Original Article

Beyond the Bruises: The Physical and Psychological Impact of Falls in Older Adults: A Narrative Review

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Abstract

Falls among older adults represent a major public health challenge, contributing substantially to injury, disability, loss of independence, and increased healthcare use. Evidence shows that a significant proportion of adults aged 65 years and above experience at least one fall annually, with risks rising with advancing age. While physical consequences such as fractures, head injuries, pain, and functional decline are well recognized, the psychological sequelae, including fear of falling, anxiety, depression, and social withdrawal, are often underappreciated. This review synthesizes existing literature on the combined physical and mental health consequences of falls in older adults. A comprehensive search of PubMed/MEDLINE, Scopus, Web of Science, ScienceDirect, PsycINFO, DOAJ, and Google Scholar was conducted. Peer-reviewed English-language quantitative, qualitative, and mixed-methods studies involving adults aged ≥60/65 years were included, examining physical and psychological consequences of falls using relevant free-text and MeSH terms. Falls frequently initiate a cycle of reduced activity, deconditioning, and recurrent falls, while persistent fear of falling may occur even without serious injury, further limiting mobility and participation. The bidirectional interaction between physical and psychological effects accelerates frailty and dependence. Notably, evidence from low- and middle-income countries (LMICs) remains limited. Addressing both dimensions through integrated, multidisciplinary interventions is essential to improve outcomes and preserve independence in older adults, especially in the LMICs with limited access to mental healthcare, rehabilitative and geriatric care facilities.

Keywords: Falls, older adults, physical and psychological impacts, injury-related morbidity

Introduction

Falls are a leading cause of injury and disability among older adults globally and represent one of the most serious public health challenges faced by ageing populations.[1,2] According to the WHO, approximately 28–35% of people aged 65 and over fall each year, and this figure increases with age and frailty level.[1] Falls are not only a source of significant physical harm but also lead to profound psychological and emotional disturbances.[3,4] In addition to direct injuries such as fractures or head trauma, the aftermath of a fall often includes FOF, decreased mobility, loss of independence, anxiety, and depression.[3] These consequences often coexist and interact, creating a cycle that can severely impair an older person's quality of life and increase their risk of future falls and institutionalization.[3,5]

Given the complexity and multidimensional nature of falls and their consequences, a comprehensive understanding is necessary to inform prevention and rehabilitation strategies. Traditional clinical approaches have focused primarily on the physical dimension; preventing fractures, reducing environmental hazards, and improving strength and balance.[6] However, growing evidence suggests that the mental health impacts of falls are equally important and may even exacerbate the risk of repeated falls.[7] Despite the prevalence and impact of falls, psychological consequences such as fear of falling, post-traumatic stress, and depression

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remain under-addressed in fall management programs, particularly in low-resource settings. A focused narrative review is therefore needed to integrate existing knowledge and highlight the importance of preventive approaches, particularly in LMICs where access to mental health, rehabilitation, and geriatric services is limited.[1,2,8] Hence, this narrative review aims to examine the physical and psychological consequences of falls in older adults and highlight how these outcomes interact and compound over time. Drawing on evidence from both high-income and low- and middle-income countries, it explores implications for health systems and policy while identifying critical gaps for future research and intervention.

Methods

Scope and approach

This narrative review is based on a comprehensive but non-systematic literature search. It synthesises evidence on the physical and psychological consequences of falls in older adults, integrating findings across disciplines and study designs. A PRISMA flow chart was not required, as the focus was interpretive synthesis, thematic integration, and identification of gaps rather than exhaustive study enumeration.

Search strategy

A comprehensive literature search was conducted to examine the physical and mental consequences of falls among older adults. Databases searched included PubMed/MEDLINE, Scopus, Web of Science, ScienceDirect, PsycINFO, DOAJ, and Google Scholar, capturing evidence across medical, geriatric, public health, and psychological fields. The search used free-text keywords and MeSH terms related to falls, older adults, physical outcomes (e.g., injury, disability, functional decline, mobility limitation), and mental outcomes (e.g., fear of falling, depression, anxiety, quality of life, self-efficacy). Boolean operators, truncation, and database-specific filters were applied. Inclusion criteria were peer-reviewed English-language studies involving adults aged ≥ 60 or 65 years that assessed physical and/or psychological consequences of falls using quantitative, qualitative, or mixed-methods designs. Non-original publications, prevention-only studies, drug- or surgery-focused reports, and studies involving younger or non-human populations were excluded.

Epidemiology of falls

Falls represent one of the most prevalent and consequential health problems affecting older adults, largely driven by age-related frailty and the burden of multiple comorbidities.[8] Evidence consistently shows that falls substantially increase the risk of serious injury, hospitalization, institutionalization, and mortality among older persons.[3,4,9] Reported prevalence rates vary widely across studies, reflecting differences in methodology, age composition (youngest-old versus oldest-old), data collection approaches (retrospective versus prospective), and care settings (community versus institutional environments).[3,8,10]

In high-income countries, falls constitute a major public health burden. In the United States, approximately one in four adults aged 65 years and older experiences at least one fall annually, making falls the leading cause of both fatal and non-fatal injuries in this age group.[8,10] In 2021, falls accounted for about 38,000 deaths and nearly 3 million emergency department visits among older adults.[10] The associated economic burden is substantial, with annual healthcare costs estimated at $80 billion and projected to exceed $101 billion by 2030.[8,10] Bergen et al. reported that 28.7% of adults aged ≥65 years experienced at least one fall in the preceding year, and over one-third required medical attention or activity restriction following the event.[3] In the United Kingdom, approximately one-third of adults aged ≥65 years and up to half of those aged ≥80 years fall each year, with 20–30% sustaining injuries that impair mobility, independence, and survival.[11] Similar age-related gradients have been reported in Australia, where annual fall prevalence rises from 8% in women in their 40s to 40% in those in their 70s.[12] Globally, a systematic review and meta-analysis of 104 studies estimated an overall fall prevalence of 26.5% among older adults, with notable regional variation: 30% in the United States, 13.7% in Japan, 26.4% in China, and 53% in India.[13] In sub-Saharan Africa, prevalence estimates are comparable or higher. A South African urban cohort reported a 26.9% annual fall prevalence,[14] while studies from Nigeria documented prevalences of 23% in Ibadan and as high as 41.4% in Kano, with fall-related injuries occurring in 25.4% of cases.[2,15] In these settings, tripping was the most common mechanism, and pain and swelling were the predominant injury patterns.[2]

Evidence from low- and middle-income countries, including South Africa and Nigeria, shows high fall prevalence, especially in Northern Nigeria, probably influenced by environmental hazards, limited preventive infrastructure, and comorbidities. Many African studies have small, facility-based samples, limiting generalisability compared to large population-based studies in high-income countries. Across settings, most

research relies on self-reported falls, which may underestimate true prevalence due to recall bias, though risk consistently rises with age, particularly among the oldest-old.

Table 1: Summary of the epidemiology of falls consequences in the older adults.

Category	Number of Studies	Study types	Setting / Population	Main consequences of fall
LMIC – Community *(Ref 4,5,14,15)*	4	Reviews, observational, cross-sectional	Community-dwelling older adults	Risk factors, fear of falling, mobility decline, gender differences (higher in females)
LMIC – Facility / Hospital *(Ref 2)*	1	Cross-sectional	Hospitalized older adults	Swelling, pain, tripping; fear of falling, anxiety, depression
HIC – Community *(Ref 3,6,7,10,11,19,21,24,28,30,38,43)*	12	Epidemiological facts, reviews, observational, retrospective, qualitative.	Community-dwelling older adults	Falls requiring medical attention, mobility decline, ADL impact, fear of falling, frailty, depression
HIC – Facility / Hospital *(Ref 12, 32-34,40)*	5	Observational, qualitative and mixed	Hospitalized older adults	PTSD after fall, fear of falling, clinical assessment interventions
Global / Mixed HIC-LMIC *(Ref 1,8,9,13,16-18,20,22,23,25-27,29,31,35-37,39,41,42)*	21	Epidemiological facts, reviews, scoping, systematic review and meta-analysis	Mixed community and facility	Prevalence of fall injuries, psychological outcomes, fear of falling, caregiver interventions, prevention strategies

Main Body

Physical Consequences of Falls in Older Adults

Immediate Consequences

Falls are a major cause of injury-related morbidity and mortality among older adults worldwide, but their physical consequences and management vary substantially between high-income countries (HICs) and LMICs. Across both settings, common fall-related injuries include hip, wrist, and vertebral fractures, traumatic brain injuries, and soft-tissue injuries.[4,16] Hip fractures, in particular, exemplify the sharp disparities in outcomes and care pathways. In HICs, these injuries usually trigger prompt emergency evaluation, surgical repair, and access to structured postoperative rehabilitation.[4] Nevertheless, outcomes remain suboptimal: up to half of affected older adults do not regain their pre-fracture level of mobility or independence, and one-year mortality rates range from 10–30%, influenced by age, comorbidities, and baseline functional status.[17-20] These findings underscore the substantial long-term burden of falls even within well-resourced health systems. In contrast, older adults in LMICs frequently encounter delayed presentation, limited availability of surgical services, shortages of orthopedic and geriatric specialists, and inadequate rehabilitation. Consequently, injuries that are potentially survivable, such as hip fractures, may result in prolonged immobilization, preventable complications, including pressure ulcers, infections, and thromboembolism, and persistent functional dependence.[18,19] Although high-quality mortality data from LMICs are limited, existing evidence points to poorer functional recovery and significant socioeconomic impacts driven by out-of-pocket healthcare costs and reliance on informal caregivers.[2,13,14] Other fall-related injuries also show contextual differences. Vertebral compression fractures often lead to chronic pain, kyphosis, and reduced pulmonary function, but are more likely to be underdiagnosed in resource-constrained settings. Wrist fractures can markedly impair daily activities, with greater consequences in LMICs where assistive devices and occupational therapy are scarce.[16] Traumatic brain injuries, even after low-energy falls, may cause lasting cognitive and motor deficits; while advanced imaging and rehabilitation are more accessible in HICs, limited services in LMICs increase the risk of missed or untreated sequelae.[18,20]

Longterm Consequences

The long-term physical consequences of falls extend beyond the initial injury and are strongly influenced by health-system capacity. In HICs, many older adults experience chronic pain, reduced mobility, and physical deconditioning after a fall, even with access to rehabilitation. Fear of falling is common and often leads to activity restriction, muscle weakness, and a heightened risk of recurrent falls.[21] Functional decline may present as slower gait speed, difficulty with stairs, and impaired activities of daily living (ADLs) such as bathing, dressing, eating, toileting, and transferring, increasing reliance on home-care services or institutionalization.[21-23] In LMICs, similar patterns occur but are often more rapid and severe due to limited rehabilitation services, assistive devices, and community support. Functional decline places substantial strain on family caregivers, who frequently lack training or external assistance, contributing to caregiver burden, financial hardship, and social stress. Institutional care is often scarce or culturally unacceptable, leading to prolonged household dependence.[15,16] Falls also aggravate pre-existing chronic conditions in both settings. Osteoporosis, osteoarthritis, neuropathy, Parkinson's disease, and cardiovascular disease may worsen through injury-related immobility and complications.[16,23] In LMICs, restricted access to chronic disease care further amplifies this cycle, increasing recurrent falls and hospitalizations. While

HICs increasingly use multidimensional prevention strategies, major implementation barriers in LMICs highlight the need for affordable, context-appropriate, and integrated fall-prevention approaches.[23] Additional details on the physical consequences of falls are summarized in **Table 2.**

Table 2: Comparison of Physical Consequences of Falls in HICs versus LMICs

Domain	High-Income Countries	Low- and Middle-Income Countries
Common Physical Consequences	Hip fractures, wrist fractures, vertebral fractures, traumatic brain injury (TBI), soft tissue injuries	Similar injury patterns, but often with delayed presentation and higher complication rates
Severity and Outcomes	Earlier diagnosis and treatment reduce complications; better functional recovery	Higher risk of complications, prolonged disability, and preventable mortality due to delayed care
Acute Care Pathways	Well-established emergency services, prompt imaging, surgical repair, and multidisciplinary acute care	Limited emergency response systems; delayed or absent imaging and surgical intervention
Rehabilitation Services	Structured inpatient and outpatient rehabilitation, physiotherapy, occupational therapy	Scarce or inaccessible rehabilitation services; reliance on informal or family-based care
Long-Term Functional Impact	Greater likelihood of regaining mobility and independence	Persistent functional decline, chronic pain, and higher risk of dependency
Management of Comorbidities	Integrated care for osteoporosis, cardiovascular disease, and neurological conditions	Fragmented management; limited access to diagnostic and specialist services
Recurrent Falls Prevention	Multidimensional prevention programs (exercise, home modification, medication review)	Minimal fall-prevention programs; focus often limited to acute injury treatment
Caregiver Burden	Shared between formal care systems and families	Predominantly borne by family members, increasing social and economic strain
Institutional Care	Availability of nursing homes and assisted living facilities	Limited institutional care; institutionalization often unavailable or unaffordable

Psychological and Emotional Impact of Falls

While the physical consequences of falls in older adults are well documented, their psychological sequelae are equally disabling and remain comparatively underrecognized, particularly across differing health system contexts. A central psychological outcome is fear of falling, defined as a persistent concern about falling that leads to avoidance of activities an individual is otherwise capable of performing.[25] Fear of falling may develop irrespective of injury severity and often persist long after physical recovery. In both HICs and LMICs, this fear can trigger a self-perpetuating cycle of functional decline.[26] To minimize perceived risk, older adults frequently restrict mobility and daily activities, resulting in muscle weakness, impaired balance, and reduced confidence, paradoxically increasing the likelihood of recurrent falls.[26,27] In HICs, although rehabilitation services and community-based exercise programs are more widely available, fear of falling remains prevalent and is strongly associated with reduced self-efficacy, social withdrawal, and diminished quality of life.[25,27,28] In LMICs, these effects are often magnified by limited access to rehabilitation, unsafe built environments, and reduced opportunities for supervised physical activity, accelerating physical and psychological decline. Fear-driven avoidance may lead to isolation from communal and religious activities, further weakening social participation and support networks.[28,31] Fear of falling is closely linked to broader emotional distress, including anxiety, depressive symptoms, loneliness, and feelings of helplessness.[29-31] These associations occur across settings but are often more severe in LMICs, where mental health services are scarce and stigma surrounding psychological distress remains common.[31] In both contexts, the psychological impact of a fall may extend to post-traumatic stress symptoms, particularly when the event involved severe pain, hospitalization, or perceived threat to life.[32] Hypervigilance, intrusive thoughts, and avoidance behaviors may persist, interfering with recovery and daily functioning.[32,33] Depression has a bidirectional relationship with falls. Depressive symptoms increase fall risk through impaired concentration, psychomotor slowing, and medication effects, while falls, especially those resulting in loss of independence, may precipitate or worsen depression.[29,34] Feelings of being a burden, fear of institutionalization, and reliance on others for activities of daily living contribute to despair in both HICs and LMICs, though economic hardship and informal caregiving demands intensify these effects in resource-limited settings.[35] Despite this burden, psychological sequelae are rarely systematically assessed after falls. Screening for fear of falling, anxiety, or depression is inconsistently applied, particularly in overstretched LMIC health systems.[36-38] Validated tools such as the Falls Efficacy Scale and Geriatric Depression Scale are infrequently integrated into routine care.[38] This gap underscores the need for multidisciplinary, context-sensitive approaches that integrate mental health into fall management. Interventions such as cognitive-behavioral therapy, group-based fall prevention programs, peer support, and low-intensity counselling approaches, including the BATHE technique, show promise across settings, particularly in LMICs where scalable, low-cost strategies are urgently needed.[39-42] **Figure 1**

Figure 1: Cycle of the Psychological Consequences of Fall in Older Adults

Interrelationship between Physical and Mental Consequences

A critical insight from recent research is that physical and psychological consequences of falls are closely intertwined.[17,18] Physical injuries can directly contribute to emotional distress, while psychological conditions such as anxiety and depression can lead to muscle tension, balance issues, and reduced coordination, which are factors that increase the risk of additional falls. This creates a vicious cycle where each component feeds into the other, resulting in deteriorating physical and mental health.[43] For instance, an older adult who sustains a minor injury from a fall may recover physically within weeks, but persistent fear and anxiety may lead them to limit their movement. This reduction in activity causes muscle deconditioning and poor balance, making another fall more likely. A subsequent fall, however minor, can reinforce fear and decrease confidence, leading to further withdrawal and debilitation. The interplay between these domains highlights the need for integrated fall prevention programs that simultaneously address physical and mental health outcomes. Fall prevention strategies that focus solely on strength and balance training may be insufficient without concurrent psychological support and confidence-building interventions.

Research Gaps and Limitations

Despite the extensive literature on falls, several critical research gaps remain. Most studies have focused on the physical outcomes of falls, with less attention to the emotional and mental health aspects.[3,6,17] Also, most data come from high-income countries, while LMICs, where population ageing is rapid and healthcare systems are under-resourced, lack robust data on fall prevalence and consequences.[3,17,29] In LMICs like Nigeria, older adults face additional challenges such as poor access to mobility aids, limited fall prevention programs, and inadequate mental health services.[2,4] Cultural stigmas around ageing and mental illness may further suppress reporting and help-seeking behaviours.[2,4,16] Research in these contexts is essential to tailor interventions to local needs and resources. Another gap lies in the lack of longitudinal studies examining the long-term trajectories of physical and psychological recovery after falls. While short-term outcomes are well-documented, little is known about the long-term effects of falls on mental health, healthcare costs, caregiver burden, and institutionalization rates.[29,37,38]

Ethical Consideration

Ethical approval was not required for this study as it was a narrative review of published literature and involved no human participants or identifiable data. According to the policies of the Research Ethics Committee, Aminu Kano Teaching Hospital, Kano, Nigeria, such studies are exempt from ethical review.

Conclusion

Falls in older adults are a multifactorial problem arising from the interplay of physical frailty, environmental hazards, psychological vulnerability, and social factors, with consequences that extend well beyond physical injury. While fractures and mobility limitations are often immediate and visible, psychological effects such as fear of falling, anxiety, and depression are equally disabling and may persist long after physical recovery. A central insight from this review is the close interdependence between physical and mental consequences, such that addressing one in isolation may undermine recovery and increase the risk of recurrent falls. Effective prevention and rehabilitation therefore require a holistic, multidisciplinary approach that integrates physical interventions with psychological support and routine screening for fear of falling and depression. Recognizing and responding to this dual burden, particularly in resource-limited LMIC settings, is both a clinical necessity and a public health imperative to support safe, independent, and dignified ageing.

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