

Fear of falling in the elderly in a hospital setting: scoping review protocol

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Abstract

Introduction

The expected changes in an aging process contribute to the increased risk of falling and influence the person's own assessment of their risk of falling. In addition to physical injuries, falls can have psychological consequences, such as fear of falling. This concept was defined as a continuous concern of an individual, when standing or walking, with the occurrence of falls, compromising the performance of daily activities. In this sense, the fear of falling is a sensitive human response to nursing care. As health professionals, nurses should consider evaluating the fear of falling and understand how this phenomenon manifests itself in the elderly.

Objective

Mapping the available scientific evidence related to the fear of falling in the elderly in a hospital environment.

Inclusion criteria

Quantitative, qualitative, or mixed studies will be considered, as well as systematic reviews and grey literature. The review will include studies on the fear of falling in elderly people who are in hospitals.

Methods

Scoping review protocol according to the Joanna Briggs Institute method. Three-phase research strategy that will aim to locate published and unpublished studies in Portuguese, English and Spanish. Temporal, geographic, or cultural limits will not be considered in the research. The search strategy will be adapted to each database/repository in order to identify relevant studies. The selection of studies will begin by analysing the title and abstract. The full text of the selected studies will be analysed by two independent reviewers who will extract data using a specific instrument.

The protocol was registered on the Open Science Framework platform (DOI - <https://doi.org/10.17605/OSF.IO/B5V6K>).

Keywords

Fear of Falling; Elderly; Hospital; Review.

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Introduction

According to the World Health Organization ¹, by 2030, it is estimated that the number of people over 60 years of age will increase by 34%, from 1 billion in 2019 to 1.4 billion. By 2050, this population will have doubled to 2.1 billion worldwide.

In Portugal, demographic aging continues to increase significantly. According to the 2021 Census², the population aging index, an indicator that compares the population aged 65 or over with the population aged 0 to 14, is 182, which means that there are 182 elderly people for every 100 young people.

With advancing age, it is expected that there will be changes typical of the aging process. At the biological level, a variety of molecular and cellular damage occurs, leading to a gradual loss in physiological reserves and a functional decline in the person's intrinsic capacity.³ Muscle weakness, compromised balance, difficulties in locomotion and worsening of cognition are some of the changes that occur in aging, and these contribute to the increased risk of falls in elderly people.^{4,5}

A fall can be defined as an unintentional event that results in the change of position of the individual to a lower postural level in relation to his/her initial position.⁶ The International Council of Nurses (ICN) ⁷ in addition to considering that a fall is an “event or episode”, adds that falling is “a descent from a body from a higher level to a lower level due to imbalance, fainting or inability to support weight and stay upright”.

In the elderly, falls are frequent events with possible serious consequences for the individual and with a significant economic impact on health institutions. Globally, the prevalence of falls in elderly people is 26.5%⁸, with one third of this population falling at least once a year⁶, which contributes to falls being considered the second leading cause of injuries in the elderly.⁹

There are several risk factors that contribute to the occurrence of falls, and it is consensual to use the classification of intrinsic and extrinsic factors.

Intrinsic factors are conditions that are related to the client, such as age, comorbidity, history of previous falls, gait, visual and auditory impairment, musculoskeletal changes, and cognitive impairment.¹⁰

The extrinsic factors are related to the environment where the client is inserted. At the hospital level, we highlight acute illness, delirium, postoperative period, medication, change of environment, support equipment, bed rest and immobility, use of inappropriate footwear, lighting of spaces, lack of knowledge about fall prevention, failure to communicate between the client and the health professional.^{6,10} In this way, it is noticeable that the hospital environment is a context where elderly people can present an extremely high risk of falling.

With regard to the consequences of falls, in addition to physical injuries, such as fractures and traumatic brain injuries, it is important to analyse the psychological consequences, which are harmful for the elderly in the long term and contribute to a decrease in quality of life. Loss of

confidence and fear of falling are two examples of psychological consequences and can result in compromised activity levels, leading to reduced physical function and social interactions.¹¹

The ICN ⁷ defines fear as a “negative emotion: feeling threatened, endangered or upset due to known or unknown causes, sometimes accompanied by a physiological response of the fight-or-flight type”.

The fear of falling has been recognized by the scientific community, since the 1980s, as a health problem in the elderly. This concept was called ptophobia, in 1982, and is understood as the phobic reaction to keep standing and walking, even when there is no neurological or orthopaedic alteration.¹²

Subsequently, the fear of falling was defined as a continuous concern of an individual, when standing or walking, with the occurrence of falls, compromising the performance of daily activities.¹³

Currently, fear of falling can be considered a protective or pathological condition. On the one hand, fear as a protective factor will lead the elderly to avoid risky behaviour and seek to promote safety, either through measures that prevent falls or through gait adaptations that increase stability. On the other hand, the pathological fear of falling can lead to a decline in quality of life and increase the risk of falls by reducing the activities necessary to maintain self-esteem, confidence, strength, and balance.^{5,14}

The fear of falling can cause a loss of confidence in the ability to perform everyday tasks, leading the elderly to restrict their daily activities¹⁵, social isolation, decline in physical capacity and loss of independence¹⁶, which can result in changes in mental health, namely the emergence of depressive and anxious states.^{17–19} Other psychological aspects, such as self-efficacy related to falls and self-perception of health status, are associated with fear of falling.¹⁶

The fear of falling proves to be a risk factor for falls in elderly people, whether or not they have a history of previous falls.²⁰ People who are afraid of falling tend not to be confident in their ability to prevent or avoid falls, which increases the risk of falling and requires psychotherapeutic and physical rehabilitation intervention.²¹

The estimated prevalence of elderly people with fear of falling is around 36%, which is more evident in people who have fallen in the last three months.²² In a hospital environment, the fear of falling in elderly people who are hospitalized varies between 36 and 83% .^{17, 23}

It is also known that in hospitalized elderly people, the fear of falling may have a greater influence on functional recovery than the presence of pain or emotional changes. Fear of falling also reduces the participation of individuals in exercises during the rehabilitation process, as they have functional limitations and reluctance to move.^{17, 24}

The International Classification of Nursing Diagnoses by NANDA International, Inc. (NANDA-I) ²⁵ presents the diagnosis “Risk of falls in adults” which is defined as the “adult susceptibility to experience an event that results in inadvertent displacement to the ground, floor or other lower level that may compromise health”.^{25(p468)} Still in this

diagnosis it is possible to verify that the fear of falling appears in the risk factors, namely in the “psychoneurological factors”.²⁵

In this sense, it is noticeable that the fear of falling is a sensitive human response to nursing care. As health professionals, nurses should consider evaluating the fear of falling and understand how this phenomenon manifests itself in the elderly.

Considering this issue, a preliminary scoping review was carried out in the following databases/sources: Open Science Framework (OSF), Medical Literature Analysis and Retrieval System Online (MEDLINE) (via PubMed) and Cumulative Index to Nursing and Allied Health Literature (CINAHL) (via EBSCO). A scoping review¹⁸ was found that mapped the evidence about fear of falling in elderly people living in the community. In addition, the review concentrated on the results of articles published between 2015 and 2020 and the search was carried out only in a database.

In this way, this review differs from the scoping review mentioned above in that it intends to address the fear of falling of elderly people who are hospitalized. Knowledge on this topic lacks completeness and a scoping review will facilitate the necessary mapping of this knowledge.

In addition to a scoping review allowing to map the available evidence about a phenomenon, it also allows the identification of the main characteristics or factors related to a concept, including those that are related to methodological research.²⁶

The objective of this scoping review is to map the available scientific evidence regarding the fear of falling in the elderly in a hospital setting.

Review Question

Following the recommendations of the Joanna Briggs Institute (JBI)²⁷ for the preparation of a scoping review, the review question is designed using the PCC mnemonic for scoping review, where P stands for “participants”, C for “concept” and C for “context”.

For this review, it was defined as Participants – people aged 65 or over, Concept – fear of falling and Context – hospital environment, which leads us to the following review question:

What is the published evidence on the fear of falling in the elderly in a hospital environment?

From the defined review question, this scoping review may also answer the following questions:

- What is the published evidence on the related/etiological factors inherent to the fear of falling in the elderly?
- What is the published evidence on the clinical indicators/defining characteristics of fear of falling in the elderly?
- What are the instruments that assess the fear of falling in the elderly in a hospital environment?

Inclusion Criteria

Based on the PCC mnemonic, we defined the inclusion criteria regarding participants, concept, and context

Participants

Regarding Participants, the review will consider all studies that include elderly people as participants. Gender, ethnicity, or other personal characteristics will not be considered. An elderly person is understood to be one who is 65 years of age or older.²⁸

Concept

As for the Concept, the review will consider studies that explore the fear of falling. Fear of falling is understood as a continuous concern of an individual, when standing or walking, with the occurrence of falls, compromising the performance of daily activities.¹³

Context

Regarding the Context, the review will consider all studies carried out in a hospital context, regardless of the type of establishment, whether public or private, general, or specialized, urban, or rural, teaching or not, and certified or not.

Types of sources

This scoping review will include studies with quantitative, qualitative, or mixed methods designs.

Quantitative studies include any experimental study (including randomized controlled trials, non-randomized controlled trials, or other quasi-experimental studies, including before and after studies) and observational studies (descriptive studies, cohort studies, cross-sectional studies, case studies, and follow-up studies, series of cases). Qualitative studies include studies with qualitative data analysis, but are not limited to phenomenological studies, grounded theory, ethnography, qualitative description, and action research.

Systematic reviews that meet the inclusion criteria will also be considered, depending on the research question. Finally, the grey literature, namely theses and dissertations, will also be included in the research.

Methods

The scoping review will be conducted in accordance with the methodology proposed by the JBI for scoping review.²⁷ This scoping review protocol is registered on the OSF platform (DOI <https://doi.org/10.17605/OSF.IO/B5V6K>).

Search strategy

The search strategy will aim to locate published and unpublished studies in Portuguese, English and Spanish. Temporal, geographic, or cultural limits will not be considered in the research.

JBI 27, 29 recommends a three-phase research process that should be used in developing a comprehensive research strategy:

The first phase involved conducting a limited initial search of the MEDLINE (via PubMed) and CINAHL (via EBSCO) databases to find articles on the phenomenon of interest, using the search terms: “fear of falling”; “aged”; “hospital*”. In relevant articles, the words contained in the titles and abstracts were analysed, as well as the indexing terms used to describe the articles, in order to develop a

complete search strategy for CINAHL complete (via EBSCO), Web of Science Core Collection, MEDLINE (via PubMed), Scopus.

Search strategies will be adapted and individualized for each database of published studies, as each uses its own controlled vocabulary. Chart 1 presents a research strategy proposal in one of the databases.

Chart 1 – Search strategy used in the database - MEDLINE (via PubMed)

Data base	Research Strategy	Results
MEDLINE (via PubMed)	#1: "fear of falling"[All Fields]	2,279
	#2: "aged"[MeSH Terms] OR "aged"[Title/Abstract]	3,898,782
	#3: "elder*"[Title/Abstract]	302,509
	#4: "older"[Title/Abstract]	535,444
	#5: "senior*"[Title/Abstract]	49,998
	#6: "older adult*"[Title/Abstract]	113,680
	#7: "older people"[Title/Abstract]	38,820
	#8: "geriatric*"[Title/Abstract]	75,485
	#9: "older person*"[Title/Abstract]	13,565
	#10: #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9	4,221,852
	#11: "hospital setting"[Title/Abstract]	13,929
	#12: "inpatient*"[MeSH Terms] OR "inpatient*"[Title/Abstract]	157,237
	#13: "hospital*"[MeSH Terms] OR "hospital*"[Title/Abstract]	1,991,749
	#14: "ward*"[Title/Abstract]	71,416
	#15: #11 OR #12 OR #13 OR #14	2,066,169
	#16: #1 AND #10 AND #15	262
	#17: #16 AND (English[Filter] OR Portuguese[Filter] OR Spanish[Filter])	246

Sources of unpublished studies, namely grey literature, include OpenGrey, RCAAP (Portuguese Open Access Scientific Repository) and Coordination for the Improvement of Higher Education Personnel Theses Bank (CAPES) (Brazil). The search in this grey literature was carried out with the term “fear of falling”.

The second phase involves performing database-specific searches on each of the bibliographic databases and information sources selected and reported in the protocol.

The third phase involves the inclusion of any relevant additional studies in the reference lists of all studies selected for the review.

Selection of studies

All identified bibliographic references will be grouped and managed in the Rayyan Intelligent Systematic Review

software, (Cambridge/United States of America, Doha/Qatar), and duplicates will be removed.

After the search, the selection of relevant results will begin with the analysis of titles and abstracts by two independent reviewers, based on the inclusion criteria for the review previously described.

Subsequently, the full text of the selected studies will be evaluated in detail based on the inclusion criteria by two independent reviewers. After analysing the full text, studies that do not meet the inclusion criteria will be excluded. The reasons for excluding these studies will be described in one of the appendices of the scoping review.

Any disagreements that arise between the reviewers will be resolved through discussion and consensus or by resorting to a third reviewer.

The evaluation of the methodological quality of the included studies will not be carried out because it is a scoping review.²⁹

The research process will be exposed in full in narrative form and presented in schematic form through a flow diagram known as Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), using the extension for scoping reviews called Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).³⁰ This diagram demonstrates, in detail, how the search was carried out, the selection of results used in accordance with the inclusion criteria and the elimination of duplicates.²⁷

Data extraction

Data extraction from the included articles will be carried out by two independent reviewers, with the support of a third reviewer to resolve any divergence. An instrument will be used that considers specific details about the population, concept, context, and research methods relevant to the issue and stated objective of this scoping review, as indicated by the methodology developed by the JBI (Chart 2).

Chart 2 – Data extraction instrument

Scoping Review details	
Review title:	Fear of falling in the elderly in a hospital setting: <i>a scoping review</i>
Purpose of the review:	Mapping the available scientific evidence related to the fear of falling in the elderly in a hospital environment.
Review question:	What is the published evidence on the fear of falling in the elderly in a hospital environment?
Inclusion criteria	
Participants	Studies that include elderly people aged 65 or over as participants.
Concept	Studies that explore the fear of falling.
Context	Studies carried out in a hospital environment, specifically hospitals, regardless of the type of establishment, whether public or private, general, or specialized, urban, or rural, teaching or not, and certified or not.
Font types	Quantitative, qualitative, or mixed studies. Systematic reviews and grey literature.
Details and Characteristics of the Studies	
Article title	
Magazine (volume, edition, pages)	
Publication year	
Author(s)	
Country	
Context	
Participants	
Methodology used for data collection and analysis	
Results found	
Fear of falling in the elderly person in a hospital environment	
Related/etiological factors inherent to the fear of falling in the elderly	
Clinical indicators/Defining characteristics of fear of falling in the elderly	
Instruments that assess the fear of falling in the elderly in a hospital context	
Research Recommendations/Suggestions	
Relevant bibliographical references	

In order for researchers to become familiar with the data extraction instrument, a pilot test will be carried out with the first five articles. If necessary, the data extraction instrument may undergo relevant changes, according to the conclusions of the pilot test and the emerging needs of the analysis of eligible articles.

Data Analysis and Presentation

The organization and synthesis of the collected information will be carried out using tables and charts that facilitate the reader's interpretation. In this way, the collected data will be presented in schematic form through a table and accompanied by descriptive summary tables of the articles included in the *scoping review*. The conclusions of the selected studies will be described through a narrative summary.

Subsequently, the results found will be categorized according to their similarity, in line with the objective and review questions that were proposed in this protocol.

In short, the presentation of the data will allow identifying, characterizing, and synthesizing the knowledge about the fear of falling in the elderly in a hospital setting.

Authors' contributions

RO: Study conception and design; Data collection; Data analysis and interpretation; Manuscript writing.

OR: Analysis and interpretation of data; Drafting of the manuscript.

JC: Critical revision of the manuscript.

DC: Critical revision of the manuscript.

Conflicts of interests

No conflict of interest declared by the authors.

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