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FALLS IN OLDER ADULTS IN CHILE: EPIDEMIOLOGY, RISK FACTORS, AND PREVENTIVE STRATEGIES IN PRIMARY HEALTH CARE

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ABSTRACT

Introduction: *Falls represent a relevant public health problem among older adults because of their frequency and their consequences for functional status, autonomy, and quality of life. In Chile, several individual, functional, and environmental factors have been associated with an increased risk of falls, highlighting the need to strengthen preventive strategies within Primary Health Care.*

Objective: *To review the available evidence on the epidemiology, main risk factors, and fall prevention strategies among older adults in Chile, with emphasis on the role of Primary Health Care.*

Methodology: *A narrative literature review was conducted through searches in PubMed/MEDLINE, SciELO, and LILACS, complemented by Google Scholar and institutional documents. Publications in Spanish and English from 2015 to 2026 were prioritized, with particular emphasis on studies conducted in the Chilean population.*

Results: *The reviewed evidence indicates a high frequency of falls among older adults in Chile, with increased risk associated with advanced age, female sex, disability, visual and auditory impairments, sarcopenia, and other functional factors. Multifactorial strategies combining exercise, functional assessment, education, identification of modifiable factors, and environmental modifications have demonstrated usefulness in reducing fall risk. Primary Health Care represents a strategic setting for implementing these interventions and providing longitudinal follow-up.*

Conclusions: *Falls represent a preventable and increasingly important public health problem among the older Chilean population. Strengthening systematic fall-risk assessment and multifactorial interventions integrated into Primary Health Care may contribute to reducing falls, their complications, and loss of autonomy.*

KEYWORDS: *Accidental Falls; Older Adults; Primary Health Care; Accident Prevention; Chile; Aging.*

INTRODUCTION

Population aging represents one of the main health challenges for Chile, due to the progressive increase in the population aged 60 years and older and, particularly, the growth of the population aged 80 years and older. This process is associated with a higher prevalence of chronic diseases, functional decline, and dependency, highlighting the need to strengthen prevention and follow-up strategies within Primary Health Care (PHC). In this context, falls represent a relevant problem because of their frequency and their functional, clinical, and social consequences among older adults [1,2].

In Chile, the magnitude of this problem has been documented through national data. An analysis of the 2009–2010 National Health Survey, including 1,334 individuals aged 60 years and older, found that 37.2% had experienced at least one fall during the previous 12 months, with a higher prevalence among women and older individuals. Associations were also identified between falls and conditions such as disability, visual and auditory impairments, and lower perceived well-being, demonstrating the multifactorial nature of fall risk among older adults [2].

The consequences of falls extend beyond the immediate traumatic event and may contribute to fractures, functional decline, disability, and mortality. Among community-dwelling older adults in Chile, the coexistence of sarcopenia and low bone mineral density has been associated with an increased risk of falls, fractures, and mortality, emphasizing the importance of early identification of modifiable risk factors. Given its

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proximity to the population and its capacity to provide preventive interventions and longitudinal follow-up, PHC represents a strategic setting for identifying fall risk and implementing multifactorial interventions aimed at preserving autonomy and functional status among older adults [3].

METHODOLOGY

A narrative review of the scientific literature on falls among older adults in Chile was conducted, focusing on epidemiology, risk factors, and preventive strategies applicable to Primary Health Care. A bibliographic search was performed in PubMed/MEDLINE, SciELO, and LILACS, complemented by Google Scholar to identify national literature and relevant institutional documents. Combinations of the terms "falls," "accidental falls," "older adults," "elderly," "Chile," "fall prevention," "primary health care," and "sarcopenia," as well as their Spanish equivalents, were used. Publications in Spanish and English from 2015 to 2026 were prioritized, with particular emphasis on studies conducted in the Chilean population. Observational studies, clinical trials, systematic reviews, and official documents related to fall prevention and the care of older adults in Chile were included. Publications not directly related to the older adult population, studies lacking relevance to the Primary Health Care context, and documents without information relevant to the objectives of the review were excluded.

DEVELOPMENT

Epidemiology of Falls in Older Adults in Chile

In Chile, one of the main national studies on falls analyzed data from the 2009–2010 National Health Survey and included 1,334 individuals aged 60 years and older. The prevalence of having experienced at least one fall during the previous 12 months was 37.2% (95% CI: 32.3–42.2). The frequency was higher among women than men, with prevalences of 41.3% and 32.2%, respectively. In addition, a progressive increase in falls with age was observed, reaching approximately 50% among individuals aged 90 years. These findings demonstrate a high burden of falls among older adults in Chile; however, they should be interpreted considering that the data correspond to the 2009–2010 National Health Survey and therefore may not represent current prevalence [2].

Falls are particularly important because of their association with serious injuries, especially hip fractures. A national hospitalization analysis showed that between 2001 and 2019, 107,972 hospitalizations for hip fracture occurred among individuals aged 65 years and older in Chile. Although standardized hip fracture rates decreased during the study period, hip fracture remains an important clinical consequence of falls among older adults because of its association with disability, loss of independence, and mortality [4].

More recently, a Chilean population-based study analyzed 40,912 hospital discharges for hip fracture between 2018 and 2022. Falls were identified as the main external cause associated with these fractures, accounting for 76.7% of cases, with most occurring at home. Overall in-hospital mortality was 2.9%, with higher mortality observed in certain high-risk groups, particularly among individuals aged 80 years and older. These recent data reinforce the importance of considering falls as a preventable problem within health strategies targeting older adults [5].

Risk Factors for Falls

The factors associated with falls among older adults are multiple and may interact with one another. In the Chilean population, analysis of the 2009–2010 National Health Survey identified female sex, age ≥75 years, disability, and visual and auditory impairments as factors associated with a higher frequency of falls. Disability showed one of the strongest associations (PR 1.54; 95% CI: 1.32–1.79), while visual impairment was also significantly associated with falls (PR 1.46; 95% CI: 1.20–1.77). These findings support the importance of incorporating functional and sensory assessment into fall-risk evaluation in Primary Health Care [2].

Reduced muscle mass and strength represent another important component of fall risk. Among community-dwelling older adults in Chile, sarcopenia has been associated with an increased risk of falls and functional decline. In a follow-up study, individuals with sarcopenia had approximately twice the risk of falls compared with those without sarcopenia (OR 2.2; 95% CI: 1.1–4.3). Likewise, in another Chilean cohort, the presence of osteosarcopenia was associated with a higher frequency of falls, fractures, and functional decline. These findings suggest that assessment of muscle strength, physical function, and bone health may contribute to identifying older adults with greater vulnerability [3,6].

In addition to individual factors, fall risk may be increased by environmental and activity-related factors. These include unsafe conditions within the home, such as irregular or slippery surfaces, obstacles, inadequate lighting, stairs, and the absence of support devices. Therefore, assessment of the home environment should complement clinical evaluation, particularly in individuals with a history of falls, gait disturbances, or functional limitations. Identification of these factors is particularly relevant to Primary Health Care, where educational interventions and environmental modifications can be implemented to reduce preventable exposures.

Preventive Strategies in Primary Health Care

Fall prevention among older adults should begin with a multifactorial risk assessment that considers previous falls, gait and balance, functional capacity, visual impairment, medications, and environmental conditions. Chilean evidence demonstrates that this approach can be implemented in Primary Health Care through relatively simple interventions. In a clinical trial conducted at a public family health center in Santiago, 154 functionally independent older adults were assigned to a multidimensional intervention that included home assessment, education, identification of risk factors, development of an individualized preventive plan, and monthly telephone follow-up for five months [7].

One of the most relevant interventions in Primary Health Care is physical exercise aimed at improving strength, balance, and mobility, combined with education and environmental adaptation. In the aforementioned Chilean study, the multidimensional intervention reduced the frequency of falls: during the five-month follow-up, 7.9% of participants in the intervention group experienced at least one fall compared with 27.7% in the control group (p=0.004). Improvements were also

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observed in the management of risk factors related to surfaces, lighting, and assistive devices. These findings support the value of interventions that combine education, home assessment, and follow-up rather than addressing individual risk factors in isolation [7].

In Chile, these strategies can also be integrated into existing Primary Health Care programs. The *Más Adultos Mayores Autovalentes* (Más AMA) program incorporates functional stimulation, physical activity, self-care, and fall prevention activities through professional teams working with older adults in Primary Health Care facilities and community settings. According to official information from the Ministry of Health, the program includes functional stimulation and fall prevention workshops, as well as education and self-care activities. Existing Primary Health Care structures may therefore serve as a platform for strengthening fall prevention and maintaining autonomy among older adults [8].

Role of Primary Health Care and Comprehensive Approach

Primary Health Care represents an appropriate setting for fall prevention because of its longitudinal contact with older adults and its ability to identify risk factors during routine health assessments. Evaluation should consider previous falls, gait and balance disturbances, functional capacity, vision, medications, and environmental conditions. Available evidence indicates that multifactorial interventions can reduce fall rates, particularly when they include risk assessment, exercise, medication review, and environmental modifications [9].

Among preventive interventions, structured physical exercise, particularly programs incorporating balance training and muscle strengthening, has consistent evidence supporting its effectiveness in reducing falls among community-dwelling older adults. A meta-analysis of 88 clinical trials involving 19,478 participants found an approximately 21% reduction in the rate of falls with exercise programs, with greater effects when interventions included exercises that challenged balance. These findings support the incorporation of physical activity and functional training programs into fall prevention strategies developed within Primary Health Care [10].

In Chile, in addition to conventional interventions, technological strategies applicable to Primary Health Care have recently begun to be explored. A study published in 2026 evaluated the implementation of a virtual reality-based program aimed at reducing fall risk among older adults receiving Primary Health Care, incorporating exercises targeting balance and mobility. This type of intervention represents an emerging alternative that could complement traditional physical activity and rehabilitation strategies, although further evidence is required to establish its long-term effectiveness and large-scale applicability within the Chilean health system [11].

CONCLUSIONS

Falls represent a relevant public health problem among older adults in Chile because of their frequency and their consequences for functional status, autonomy, and quality of life. The available evidence shows that fall risk is multifactorial and is associated with factors such as advanced age, disability, sensory impairments, sarcopenia, and environmental conditions. Primary Health Care occupies a strategic position for the early identification of these factors and for implementing preventive interventions that include physical exercise, functional assessment, medication review, education, and environmental adaptation. Strengthening multifactorial strategies integrated into existing Primary Health Care programs may contribute to reducing falls and their consequences, promoting healthier aging and preserving independence among older adults in Chile.

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