigate the available livelihood options among the tribal households.
3. To identify the areas where the tribal community lags behind
4. To study the pattern of medical health services by the tribal community
5. Impact of Covid -19 pandemic on the tribal households
6. To find out whether the community is aware of government initiative to promote indigenous art, culture , language and knowledge

METHODOLOGY & STUDY AREA

The study is based on Questionnaire based Primary Survey. A total of 50 samples have been collected from the respondents through direct interview method to serve the purpose of the study. The study has used both primary and secondary data. The secondary data has been collected from WB government reports and census 2011, periodical journals, etc. In this study Microsoft excels has used to analysis the data. The study area has been selected on the basis of location and accessibility of the Tribal community. The Mujhua Busty, Dabgram -I, Jalpaiguri District has been selected for the study. The sample of size of 50 households in total has been taken for intrinsic study of the tribal community. The selection of the sample has been on the basis of Simple Random Sampling.

RESULTS AND FINDINGS

Several studies have shown that tribal communities are secluded society having their own Culture, tradition and socio-economic practices. They live in isolated region far-off from the mainstream society, close to forest area. In fact they rely mostly on forest, nature and agriculture for sustaining their livelihood. In order to understand the livelihood pattern of the tribal community of Majhua busty following indicator have been taken into consideration for the study.

Demographic Profile

In order to get the insight of the livelihood pattern of the Tribal households, general household information were asked on family size, age structure, marital status, education status, earning status, current working members in the household, sources of income, source of drinking water ,etc.

**Table No.1
Demographic Profile of the Sample Households**

Demographic Profile	Tribal Households
Household Sex composition: 1. Male 2. Female	1. 140 (51%) 2. 135 (49%)
Size of Dependent tribal population: 1. Dependent (Below 18 years) 2. Elderly Dependent (Above 60 Years)	1. 57(21%) 2. 13(5%)
Ethnic Composition of the Households: 1. Meches 2. Santals	1. 34(67%) 2. 16(33%)
Size of the Households(Number of household members) 1. Small Size(2-4) 2. Medium Size(5-7) 3. Large Size(8-10)	1. 12 (24%) 2. 32 (64%) 3. 6 (12%)



Number of Earning Members:	
1. 1 Earning Member	1. 15 (30%)
2. 2 Earning Members	2. 20 (40%)
3. 3 Earning Members	3. 13 (26%)
4. 4 Earning Members	4. 0 (0%)
5. 5 Earning Members	5. 1 (2%)
6. 6 Earning Members	6. 1 (2%)

Source: Field Survey

According to the Table No. 1, the tribal households of Majhua busty had higher proportion of males compared to females. The ethnic composition of the surveyed area comprised of two tribal communities namely Meches and Santhals and the languages spoken by both the communities included Bodo, Santali, Sadri, Nepali and Hindi. Majority of the households of Majhua busty had on an average medium family size consisting of 5 to 7 members. Furthermore as compared to the family size, 40 percent of the households had only two earning members, with most of them working at the river site. Only 26 percent of the population was dependent, with majority of them being under 18 years old and only 5 percent being dependent over 60 years old.

Characteristic of the Majhua Households

TABLE No. 2 Characteristics of Tribal Households

Characteristic of the HH	Male	Female	Total
AGE Structure:			
Below 5	10	3	13
5 to 15	18	12	30
15 to 30	63	61	124
30 to 45	21	28	49
45 to 60	21	27	48
Above 60	4	7	11
Total	140	135	275
Marital Status			
Never Married	43	54	97 (35%)
Currently Married	87	81	168 (61%)
Widowed	3	0	3(1%)
Separated	7		7(3%)
Total	140	135	275(100%)
Education level:			
Illiterates	28	36	64 (23%)
Below Primary level	48	49	97(35%)
Primary Level	36	16	52 (19%)
Secondary Level	18	19	37 (13%)
Senior Secondary Level	3	7	10 (3.6%)
Graduation	0	4	4 (1.4%)
NA	7	4	11 (4%)
Total	140	135	275 (100%)

Source: Primary Survey

Age & Marital Status

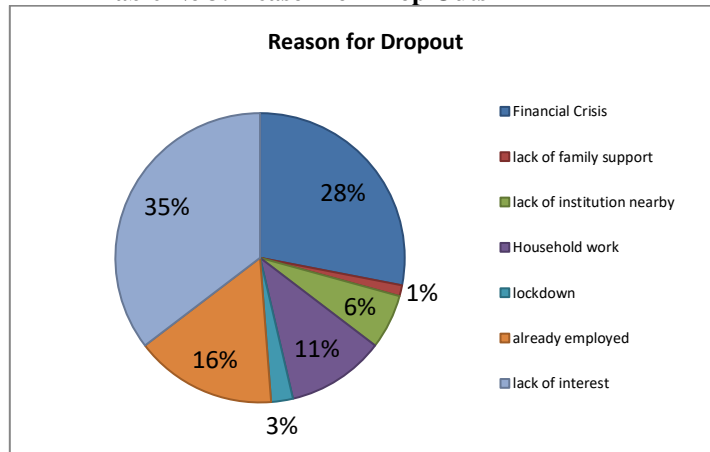
According to the Table No. 2, The Tribal community of Majhua busty comprises a young population, with 46 percent of the population under the age of 15 to 30 years old. Majority of the tribal population were married. The Santhal Community had a higher rate of early marriage than the Mech community. Among Santhal tribe early age of marriage seen was 15 years of age whereas for Mech Community age of marriage seen was 18 years of age. School dropouts or financial crisis in the household led to early marriage among both Santhal and Mech tribes.



Education Status

The overall development of the society is greatly influenced by education, but according to a field study conducted at Majhua busty, there is a significant lack of education among the Mech and Santhal Tribes. With 35 percent of the population has education level below primary level and 23 percent are still illiterate. Moreover the dropout rate was very high post primary level of schooling. The reasons for dropout as shown in Table No.3 was mostly due to lack of interest among the youngsters to pursue education since they were the first generation learners followed by financial crisis in the family due to which they prefer taking up meager jobs or help family with household chores. Lack of nearby education institution and even Covid-19 lockdown have demotivated students from pursuing higher education.

Table No 3: Reason for Drop Outs



Source: Primary Survey

Housing Condition

Thirty-three percent of Majhua Busty's tribal households have pucca houses, 33 percent have semi-pucca homes with tin roofs, and 13 percent of Meche households have kutchha homes with mud floors and thatched roofs. The majority of families (70%) have one toilet, regardless of the number of family members, and 23% of those toilets were built by the government as part of the Swachh Bharat Mission. These toilets are in poor condition, with shattered pots and ripped roofs. While the remaining 40% of families have an attached bathroom with a toilet, 60% of households lack bathrooms and must take their baths in open area.

Drinking Water Facility

According to the field study drinking water facility in Majhua busty has been very poor. For majority of the households groundwater sources are major source of drinking water. Primary source of drinking water are from tube wells. Around 30 percent of the households have to fetch it from far-off places. 33 percent have to borrow water from the relative's house or from neighbors who have the PHE water connection. 17 percent have hand pumps at their own premise. Only 23 percent avail drinking water from the State Public Health Engineering (PHE) Water Facility.

Food and Health Habit

Majority of the households had separate Kitchen made of mud floor and thatched roof. Around 47 percent prefer using both Gas and firewood for cooking whereas 37 percent still prefers using wood usually purchased at Rs.450 per cycle which according to them is more affordable than the cylinder gas. Majority of the household consumes thrice a day, diet includes green veggies grown on farm with consumption of meat thrice a week and no dairy product. The Consumption of home brewed alcohol is of normal practice.

The Majhua Busty tribal population has relatively limited access to public hospitals and healthcare facilities. Hospitals and health centers are 15 kilometres from the village. For the treatment of any sickness, the majority of the household favors using indigenous techniques or indigenous/herbal remedies. Only 10% of the families have a health card, but they have never used the service. In reality, only 14% of people preferred visiting the hospital whenever they were ill, compared to 36% who chose praying to their ancestors and using herbal treatments for recovery. Since 90% of households were unaffected by the pandemic, Families infected with Covid-19 virus employed herbal remedies and prayer to their ancestor's god to treat their symptoms.



Occupational Structure

Table 4. Occupation of the tribal households

Occupation	Population (%)
labour	67%
Army	8%
Government Job	3%
Business	13%
Wood sale	5%

Source: Primary Survey

The tribal household's occupational structure revealed that 67 percent of the earning members were employed as daily wage workers. Out of the labor force paid on a daily basis, 85 percent of the workers were employed sand miners for loading and unloading soil for building houses in the Siliguri vicinity; These were primarily male labours; remaining 25 percent were either domestic maids or laborers on construction sites. Merely 13 percent of the studied population ran small enterprises like as grocery stores and momo shops, while the remaining individuals were engaged in odd jobs in the adjacent forest area of Sukna, Siliguri.

Table No.5: Income of the tribal household

Income	No of Household	Percentage
Below 5000	3	6%
5000-10000	10	20%
10000-15000	18	36%
15000-20000	5	10%
20000-25000	6	12%
Above 25000	8	16%

Source: Primary survey

According to the field study 37 percent of the households earned between Rs.10000 to Rs.15000 per month. Nonetheless, monthly income of the tribal communities residing in the area varied. Santhal household's average income was lower than Mech Community. Santhal Households earned less than Rs.10000 per month. The primary source of the disparity in income is the family's unemployment, as well as the fact that, in contrast to the Mech community, the Santhal community prefers to engage in menial labor such as selling firewood and domestic maid services. As contrary to several studies which shows the traditional occupation of agricultural farming of the tribal communities, majority of the tribal population of Majhua busty preferred working as daily wage labor. In fact in order to supplement family income especially among Meche Tribe, home brewed alcohol were sold in the Majhua busty.

Furthermore, 57 percent of the households had no land purchased, 38 percent had tiny landholdings of less than two bighas, and 31 percent had medium-sized landholdings of four to six percent. Sixty-eight percent of landowner households said they would rather keep their land undeveloped. The land was left uncultivated because farmers were afraid that excessive grazing would destroy their crops and had little interest in keeping them. Households with land would only engage in subsistence farming and growing crops like wheat, rice, corn and potatoes for their own subsistence. Livestock farming mostly consisted of Pigs, Cows, Goat, ducks and poultry farming was practiced in every households.

Savings and Investment

Habit of little Savings and Investment habit are indicative of extremely low financial literacy among the tribal households. Though 60 percent of the households have borrowed loan from Bhandhan Bank mostly for the purpose of House Construction, Pig farming or purchase of consumer durables including Two –wheeler. However, only 37% of people really save money; of those, 55% choose to save in cash, 27% save as bank deposits, and 18% save in both ways. The percentage of households with LIC policies is only 23%. A quarter of the respondents possess gold jewelry, which was primarily given as a wedding present to the family's female members.

Impact of Covid-19 lockdown

63 percent of the households mentioned that lockdown did not severely affect their livelihood. There was no severe impact of lockdown due to the availability of ration as well as distribution of food and safety kits like gloves, mask, sanitizer and clothes form various NGO's. In fact 37 percent believed that they better off during lockdown due to the odd jobs that the households were involved which mostly included selling of home brewed alcohol(Hariya) which became the major source of livelihood for the majority of the households. The fact that the tribal communities live far-off from the mainstream society thus had lesser chance of getting infected with covid-19 and At the same time only 5 percent of the household were infected by Covid-19 however no medical



expenses incurred due to preference of households using local herbs as cure of the virus. Majority of the household also highlighted the fact that caste based community offered major support during pandemic in terms of social and financial support.

Future of Indigenous practices

Sixty percent of the households stated that they were not interested in the next generation carrying on the traditional agricultural farming practices. They attributed this to a lack of resources, including money, labor, raw materials, and the physical and mental fortitude of their ancestors.

Way Ahead

Mech and Santhal tribe have similar pattern of livelihood. Both the tribal communities have standard of living with consumption of meal twice a day, with poor sanitation and water facilities. They lack health infrastructure and medical facilities. The area also lack proper educational facilities. The drop outs rates for both the female and male students are high due to their interest of working or due to financial crisis in the family and also due to lack of interest in higher studies. Most of the households have agricultural land which was barren and underutilized. With proper training and education about agricultural production households can make proper utilization of the agricultural land that could add to their income.

- Proper training and educational awareness should be provided to landholders about the productive utilization of the barren land.
- The literacy and education status are very low among the tribal community. Establishment of primary and secondary education infrastructure is required so that the teaching learning process is improved.
- The land is the major physical resource available to households. Most of the available land is poor in quality, and there is not very much of it. Agricultural intervention in the form of promoting locally relevant crops should be encouraged. Similarly, Horticulture and Small irrigation schemes should be encouraged.
- Awareness about the various indigenous practices should be encouraged.
- Government efforts must be made for establishing health centres, easy access to water facilities, construction of toilets, easy mode of transportation.

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A PHARMACEUTICO ANALYTICAL STUDY OF AMRUTAKALANIDHI VATI

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ABSTRACT

Ayurveda the natural healing system guides us the use of different kinds of herbal, mineral and animal origin drugs. The quality control and assurance are most essential factor in today's practice. Hence the present study has been taken to analyze Amrutakalaanidhi Vati (AKN Vati) as per Ayurveda classics and modern parameters like physicochemical tests, XRD, SEM EDAX. **AIMS AND OBJECTIVES:** To do Pharmaceutico-Analytical study of AKN Vati. **Materials and Methods:** Preparation of AKN vati and physic-chemical analysis of AKN vati and Varatika at different stages. **RESULTS:** Preparation yielded a good quality of vati and the overall methods adopted were not too tedious. XRD showed change in crystallinity of calcium compound and SEM-EDX showed calcium and silica as major elements in VB and AKN Vati. **Discussion and Conclusion:** AKN vati indicated in Jwara and Agnimandya. To gain acceptance of the medicine at the global level present study focused on pharmaceutical and analytical aspects.

KEYWORDS: Amrutakalaanidhi Vati, Vatsanabha, SEM-EDX, Jwara.

INTRODUCTION

Rasashastra and Bhaishajya Kalpana is a branch of Ayurveda which has many tailor-made medicines for acute conditions like Jwara, Kasa, Swasa etc. these herbo-mineral preparations have quick action, require small doses and are easy to administer. Amrutakalaanidhi vati^{1,2} is one such preparation described in the text Bruhat Nighantu Ratnakara and later quoted in the text Bharata Bhaishajya Ratnakara and Bhavaprakasha which is indicated in Jwara and Ajeerna. Jwara is an acute condition that can be co-related to fever and has the highest prevalence rate of 75% as a major or minor complaint. Jwara when improperly or incompletely treated facilitates the deeper penetration of vitiated doshas giving rise to new diseases and also causes mandagni at the dhatu levels³. One major obstacle for a Vaidya to practice Ayurveda is the non-availability of most of the classically explained medicines; AKN vati is one such example. Though the formulation is easy to prepare and can be administered clinically, it is not readily available on the market. To propagate its use one has to prove its safety and efficacy. The above situation can be addressed by standardizing pharmaceutical procedures and accessing the raw materials, intermediate products and final products using different analytical techniques like XRD, SEM-EDX etc.

MATERIALS AND METHODS

Pharmaceutical steps adopted in preparation of AKN Vati

- Shodhana of Varatika - Swedana in dolayantra using nimbu rasa as drava dravya for one yama⁴.
- Marana – total 3 ardha-gajaputa was given and Vartika Bhasma was prepared⁵.
- Shodhana of Vatsanabha was carried out by Go mutra sthapana method for 3 days⁶.
- Choornikarana of Shodhita Vatsanabha and Maricha.
- Amruthakalanidhi vati was prepared by mixing 2 parts of S.Vatsanabha, 5 parts of Varatika Bhasma and 9 parts of Maricha choorna and by giving bhavana with jala (Distilled water)
- Packing and labelling

Table showing the quantitative changes in the processing of Varatika

SAMPLE	BEFORE	MEDIA	AFTER	LOSS/GAIN
VARATIKA	250 grams	(Initial quantity taken)		
SHODHA NA	230 grams	2 ltr of Nimbu rasa	224 grams	(- 6) grams
1 ST PUTA	204 grams	NA	200 grams	(- 4) grams
2 ND PUTA	180 grams	90 grams of Kumari	175 grams	(-5) grams
3 RD PUTA	140 grams	75 grams of Kumari	140 grams	No change



- After every step of processing the Varatika an average of 20 grams of the sample was collected for Analytical study.
- There was a loss of 6% of Varatika from all the steps of processing.

Table showing the quantitative changes in the processing of Maricha and Vatsanabha

Drug	Wt. of Raw drug	Wt. after churnikarana	Loss	Yield
Maricha	1000 grams	850 grams	150 grams	85%
Vatsanabha	1000 grams	600 grams	400 grams	55%

- It was quite difficult to obtain fine powder of Maricha when compared to that of Vatsanabha as the Maricha is more fibrous.
- Excluding the fine powder there was another 100 grams of course powder of Maricha remained after processing.
- Nearly 45% of loss is seen in the processing of Vatsanabha. It is mainly because of two reasons i.e. due to worm's infestation and loss due to the removal of outer covering.

Table showing the processing of Amrutakalaanidhi Vati

Ingredients	Measurement
S.Vatsanabha	20 grams
S.Varatika bhasma	50 grams
Maricha	90 grams
Distilled Water (Bhavana dravya)	160 ml
Weight of the end product	180 grams
Yield	112.5 %

- After bhavana the quantity of the mixture was raised from 160 grams to 215 grams, later on drying the weight was reduced to 180 grams resulting in the total gain of 20 grams.

RESULTS OF ANALYTICAL STUDY

- a. Organoleptic characters of Varatika Bhasma and AKN vati

Test	Varatika Bhasma	Amrutakaanidhi vati
Sparsha	Mrudutva, Sookshma	Mrudutva
Varna	Shwetha varna	Kapisha varna
Rasa	Kshareeya	Katu
Gandha	Odourless	Go mutravat

- b. Analytical results of AKN Vati and Varatika Bhasma

Drug	Varatika Bhasma	AKN Vati
pH value	8.81	8.57
Loss on drying	1.3 %	6.9 %
Total Ash value	106.4 %	33.5 %
Water soluble ash	13.5 %	5.4 %
Acid insoluble ash	99.4 %	28.7 %

- c. Results of Tablet Analysis of Amrutakalaanidhi vati

Friability - 2.816

Disintegration - 15 mins

Hardness test – Not suitable to perform

Uniform weight – 65 mg +/- 5 mg

- d. Compiled SEM-EDX results of all the 4 samples

Elements Found	Concentration in %			
	Ashuddha varatika	Shodhita varatika	Varatika bhasma	AKN vati
Ca(Wollastonite)	37.75	29.83	34.51	1.11
SiO₂	50.10	55.30	52.61	44.89
CaCO₃	10.89	14.27	12.88	48.93
Magnesium	0.21	-	-	0.52
Chlorine	-	-	-	0.36
Potassium	-	-	-	3.63
Sodium	0.49	0.60	-	-



Silica	0.31	-	-	-
Iron (Fe)	0.25	-	-	-
Zinc (ZnK)	-	-	-	0.56

e. **Compiled XRD results of all the 4 samples**

COMPOUND NAME	C.F	CRYSTAL STRUTURE		
		ASHUDDHA VARATIKA	VARATIKA BHASMA	AKN VATI
Wollastonite	CaSiO ₃	Triclinical	Triclinical, , more crystalline	-
Silicate	SiO ₂	Tetrahedral	Tetrahedral	Tetrahedral
Calcium carbonate	CaCO ₃	Hexagonal	Trigonal, more crystalline	Trigonal, more crystalline
Potassium chloride	KCl	-	-	Cubic

PROBABLE MODE OF ACTION - Vatsanabha is a well-known swedana janaka • Varatika does pitta samana due to its rooksha guna which reduces the drava roopi pitta. • On the other hand maricha having katu rasa, ushna virya, deepana and pitta kara properties helps to increase the karya roopi pitta. • Shodhana dravya will also influence the therapeutic values of a drug, in this study Gomutra used for purifying vatsanabha have kapha, visha and krimi hara properties¹¹⁴ which helps in tackling Jwara. • Varatika shodhana is carried out by using Nimbu swaras which helps to overcome agnimandya and cures shoola, kills krimi and ruchikara. • Kumari swarasa used in bhavana of Varatika is of sheetha virya and pachana properties which are very much essential in cases of pittaja jwara. • Kumari has some traces of calcium and other minerals which has therapeutic importance and kumara is yakrut utejaka.

Maricha as prati-visha of vatsanabha – In Kriya kumudhi maricha kashaya is indicated in toxicity of vatsanabha and in Yogaratnakara, to neutralize the toxic effects of vatsanabha one part of Tankana and two parts of maricha is advised.

Akn word derivation - Amrutha word refers to Vatsanabha, The word Kala in relation to numbers denote the total number of kala’s i.e Shodhasha kala, here it is used to denote the total number of parts of medicine quoted in the shloka i.e 16 and the word Nidhi used in the medicine name denotes Varatika according to Shabdhalpadruma, which says Varatika is called Nidhi as it is obtained during Samudra mathana.

DISCUSSION AND CONCLUSION

Pharmaceutical study: AKN vati preparation yielded a good quality of vati and the overall methods adopted were not too tedious and effective.

Analytical Study

Uniformity of weight - All 20 handmade tablets of AKN Vati were within the limit 65±5 mg of the average weight. This test indicates the uniform dose distribution.

Disintegration test - The test is performed to find out that within how much time the tablet disintegrates. The disintegration affects the rate of absorption of drugs. The results obtained are within normal time period i.e., 15 mins.

Hardness test - It indicates the hardness the of the tablets, if the tablet is too hard, it may not disintegrate in required period of time and if the tablet is too soft it may not withstand the handling during packing and transporting, as AKN vati showed negligible amount of hardness care is to be taken while transportation. Friability test - It is performed to evaluate the ability of the tablets to withstand abrasion in packing, handling and transporting. The results obtained was 2.816 % whereas the normal range should be less than 1%. Both hardness and friability are less than the normal level suggesting the tablets are soft and can be broken easily, this is because the pills are handmade, very small in size and for bhavana dravya jala was used which does not help the particles to bind more compactly.

XRD - reports showcased the importance of pharmaceutical procedures explained in Ayurveda, as it showed the conversion of less absorbable form of Calcium into more acceptable form. The increase in crystalline nature (sharper peaks in XRD denote more crystallinity of the sample) of the drug by Marana was proved by the XRD reports.



SEM-EDEX - Elements present in the samples were confirmed by SEM-EDX study and significant change in the form of Calcium present in Varatika after Bhavana showed the importance of samyak bhavana and hinted the possibility of chemical reactions taking place between herbal and mineral substances during Bhavana.

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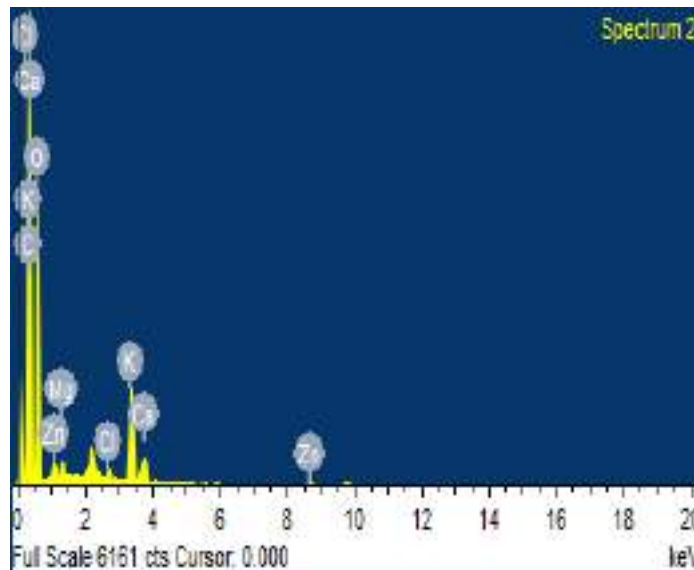
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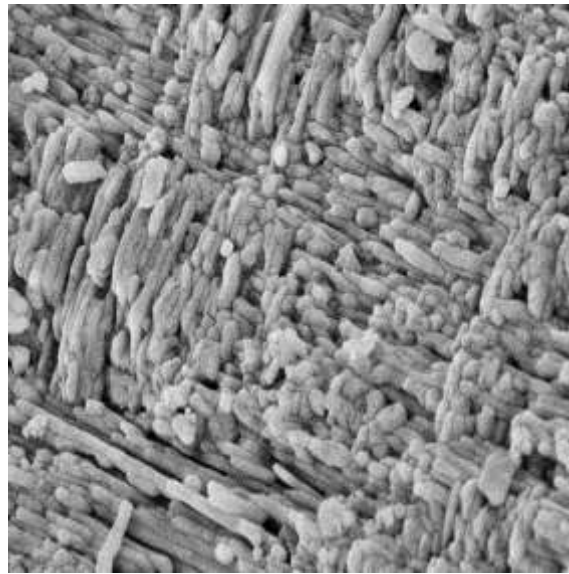
Bhavana of AKN Vati



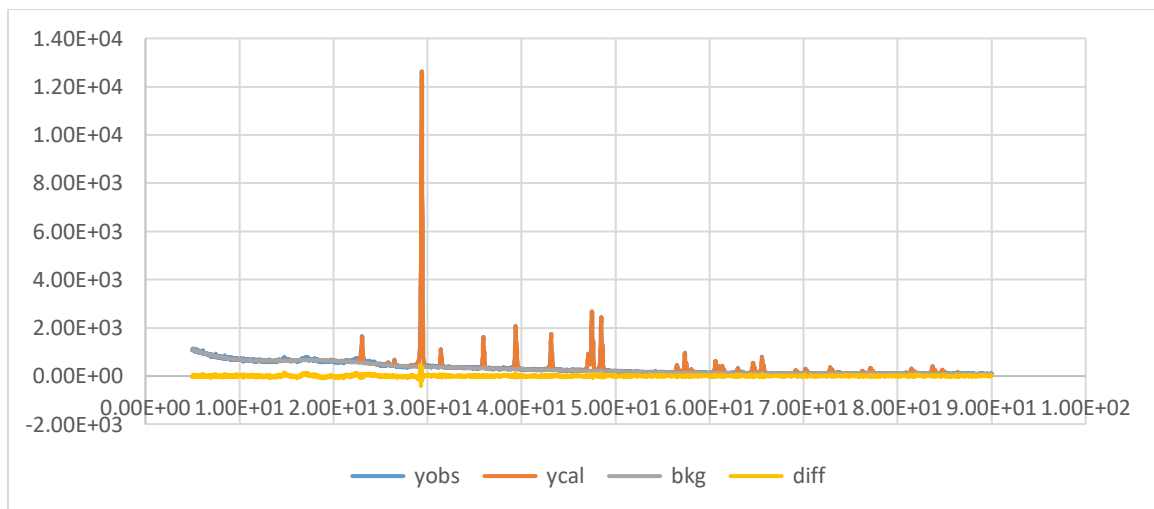
Amruthakalanidhi Vati



SEM-EDEX report of AKN Vati



SEM-EDEX report of AKN Vati



XRD report of AKN vati



COMBINED CHEMOTHERAPY OF CISPLATIN AND OXALIPLATIN WITH FLUORINE DERIVATIVES IN THE TREATMENT OF RECURRENT AND DISSEMINATED CANCER STOMACH

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SUMMARY

Cisplatin is highly effective against disseminated gastric cancer and its study in combination therapy regimens is of interest in terms of increasing the effectiveness of chemotherapy for this insensitive group of tumors. It is relevant to study the activity of Cisplatin in combination with fluorinated drugs.

Our work analyzed the experience of using the currently standard treatment regimen in European countries, including Cisplatin and daily infusions of 5-Fluorouracil.

Data on the effectiveness and toxicity of a new regimen are presented, where infusions of 5-Fluorouracil are replaced by oral Xeloda.

KEY WORDS : *effectiveness, toxicity, stomach cancer, treatment.*

RELEVANCE

The problem of treating malignant tumors of the stomach remains very relevant, since the total number of cases annually remains significant and in the global structure of mortality, gastric cancer (GC) gives way to its leading place only to lung cancer [1, 6]. Over the past three decades, most developed countries have seen a downward trend in incidence, the rate of which varies greatly. The decrease in the incidence of gastric cancer is most rapid in the USA, Australia, Canada, and Western European countries; it is slowest in Russia, Japan, China, Eastern Europe and South America.

In the structure of cancer incidence in Russia, GC consistently ranks second for people of both sexes and has a steady downward trend in all economically developed regions. From 1990 to 2005, a decrease in its share in the morbidity structure was noted: by 5.3% in men and by 5.8% in women [3, 9].

In the structure of morbidity among the male population of Russia in 2005, GC ranks second after lung cancer and amounts to 11.3%. In women, it ranks third after breast, colorectal and rectal cancer (excluding non-melanoma skin tumors) and accounts for 7.5% [4, 9].

In the structure of mortality of the Russian population from malignant diseases in 2005, stomach cancer was 14.3% in men (second place after lung cancer) and 12.5% in women (third place after breast, colon and rectal cancer). In total, 38,429 people died from gastric cancer [2,7].

The tragedy for most patients is the asymptomatic nature of early cancer, the lack of adequate screening programs, late detection, the aggressive course of the disease and, as a consequence, the impossibility of radical treatment. The proportion of patients with stage IV disease in 2005 reached 41.8%. (the proportion of newly diagnosed patients with stage IV gastric cancer ranges from 28.9% to 66.7% in various regions of Russia) [5].

By the time the diagnosis is made, in most patients with stomach cancer the disease is widespread; radical surgery is possible only in 30-35%) of patients, but even in these cases the rate of disease recurrence is quite high. Five-year survival depends on the stage and is 65% for stage I gastric cancer, 20% for stage II, 10% for stage III and less than 1% for stage IV.

PURPOSE OF THE STUDY

To study the effectiveness and tolerability, long-term results of treatment when using a combined regimen Cisplatin + Capecitabine.



MATERIALS AND METHODS OF RESEARCH

For the study, we chose the treatment regimen:

Cisplatin 80 mg/m² intravenously on the first day of the course against the background of antiemetic protection with 5-HT₃ receptor antagonists and dexamethasone, a load of saline solution up to 2 liters, followed by forced diuresis.

Capecitabine 2000 mg/m² per day, dividing the daily dose into two doses every 12 hours, 20 minutes after meals, with a sufficient amount of liquid. Patients began taking Xeloda in the evening of the first day of treatment and continued until the morning of the fifteenth day of the course. Repeat the chemotherapy course every 21 days.

The study protocol included 47 patients aged from 29 to 74 years (median 57 years). Of these: 24 men (51.1%) and 23 women (48.9%).

The average follow-up time for patients was 10.1±6.1 months (from 3 to 25 months). The prevalence of tumor lesions is presented in Table 20.

RESULTS

As can be seen from table 1, more than half of the patients before treatment had a primary tumor and damage to regional lymph nodes. Of the parenchymal organs, metastatic lesions of the liver were most often observed (45%).

One of the objectives of our study was to study the effectiveness and toxicity of combination regimens including platinum drugs in elderly patients (65 years and older). The prerequisite for this was the insufficient number of scientific studies on the treatment of cancer in elderly patients, false ideas about the poor tolerance of chemotherapy in this category of patients and the conservatism of the majority of oncologists, who consider old age a contraindication for active treatment. Therefore, below we present an analysis of various parameters for the entire age group of patients and comparative characteristics for various age groups. The characteristics of patients by age group are presented in Fig. 1.

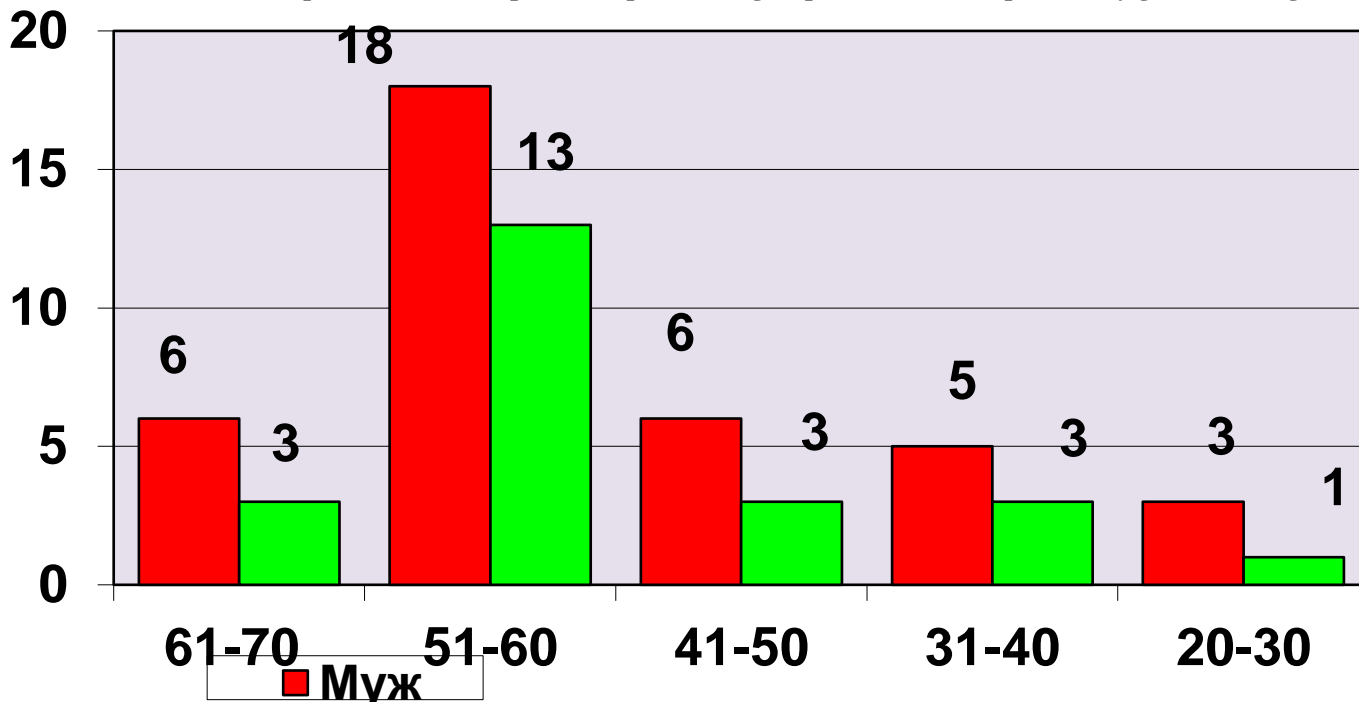
**Table 1
Localization of tumor lesions in patients of the group**

Cisplatin+	capecitabine
Localization	Number of patients, (%)
Primary tumor	24 (51.1%)
Regional lymph nodes, including retroperitoneal lymph nodes	28 (59.6%) 15 (31.9%)
Peripheral lymph nodes	11 (23.4%)
Big seal	9(19.2%)
Peritoneum	1 (23.4%)
Ascites	13 (27.7%)
Liver	21 (44.7%)
Pancreas	1 (2.1%)
Pelvic organs	6 (12.8%)
Lungs	8(17.0%)
Pleurisy	3 (6.4%)
Bones	3 (6.4%)
Soft fabrics	2 (4.3%)
Adrenal glands	1 (2.1%)
Spleen	1 (2.1%)



Fig 1.

Characteristics of patients in the Cisplatin+Capecitabine group Distribution of patients by gender and age

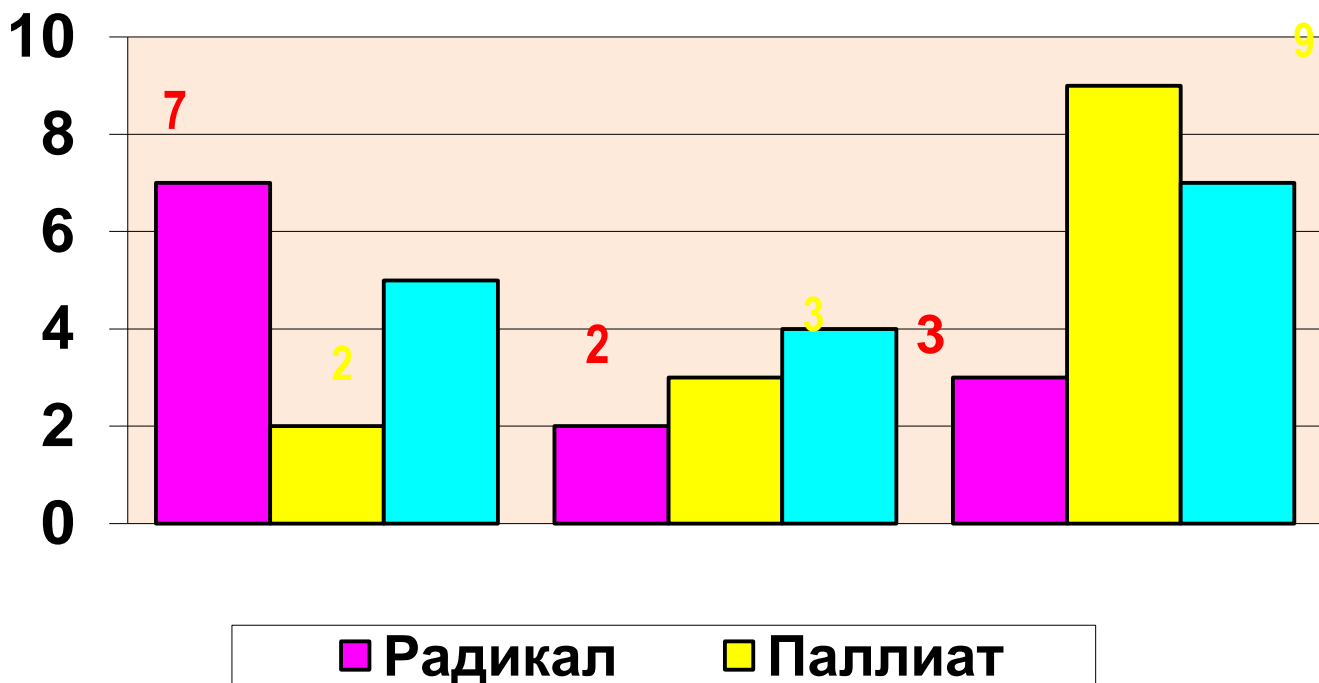


As we can see from Figure 1, in the group of elderly patients there was a more unfavorable general status, and extensive tumor lesions were more common.

28 people (59.6%) received previous surgical treatment. Types of surgical care are presented in Figure 2.

Fig 2

The nature of previous surgical treatment of patients in the group Cisplatin+Capecitabine





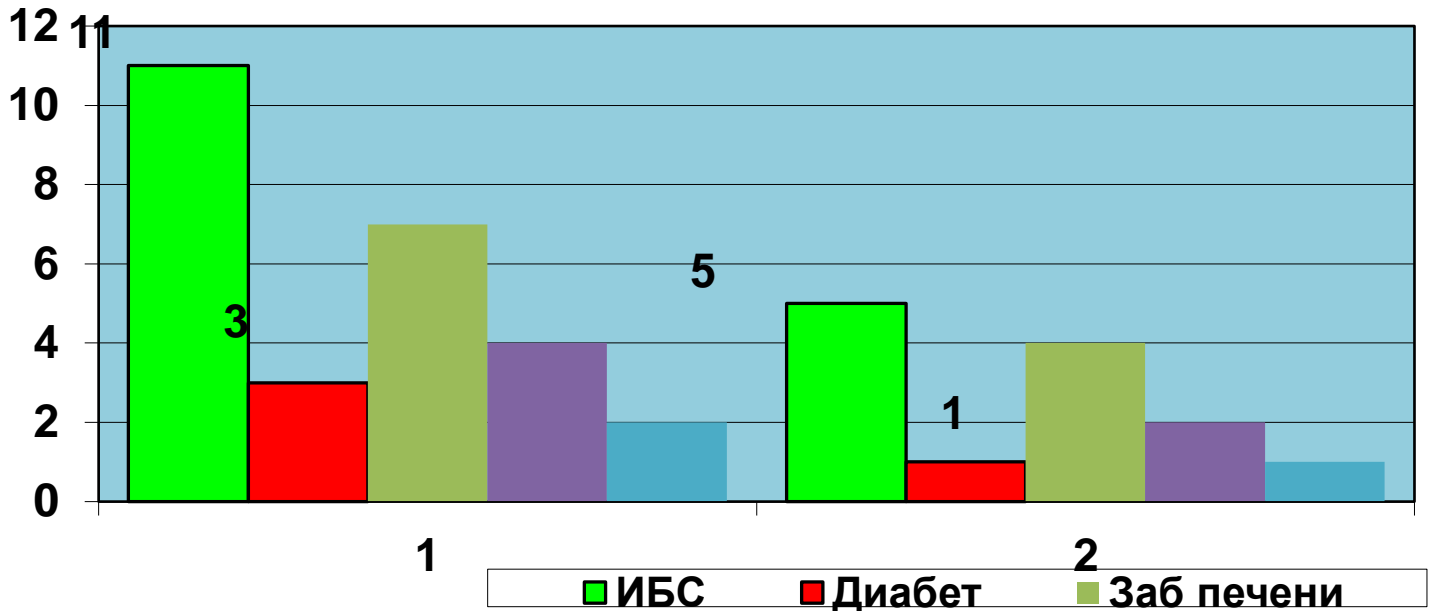
No adjuvant chemotherapy was administered.

We tried to analyze concomitant pathology in more detail, since it is one of the most common reasons for denying specific treatment to elderly patients.

Data on concomitant pathology in patients of different age groups are presented in Figure 3.

Fig 3

Concomitant pathology in patients of different age categories of the Cisplatin + Capecitabine group



***n-number of patients in the group**

It is important to note that two patients from group A and one patient from group B had a history of myocardial infarction, one (group B) had acute cerebral circulatory failure (the period between the acute condition and inclusion in the protocol was at least 1 year).

Hypertension was recorded in 14 patients (7 patients from each group). 14 patients suffered from coronary heart disease (group A - 6 patients, group B - 8 patients), three of them had circulatory failure 1-2 FC, two had a permanent form of atrial fibrillation.

2 The patient suffered from chronic encephalopathy associated with extensive atherosclerotic lesions of the cerebral vessels.

4 patients had chronic obstructive pulmonary disease (2 patients in each group), 3 had bronchial asthma (1 patient from group A, 2 patients from group B).

2 patients were carriers of viral hepatitis B (1 each in groups A and B),

1 - a carrier of viral hepatitis C (group A), 2 patients had Botkin's disease (group A).

One patient (group B) had a history of infectious meningitis.

Pathology of the genitourinary system was present mainly in the group of "young" patients: 2 cases of chronic cystitis, 1 case of chronic prostatitis, 1 patient had a history of nephrolithiasis and a secondary wrinkled kidney (without functional disorders at the time of inclusion in the protocol). This patient received 2 courses of chemotherapy with stabilization of the process. The level and clearance of creatinine during treatment with Cisplatin were normal. Removed from the protocol due to moving to another place of residence, where he continued chemotherapy. Contact with the patient was carried out by telephone.

In group B, 1 elderly patient had chronic prostatitis.

A total of 210 treatment courses were carried out (average 4.5).

148 (average 4.2) courses in group A, 62 (average 5.2) courses in group B. Data are presented in Table 2.



Table 2.

Number of patients by the number of courses administered to one patient using the Cisplatin + Capecitabine regimen

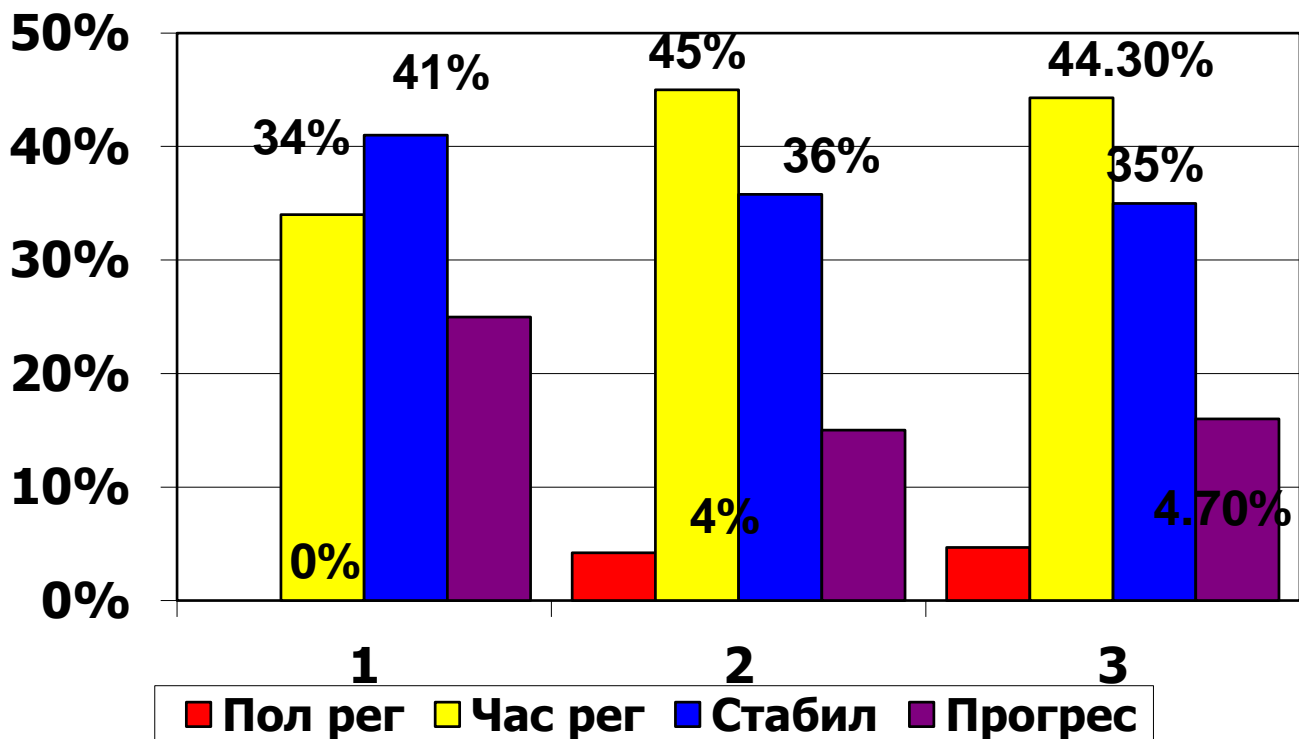
Number courses	Number of patients, (%) entire group	Number of patients, (%) group A (n=35)	Number of patients, (%) group B (n=12)
2	13 (27.7%)	12 (34.3%)	1 (8.3%)
3	2 (4.3%)	2 (5.7%)	-
4	11 (23.4%)	8 (22.9%)	3 (25%)
5	5 (10.6%)	2 (5.7%)	3 (25%)
6	9(19.1%)	6(17.1%)	3 (25%)
7	1 (2.1%)	-	1 (8.3%)
8	6(12.8%)	5 (14.3%)	1 (8.3%)

The largest number of courses was administered to patients under 65 years of age; elderly patients received mainly 4-6 cycles of chemotherapy.

The effectiveness was assessed in 47 patients who received 2 or more courses of treatment. The treatment results are presented in Figure 4.

Fig 4

Evaluation of the effectiveness of treatment in 47 patients using the Cisplatin + Capecitabine regimen



The median duration of effect in the entire group was 3.9 months.

At the end of the study*, the effect of first-line chemotherapy remained in 7 patients (14.9%), 14 patients (29.7%) were alive.

A comparative statistical analysis of the effectiveness of chemotherapy in various age groups is presented in Table 3



Table 3

Treatment effectiveness in patients of different age groups using the Cisplatin + Capecitabine regimen

Result	Number of patients, (%) group A, months (for median)	Number of patients, (%) group B, months (for median)
Number of patients	35	12
Full regression	1 (2.9%)	1 (8.4%)
Partial regression	14 (40%)	7 (58.3%)
Stabilization	13 (37.1%)	4(33.3%)
Progression	7 (20%)	0*
Overall efficiency	15 (42.9%)	8 (66.7%)
Tumor growth control	28 (80%)	12(100%)*
Median duration of effect	3.3 [1.6-19.9]	4.9 [2.3-17.2]

* - tendency towards significance ($p > 0.05$).

There were no significant differences in the effectiveness of treatment in the two groups.

There is a tendency towards significance ($p > 0.05$) in the difference in the frequency of progression ($p = 0.09$) and in the control of tumor growth ($p = 0.09$).

Control of tumor growth was achieved in 40 (85.1%) patients, which was 80% for the young group (A) and 100% for the elderly group (B), where no progression was recorded at the end of the study.

Considering the low sensitivity of gastric cancer to chemotherapy and the widespread prevalence of the tumor process, such a criterion as control of tumor growth is of great importance, especially for elderly patients and is a positive parameter of our study.

The clinical effect in the form of a decrease in intensity or complete relief of pain, improvement in general well-being, the presence of a certain comfort when swallowing and digesting food, appetite, weight gain, return to "normal" physical activity, and a positive attitude towards their disease was noted by 40% of patients (the same number in both groups).

In 10 (21.3%) patients (group A - 7 (20%), group B - 3 (25%)) during chemotherapy, weight gain averaged 2.4 ± 1.8 kg (from 1 to 6 kg).

CONCLUSIONS

All of the above indicates an increase in the quality of life of disseminated patients and is an important factor that is directly related to a decrease in the manifestations of general intoxication due to a decrease in tumor mass and the implementation of the cytoreductive effect of chemotherapy.

The presence of a clinical effect indicates the low toxicity of treatment, since in this case the antitumor effect prevails over the side effects of chemotherapy.

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PSYCHOLOGICAL ACCOUNTS FOR THE DIFFICULTIES EXPERIENCED BY INDIVIDUALS WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

Professionals in the field of special education have indicated that individuals with Autism Spectrum Disorder (ASD) learn very differently from individuals who do not have ASD. Past studies have attempted to identify a specific psychological cause for ASD that could explain the learning processes that are associated with ASD. These research studies have concentrated on three theories: theory of mind, weak central coherence and executive function that target the learning processes of ASD. These theories have been written in research papers and attempt to account for the fact that individuals with ASD organise their thought processes differently from typically developing individuals on certain measures.

INTRODUCTION

Many experts that have been researching and studying autism spectrum disorder (ASD) in the field of special education have implied and suggested that individuals with ASD study and acquire many of their skills in a very different manner from individuals who do not have ASD (Best, Moffat, Power, Owens, & Johnston, 2008). Some research studies in the past have tried to pinpoint and classify identifiable psychological reasons with regard to the challenges and difficulties experienced by individuals with ASD. They tried to understand what could be some reasons for the learning processes for ASD that could explain the learning processes that are associated with ASD (Best et al., 2008).

THEORY OF MIND

The term theory of mind (TOM) refers to the ability to think, rationalise and make inferences about the perceptions of other people. TOM and mentalising abilities are used interchangeably. Several studies (Loth et al, 2008; O'Hare & Bremner, 2009; Peterson, Wellman, & Slaughter, 2012; Yang, Zhou, Yao, Su, & McWinnie, 2009; Zhang et al., 2016) have stated that many typically developing children, as young as four years old, can make assumptions about other people's perspectives. However, in the case of individuals with ASD, the development of this skill is often delayed (Hutchins, 2016; Murray, 2017).

STUDIES ON TOM AFFECTING INDIVIDUALS WITH ASD

Baron-Cohen, Leslie and Frith (1985) conducted a theory of mind study across three groups, including children with ASD, children with Down syndrome and typically developing children. The children with ASD performed more poorly than the group with Down Syndrome, even though the children with ASD had a higher mental age (MA) in terms of non-verbal and

verbal skills. The children with ASD were also of a higher ability with a mean IQ of 82 (Baron-Cohen, Leslie, & Frith, 1985). The weak theory of mind hypothesis implies that characteristics displayed by individuals with ASD, (e.g. poor communication and poor social skills) are due to the absence of mentalising abilities (Hutchins, 2016; Murray, 2017).

Baron-Cohen, Leslie and Frith, 1985 concluded that individuals with ASD have a weak theory of mind. They described this phenomenon as an inability to represent mental states or to predict the behaviour of other people, placing individuals with ASD at a disadvantage compared to typically developing individuals (Baron-Cohen et al., 1985; Imuta, Henry, Slaughter, Selcuk, & Ruffman, 2016; Moran et al., 2011; White, Coniston, Rogers, & Frith, 2011; Zhang et al., 2016).

The study by Baron-Cohen et al. (1985) has been criticised by subsequent researchers for various reasons. Firstly, the theory of mind deficit does not adequately explain all the symptoms of ASD. Unexplained symptoms include rigidity, which is characterised by insistence on sameness or a certain routine, sensory hypersensitivity and repetitive self-stimulatory behaviour. Secondly, the study included a small group of children who have a theory of mind. These findings suggest that deficits in mentalising abilities (theory of mind) can occur on a continuum. Therefore, one can conclude that there will be a range in the severity of deficits in the theory of mind among children with ASD (Aljunied, 2005; Zhang et al., 2016).

The theory of mind hypothesis was tested using Wimmer and Perner's puppet play paradigm. The control groups for this study were typically developing children and children with Down syndrome. The study results indicated that even though the children with ASD had a higher mental age than the group with Down Syndrome, individuals with ASD were unable to



input beliefs to others (Imuta et al., 2016; Zhang et al., 2016). It was concluded that the failure to predict the behaviour of other people shows a deficit in social skills. Lack of mentalising abilities cannot be attributed to intellectual impairments given that the children with Down's syndrome who were in the control group were able to perform the task correctly. Therefore, the researchers believed that there is a learning style deficit in the group of individuals with ASD that includes impairment in pretend play, theory of mind and social skills (Aljunied, 2005; Imuta et al., 2016; Zhang et al., 2016).

The theory of mind has been further confirmed by Ponnet, Buysse, Roeyers and De Clercq (2008) who compared the performance of a group of young adults with ASD to that of their typically developing peers on mind-reading (inferring thoughts and feelings of others). The researchers concluded that there was a difference between individuals with ASD and the typically developing control subjects when it came to mind-reading, especially in a less structured or noisy environment.

In a research paper by Bigham (2010), she examined the theory of mind, pretend play, and response inhibition. This study aimed to empirically test each of these theories. Children with ASD were impaired relative to the control group when interpreting pretense, thereby supporting the competence deficit hypothesis. Participants included 60 children with ASD, 28 children with intellectual disabilities without ASD diagnosis, and 37 typically developing children. She concluded that individuals must have a strong theory of mind for them to have good pretense skills.

IMPLICATIONS FOR INDIVIDUALS WITH ASD

In non-technical language, individuals with ASD are not able to infer what the other person is thinking or wants. As a result, they lack the skills needed to perceive and interpret human behaviour in terms of intentional mental states or mentalising ability. When individuals are not able to engage in pretend play, their development in language and social skills may be affected (Bigham, 2009). Thus, according to Hamilton (2009), if an individual is unable to represent abstract mental states, this inability would also affect the way these individuals with ASD think, learn and organise their thoughts. Other cognitive theories are briefly reviewed in the following sections.

WEAK CENTRAL COHERENCE

The phrase 'weak central coherence', a specific perceptual-cognitive style, described as a limited ability to understand context, was first used by Frith (1989). In a later review paper by Happe and Frith (2006), they refer to weak central coherence as the detailed focused processing style that is supposed to characterise ASD. Harris et al. (2008) explained that the theory of weak central coherence assumes that individuals with ASD process information and learn in small discrete units as opposed to perceiving information as a larger whole.

Happe and Frith (2006) have also noted that there are individuals with ASD who do well in visual segmentation, the

ability to dismantle a big picture. Happe and Firth (2006) gave an example where individuals with ASD did well in certain tasks in the intelligence test item, such as the block design subtest and the Embedded Figures Test. Happe and Frith (2006) also suggested that individuals with ASD find it challenging to transfer their learning to other contexts.

STUDIES ON WEAK CENTRAL COHERENCE AFFECTING INDIVIDUALS WITH ASD

Happe and Frith (2006) described some individuals with ASD who can imitate the pitch of a 'pop' of the cork as it comes out of a wine bottle or identify dozens of brands of vacuum cleaners just by the sound they emit. Others can replicate foreign languages and intonations that are not noticeable to non-native speakers of that language. Therefore, it is believed that for individuals with ASD, their weak central coherence helps them to focus on their savant skills (Riches, Loucas, & Baird, 2016; Skorich, Gash, Stalker, Zheng, & Haslam, 2017).

Frith (1989) wrote about the complexity of information processing by individuals with ASD. She found that ASD is marked by a reduced capacity to integrate information at different stages. She described this unusual way of thinking as dealing with information on a piecemeal basis that is joined with an inability to situate and interpret information within a wider and more relevant context.

Shah and Frith (1993) demonstrated that individuals with ASD performed extremely well whilst attempting the Wechsler Block Design, an intelligence test that measures spatial visualization ability and motor skill. They believed this was because individuals with ASD have an innate method of processing information in which they are able to segment a whole design into different components.

A study by O'Riordan and Plaisted (2001) supported earlier findings about the lack of categorisation in individuals with ASD. The study showed that individuals with ASD demonstrated an increased awareness of single features in the test but not of shared features, which would stem from deficient categorisation. Other tests that reveal deficient categorisation were the block design test and the digit span test. Individuals with ASD often performed well on these tests (Bolte & Poutska, 2004; Hermelin, 2001). The studies cited in this section showed evidence that individuals with ASD have weak central coherence as they find it challenging to grasp concepts holistically (Aljunied, 2011; Hermelin, 2001; Riches et al., 2016; Skorich, Adrienne, Talipski, & Louisa, 2016). Therefore, having a weak central coherence helps individuals with ASD to enhance their savant skill(s).

IMPLICATIONS FOR INDIVIDUALS WITH ASD

Weak central coherence changes the reconstructive thinking process of individuals with ASD. The obsessive interest due to the challenges associated with ASD results in individuals with ASD acquiring an abundance of information. (i.e., music pitches, exact dates, calendar calculations, etc.). Weak central coherence causes individuals to focus more intensely on the



fragments (Aljunied, 2011; Hermelin, 2001; Riches et al., 2016; Skorich et al., 2017).

Detail-focused processing bias (weak central coherence, enhanced perceptual functioning) appears to be a precursor to talent development (Happé, 2013; Plaisted, 2015). Happe and Vital (2009) suggested that having a detailed-focused type of cognitive style predisposes or affects talents in individuals with ASD (Happe & Vital, 2009).

CONCLUSION

Many research studies on the subject of learning and ASD have concentrated on three theories; theory of mind, weak central coherence and executive function that target the learning practices and developments of individuals with ASD (Best et al., 2008). These beliefs and assumptions have been described in numerous research papers and endeavours to elucidate the reason behind why individuals with ASD organize their thought processes differently from typically developing individuals on specific measures (Best et al, 2008; Murry et al., 2017; Zhang, Shao, & Zhang, 2016).

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A REVIEW: ESTIMATION OF VITAMIN-C IN COMMERCIAL AND FRESH FRUIT JUICES BY DIFFERENT ANALYTICAL METHODS

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ABSTRACT

The study aimed to assess Vitamin C concentration in commercial and fresh fruit juices using various analytical methods. Titration involved the redox reaction of iodine with Vitamin C, while UV-Spectroscopy employed 2,4-DNPH dye coupling. HPLC utilized Acetonitrile-KH₂PO₄ mobile phase on a Super sphere C18 column. Results indicated higher Vitamin C in lemon and orange, with UV-Spectroscopy showing lemon (3.14 mg/100 ml) > apple (2.78 mg/100 ml) > orange (2.62 mg/100 ml) > grapes (2.2 mg/100 ml) in fresh juices. Titration confirmed orange (41.93 mg/100 ml) > lemon (29.31 mg/100 ml) > apple (26.6 mg/100 ml) > grapes (25.25 mg/100 ml). HPLC revealed lemon (3.316 mg/dl) > orange (3.504 mg/dl) > grapes (2.206 mg/dl) > apple (0.01 mg/dl). Consistent results were observed across methods.

1. INTRODUCTION

Vitamins are essential organic compounds for human metabolism, obtained in small quantities from the diet. Vitamin C, a major water-soluble antioxidant, plays a crucial role in preventing deficiency diseases. It is a 6-carbon organic acid, resembling glucose, with potent reducing agent properties. Citrus fruits are rich sources, and recent research shows higher vitamin C content in human milk than cow's milk.

Absorption and Distribution

Vitamin C is absorbed from the gastrointestinal tract and distributed intra and extra muscularly. Plasma concentration and total body stores depend on daily ascorbic acid intake. The body cannot store more than 2.5g, with higher intake leading to increased urinary excretion.

Metabolism

Ascorbic acid is partially oxidized to active (dehydroascorbic acid) and inactive (oxalic acid) metabolites. Therapeutic uses include preventing deficiency, treating scurvy, aiding in anaemia, acidifying urine in urinary tract infections, lowering blood pressure and cholesterol, and exhibiting beneficial effects in bacterial infections. Adequate intake may also prevent certain cancers.

Sources:

Vitamin C is obtained from fruits and vegetables, crucial for collagen production vital for skin, bone, teeth, and cartilage health. First isolated in 1928, it was proven to prevent scurvy in 1932. Common sources include citrus fruits, tomatoes, broccoli, cauliflower, spinach, and ladyfinger.

Analytical Methods

Various analytical methods such as UV spectrophotometry, chromatography, titrimetry, voltammetry, fluorometry, and potentiometry are used for ascorbic acid determination. UV spectrophotometry is favoured due to its simplicity and Vitamin C's ability to absorb UV rays. It is suitable for vitamin C tablets, fresh or packaged fruit juices, and solid fruits and vegetables.

History of Vitamin C

Discovered in the 1920s by Albert Van Szent Gyorgyi, vitamin C, or ascorbic acid, was identified for its ability to prevent and cure scurvy. Kazimierz Funk had previously included a factor denoted as "C" in his list of vitamins, later identified as ascorbic acid. Despite being crucial for various species, certain animals and humans have lost the ability to produce it during evolution.



Properties of Vitamin C

Ascorbic acid is a colorless, odorless crystalline substance, soluble in water and alcohol but insoluble in chloroform, ether, and light petroleum. Only the L-isomer has antiscorbutic properties. It is sensitive to oxidation, particularly in the presence of copper and iron. Cooking in copper utensils leads to quick loss, but freezing has no detrimental effect. The oxidative nature makes it a powerful reducing agent, used for various applications like jewelry cleaning in Nigeria.

Biochemical Role of Vitamin C

Vitamin C prevents scurvy by playing a crucial role in collagen formation, maintaining ferrous iron in a reduced form. It is essential for hydroxylation in collagen biosynthesis and influences the activity of other enzymes. While humans and some animals require it as a vitamin, others synthesize it as an intermediate in glucose metabolism.

Excretion

The half-life of ascorbic acid is inversely related to intake, with an average of 16 to 20 days. Kidneys play a major role in excretion and retention. Below 1500 mg, the kidneys efficiently reabsorb, but above 1500 mg, excretion occurs. Plasma levels between 0.8 and 1.4 mg/dl are considered the renal threshold.

2. MATERIALS AND METHODS

Collection and Storage

Fresh fruits (apple, orange, lemon, grapes) were collected from various regions in Nepal. Commercial fruit juices made from these fruits were obtained from a supermarket in Bharatpur. Extraction involved grinding or squeezing, and the obtained juice was used as a sample for analytical procedures.

Different Analytical Methods for Vitamin C Estimation:

1. Phytochemical Screening:
2. TLC Separation:
3. Titrimetric Method:
4. Spectrophotometric Determination:
5. High Performance Liquid Chromatography (HPLC):
6. Iodometry (Iodine Titration):
7. Permanganometric Titration:
8. 2, 6-dichlorophenol Indophenol Method:
9. Sodium Thiosulphate Method:

2.1. Phytochemical Screening

- Conducted on fresh fruit extracts and marketed juices.
- Tested for tri-terpenoids, glycosides, alkaloids, saponins, carbohydrates, flavonoids, tannins, phenols, vitamin C, and protein.
- Standard procedures were followed for screening.

2.2. TLC Separation

- Silica gel GF₂₅₄ plates used with N-butanol: Glacial acetic acid: water (16:4:18 v/v/v) as the solvent.
- Plates dried at 100°C for 5 min, and samples run, followed by spraying with 10% Sulphuric acid in ethanol.
- R_f values calculated.

2.3. Titrimetric Method

- Utilized iodine solution (0.005 mol/l) and starch indicator solution (0.5%).
- Fruit juice titrated with iodine solution using starch indicator until a blue-black color indicated the endpoint.
- Iodine solution standardized using arsenic trioxide, with a factor: 1 ml of 0.05M Iodine = 0.004946 g of As₂O₃.

2.4. UV-Visible Spectrophotometry

- LT-2100 Double beam UV-Visible spectrophotometer with a 10 mm quartz cuvette utilized.
- Spectrophotometric method involved the coupling reaction of 2,4-dinitrophenylhydrazine (DNPH) dye with Vitamin C.
- Samples analyzed at 521 nm, absorbance recorded, and a calibration curve plotted for Vitamin C content using regression analysis.



2.5. High-Performance Liquid Chromatography (HPLC)

- Method:
- Standard preparation involved dilution of a 1 mg/ml standard solution with the mobile phase.
- Packed juices solutions prepared and analyzed similarly.
- HPLC equipment: Shimadzu LC solution 20A with UV detector at 230 nm.
- Mobile phase: Acetonitrile 40% and KH_2PO_4 60% at pH = 3.
- Column: Supersphere C18 (250 × 4.6mm).
- Mobile phase pumped isocratically at 1.0 ml/min, 25°C.
- Injection volume: 20 μ l.
- Ascorbic acid purity: 99.0% from F. Hoffmann–La Roche Ltd.
- Analysis of different branded packed juices purchased locally.

Reagents and Chemicals

- HPLC-grade solvents, spectroscopic-grade chemicals from Merck.
- Pure water produced with a Millipore Milli-Q Plus System.
- Different branded packed juices purchased locally.

2.6. Vitamin C Determination by Iodine Titration (Iodometry) Method

- Reagents:
 1. Iodine Solution - Dissolve 5.0 gm Potassium iodide and 0.268 gm Potassium iodate in 200ml distilled water. Add 30 ml of 3M sulphuric acid. Dilute to 500 ml.
 2. Vitamin C Std. Solution - Dissolve 0.100 gm Vitamin C in 100ml distilled water.
 3. Starch Indicator Solution (1%)
- Procedure: 25 ml of Fresh fruit juice or Vitamin C Std. Solution titrated with iodine solution using starch indicator until a persistent blue-violet color is obtained.
- Calculations: Factor: 15.16 ml Iodine solution reacts with 25 mg Ascorbic acid.

2.7. Vitamin C Determination by Iodine Titration (Iodimetry) Method

- Reagents: Iodine solution (0.001N), Vitamin C std. solution (0.5mg/ml), Starch indicator solution (0.5%), sulphuric acid (2M), Potassium iodide (1%).
- Procedure: 2ml of Vitamin C Std. Solution or juice sample titrated with iodine solution using starch indicator until a persistent blue-violet color is obtained.
- Calculations: Factor: 2.7 ml Iodine solution reacts with 1 mg Ascorbic acid.

2.8. Vitamin C Determination by Permanganometric Titration Method

- Reagents: Potassium permanganate solution (0.001N), Vitamin C std. Solution (0.2 mg/ml), Starch indicator solution (0.5%), Sulphuric acid (2M), Potassium iodide (1%).
- Procedure: 4 ml (sample) or 10 ml (Vitamin C Std. Solution) titrated with Potassium permanganate solution using starch indicator until a persistent blue-violet color is obtained.
- Calculations: Factor: 0.1 ml Potassium permanganate solution reacts with 0.8mg Ascorbic acid.

2.9. Vitamin C Determination by 2, 6-dichlorophenol Indophenol Method

- Reagents: 2,6-dichlorophenol indophenol Dye Solution (25mg/100 ml), Vitamin C std. Solution (0.50mg/ml), Metaphosphoric acid (4%).
- Procedure: Titrated Vitamin C Std. Solution or juice sample with 2, 6-dichlorophenol indophenol solution until a persistent rose pink color is obtained.
- Calculations: Factor: 0.1 ml Dye solution reacts with 0.5mg Ascorbic acid.

2.10. Vitamin C Determination by Sodium Thiosulphate Method

- Reagents: Sodium thiosulphate solution(0.1M), Potassium iodate (0.02M), Sulphuric acid (0.5M), Starch indicator solution (1%).



- Procedure: Sample (Vitamin C powder or juice) titrated with Sodium thiosulphate solution using starch indicator until a persistent blue-violet color is obtained.18
 - Calculations: Factor: 15 ml Sodium thiosulphate solution reacts with 100 mg Ascorbic acid.
- These methods provide diverse approaches for Vitamin C determination, offering flexibility for different sample types and preferences.

3.RESULTS AND DISCUSSION

3.1 Phytochemical Screening

The phytochemical screening was carried out on various fruits and their results were shown in table 1.

Table 1: Phytochemical screening of fresh fruit Juices

Fruits	Test			Sample	
	Apple	Lemon	Orange	Orange	Grapes
Alkaloids	Yes	Yes	No	Yes	Yes
Glycosides	No	Yes	Yes	Yes	Yes
Protein	No	No	No	No	No
Carbohydrates	Yes	No	Yes	Yes	Yes
Vitamin C	Yes	Yes	Yes	Yes	Yes

3.2 TLC for Qualitative Analysis of Marketed Fruit Juices

Thin Layer Chromatography was carried out as per the procedure discussed above. The TLC plates were dried and the spots were measured after application of visualizing agents. Thus measured values were calculated to obtain R_f values, where all the values showed an ineffective separation of Vitamin C as shown in table 2. S_f = distance travelled by solvent, S_p = distance travelled by sample, S_t = distance travelled by standard, R_f = retention factor, [R_f = S_p/S_f]

Table 2: TLC for Qualitative Analysis of Marketed Fruit Juices

Fruit	S _f	S _p	S _t	R _f
Orange	10.7	4.3	4.5	0.401
Apple	10.7	5.8	6.0	0.542
Lemon	10.7	5.9	6.0	0.551

3.3 Estimation of Vitamin C Content using UV Spectro-photometry

The Colored complex of the sample was analyzed using double beam spectrophotometer, the absorbance of all standards (converted to colored complex) were taken to construct a calibration curve, as shown in fig.1 The linearity was in compliance with the regression plot in the concentration range of 5–25 µg/ml with a correlation coefficient (R²) of 0.994. Fig.4 showed the linear graph between concentrations of standard Vitamin C and its absorbance, as per Beer's Lambert's Law.

Determination of Vitamin C Content in Fresh Fruit Juices

Samples of different fruits were prepared and the results of the total content of Ascorbic acid in the investigated samples obtained by the Spectrophotometric methods. The highest content of total ascorbic acid obtained by the Spectrophotometric method was found in samples of lemon (3.14 mg/100 ml) > apple (2.78 mg/100 ml) > orange (2.62 mg/100 ml) > grapes (2.2 mg/100 ml) as shown in table 3.

Table 3: UV-Spectrophotometric Method for Estimation of Vitamin C (Fresh Fruit Juices)

Sample	Absorbance			Mean (n=3) ±SD	Vit-C content (µg/ml)	Vit-C content (mg/100ml)
	R1	R2	R3			
Apple	0.268	0.267	0.266	0.267±0.001	27.8	2.78
Orange	0.26	0.259	0.258	0.259±0.001	26.2	2.62
Grapes	0.239	0.238	0.237	0.238±0.001	22	2.2
Lemon	0.286	0.285	0.284	0.285±0.001	31.4	3.14



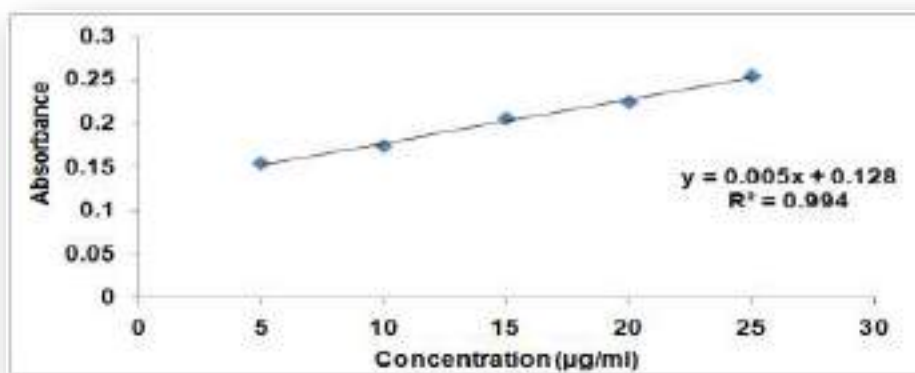
Determination of Vitamin-C Content in Marketed Fruit Juices

Fruit Juices apple, orange, lemon, grapes respectively was brought from market and samples were prepared accordingly. Result of the total content of Ascorbic acid in the investigated samples obtained by Spectrophotometric methods. The highest content of total ascorbic acid obtained by Spectrophotometric method was found in samples of marketed:lemon (1.32 mg/100 ml)>orange (1.24 mg/100 ml)>grapes (1.18 mg/100 ml)>apple (1.14mg/100 ml) as shown in table 4.

Table 4: UV-Spectrophotometric Method for Estimation of Vitamin-C(Marketed Fruit Juices)

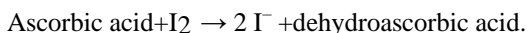
Sample	Absorbance			Mean (n=3) ±SD	Vit-C content(ug/ml)	Vit-C content (mg/100ml)
	R1	R2	R3			
Apple	0.186	0.185	0.185	0.185±0.001	11.4	1.14
Orange	0.19	0.191	0.19	0.19±0.001	12.4	1.24
Grapes	0.187	0.187	0.187	0.187±0.001	11.8	1.18
Lemon	0.196	0.196	0.194	0.194±0.001	13.2	1.32

Fig:1 Calibration Curve



3.4 Estimation of Vitamin C Content by Titrimetric Analysis

This method determines the vitamin C concentration in a solution by redox titration using iodine. As the iodine is added during the titration, the ascorbic acid is oxidized to dehydroascorbic acid, while the iodine is reduced to iodide.



Due to this reaction, the iodine formed is immediately reduced to iodide as long as there is any ascorbic acid present. Once all the ascorbic acid has been oxidized, the excess iodine is free to react with the starch indicator, forming the blue-black starch-iodine complex. This was the endpoint of the titration.

Determination of Vitamin-C Content in Fresh Fruit Juices

Samples of different fruits were prepared according to previously written procedure. Results of the total content of Ascorbic acid in the investigated samples were calculated after the completion of titration. The highest content of total ascorbic acid obtained by titration method was found in samples of fresh: orange (41.93 mg/100 ml)>lemon (29.31 mg/100 ml)>apple (26.6 mg/100 ml)>grapes (25.25 mg/100 ml) as shown in table 5.



Table 5: Vitamin C Content in Various Fresh Fruits

Fresh fruits	Volume of Iodine solution consumed(ml)			Mean (n=3)±SD	Mass Of vitamin C(ug/ml)	Mass of vitamin C (mg/100ml)
	S1	S2	S3			
Apple	5.9	5.8	5.9	5.9±0.0577	0.0053	26.60
Orange	9.4	9.3	9.3	9.3±0.0577	0.00838	41.93
Grapes	5.6	5.6	5.6	5.6±0.00	0.0050	25.25
Lemon	6.6	6.5	6.5	6.5±0.0577	0.0058	29.31

Determination of Vitamin-C Content in Marketed Fruit Juices

Fruit Juices with respective apple, orange, lemon, grapes flavoured were brought from market and Samples were prepared according to a previously written procedure on the due date. Result of the total content of Ascorbic acid in the investigated samples obtained by titrimetric methods. The highest content of total ascorbic acid obtained by titration was found in samples of marketed: orange (46.44 mg/100 ml)>grapes (29.76 mg/100ml)>lemon (24.8 mg/100 ml)>apple (24.35 mg/100 ml), as shown in table 6.

Table 6: Vitamin C Content in Various Marketed Fruits Juices

Sample	Volume of titrant consumed (ml)			Mean (n=3) ±SD	Mass of vitamin C (gm/20ml)	Mass of vitamin C (mg/100ml)
	S1	S2	S3			
Real apple juice	5.3	5.5	5.5	5.4±0.01154	0.00487	24.35
Real Orange Juice	10.2	10.3	10.3	10.3±0.0577	0.00929	46.44
Real Grapes Juice	6.6	6.6	6.6	6.6±0.00	0.00595	29.76
7up nimbooz Juice	3.6	3.5	3.5	3.5±0.0577	0.00496	24.8

3.5 Result of HPLC

Table 7: Vitamin C HPLC Data in Various Fruit.

Sr. No.	Fruit Juices	Conc. (mg/dl) %
1	Lemon	3.502
2	Apple	0.01
3	Orange	3.316
4	Grape	2.025

- Simple isolation technique was followed to collect the juice from fresh fruits using slicing and squeezing technique followed by filtration. Due to a variety of fruits and their content of liquid part, a variation on their yield was observed. As per the data we obtained, there was almost equal yield in fruit juices among apple and grapes with content slight above 50 ml per 100 gm of fruit. However, orange and lemon possess 1/3rd yield of fruit mass which was found to be roughly 27 and 30 ml per 100 gm of fruits,
- Various methods reveal that the fresh fruits juices contained a high amount of Vitamin C than the marketed sample. The absorbance was measured Spectrophotometrically at 521 nm. The Titrimetric method was carried out by an Iodimetric titration. There were varying phytoconstituents among apple, orange, lemon, grapes and their juice content were also different and thin layer chromatography showed their effective separation and HPLC also shows higher concentration in fresh fruit juices.

4. CONCLUSION

In the present study, we found that biologically active phytochemicals were present in every fruit. Various methods for estimation of vitamin C in fruits was a simple and reliable method. Comparison of results obtained by various method was in a good agreement with results obtained by others methods. Though titration method is simple, UV-spectroscopy is less time consuming and easy to interpret as endpoint determination is quite challenging part in iodometric titration and HPLC is also simple method. Marketed fruit juices also contain Vitamin C in considerable amount along with the fresh fruits juices, but degradation on storage was the main point to be noted. This also provides immense guidance to the suppliers and consumers to apply the best storage to the fruits and their juices before consumption and achieve maximum benefit. The highest content of Vitamin C was found in the fresh fruit juices than marketed preparations.



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STATUS OF MENTAL HEALTH OF SECONDARY SCHOOL STUDENTS IN ALIGARH: PROBLEMS AND PREVENTIONS

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ABSTRACT

The secondary school stage is the most important phase of life where students are facing physical, social, mental, family, educational, and personal problems. At this stage, mental health plays a very important role and helps to deal with these types of problems in a very effective way. The Objective of the study is to find the status of mental health of students studying in secondary schools and analyze the obstacles faced by them. The study uses an exploratory research design and purposively selected two schools from Aligarh Muslim University, Aligarh district. Total samples of 50 students, out of which 25 were girl and 25 were boy students taken from selective schools. A SDQ questionnaire was formed based on the objective and was distributed among the selected students. The results revealed that more girls than boys report mental health problems. The status of mental health among students at secondary level in Aligarh is not in good condition due to various issues and challenges in terms of misconceptions about mental health, lack of awareness and resources, social, personal, financial, environment and technology-related problems. Mental health problems are common among the senior secondary students in Aligarh. Early detection and effective intervention will result in better development of the futures citizens of our country. Proper orientation and awareness about mental health issues and challenges at the secondary school level will be very helpful for students to cope up with the tense situations and also help in being well-adjusted in family and society.

KEYWORDS: *Mental health, Secondary school, Problems, Preventions*

INTRODUCTION

The goal of education is to develop a sound body and sound mind. Our research and experiences make it abundantly evident that even a highly intelligent person cannot guarantee success in life without receiving a good education. So, a minimum level of education is required for everyone. However, our educational system, particularly in higher secondary schools, places more emphasis on exam scores and book knowledge than it does on preparing students for a successful future, fostering teacher-student interaction, and helping students understand and manage their emotions in a way that is appropriate for the situation and has an impact on their mental health.

The absence of any disorders in one's mental state is referred to as mental health. It is essentially the process by which people achieve self-actualization, self-satisfaction, and fulfilled existence. It encompasses all feelings of development and progress, tranquility and adjustment, achievement and contentment, and productive participation in a community or group. It aids in determining our behavior, emotions, thoughts, and stress management. A person is considered mentally healthy if they are emotionally and socially stable.

It can be challenging for people to consistently maintain positive behavior, mental activity, feelings, emotions, and other aspects of mental health. Students in secondary school have a tendency to drift off since, at this age, stress and a whirlwind of internal and external problems can easily overwhelm their minds. In India, mental health concerns are causing a lot of problems for students. It has been an extremely difficult few years for developing nations like India. Humanity has been profoundly impacted by recent pandemics, both natural and man-made disasters, and rifts in interpersonal and professional relationships. These incidents have had a significant impact on people's feelings of melancholy, tension, anxiety, exhaustion, etc. Thus, students nowadays are dealing with a wide range of issues, such as anxiety over their declining social status, social disorders, emotional instability, suicidal thoughts, and insomnia. According to Bhatia (2020), "The proportion of mental disorders in India has almost doubled since 1990 and it leads one out of every seven Indians with a variety of mental disorders in 2017". Thus, this work is a sincere attempt to investigate the problems and obstacles related to secondary school students' mental health.



CONCEPT OF MENTAL HEALTH

The idea of mental health emerged subsequent to Clifford Beers' work. The word "mental health" is very wide and encompasses components of adjustment that are mental, emotional, physical, and social. A person with good mental health has mental resilience and is able to deal with life's challenges, no matter how difficult they may be. Five different forms of health—physical, emotional, moral, spiritual, and social—combine to form mental health. It is an important aspect of the total health of a person because, it is, both cause and the effect of the other types of health. It means three things of an individual i.e. (i) Right thoughts (ii) Right attitudes (iii) Right actions.

DEFINITION

1. According to Norma E. cuts and Nicholas Mosety, "Mental health is the various strains of the environment we meet in life as the means we take to assure the adjustment."
2. According to WHO "Mental health is more than just the absence of mental disorders or disabilities."

The World Health Organization (WHO) defines health as: "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2001).

The World Health Organization defines mental health as "... a state of prosperity in which the individual recognizes his or her own abilities, can cope with everyday stressors, can work profitably and productively, and can commit to his or her community" (WHO, 2001a, p.1).

The development of a prosperous state in which each person performs to the best of their psychological ability, the logically exacerbated, counteractive action of mental illness, and the release of pressure in a troubling environment. The World Federation for Mental Health has acknowledged that, given that circumstances might change, the concept of optimal psychological wellbeing refers to the most ideal state rather than a rigidly flawless one. Regarding the boundaries and social-ecological context of the individual, emotional well-being is understood as a state of the person. The word "emotional wellness" refers to a person's overall state that stems from regular associations and psychological processes. Another name for emotional well-being is the process by which people acknowledge their own conceit, efficacy, and self-awareness. In addition to other concerns, a man's overall psychological well-being is primarily affected by his overall sense of growth and progress, change and harmony, achievement and happiness, and successful involvement in a network.

The secondary school stage is the most crucial time in a student's life when they deal with issues related to their education, families, relationships, physical health, and mental health. At this point, mental health is crucial and plays a big part in how these kinds of issues are handled very successfully.

STATUS OF MENTAL HEALTH IN INDIA

Approximately 41% of people in India are under the age of 18 (Kumar, Nayar, & Bhat, 2020). Adolescents go through a phase where they are dealing with a lot of life challenges for the first time and have very little information and experience. They believe that their education and life experiences are enough to fully comprehend the world, yet they lack a basic understanding of reality and become mired in its problems when they encounter obstacles in life. With a population of about 1.236 billion, India is the second most populous country in the world (UNICEF, India, 2013). Of this total, one in three people are between the ages of 10 and 24, and one in five are considered juveniles between the ages of 10 and 19 (Census of India, 2011). With over 434 million young people, it demonstrates that India has the world's greatest youthful population (UNICEF, India, 2013). As one of the massive demographic dividends, it is predicted to increase to almost 250 million working adults by 2030 (Reuters, 2016). Contributing to the expansion and development of any nation is akin to having an asset. If the policy area prioritizes the health of children and adolescents, then all improvement is expected (Hossain & Purohit, 2019). Additionally, it has led to a rise in mental health issues. The emphasis on newborn vaccination, nutrition, and mortality in India has improved physical health overall, but school-age children's and adolescents' mental health is not given as much consideration as it should (MHFW & GOI, 2005). In India, it is estimated that around 50 million children, including schoolchildren, suffer from mental illness; if the adolescent population is taken into account as a whole, this figure will rise much higher (Shastri, 2009). The National Adolescent Health Strategy's Rashtriya Kishor Swasthya Karyakram is one of the six main strategies that ranks mental health issues (MHFW & GOI, 2015). The program's target population was between the ages of 10 and 19, but the peer educators only chose participants who were between the ages of 15 and 19. It lessens the availability of counseling services for kids aged 0 to 10. The program's dual goals were to increase awareness and offer individuals in need of it therapeutic or psychological treatment. Even though the program's goal was to address issues with adolescent health in general, Hossain and Purohit (2019) found that it was unable to adequately address issues with children's and teenagers' mental health.



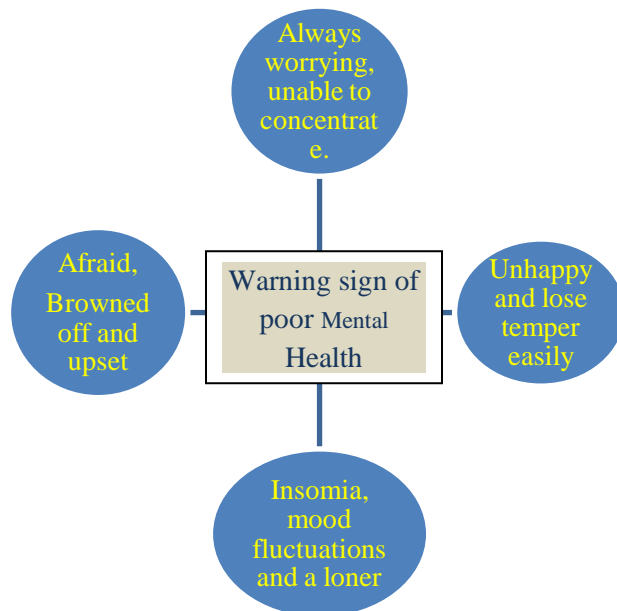
CHARACTERISTICS OF MENTALLY HEALTHY INDIVIDUAL

The concept of a mentally healthy person is ambiguous. However, a person in good mental health is able to maintain a balanced personality free from stress, anxiety, emotional strain, and conflicts of any kind. Various psychologists have identified numerous traits of a mentally well individual. A few of the crucial attributes are listed below.

1. **Accept reality:** Being able to accept reality is one of the most crucial traits of someone in good mental health. When someone can accept this, they can deal with any issue that may arise with ease.
2. **A sense of security:** A psychologically sound individual never lacks confidence in his life or future. He is self-assured in both himself and other people, believing that he can solve any situation on his own or with assistance from others.
3. **A robust physical state:** It's been suggested that mental stability depends greatly on one's physical state. A healthy body exists in a sound mind.
4. **Emotional equilibrium:** A person in good mental health is able to maintain emotional control and behave normally under pressure. Because of his emotional maturity, he is able to communicate his feelings to others.
5. **Experience is a terrific teacher** if you can learn from it. Take lessons from it. Every event gains a lesson for a mentally sound individual. Instead of constantly making the same mistakes, he builds mental toughness to meet challenges head-on.

SOME MENTAL HEALTH PROBLEMS/ISSUES CHILDREN FACE AT SECONDARY SCHOOL LEVEL

- Anxiety about school performance
- Problems dealing with parents & teachers
- Unhealthy peer pressure
- Common development , adjustment problems
- Fear about starting school
- School phobia
- Dealing with death or divorce
- Feeling depressed or overwhelmed
- Drug or Alcohol use
- Suicidal ideation
- Worrying about sexuality
- Facing tough decisions
- Considering dropping out of school





OBJECTIVES

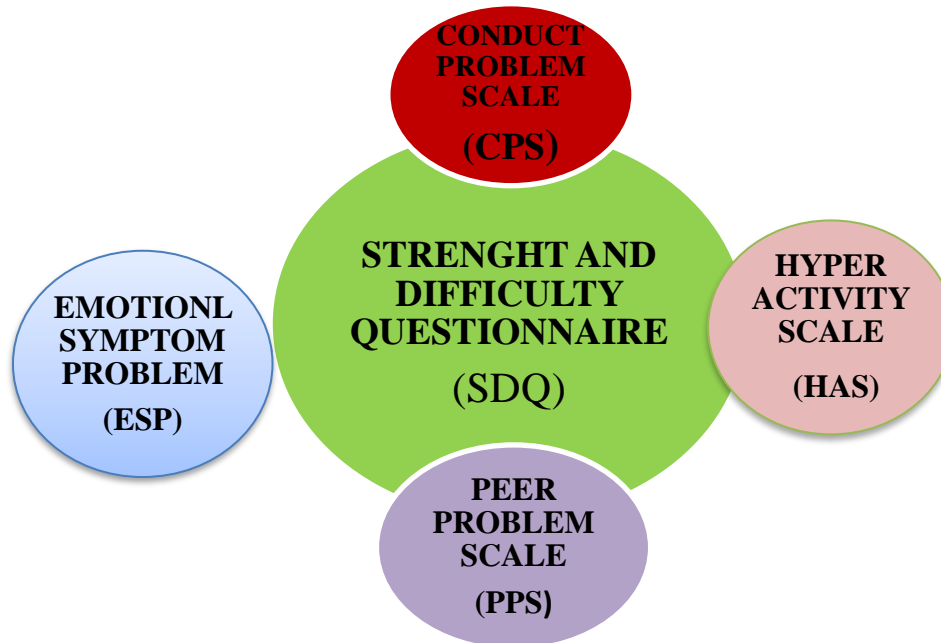
- 1) To find out the level of mental health of secondary school students.
- 2) To investigate the challenges faced due to Mental Health on secondary school students.

METHODOLOGY

The Nature of the study is purely exploratory. Quantitative and qualitative approaches were employed to fulfill the purpose of this preliminary study. For quantitative part, the mental health difficulties test namely Strengths and Difficulties Questionnaire (SDQ) was used to identify the mental health difficulties of secondary school children. The SDQ is a broad behavioral screening profile of children's emotional symptoms, conduct problems, hyperactivity inattention, peer problems, and pro social behavior. In this study, to measure the mental health difficulties for children, only the four domains (emotional symptoms, hyperactivity/inattention, conduct problems, and peer problems) were used. The data collected from SDQ were analyzed by using "(SPSS)" and were summarized using appropriate statistics based on the objectives of this study. The present study has been conducted based on the primary data with the help of a Strength and Difficulty questionnaire. Total samples of 50 students, out of which 25 were girl and 25 were boy students taken purposively from 2 selective schools of Aligarh Muslim University, Aligarh. i.e.

- AMU ABK HIGH SCHOOL(BOYS)
- AMU ABK SCHOOL(GIRLS)

A questionnaire was formed based on the objective and was distributed among the selected students. For conducting the study the investigator applied random sampling technique. Collected data were analyzed with the help of graphical representation and percentage analysis. The age of the adolescents approximately ranged from 13 to 15 years. The semi structured interview was conducted to have in depth information of pertinent issues that arose from the quantitative results. This enabled the researcher to understand more for children's mental health status.



FINDING & DISCUSSIONS

Different mental health conditions among secondary school students based on their sexual orientation



(Table 1)

Variables		Normal		Borderline		Abnormal	
		N	%	N	%	N	%
Internalizing problem							
ESS	Male	12	48%	5	20%	8	32%
	Female	8	32%	7	28%	10	40%
	TOTAL	20	40%	12	24%	20	36%
PPS	Male	10	40%	8	32%	7	28%
	Female	12	48%	3	12%	10	40%
	TOTAL	20	44%	11	22%	17	34%
Externalizing Problems							
CPS	Male	13	52%	4	16%	8	32%
	Female	15	60%	5	20%	5	20%
	TOTAL	28	82%	9	18%	13	26%
HAS	Male	18	72%	2	8%	5	20%
	Female	12	48%	4	16%	9	36%
	TOTAL	30	60%	6	12%	14	28%

(Fieldwork data)

Table 1 showed that different mental health condition of secondary school student with their sex wise.

The study shows that there were around 35% children in the abnormal band for internalizing problems, while nearly 27% of children were suspected to have high risk for externalizing problems.

1. EMOTIONAL SYMPTOMS

- According to the study, out of 50 respondents, 32% of boys and 40% of girls had abnormal levels of emotional symptom problems. Twenty percent of responders were boys and twenty eight percent were girls at the borderline level, While 32% of girls and 48% of boys did not experience any emotional symptom problems.
- These children were unable to learn because they could not pay attention, remember information on purpose, or act properly in a school environment.
- These pupils are challenging to control in the classroom. These children are impetuous, incompatible with one another, and unable to follow instructions. They show hostility and aggression in the school or the playground.
- Eight boys were at the borderline level out of fifty students. In comparison to students at an abnormal level, he experienced fewer issues. However, there were no appreciable variations between the emotional symptom scores of boys and girls.

2. PEER PROBLEM

- In the peer problem, it was discovered that, out of 50 respondents, 28% were boys, 40% were girls at an abnormal level, 32% were males, and 12% were girls at the borderline. Peer problems were nonexistent for respondents, with 48% of girls and 40% of boys reporting no issues.
- Table 1 showed that, out of 50 pupils, 10 girls had abnormally high peer difficulties.
- They might experience excruciating emotions of loneliness. She can find school to be an unpleasant place. In the end, she might start skipping class or stop entirely. Additionally, that child can be more susceptible to peer pressure from delinquent or drug-abusing peers.



- In the borderline level, there are more boys than girls. However, there were no appreciable variations in the Peer Problem score between boys and girls.

3. HYPERACTIVITY

- 20% of boys and 36% of girls who answered the hyperactive problem were determined to be at an abnormal level; however, 8% of boys and 16% of girls were at a borderline, and resting 48% of females and 72% of boys reported no issues with this hyperactivity disorder.
- These pupils can't focus or maintain attention on any task for too long since they are impulsive. They may occasionally exhibit a particular learning difficulty.
- They are thought to be less hazardous than an aberrant amount. There are more boys than girls in each group. However, there were minor but noteworthy differences in the hyperactivity problem score between boys and girls.

4. CONDUCT PROBLEM

- 32% of boys and 20% of girls had abnormal problems in the conduct problem, while 16% of boys and 20% of girls had borderline problems. The remaining 52% of boys and 60% of girls had no problems.
- They consistently display disrespect for social norms and regulations. They may exhibit violent or socially unacceptable behavior at times.
- Over a six-month period, they may also exhibit at least three of the following six behaviors: stealing, lying all the time, purposefully starting fires, skipping class, breaking into homes or offices, physically abusing animals or people, pressuring people to have sex, starting fights frequently, and using weapons in fights.

REMEDIAL MEASURES TO IMPROVE MENTAL HEALTH OF SECONDARY SCHOOL STUDENTS

Keeping in view, the issues and challenges of mental health, the following remedial measures are suggested by the researchers for further improvement of mental health of secondary school students:

(i) **Proper Diagnosis of Issues Related to Mental Health:** Prioritizing corrective action requires first and foremost an understanding of the issue at both the surface and the underlying levels. For a better understanding of the issue, an efficient diagnostic approach should be developed. Making diagnoses in the following areas is recommended:

- **Physical Diagnosis:** Prioritizing the identification of youngsters in good physical condition and free from any physical problems that could compromise their mental development is crucial. Rather than sending them to a psychiatrist, you should refer them to a physician or other qualified specialist if they have any general physical issues. Common physical issues that persist over time might impact mental health.
- **Psychological diagnosis:** Children who exhibit typical behavior yet are physically normal may be suffering from a mental health issue. Furthermore, it is untrue that children who behave or react appropriately are psychologically well. It is imperative to consistently keep a tight eye on children's and adolescents' behavior, physical activity, and thought processes. It is important to watch out that the child is unaware of this and does not become upset while doing so. It is important to watch this with caution so that the kids don't realize someone is watching them and don't get upset.
- **Genetics diagnosis:** Examining the children's family's medical and other histories is also crucial. Children's negative emotional and physical behavior can occasionally be attributed to their family and parents. Prior to starting treatment, the parents or other family members may be the cause of the child's poor performance in the classroom, even after repeated reminders.
- **Environmental diagnosis:** It is also crucial to examine the child's surroundings. The study of child development demonstrates that a child's environment has a significant impact on their brain. If the youngster does poorly in such a scenario, stakeholders should work to enhance his surroundings rather than offering mental treatment.

(ii) **Proper Orientation and Awareness about Mental Health:** Good health is accurately represented by a healthy body and mind, which can influence health either directly or indirectly. The ability of the body and mind to function effectively and in harmony is known as health. Mental health is one of the primary components that supports both social effectiveness and physical health. Children who are well-adjusted and exhibit moral values and good physical health were viewed as having sound mental health. A mentally well individual was content, robust, and full of hope (Sharma, 2017). One must always adapt, sometimes adapting to oneself, other times to society, the environment, or other factors. They must acquire the ability to adapt. By adjusting to others and their surroundings, children are not bothering anybody else. They need to be concerned about how to establish peaceful relationships with other people, the environment, and oneself. It is for this reason that October 10th is recognized globally as Mental Health Day each year. Therefore, it is crucial that all parties involved receive the right orientation in order for them to be able to give children a supportive environment both inside and outside of their homes and institutions.



(iii) **Guidance for Maintaining Mental Hygiene:** A method or approach to achieving and maintaining mental health is called mental hygiene. "The study of ways and means to keep the mind healthy and developing" is what Klien defined as mental hygiene. Therefore, it's important to understand the causes of mental disease, how to avoid them, and how much of an impact either the internal or external environment has on a person's mental health (Sharma, 2017). According to Parkar, Dawani, and Apte (2001), the Indian Council for Mental Hygiene and the first child guidance clinics were founded in the 1940s and 1937, respectively, and are regarded as the pioneering efforts to address adolescent mental health issues in India.

(iv) **Effective implementation of the Policy:** There was a lack of appropriate administration and comprehensive policies for children and adolescents connected to mental health for the population of more than 435 million kids and teens, despite the severity and scope of teen mental health issues (Malhotra & Patra, 2014). From 1991 to 1995, national medical science authorities created their psychiatric fellowships and actively contributed to the advancement of children's and adolescents' mental health in the academic sector (Malhotra, 2004). Nevertheless, several gaps were discovered. The National Policy on Children (1974) and Education (1986), the Act for Mental Health (1987), the National Nutrition Policy (1993), the National Trust for Welfare of Persons with Cerebral Palsy, Autism, Multiple Disabilities, and Mental Retardation Act (1999), the 2004 Charter for Children, and the 2005 National Plan of Action for Children are just a few of the numerous national policies that India has adopted in various areas related to the development of children. However, none of these policies took the mental health of children and adolescents seriously. The National Health Policy (MHFW, & GOI, 2014; Hossain, & Purohit, 2019) and the National Mental Health Policy (2014) showed minimal interest in the mental health of the youth between 2002 and 2016. While the District Mental Health Program and the National Mental Health Program help those in need of basic or primary psychiatric care, they do not specifically address the mental health of children and adolescents (Murthy, 2007). Policies to reduce anxiety, stress, and prevent mental illness. To protect the mental health of teenagers in India, policies that determine how and to what degree children are at fault for deteriorating their mental health should be put in place for the usage of gadgets like mobile phones (Anboucarassy & Begum, 2014).

Good mental health policies for children and adolescents in India should incorporate a number of WHO guidelines, including the following: (a) creating facilities specifically for mental health care; (b) integrating mental health into basic healthcare; (c) guaranteeing the availability, accessibility, and equitable distribution of facilities and essential resources in both rural and urban areas; (d) creating an environment at home and at school that promotes optimal development; and (e) involving children and adolescents in taking on responsibilities and making decisions regarding the planning of mental health programs (WHO, 2005). Using a proactive strategy, the complete method, integration, and multi-sectored approach, well-drawn obstacles and limits can be minimized (Hossain, & Purohit, 2019).

(v) **Meditation and Yoga Programmes:** From the Vedic to the modern eras, stress-reduction techniques like yoga and meditation have long been popular. Educational institutions should actively participate, run recurring training sessions for kids, and educate parents on effective coping mechanisms for academic stress. To help kids feel less stressed, teachers might employ a variety of techniques and interventions. Teachers should divide difficult and time-consuming assignments into manageable, stress-free chunks. The two main methods for calming the mind and promoting health that makes people feel good and invigorates their life are yoga and meditation (Sharma, 2012).

CONCLUSIONS

Mental health problems are common among the senior secondary students in Aligarh. The results revealed that more girls than boys report mental health problems. The status of mental health among students at secondary level in Aligarh is not in good condition due to various issues and challenges in terms of misconceptions about mental health, lack of awareness and resources, social, personal, financial, environment and technology-related problems.

Based on the discussion above, it can be concluded that secondary school students face a variety of mental health-related issues and challenges that interfere with their academic, social, and personal lives. These issues and challenges include lack of awareness, resources, facilities, and services; social dilemmas; financial difficulties; personal & mental conflicts; environmental & technological complications. Thus, the current study recommended certain corrective actions for future advancement, such as accurate mental health problem diagnosis, appropriate mental health issue orientation and awareness, sufficient mental hygiene guidance services, appropriate policies & implementation, meditation and yoga programs. In order to promote the mental health of secondary school children, the present paper has educational implications for policymakers, school administrators and staff, teachers, parents, and agencies involved in secondary education. These stakeholders should create a supportive atmosphere both at home and at school.



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GREEN FINANCE: THE WORLD AND UZBEKISTAN

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ABSTRACT

The article discusses green finance as a tool for achieving sustainable development goals. Global trends in the development of green finance, as well as Uzbekistan's experience in this field, are presented. It is noted that the growth of green finance is an important factor for stimulating economic growth and improving the quality of life of the population.

KEYWORDS: green finance, sustainable development, renewable energy sources, energy efficiency, eco-friendly transport, environmental protection.

ЗЕЛЕННЫЕ ФИНАНСЫ: МИР И УЗБЕКИСТАН

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Аннотация: В статье рассматриваются зеленые финансы как инструмент достижения целей устойчивого развития. Представлены мировые тенденции развития зеленых финансов, а также опыт Узбекистана в этой области. Отмечается, что рост зеленых финансов является важным фактором для стимулирования экономического роста и улучшения качества жизни населения.

Ключевые слова: зеленые финансы, устойчивое развитие, возобновляемые источники энергии, энергоэффективность, экологичный транспорт, охрана окружающей среды.

ВВЕДЕНИЕ

В последние годы в мире все большее внимание уделяется вопросам устойчивого развития и защиты окружающей среды, т.к. в природе происходят доселе не виданные явления разрушительного характера. И они все больше отрицательно сказываются на жизнедеятельности людей, нарушая баланс во взаимоотношениях между обществом и природой. Поэтому сейчас, как никогда, повышается актуальность устойчивого развития. Одним из важнейших инструментов достижения этих целей является развитие зеленых финансов.

Актуальность темы "Зеленые финансы: мир и Узбекистан" обусловлена обострением во взаимоотношениях природы с человеком. В мире наблюдается ряд тревожных тенденций, свидетельствующих об ухудшении состояния окружающей среды:

Изменение климата. По данным Межправительственной группы экспертов по изменению климата (МГЭИК), средняя глобальная температура воздуха за последние 100 лет увеличилась на 1,1°C. Если не будут предприняты меры по сокращению выбросов парниковых газов, к концу века температура может повыситься еще на 3,2°C. Это приведет к серьезным последствиям, включая повышение уровня моря, более экстремальные погодные явления и сокращение биоразнообразия.



Загрязнение окружающей среды. По данным Всемирной организации здравоохранения (ВОЗ), загрязнение воздуха, воды и почвы ежегодно приводит к смерти около 9 миллионов человек. В Узбекистане, по данным Министерства экологии, охраны окружающей среды изменения климата основными источниками загрязнения являются промышленность, сельское хозяйство и транспорт.

Утрата биоразнообразия. По данным Международного союза охраны природы (МСОП), в настоящее время находится под угрозой исчезновения 1 из 8 видов животных и растений. В Узбекистане, по данным Министерства экологии, охраны окружающей среды и изменения климата, на грани исчезновения находятся более 100 видов растений и животных.

В Узбекистане также наблюдается ухудшение состояния окружающей среды. По данным Министерства экологии, охраны окружающей среды и изменения климата, в стране ежегодно образуется около 10 миллионов тонн твердых бытовых отходов, из которых только около 20% перерабатывается. Кроме того, в Узбекистане наблюдается загрязнение воздуха, воды и почвы.

В этих условиях развитие зеленых финансов является одним из важнейших способов решения экологических проблем.

Зеленые финансы - это финансовые инструменты, которые используются для финансирования проектов, направленных на снижение негативного воздействия на окружающую среду. К ним относятся инвестиции в возобновляемые источники энергии, энергоэффективность, экологичный транспорт, охрану окружающей среды и другие проекты, способствующие устойчивому развитию.

Мировые тенденции. В последние годы сообразно сложившейся обстановке быстрыми темпами растет мировой рынок зеленых. Так, по данным Международного агентства по возобновляемым источникам энергии (IRENA), в 2022 году объем глобальных зеленых инвестиций составил 542 миллиарда долларов США. Это на 27% больше, чем в 2021 году.

Зеленые инвестиции во всем мире впервые достигли уровня финансирования, вложенного в производство ископаемого топлива, в 2022 году — важная веха стала возможной благодаря резкому росту инвестиций в улавливание углерода[1].

Основными драйверами роста рынка зеленых финансов являются:

Усиление государственной поддержки зеленых инвестиций;

Рост спроса на экологически чистые товары и услуги;

Увеличение осведомленности о проблемах окружающей среды.

Усиление государственной поддержки зеленых инвестиций в мире. Зеленые инвестиции играют важную роль в охране окружающей среды по нескольким причинам. Во-первых, они помогают сократить выбросы парниковых газов и бороться с изменением климата. Во-вторых, они помогают защитить природные ресурсы, такие как леса, океаны и почвы. В-третьих, они помогают улучшить качество воздуха и воды. Поэтому в последние годы наблюдается тенденция к усилению государственной поддержки зеленых инвестиций во всем мире. Это связано с рядом факторов, включая:

Усиление глобального потепления. Глобальное потепление - это долгосрочное повышение средней температуры климатической системы Земли. Оно происходит уже более века, и основная причина этого явления, по мнению подавляющего большинства учёных, является человеческая деятельность (антропогенный фактор).

Статистические данные свидетельствуют о том, что глобальное потепление происходит с беспрецедентной скоростью. Средняя температура Земли за последние 100 лет выросла на 1,1 °C. Это означает, что каждый год температура на Земле увеличивается на 0,011 °C.

Кроме того, за последние 100 лет значительно увеличилось количество экстремальных погодных явлений, таких как засухи, наводнения, ураганы и лесные пожары. Эти явления становятся более интенсивными и продолжительными, что приводит к серьезным последствиям для окружающей среды и общества[2].

Рост спроса на экологически чистые товары и услуги.

Рост спроса на экологически чистые товары и услуги становится драйвером роста зеленых инвестиций несколькими способами. Во-первых, он создает новые возможности для бизнеса. Компании, которые производят или предоставляют экологически чистые товары и услуги, могут получить прибыль от растущего спроса. Это приводит к увеличению инвестиций в эти сектора экономики.



Во-вторых, рост спроса на экологически чистые товары и услуги создает стимулы для правительства и других инвесторов вкладывать средства в проекты по защите окружающей среды. Правительства могут предоставлять налоговые льготы и другие стимулы компаниям, которые инвестируют в экологически чистые технологии и проекты. Это также может привести к увеличению инвестиций в зеленую инфраструктуру, такую как возобновляемые источники энергии и энергоэффективность.

В-третьих, рост спроса на экологически чистые товары и услуги может привести к снижению затрат на эти товары и услуги. Это связано с тем, что увеличение производства и спроса приводит к снижению затрат на производство. Это может сделать экологически чистые товары и услуги более доступными для потребителей и бизнеса, что может еще больше стимулировать рост спроса.

Увеличение осведомленности о проблемах окружающей среды становится драйвером развития рынка зеленых инвестиций. Оно приводит к росту спроса на экологически чистые товары и услуги. Люди, которые более осведомлены о проблемах окружающей среды, чаще выбирают экологически чистые товары и услуги. Это создает новые возможности для бизнеса и стимулирует инвестиции в экологически чистые секторы экономики.

Увеличение осведомленности о проблемах окружающей среды также является важным направлением и приводит к росту спроса на инвестиции в проекты по защите окружающей среды. Правительства и инвесторы могут предоставлять налоговые льготы и другие стимулы компаниям, которые инвестируют в экологически чистые технологии и проекты. Это также может привести к увеличению инвестиций в зеленую инфраструктуру, такую как возобновляемые источники энергии и энергоэффективность.

Среды драйверов роста рынка зеленых инвестиций особое место занимает государственная поддержка зеленых инвестиций, которая может осуществляться в следующих формах:

Предоставление налоговых льгот и субсидий для инвесторов в зеленые проекты.

Надо сказать, что стимулирование частных инвестиций в зеленые проекты, которые могут быть более затратными, чем традиционные проекты требует государственной поддержки зеленого финансирования в виде налоговых льгот и субсидий, которые являются одним из наиболее распространенных инструментов государственной поддержки зеленого финансирования. Они могут предоставляться инвесторам в виде налоговых вычетов, кредитов, грантов или других форм финансовой помощи.

Например, В США в 2023 году в рамках Закона о восстановлении Америки (American Rescue Plan Act) был введен налоговый кредит на возобновляемые источники энергии (Renewable Energy Tax Credit, ITC) в размере 26% для новых установок солнечной и ветровой энергетики.

В Китае в 2022 году правительство запустило программу поддержки инвестиций в экологически чистые технологии, в рамках которой инвесторы могут получить налоговые скидки в размере до 30% от затрат на строительство новых заводов по производству экологически чистых продуктов.

Согласно исследованию Bloomberg NEF, в 2022 году объем налоговых льгот и субсидий, предоставленных инвесторам в зеленые проекты в мире, составил около \$250 млрд, из них около \$100 млрд. было предоставлено в виде налоговых вычетов, \$125 млрд. - в виде кредитов, а \$25 млрд. - в виде грантов.

Создание специальных фондов для финансирования зеленых инвестиций преследует цель аккумулирования и эффективного распределения средств для финансирования зеленых проектов правительствами, международными организациями и финансовыми учреждениями создаются специальные фонды инвестиций. Они могут быть ориентированы на различные цели, такие как финансирование конкретных проектов, предоставление кредитов или грантов, или развитие рынка зеленых финансов. Например, Европейский инвестиционный банк (European Investment Bank, EIB) имеет специальную программу финансирования зеленых проектов, в рамках которой в 2022 году было выделено около €20 млрд.

Всемирный банк (World Bank) также имеет программу финансирования зеленых проектов, в рамках которой в 2022 году было выделено около \$10 млрд.

По данным Международного валютного фонда (International Monetary Fund, IMF), в 2022 году объем активов специальных фондов для финансирования зеленых инвестиций в мире составил около \$1 трлн.



Следует отметить, что стандарты и требования к зеленым проектам необходимы для обеспечения прозрачности и сопоставимости информации о них, а также для защиты инвесторов от мошенничества. Поэтому правительства, международные организации или частные компании могут разрабатывать и внедрять стандарты и требования к зеленым проектам. Разработка и внедрения стандартов преследует цель повышения надежности и привлекательности зеленых проектов для инвесторов. Например, международная ассоциация финансовых институтов для устойчивого развития (International Finance Corporation, IFC) разработала систему стандартов для зеленых инвестиций, которые применяются во многих странах мира. В России в 2022 году была утверждена национальная таксономия зеленых проектов, которая определяет критерии отнесения проектов к категории "зеленых".

По данным Глобальной инициативы по зеленым облигациям (Climate Bonds Initiative), в мире в 2022 году было выпущено около \$800 млрд. зеленых облигаций. Для размещения этих облигаций необходимо, чтобы проекты, в которые они привлекают средства, соответствовали требованиям международных стандартов.

С целью повышения эффективности государственной поддержки зеленого финансирования создаются системы мониторинга и оценки эффективности зеленых инвестиций. Она необходима для отслеживания результатов государственной поддержки в этой области и принятия решений о ее дальнейшем развитии. Она может включать в себя сбор данных о количестве и стоимости зеленых проектов, а также о их влиянии на окружающую среду и экономику. Например, Европейский инвестиционный банк (ЕИВ) ведет мониторинг результатов своих инвестиций в зеленые проекты. В 2022 году было установлено, что эти инвестиции привели к сокращению выбросов парниковых газов на 20 млн тонн.

Всемирный банк (World Bank) также ведет мониторинг результатов своих инвестиций в зеленые проекты. В 2022 году было установлено, что эти инвестиции привели к повышению энергоэффективности на 10%.

По данным Глобального центра мониторинга и оценки (Global Monitoring and Evaluation Center), в 2022 году в мире было реализовано около 100 проектов по мониторингу и оценке эффективности зеленых инвестиций.

Кроме глобального потепления, существуют и другие экологические проблемы, которые также усиливаются в результате человеческой деятельности. К ним относятся:

- Загрязнение воздуха, воды и почвы
- Уничтожение лесов
- Опустынивание
- Разрушение озонового слоя

Эти проблемы также имеют серьезные последствия для окружающей среды и общества. Загрязнение воздуха и воды приводит к ухудшению здоровья людей и животных, а также к снижению урожайности сельскохозяйственных культур. Уничтожение лесов приводит к деградации почвы и изменению климата. Опустынивание приводит к потере плодородных земель и сокращению сельскохозяйственного производства. Разрушение озонового слоя приводит к увеличению количества ультрафиолетового излучения, которое может нанести вред здоровью людей и животных.

Источники данных:

- Программа ООН по окружающей среде (ЮНЕП)
- Всемирный фонд дикой природы (WWF)
- Гринпис

Усиление государственной поддержки зеленых инвестиций в Узбекистане

В Узбекистане в последние годы также наблюдается тенденция к усилению государственной поддержки зеленых инвестиций. В 2022 году был принят Закон "О зеленых инвестициях", который определяет правовую основу для развития зеленого финансирования в стране. В рамках этого закона был создан Фонд "Зеленый Узбекистан", который будет предоставлять финансирование для проектов в области возобновляемых источников энергии, энергоэффективности и охраны окружающей среды.

- В настоящее время в Узбекистане реализуется ряд зеленых проектов, в том числе:
- Строительство ветряных электростанций в Сурхандарьинской и Навоийской областях;
 - Реализация программы энергоэффективности в жилищно-коммунальном секторе;
 - Реализация программы по защите окружающей среды.

Согласно данным Министерства инвестиций и внешней торговли Узбекистана, в 2022 году объем зеленых инвестиций в Узбекистане составил 2,5 миллиарда долларов США. Это на 60% больше, чем в 2021 году.



Основными направлениями зеленых инвестиций в Узбекистане являются возобновляемые источники энергии (ВИЭ) и энергоэффективность.

Согласно данным исследования компании Nielsen, в 2022 году 66% потребителей во всем мире заявили, что готовы платить больше за экологически чистые товары и услуги. Это на 12% больше, чем в 2021 году.

В Узбекистане, как и во всем мире, также наблюдается рост спроса на экологически чистые товары и услуги. Согласно данным исследования компании "O'zbekiston Green", в 2022 году 58% потребителей в Узбекистане заявили, что готовы платить больше за экологически чистые товары и услуги. Это на 8% больше, чем в 2021 году.

Влияние на экономику

Рост спроса на экологически чистые товары и услуги оказывает положительное влияние на экономику. Он приводит к созданию новых рабочих мест, развитию новых технологий и снижению негативного воздействия на окружающую среду.

В Узбекистане развитие рынка экологически чистых товаров и услуг может способствовать следующим позитивным изменениям:

- Создание новых рабочих мест в сфере производства, переработки и реализации экологически чистых товаров и услуг;
- Привлечение иностранных инвестиций в развитие экологически чистых технологий;
- Снижение зависимости от импорта энергоносителей;
- Снижение негативного воздействия на окружающую среду.

Анализ рынка зеленых инвестиций показывает, что здесь лидерами являются Китай, США, Европейский Союз и Япония. В этих странах действует развитая система государственной поддержки зеленых инвестиций, а также высокий спрос на экологически чистые товары и услуги.

Узбекистан также уделяет большое внимание развитию зеленых финансов. В 2020 году в стране был принят Закон "О зеленых финансах", который определяет правовую основу для развития этого рынка.

В Республике реализуется ряд государственных программ, направленных на стимулирование зеленых инвестиций. В частности, в рамках программы "Энергоэффективность и развитие возобновляемых источников энергии" планируется к 2030 году увеличить долю возобновляемых источников энергии в энергобалансе страны до 25%.

В последние годы в Узбекистане наблюдается рост объемов зеленых инвестиций. В 2022 году объем зеленых инвестиций в Узбекистане составил 1,2 миллиарда долларов США. Это на 40% больше, чем в 2021 году.

Основными направлениями зеленых инвестиций в Узбекистане являются:

- Возобновляемые источники энергии;
- Энергоэффективность;
- Экологичный транспорт;
- Охрана окружающей среды.

Зеленые финансы могут быть использованы для финансирования широкого спектра проектов, направленных на улучшение окружающей среды. К ним относятся:

- Строительство и эксплуатация возобновляемых источников энергии (ветряных, солнечных, гидроэлектростанций);
- Внедрение энергоэффективных технологий в промышленности, строительстве и жилищно-коммунальном хозяйстве;
- Развитие экологичного транспорта;
- Охрана окружающей среды (очистка воды и воздуха, защита лесов и других природных ресурсов).

В Узбекистане развитие зеленых финансов может способствовать достижению ряда целей устойчивого развития, в том числе:

Цели 7: Обеспечение доступа к недорогостоящей, надежной, устойчивой и современной энергии для всех;

Цели 11: Создание устойчивых городов и населенных пунктов;

Цели 13: Борьба с изменением климата и его последствиями;



Следует отметить, что в развитых странах существует большое количество специальных фондов для финансирования зеленых инвестиций. Вот некоторые примеры таких фондов:

European Investment Bank (EIB). Европейский инвестиционный банк - это международный финансовый институт, который предоставляет финансирование на экологические проекты. По состоянию на 2023 год EIB инвестировал в зеленые проекты более 600 миллиардов евро.

Green Climate Fund (GCF). Глобальный фонд климатического финансирования - это международный фонд, созданный для финансирования проектов по борьбе с изменением климата. По состоянию на 2023 год GCF инвестировал в зеленые проекты более 10 миллиардов долларов.

Sustainable Development Goals Fund (SDGF). Фонд целей устойчивого развития - это международный фонд, созданный для финансирования проектов, направленных на достижение целей устойчивого развития. По состоянию на 2023 год SDGF инвестировал в зеленые проекты более 5 миллиардов долларов.

Ниже приводятся обобщенные данные характеризующие специальные фонды для финансирования зеленых инвестиций в развитых странах:

Объем средств, привлеченных специальными фондами для финансирования зеленых инвестиций

Год	Объем средств, привлеченных специальными фондами, млрд долларов
2020	500
2021	600
2022	700
2023 (прогноз)	800

Источник: BloombergNEF

Число специальных фондов для финансирования зеленых инвестиций

Год	Число специальных фондов
2020	500
2021	600
2022	700
2023 (прогноз)	800

Источник: BloombergNEF

Доля зеленых инвестиций в общем объеме инвестиций

Год	Доля зеленых инвестиций в общем объеме инвестиций, %
2020	10
2021	12
2022	14
2023 (прогноз)	16

Источник: BloombergNEF

Вышеприведенные данные показывают, что объем средств, привлеченных специальными фондами для финансирования зеленых инвестиций, растет с каждым годом. В 2023 году объем таких инвестиций, по прогнозам, составит около 800 миллиардов долларов. Это означает, что доля зеленых инвестиций в общем объеме инвестиций также будет расти.

Сущность создания специальных фондов для финансирования зеленых инвестиций заключается в том, чтобы аккумулировать средства инвесторов и направить их на реализацию проектов, направленных на снижение негативного воздействия на окружающую среду. Такие фонды могут быть созданы как частными, так и государственными организациями. К их числу можно отнести нижеследующие фонды, функционирующие в развитых странах:

Green Climate Fund (GCF) - глобальный фонд, созданный в 2010 году для финансирования проектов по сокращению выбросов парниковых газов в развивающихся странах. По состоянию на конец 2022 года, общий объем инвестиций фонда составил 10,1 млрд долларов США.



European Investment Bank (EIB) - европейский инвестиционный банк, который с 2007 года финансирует проекты по возобновляемым источникам энергии, энергоэффективности и борьбе с изменением климата. По состоянию на конец 2022 года, общий объем инвестиций банка в зеленые проекты составил 124,3 млрд евро.

Clean Energy Finance Corporation (CEFC) - австралийский фонд, созданный в 2012 году для финансирования проектов по возобновляемым источникам энергии и энергоэффективности. По состоянию на конец 2022 года, общий объем инвестиций фонда составил 12,7 млрд австралийских долларов.

Создание специальных фондов для финансирования зеленых инвестиций является одним из способов стимулирования перехода к низкоуглеродной экономике. Такие фонды аккумулируют средства инвесторов и направляют их на реализацию проектов в области возобновляемой энергетики, энергоэффективности, устойчивого транспорта и других секторов, которые способствуют снижению выбросов парниковых газов.

В развитых странах существует большое количество зеленых фондов, которые вносят существенный вклад в снижение выбросов парниковых газов:

The Global Green Growth Fund (GGGF) - фонд прямых инвестиций, созданный в 2010 году странами Группы двадцати. GGGF инвестирует в зеленые проекты в развивающихся странах.

The European Investment Bank (EIB) - крупнейший в мире банк развития, который инвестирует в зеленые проекты в Европе и за её пределами.

The Green Climate Fund (GCF) - фонд, созданный в 2010 году для финансирования мер по адаптации к изменению климата и смягчению его последствий в развивающихся странах.

В Узбекистане также существует ряд инициатив по созданию зеленых фондов. В 2022 году был создан Фонд развития возобновляемых источников энергии, который будет предоставлять финансирование для проектов в области солнечной, ветровой и гидроэнергетики. Кроме того, в стране планируется создание фонда прямых инвестиций для финансирования зеленых проектов в других секторах экономики.

Создание специальных фондов для финансирования зеленых инвестиций является важным шагом на пути к низкоуглеродной экономике. Такие фонды помогают аккумулировать необходимые средства и диверсифицировать риски для инвесторов.

Надо сказать, что в развитых странах существует большое количество специальных фондов для финансирования зеленых инвестиций. К ним можно отнести некоторые из них таких фондов:

European Investment Bank (EIB). Европейский инвестиционный банк - это международный финансовый институт, который предоставляет финансирование на экологические проекты. По состоянию на 2023 год EIB инвестировал в зеленые проекты более 600 миллиардов евро.

Green Climate Fund (GCF). Глобальный фонд климатического финансирования - это международный фонд, созданный для финансирования проектов по борьбе с изменением климата. По состоянию на 2023 год GCF инвестировал в зеленые проекты более 10 миллиардов долларов.

Sustainable Development Goals Fund (SDGF). Фонд целей устойчивого развития - это международный фонд, созданный для финансирования проектов, направленных на достижение целей устойчивого развития. По состоянию на 2023 год SDGF инвестировал в зеленые проекты более 5 миллиардов долларов.

Заключение

В заключение можно отметить, что развитие зеленых финансов является важным фактором для достижения целей устойчивого развития. Оно способствует снижению негативного воздействия на окружающую среду, созданию новых рабочих мест, развитию новых технологий и стимулированию экономического роста.

В Узбекистане в последние годы также наблюдается рост объемов зеленых инвестиций. Это связано с рядом факторов, включая усиление государственной поддержки, рост спроса на экологически чистые товары и услуги и развитие международных стандартов и требований к зеленым проектам.



Развитие зеленых финансов в Узбекистане может способствовать достижению ряда целей устойчивого развития, в том числе обеспечению доступа к недорогостоящей, надежной, устойчивой и современной энергии для всех, созданию устойчивых городов и населенных пунктов и борьбе с изменением климата и его последствиями.

Для дальнейшего развития зеленых финансов в Узбекистане необходимо:

- Усилить государственную поддержку зеленых инвестиций, включая предоставление налоговых льгот и субсидий, создание специальных фондов для финансирования зеленых проектов и развитие системы мониторинга и оценки эффективности зеленых инвестиций.

- Создать благоприятный инвестиционный климат для привлечения иностранных инвестиций в сферу зеленых финансов.

- Развивать рынок зеленых финансовых инструментов, таких как зеленые облигации, зеленые кредиты и зеленые лизинговые операции.

Реализация этих мер позволит Узбекистану достичь устойчивого развития и повысить качество жизни населения.

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CHANGING INVESTMENT AND ASSET CREATION PATTERN OF MUSLIM WOMEN IN SHG GROUPS IN DAKSHINA KANNADA - AN EVALUATION

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ABSTRACT

An assessment of the evolving asset-creation and investment habits of Muslim women in Dakshina Kannada, India's Self-Help Groups (SHGs) is presented in this article. The study is to examine the income, spending, savings, and investment flow in asset building and income-generating activities among SHG members with a focus on the economic empowerment of women through SHG initiatives. Using structured questionnaires and in-person interviews, primary and secondary data are gathered as part of the study technique. The results underline the importance of empowerment as a means of bringing about social change and show the beneficial effects of SHGs on Muslim women's savings and financial independence. The report offers insightful analysis and helpful suggestions for fostering the expansion of SHG projects to further empower women economically.

INTRODUCTION

Women bear an unequal share of the burden of poverty globally, due to societal and structural inequality. Fewer girls are enrolled in school than boys, resulting in more than two-thirds of the world's illiterate adults are being women (Geethanjali R and Prabhakar K, 2013). Women experience unequal access to healthcare starting from birth and throughout their reproductive years (Manjunatha s, 2013) and are conspicuous by their absence from all levels of government – local, regional and national. (www.selfhelpgroups.com)

Women also have limited economic freedom. In many countries, women may not own land. In South and Southeast Asia, women comprise more than 60 percent of the agricultural labor force, but in India, Nepal and Thailand, for example, less than 10 percent of women farmers own land (Shakila Azhim, 2013). These facts describe the 'feminization of poverty', a phrase that captures women's unequal share of poverty in terms of wealth, choices and opportunities (Kappa Kondal, 2014)

Governments, development agencies and grassroot level women's groups have tried to address these inequalities and achieve women's empowerment through women's self-help group (SHG) programs. The basic assumptions of these income-generating programs are giving women access to working capital and technical support, such as training, can increase their ability to 'generate choices and exercise bargaining power as well as develop a sense of self-worth, a belief in one's ability to secure desired changes, and the right to control one's life' (Shreeshha E, 2019). SHGs could facilitate these goals and improve women's empowerment through the development of social capital and the mobilization of women (Masouda Sarwari, 2021).

Many perspectives, definitions, measures and outcomes have been associated with women's empowerment, a term that has been used interchangeably with others, such as autonomy, status and agency. The concept also has been measured in different ways; for example, women's autonomy has been measured by assessing the degree to which women participate in decision-making in their households (UNESCO 2007) or concerning their mobility (WHO 2003). Another challenge in defining and measuring women's empowerment is the variations in socio-cultural contexts that affect how it may occur. Mobility could be a central issue to women's empowerment in one setting and a peripheral issue in another.

Much of the research suggests that empowerment is a process and an outcome that can occur at multiple levels and have different dimensions.

After the 1994 International Conference on Population and Development in Cairo, the United Nations released a paper that delineated five major components of empowerment: women's sense of self-worth; women's right to have and to determine choices; women's right



to have access to opportunities and resources; women's right to have the power to control their own lives, both within and outside the home; and women's ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

In recent years, the developing world has seen an increased focus on institutionalizing women's groups with economic objectives as a key channel to improve women's empowerment and economic outcomes (Diaz Martin L et.al. 2020, Garima Siwach et.al 2022).

Self Help Groups are considered one of the most significant tools in the participatory approach for the economic empowerment of women. It is an important institution for improving the life of women on various social components. The basic objective of SHG is that it acts as a platform for members to provide space and support to each other. SHGs Comprise very poor people who do not have access to formal financial institutions. It enables its members to learn to cooperate and work in a group environment¹. Today, in India, Self Help Groups (SHGs) represent a unique approach to financial intermediation. This combines access to low-cost financial services with a process of self-management and development for the women who are SHG members. SHGs are formed and supported usually by Non-Governmental Organizations or Government agencies that are Linked to banks but and also to wider developmental programs. SHGs are seen to confer many benefits, both economic and social. SHGs enable women to grow their savings and access credit which banks are increasingly willing to lend. SHGs can also be community platforms from which women become active in village affairs, stand for local elections to take action to address social issues². In India, before introducing this scheme for rural women was largely negligible. But in recent years the most significant emerging system called Self Help Group is a breakthrough in improving the lives of womenfolk and alleviating rural poverty. However, the significant success of several SHGs shows that the rural poor are indeed efficient to manage credit and finance. Women's participation in Self Help Groups have created a tremendous impact on the life pattern and style of poor women and have empowered them at various levels not only as individuals but also as members of the family members of the community and society as a whole. They come together to solve their common problems through self-help and mutual help. The more attractive scheme with less effort is the "Self Help Group" (SHG). It is a tool to remove poverty and improve women's entrepreneurship and financial support in India.

SHGs have an in-built mechanism where the emphasis has been given to the capacity building of women through developing their communication skills. An SHG functions through its regular meetings, where members perform transactional activities and discuss different related issues. This discussion among the group members is the means through which they give voice to their needs and it proves to be a platform for addressing their social and economic problems and enlightening their inner selves as well. The 'Self-help Groups' provide economic benefits in certain areas of the production process by undertaking common action programs, like a cost-effective credit delivery system, generating a forum for collective, learning with rural people, promoting democratic culture, fostering an entrepreneurial culture, providing a firm base for dialogue and cooperation in programs with other institutions, possessing credibility and power to ensure participation and helping to assess an individual member's management capacity (Fernandez, 1995). Self Help Groups enhance the equality of status of women as participants, decision-makers and beneficiaries in the democratic, economic, social and cultural spheres of life. The SHGs have inculcated great confidence in the minds of women to succeed in their day-to-day life (Jain Ritu et.al, 2003).

According to many disciplines, empowerment describes the freedom of a person in social, political and economic matters. Women empowerment is a comprehensive and much-debated issue, it's a dynamic and multidimensional process⁵. Women in general are the most disadvantaged people in the rural regions of India. Even though women largely participate in economic activities, mainly the agriculture sector, and other sectors in the economy.

REVIEW OF LITERATURE

Purina Chandra Parida and Anushree Sinha (2010) in their study titled "Performance and Sustainability of Self- Help Groups in India: A Gender Perspective" explored the performance and sustainability of this type of program in India at the group level. Because income-generating activities and other characteristics vary with the gender composition of self- help groups, their performance and sustainability vary. The analysis in this study was based on the data from a survey carried out in six states in India. The performance analysis revealed that all female self- help groups perform best. The female self- help groups were doing particularly well in terms of recovery of loans and per capita saving. The econometrics results indicated that all female self- help groups are sustainable. The factors that determine the sustainability include recovery of loans, per capita savings, and linkage with an self- help group federation.

M Aruna and Ms. Hema Jyothirmayi (2011) in their study titled "The role of microfinance in women empowerment: A study on the SHG bank linkage program in Hyderabad (Andra Pradesh)" analysed the empowerment of women through SHG Linkage programme



in Hyderabad. The objective of the study analysed the relationship between SHG bank Linkage programme participation and women empowerment. A sample of 300 respondents comprising of 150 female participants of SHG who awaited microfinance loan and another 150 female participants were not. The study finds that SHG participants improved the income level of the respondents. It is concluded that Microfinance activities and SHG participation has a positive impact on all the levels of the participants.

Dr Uma Narang (2012) in her research titled “Self help group: An effective approach to women empowerment in India” examined the women empowerment through self- help groups and also explained the current position of women empowerment in India. This study included only the conceptual part. So only the secondary data is analysed. It is concluded that to reduce poverty by enabling the poor household to access gainful self employment and skilled wage employment opportunities, resulting in appreciable improvement in their livelihood on a sustainable basis, through building strong grass-root institutions for the poor (SHGs) is the main motive of the most of the employment schemes. Thus self- help groups have been showing the way ahead to alleviate the poverty of India along with women empowerment.

Dr S.Ganapathy and C. Mayilsamy (2013) in their study titled “Empowering Women through Self-Help Groups” revealed that the self- help groups had greater impact on both economic and social aspects of the beneficiaries. From the assessment of various criteria’s of empowerment (power, autonomy and self-reliance, entitlement, participation and awareness and capacity-building), the study suggested that if women participating in the microcredit programme through self- help groups sustain for some longer period, such programme might contribute to higher level of women’s empowerment than other type of control group.

Dr. R. V. Tehra (2014) in his research titled “An Empirical Case Study of Women Self Help Group (SHG) functioning in Nanded City”. Study revealed that functions of self- help groups has a positive impact on self -help group members. A Sample of 100 self- help group members were interviewed in Nanded City and purposive sampling method was adopted for the study. However self- help group work for BPL groups.

Satish Kumar & Dr. H.G.Joshi (2015) in their study titled “Economic empowerment of women through self help groups in India: An Empirical Study from Belthangady taluk, Karnataka” focused on the impact of economic empowerment of women in rural areas and also the social empowerment. Totally 42 respondents were selected and data was collected through structured questionnaire. The study observed that institutional intervention of self- help groups improved the status of rural women and also their participation in the local community.

Dr Ranganath G (2020) in his study titled "Economic Empowerment of Women through Self Help Group in India" examined that empowerment was an active, multidimensional process which should enable women to realise their full identity and power in all spheres of life. The study was descriptive in nature and main emphasis on economic empowerment of women through self- help groups in Indian Economy. It was concluded that empowerment was a vehicle of change for the society as a whole.

OBJECTIVES OF THE STUDY

1. To analyse the income, expenditure and savings pattern of the Self Help Groups members.
2. To assess the flow of investment in asset creation and income generating activities.

RESEARCH METHODOLOGY

The present research is based on both primary and secondary data. Primary data is collected through personal interviews. Secondary data also plays a significant role in the analysis and outcome of the empirical Study (Adhikari, 2011, Masouda Sarwari, 2021). The structured questionnaire was prepared in English and was translated into the Kannada language considering the language constrain of the respondents. A pilot test was carried out in Belthangady Taluk among 30 Muslim women respondents.

Table 1

KMO and Bartlett's Test for Women Empowerment		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.873
Bartlett's Test of Sphericity	Approx. Chi-Square	2532.466
	df	105
	Sig.	0.000



Table 2: Paired Sample Test Statistics

		Mean	N	Std deviation	Std. error mean
Pair 1	Monthly savings upto Rs.100 before	1.96	100	.639	.062
	Monthly savings upto Rs.100 after	2.32	100	.379	.036
Pair 2	Monthly savings of Rs.101 -150 before	1.74	100	.742	.050
	Monthly savings of Rs. 101 - 150 after	2.39	100	.761	.036
Pair 3	Monthly savings of Rs.151 - 200 before	3.69	100	.721	.038
	Monthly savings of Rs. 151 – 200 after	2.24	100	.888	.043
Pair 4	Monthly savings of Rs. 201 – 250 before	3.49	100	.743	.039
	Monthly savings of Rs. 201 – 250 after	1.59	100	.680	.034
Pair 5	Monthly savings of Rs. 250 and above before	4.00	100	.796	.040
	Monthly savings of Rs. 250 and above after	2.04	100	.858	.043

Table 3: Paired Sample Test Result

		Mean	Std deviation	Std. error mean	T	Df	Sig (2 tailed)
Pair 1	Monthly savings upto Rs.100 before - after	-1.66	1.26	.062	-29.27	99	.000
Pair 2	Monthly savings of Rs.101 -150 before - after	-2.63	1.23	.059	-32.17	99	.000
Pair 3	Monthly savings of Rs.151 - 200 before - after	-1.56	1.71	.037	-16.17	99	.000
Pair 4	Monthly savings of Rs. 201 – 250 before - after	-1.37	1.62	.035	-29.18	99	.000
Pair 5	Monthly savings of Rs. 250 and above before - after	-2.66	1.77	.047	-24.17	99	.000

ANALYSIS

The paired t-test was conducted to analyze the impact of joining self-help groups on Muslimwomen. The test result proved a significant difference in the financial independence of Muslim women after joining SHGs (M= 2.32, 2.39, 2.24, 1.59 and SD= .379, .761, .888 and .680). Compared to before joining SHGs (M= 1.96, 1.74, 4,4,4,4 and SD= .639, .742, .721, .743, and .796), t (99) = -29.27, -32.17, -16.17, -29.18 and -24.17 p< .001 (two-tailed). Therefore, the null hypothesis is rejected at the (5%) significance level and concludes that Muslim women significantlyimproved their total savings after joining SHGs.

Table 4: Paired Sample Test Statistics

		Mean	N	Std deviation	Std. error mean
Pair 1	Monthly income upto Rs. 5000 before	2.11	100	.738	.037
	Monthly income upto Rs. 5000 after	3.99	100	.765	.039
Pair 2	Monthly income of Rs. 5000 – 10,000 before	2.24	100	.909	.046
	Monthly income of Rs. 5000 – 10,000 after	3.99	100	.793	.040
Pair 3	Monthly income of Rs.10,001–15,000 before	1.89	100	.826	.042
	Monthly income of Rs. 10,001 – 15,000 after	4.04	100	.757	.038
Pair 4	Monthly income of Rs. 15,000 and above before	1.87	100	.711	.036
	Monthly income of Rs. 15,000 and above after	4.09	100	.603	.031

**Table 5: Paired Sample Test Result**

		Mean	Std deviation	Std. Error Mean	T	Df	Sig (2 tailed)
Pair 1	Monthly income upto Rs.5000 before – after	-1.87	1.15	.059	-31.97	99	.000
Pair 2	Monthly income of Rs. 5000 - 10000 before - after	-1.75	1.27	.065	-27.18	99	.000
Pair 3	Monthly income of Rs.10001 - 15000 before - after	-2.14	1.22	.062	-34.58	99	.000
Pair 4	Monthly income of Rs. 15000 and above before - after	-2.21	1.07	.055	-40.61	99	.000

ANALYSIS

The paired t-test was conducted to analyze the impact of joining self-help groups on Muslim women. The test result proved a significant difference in the financial independence of Muslim women after joining SHGs (M= 4, 4, 4 and 4 and SD= .765, .793, .757 and .603). Compared to before joining SHGs (M= 2.11, 2.24, 1.89 and 1.87 and SD= .738, .909, .826 and .711), $t(99) = -31.97, -27.18, -34.58$ and -40.61 $p < .001$ (two-tailed). Therefore, the null hypothesis is rejected at the (5%) significance level and concludes that Muslim women significantly improved their total income after joining SHGs.

FINDINGS OF THE STUDY

The key findings of the evaluation of the investment and asset creation pattern of Muslim women in SHG groups in Dakshina Kannada are:

1. The study discovered a substantial difference in Muslim women's financial independence following their membership in SHGs. After joining SHGs, Muslim women's income and total savings increased dramatically.
2. The study also discovered that after joining SHGs, the flow of investment in activities that generate income and assets increased.
3. The findings of the paired t-test indicated that Muslim women's monthly savings significantly increased after they joined SHGs.
4. To combat poverty and empower women, the study emphasizes the significance of creating robust grassroots institutions for the underprivileged, such Self-Help Groups (SHGs).

SUGGESTIONS

Based on the findings presented in the paper "Changing Investment and asset creation pattern of Muslim Women in SHG Groups in Dakshina Kannada - An Evaluation," the following suggestions can be made:

1. Promote the growth of self-help group (SHG) initiatives: Due to the beneficial effects of SHGs on Muslim women's savings and financial independence, it is necessary to promote and assist the formation of SHGs in other areas in order to economically empower more women.
2. Provide targeted financial literacy and skill-building programs: In order to maximize the impact of SHGs, it's critical to give women the tools they need to manage their investments and savings wisely and to take part in activities that generate income.
3. Strengthen monitoring and evaluation systems: To track the development and effects of SHG programs on women's economic empowerment, it is critical to set up effective monitoring and evaluation systems. This will guarantee the longevity of beneficial results and assist in pinpointing areas that require development.
4. Encourage cooperation with financial institutions: Cooperation with financial institutions can help SHG members get access to loans and other financial services, allowing them to make more investments in ventures that generate revenue and the development of assets.
5. Remove social and cultural hurdles: In order to make sure that the programs are inclusive and supportive of women from a variety of backgrounds, efforts should be taken to remove social and cultural barriers that may prevent women from participating in SHGs and economic activities. By implementing these suggestions, the paper's findings can contribute to the development of effective strategies for promoting the economic empowerment of women through self-help group initiatives.

CONCLUSION

The study "Changing Investment and Asset Creation Pattern of Muslim Women in SHG Groups in Dakshina Kannada - An Evaluation" concludes by highlighting the benefits of self-help group (SHG) initiatives for Muslim women's savings and financial independence. According to the study, Muslim women who joined SHGs saw a considerable increase in their overall income and savings as well as an



increase in the flow of capital invested in activities that generated revenue and assets. The findings of the paired t-test indicated that Muslim women's monthly savings significantly increased after they joined SHGs.

According to the study's findings, SHGs can be a useful instrument for advancing women's economic empowerment, especially in areas where there are substantial obstacles for women to overcome in order to participate in the economy and obtain financial services. To further increase the impact of SHGs, however, specific programs for financial literacy and skill development should be offered, and systems for monitoring and evaluating progress should be reinforced in order to pinpoint areas in need of improvement. In order to combat poverty and empower women, the study emphasizes the significance of creating robust grassroots institutions for the underprivileged, such as Self-Help Groups (SHGs). Policymakers and practitioners can create effective methods for increasing women's economic empowerment through self-help group initiatives by putting the recommendations made in this study into practice.

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A STUDY ON SOURCES OF FINANCE AVAILABLE FOR ENTREPRENEURS

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ABSTRACT

The present Research study on the sources of finance available for Entrepreneurs finance refers to the process of acquiring capital and making financial decisions for a new venture or startup. The entrepreneurs finance methods range from self-financing using an entrepreneur's own savings, using debt financing like credit cards, home equity loans, or small business loans, or turning to equity financing from sources like venture capital firms. The researcher explain the various sources of finance available for entrepreneurs with different internal and external environments from different angles. The main objectives of the study are 1. To know about the socio-economic background of the entrepreneurial finance. 2. To identify the sources of Entrepreneurial finance. The present study is purely conceptual and descriptive in nature. The secondary data has been collected from various sources like peer-review articles, books and online source. The author has followed inclusion and exclusion criteria to collect pertinent information related to the present study. The present research study mentions that there are a variety of financing options available to new entrepreneurs. The best option for you will depend on your business needs and your financial situation. Be sure to research all of your options before deciding on a loan. This will help you choose the source of funding that suits best with your situation and company stage. In return it increases the chances that you will successfully rise funding

The Entrepreneurs should be prepared to explore funding opportunities via business angels, venture capital, bank loans, buyouts and financial bootstrapping. Business angels, or angel investors, invest a part of their wealth in innovative companies in their earliest stages to help them grow expeditiously. Angel investments may provide a boon to an infant organization, with angels typically providing three times that of venture capital. Venture capital is a method in which investors fund a fast-growing company with the intention of selling their stake in the middle-stage. Venture capitalists take on high risks and expect high profitability when investing in new ventures. Bank loans are funding provided by a bank against business or personal credit. Financial bootstrapping is when a founder invests their own money and uses that to propel the business forwards, with methods such as joint utilization, sweat equity, owner financing, delayed payments, minimization of inventory and more to keep the business loan.

KEYWORDS: *Entrepreneurship finance, source, inclusion and exclusion criteria, funding*

INTRODUCTION

In the modern world businesses run on money or finance it most likely have to think about financing often, even the company is profitable. When sorting through available sources of finance, research interest rates and repayment terms. Also consider how easy or difficult it will be to have access to funds, and trade-offs for the convenience of readily available cash. Entrepreneurs must be flexible, savvy and fast-moving in order to acquire the financing needed to allow them to focus on scaling operations, hiring employees and propelling their business forward. Seeking out money in creative places must be second nature to build and maintain a successful business. Therefore, entrepreneurs should be prepared to explore funding opportunities via business angels, venture capital, bank loans, buyouts and financial bootstrapping. Business angels, or angel investors, invest a part of their wealth in innovative companies in their earliest stages to help them grow expeditiously. Angel investments may provide a boon to an infant organization, with angels typically providing three times that of venture capital. Venture capital is a method in which investors fund a fast-growing company with the intention of selling their stake in the middle-stage. Venture capitalists take on high risks and expect high profitability when investing in new ventures. Bank loans are funding provided by a bank against business or personal credit. Financial bootstrapping is when a founder invests their own money and uses that to propel the business forwards, with methods such as joint utilization, sweat equity, owner financing, delayed payments, minimization of inventory and more to keep the business loan. Finally, buyouts exchange ownership of the company with another party in order to build its value. Buyouts can only occur once a company attains private status.



SOURCES OF FINANCE FOR NEW ENTREPRENEUR

1. Personal Investment

It would help if you were your first investor, putting in as much money as you can afford. This will show potential investors that you're committed to your business. You can also use your savings to finance your business, which can be a good option if you don't want to take on debt.

2. Family And Friends

Your family and friends are a great source of financial support when starting a business. They can provide you with loans or investments, and they're often more flexible than banks when it comes to repayment terms. However, it's important to remember that you're putting your relationships at risk if you borrow money from them. Before approaching them, you have a solid business plan and a realistic repayment schedule for financial help.

3. Bank Loans

Bank loans are a popular source of finance for entrepreneurs. However, they can be challenging to obtain if you have no credit history. At Viva Paydays, they offer no credit check loans instant approval, which can be valuable for new entrepreneurs. The interest rates and terms are good if you are starting a business.

4. Angel Investors

These are wealthy people who are looking to invest in new businesses. They usually have a lot of experience and want to be more hands-on than venture capitalists. The downside is that they can be more demanding and more challenging to please than other sources of financing. To find an angel investor, try going to business events and pitching your business idea to potential investors. You can also search online for "angel investors" or "venture capitalists" in your area.

5. Incubators

This is an organization that provides resources and support to new businesses. They can offer office space, mentorship, and access to funding. Many incubators are sector-specific, so make sure to look for one that fits your industry.

6. Government Subsidies And Grants

Several government agencies offer subsidies and grants to new entrepreneurs. The amount of financial assistance varies, but it can be a great way to get your business off the ground. Be sure to research the eligibility requirements and application process for these programs. Getting a grant is complex, and the chances of success are usually low. But it's worth considering because if you do get one, you don't have to repay the money.

7. Crowd funding

The Crowd funding platforms like Kickstarter and Indiegogo are popular options, but many others are available. You'll need to create a compelling pitch to convince people to invest, and you'll need to set a funding goal. If you reach your goal, you'll get the money.

8. Equipment Financing

The need to purchase equipment for your business, you may be able to finance it through a loan. There are a few different types of equipment loans available, and the best option for you will depend on the equipment you need and your financial situation. You may be able to get an equipment loan from a bank, credit union, or online lender. Some equipment loans require collateral, such as a down payment on the equipment or another asset that can be used as collateral. Others may be unsecured, so you won't need to put up any collateral. The interest rate on your loan will also vary depending on the type of loan and your creditworthiness.

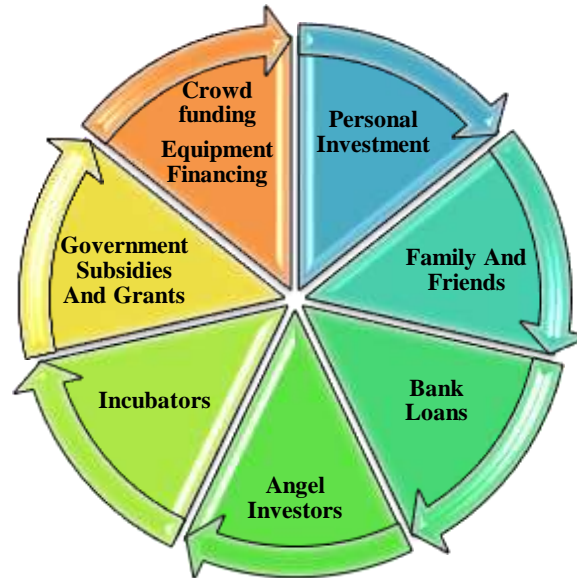


Figure:1 Sources of Finance for new Entrepreneurs

REVIEW OF LITERATURE

Theo Lynn and Pierangelo Rosat (2021), Digital Entrepreneurship: Impact on Business and Society (pp.209-231), Publisher: Springer. Digital technologies are transforming entrepreneurial finance. Near-ubiquitous access to the Internet, platformisation, and advances in cloud computing, machine learning and artificial intelligence, and block chain are changing the sources, basis, and quantum of funding in ways that were unimaginable at the turn of the century. This chapter outlines the changes to the market for entrepreneurial finance from the perspective of structure and participants. The key sources and characteristics of alternative sources of finance available to entrepreneurs, including start-ups, are presented. Two online alternative finance sources, crowd funding and token offerings, are discussed in greater detail. These are illustrated with case studies. This chapter concludes with recommendations and a discussion of practical implications. **Joern H. Block, Massimo G. Colombo, Douglas J. Cumming & Silvio Vismara (2017), New Players in Entrepreneurial finance and why they are there, Volume:50, Pages 239-250.** The landscape for entrepreneurial finance has changed strongly over the last years. Many new players have entered the arena. This editorial introduces and describes the new players and compares them along the four dimensions: debt or equity, investment goal, investment approach, and investment target. Following this, we discuss the factors explaining the emergence of the new players and group them into supply- and demand-side factors. The editorial gives researchers and practitioners orientation about recent developments in entrepreneurial finance and provides avenues for relevant and fruitful further research.

Objectives of the study

1. To know about the socio-economic background of the entrepreneurial finance.
2. To identify the sources of Entrepreneurial finance.

Research Methodology

The present study is purely conceptual and descriptive in nature. The secondary data has been collected from various sources like peer-review articles, books and online source. The author has followed inclusion and exclusion criteria to collect pertinent information related to the present study.

Inclusion Criteria

The literature related to entrepreneurial finance is only considered and the theories of capitalization, financial aspects were considered and the information should be available in English language were considered.

Exclusion Criteria

The author has considered only conceptual facts, theories and quantitative data has been excluded from the study.



Table showing the source of finance for a new Entrepreneurs

Sources of Finance for a new Entrepreneur	Yes	No
Personal Investment	68	32
Family And Friends	87	13
Bank Loans	59	41
Angel Investors	76	24
Incubators	83	17
Government Subsidies And Grants	64	36
Crowd funding	72	28
Equipment Financing	65	35

Source: Primary data

CONCLUSION

The present research study mentions that there are a variety of financing options available to new entrepreneurs. The best option for you will depend on your business needs and your financial situation. Be sure to research all of your options before deciding on a loan. This will help you choose the source of funding that suits best with your situation and company stage. In return it increases the chances that you will successfully rise funding.

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PROXIMATE ANALYSIS OF SPINACH (*Spinacia oleracea*): NUTRITIONAL AND BUSINESS IMPLICATIONS

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ABSTRACT

As the human population is rising, food demands are also surging up that can be met by cultivating wild vegetables, since they are considered low-cost food source among local populations. The current investigation during July 2023 to December 2023 is attempted, to quantitatively evaluate spinach (*Spinacia oleracea*), that is grown in Tagarapuvalasa, Visakhapatnam, Andhra Pradesh; India; for its proximate composition levels and anti-microbial activity. Proteins, total carbohydrates and lipids were estimated by following Lowry et.al., [1951], Carroll et.al., [1956] and Bligh and Dyer [1959] respectively. The anti-microbial activity of the leaf extracts was determined by using the protocol reported by Shahriar et al. [2018b] and the zone of inhibition (ZOI) towards the microbes was calculated.

From the results of this study, it was found that spinach of the study area is a significant source of macronutrients and micronutrients. Moreover, it also showed the highest anti-bacterial potential as observed in the results of the analysis. Hence, awareness regarding the nutritional and functional properties of these under-utilized leaves may aid towards nutritional and food security in addition to generating novel therapeutic avenues. It may be concluded that, apart from cultivating spinach during the main season, its yield 15 to 30 days early and later main season also may be a more profitable business, not only for a bigger farmer but also to small and marginal farmers.

KEYWORDS: Spinach leaf extract, analysis, Nutrients, Anti-bacterial acitivity, Profit.

1. INTRODUCTION

With the exponentially increasing human population, food needs are constantly rising. The human diet's significant portion consists of vegetables that are rich source of carbohydrates, fats and proteins [7]. This results in scarcity of land resources available for food crop's cultivation, especially vegetables [8]. As an alternative, the food demands can be met by growing wild vegetables, since they are considered low-cost food source among local populations.

Of all the other vegetables, green leafy vegetables (GLVs) have a significant contribution in maintaining normal body function and in averting diseases [6]. GLVs are cost-effective food available throughout the year that is rich in vitamins, minerals, proteins, antioxidants and dietary fibre. Therapeutic properties of leafy vegetables, such as anticarcinogenic, antibacterial and antidiabetic effects are proven in many research studies [18]. In the present study, *Spinacia oleracea* (spinach) leaves were analysed during July 2023 to December 2023, for their proximate composition and functional attributes in order to ascertain their usefulness towards nutritional security outcomes.

Evaluation of the proximate composition in spinach (*S. oleracea*) of Nasarawa state, Nigeria was done by Amos Idzi Ambo, et.al. (2023). Analysis of underutilized leafy vegetables is investigated by Sankar et.al. (2022), nutritional assessment and Proximate analysis of vegetables grown in Larkana, Pakistan was studied by Malghani et.al. (2022), nutritional characterization and food value addition properties of dehydrated spinach powder are done by Waseem et.al. (2021), Nutritional and Therapeutic implication of edible leaves is revealed by Pal and Zakir (2020) while El-Sayed (2020) successfully used spinach powder in the manufacture of soft cheese. Proximate and Antioxidant activity of *Brassica oleracea* (Kale) and *S. oleracea* (Spinach) Leaves was studied by Agarwal et.al. (2017), Miano (2016) analysed the nutritional value of Spinach (*S. oleracea*), Patricia et.al., (2014) done the Proximate composition and nutritive value of leafy vegetables consumed in Northern Côte d'Ivoire, Emebu and Anyika (2011) worked on the Proximate and



mineral composition of Kale (*B. oleracea*) grown in Delta State, Nigeria. Proximate and essential nutrients evaluation of selected vegetables species from Kohat region, Pakistan was done by Hussain et.al. (2010); Nutritional evaluation of leafy vegetable Paratha was done by Pandey et.al. (2006); Composition, efficacy, and safety of spinach extracts is done by Lomnitski (2003); Pandey and Kalloo (1993) worked on genetic improvement of Spinach: *S. oleracea L.*

2. MATERIAL AND METHODS

2.1 Sample collection

Fresh samples of *S. oleracea* (spinach) used in this study were purchased fortnightly from local market during the entire study period. These plants were grown in Tagarapavalasa region which is located along the banks of river Gosthani in Visakhapatnam, Andhra Pradesh; India, lying between 17°55'52"N latitude and 83°25'44"E longitude. The area has tropical climate having summer, rainy and winter seasons, recording annual average temperature of 31.5°C.

2.2 Preparation of extract

The samples were brought to the laboratory, roots and unwanted parts of the plants were removed by a sterile blade. Then, the leaves along with stem were washed thoroughly under running water to remove sand and other impurities. Each sample was separated into three parts. One part was used to find the moisture content. The remaining two parts were air-dried at room temperature to remove the surface water. The dried leaves were then ground into a fine powder, sieved and stored in zip-lock sterile polythene bag. Leaf extracts were prepared by soaking 15 gm of powdered sample in distilled water followed by filtration. The extract was stored in a sterilized airtight container at 4°C.

2.3 Methods

The moisture content of the sample was determined by oven drying 5 gm of the leaves at 150°C to a constant weight. Percentage of ash was obtained by igniting the powdered sample in a muffle furnace at 600°C. Proteins, total carbohydrates and lipids were estimated by following Lowry et.al., [10], Carroll et.al., [4] and Bligh and Dyer [3] respectively.

The anti-bacterial activity of the leaf extracts against pathogenic Gram-negative *Escherichia coli* (*E. coli*) and Gram-positive *Bacillus subtilis* (*B. subtilis*) was experimented, using a protocol reported by Shahriar et al. [18] and the zone of inhibition (ZOI) was calculated using ethanol and chloramphenicol as the negative and positive controls respectively.

2.4 Statistical analysis:

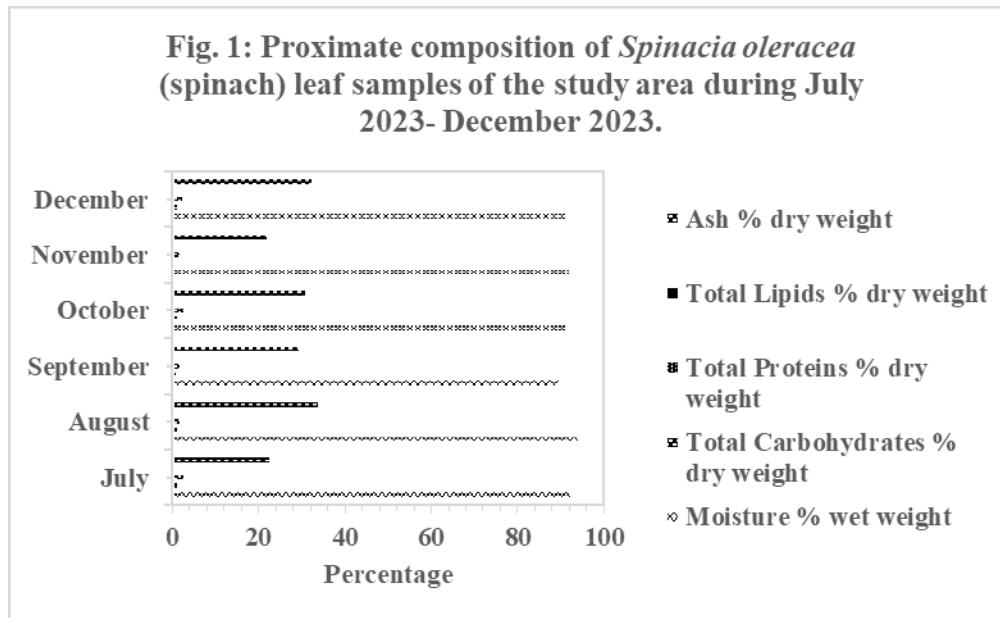
For statistical analysis of the data of the present study, SPSS 16.0 version was used. For tabular presentations mean values with standard errors (SE) were given. Proximate composition and zone of microbial inhibition (ZOI) of the samples were represented using bar graphs.

3. RESULTS

Leaf samples showed significantly high moisture content with the highest (94.29 %) in the month of August during the study period. The sample containing high moisture content was reported to have high ash content (34.19%) too, qualifying it as a good source of minerals. As the moisture content influences shelf life, the leaves analysed were not recommended for long-term storage. Furthermore, the samples showed the highest amounts of carbohydrates in the months of July and December (1.67%), proteins in the months of July (2.98%), October (2.92%) and December (2.87%) during the study period (Table 1, Fig 1).

Table 1: Proximate composition of *Spinacia oleracea* (spinach) leaf samples of the study area during July 2023- December 2023. values are expressed as mean ± SE

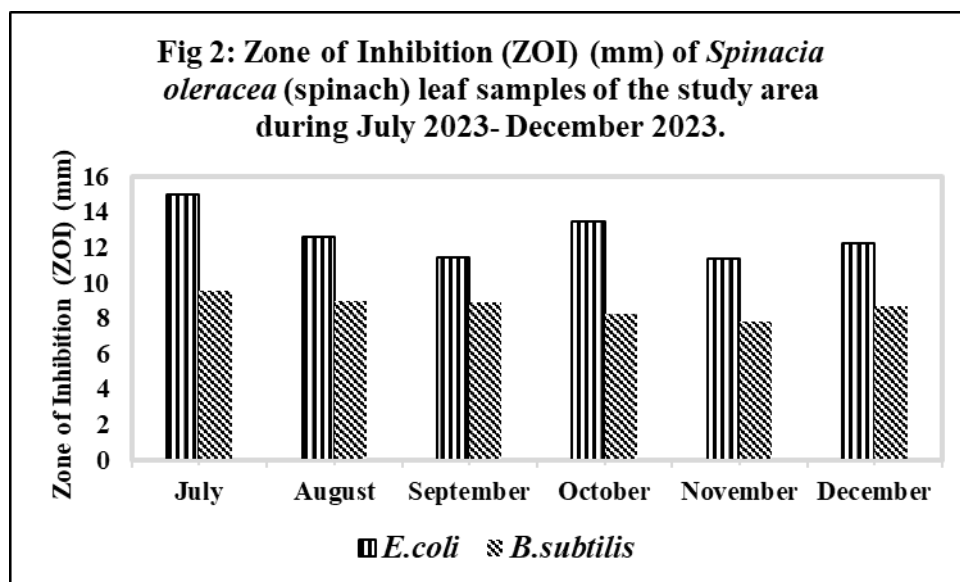
Month	Moisture % wet weight	Total Carbohydrates % dry weight	Total Proteins % dry weight	Total Lipids % dry weight	Ash % dry weight
July	92.67±0.03	1.67±0.01	2.98±0.12	0.77±0.01	22.87±0.02
August	94.29±0.02	1.43±0.12	2.01±0.10	0.23±0.12	34.19±0.03
September	89.81±0.12	1.34±0.04	1.99±0.17	0.37±0.04	29.64±0.02
October	91.38±0.04	1.56±0.06	2.92±0.15	0.75±0.06	31.08±0.03
November	92.21±0.01	0.89±0.01	2.01±0.08	0.99±0.01	22.27±0.01
December	91.87±0.03	1.67±0.09	2.87±0.14	0.97±0.09	32.69±0.02



Interestingly, the leaf samples displayed low-fat content, with the lowest (0.23%) during August, thereby being suitable for fat restricted diets followed by several people, especially those suffering from obesity and other metabolic disorders.

Table 2: Zone of Inhibition (ZOI) (mm) of *Spinacia oleracea* (spinach) leaf samples of the study area during July 2023- December 2023. values are expressed as mean ± SE

Name of the sample	Type of bacteria	July	August	September	October	November	December
Spinach leaf extract	<i>E.coli</i>	14.97±0.03	12.56±0.02	11.45±0.03	13.45±0.02	11.34±0.07	12.21±0.05
	<i>B.subtilis</i>	9.56±0.05	8.98±0.02	8.90±0.06	8.23±0.03	7.78±0.05	8.67±0.07





The leaf extract was highly effective in inhibiting the growth of *E. coli* and *B. subtilis* in the month of July during the study period as depicted per ZOI of 14.97 mm and 9.56 mm respectively (Table 2, Fig. 2) followed by ZOI for *E. coli* in the month of October and ZOI for *B. subtilis* in the month of August. More or less the samples of the present study displayed a higher anti-bacterial potential towards *E. coli* compared to *B. subtilis*, that may be due to the differences in the cell wall constituents of the strains.

DISCUSSION

S. oleracea (spinach) is a high yield, good quality of uniform green leafy vegetable and resistant to major diseases [17]. It was recognized as a good source of vegetable fibre and protein content to manage against metabolic disorders such as diabetes and cardiovascular diseases [1]. In the present study, *S. oleracea* (spinach) leaves were found to be rich in proximate composition, but possessing a low-fat percentage thereby potentiating as an attractive nutritive food. Similar observation of rich proximate composition [2] omega 3 fatty acids and anti-inflammatory agent [12] lends support to the present investigation.

The leafy vegetables if consumed in sufficient amount would contribute greatly to the nutritional requirement for human health [16][14]. The efficacy of spinach leaf extract and the safety of its consumption were proved by isolating the natural antioxidant mixture (NAO), which specifically inhibits the lipoxygenase enzyme, promising anticarcinogenic effects [9]. The cheese containing a powder form of spinach, offers a healthy source of nutrients for normal body functions [5]. Replacing wheat flour with spinach powder in baked products could be a viable dietary approach to enhance the optimum supply of micronutrients and to combat micronutrient deficiencies among various population segments [19]. So, it can be known that spinach may be added in the regular diet in its modified form for normal health benefits.

Wild vegetable species including spinach proved to have sufficient micro and macro nutrients while the proximate parameters are at moderate level [7]. This is in tune with the present research as all the samples showed high ash content. Further, the samples analysed in August were found to have the highest moisture, ash and low fat when compared with the findings of other samples during the study period. The reason may be the adequate availability of rain water to the plantation, as August month will fall under rainy season at the study area. These edible samples are attractive commodities owing to their low cost and ready availabilities. Thus, knowledge of the above properties may help the population in adapting an improved food choice.

Moreover, leaves being natural, contain components possessing low toxicity compared to synthetic drugs available in the market. The elemental toxicity in the vegetables, which is lethal, is well below WHO standards [11]. The present investigation witnessed therapeutic benefits of the leaf extract [13] as noticed by zone of inhibition towards bacterial growth. Hence, awareness regarding the nutritional and functional properties of these under-utilized leaves may aid towards nutritional and food security in addition to generating novel therapeutic avenues.

CONCLUSION

Leaves are multi-purpose parts of the plant possessing high nutritional values and wide medicinal applications. Based on the nutritional and functional evaluation of these edible leaves, it can be summarized that these samples are significant sources of macronutrients and micronutrients. Moreover, they also showed the highest anti-bacterial potential as observed in the results of the present analysis. Therefore, consumption of these edible leaves may not only confer nutritional empowerment but also therapeutic benefits.

Edible leaves are one of the most economical forms of vegetable possessing multiple benefits. Whether it is intended for fresh consumption or processing, growing vegetable plants can be a profitable business. However, there are some factors that may influence the profitability, such as seed quality, optimal time of planting, method of planting, etc. As observed in the present study, cultivation of spinach utilizing the available area may be an affordable business besides fulfilling the nutritional needs of the local people. The present study area, being a semi-arid region, has bestowed with ample natural wealth of plant species. Based on the nutritional and functional evaluation of these edible leaves, it may also be suggested that, *S. oleracea* (spinach) may be cultivated early and later seasons as well, instead of growing only during the main season, so that the yield will be 15 to 30 days early and later main season too. Then, it may be a more profitable business not only to a bigger farmer but also to small and marginal farmers.



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