

Influence of healthcare professionals' actions on the adaptation of elderly individuals at home following hospitalization due to falls: integrative review



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# Abstract

Objective: To identify how healthcare professionals' actions for fall prevention in elderly individuals in both the hospital and home settings influence adaptation and continuity of home-based care. Method: An integrative review conducted with a search in the Virtual Health Library (VHL), the Scientific Electronic Library Online (SciELO), the United States National Library of Medicine (PubMed), EBSCO, SCOPUS, and Web of Science. The search used the following Medical Subject Headings (MeSH) terms: "Aged," "Accidental Falls," "Patient Discharge," "Discharge, Patient," "Discharges, Patient," "Patient Discharges," "Discharge Planning," "Discharge Planning," "Planning, Discharge," and "Plannings, Discharge." Original articles from the past five years were selected, with no language restrictions, and that addressed the research question. Article search and selection were conducted independently and blind by two reviewers between November and December 2022. Results: The final sample included eight studies. Six were conducted in Australia, seven were in the English language, and the year 2019 had the highest number of publications. Fall prevention actions were primarily implemented by physiotherapists and occupational therapists through health education and digital videos for guidance related to home modifications. These actions had a positive impact on the motivation, engagement, and awareness of the elderly population and their caregivers. Conclusion: The actions of healthcare professionals facilitated greater engagement for the continuity of care and the control of fall risks.

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## INTRODUCTION

Prolonged bed rest during hospitalization, a common occurrence in cases of bone fractures resulting from falls, predisposes individuals to the development of skin lesions, loss of muscle mass and strength (sarcopenia), decreased functional capacity<sup>1,2</sup>, and emotional disturbances<sup>3</sup>. These adverse effects may persist after hospital discharge and have a detrimental impact on the adaptation of elderly individuals at home.

A study<sup>4</sup> that characterized the perspectives of the elderly and their caregivers regarding care transitions effectively depicted the adaptation period at home following falls. In addition to the physical consequences, these individuals also experienced emotional vulnerability. Factors such as ptophobia and body depersonalization, for example, contributed to the abandonment of routine hobbies and social isolation<sup>4</sup>.

In alignment with this, a study in Australia<sup>5</sup> reported the challenges faced by elderly individuals following hospitalization due to falls, highlighting that they did not have sufficient time to gradually and safely resume their activities at home, resulting in unmet Activities of Daily Living (ADLs). This period of adaptation is arduous, with a higher susceptibility to new falls<sup>6</sup> and early rehospitalizations. Thus, identifying the difficulties faced by these individuals within the hospital context and providing them with health education interventions tailored to post-discharge care can significantly enhance the transition experience between the hospital and home.

Meleis et al.<sup>7</sup> emphasized that prepping individuals in advance for their discharge, providing guidance on what to expect during this transitional period, and, most importantly, identifying strategies to overcome challenges are crucial conditions that facilitate adaptation at home.

In the past five years, 778,303 elderly individuals were hospitalized under the Brazilian Unified Health System (*Sistema Único de Saúde* - SUS) due to falls. Simultaneously, a significant amount of discussion has revolved around this public health issue. However, a substantial portion of research has been confined to prevalence studies, mortality rates, and other related Being discharged from the hospital and returning home does not necessarily signify that the elderly individual has been fully catered to. In their own residences, elderly individuals will find themselves in an environment teeming with challenges and/ or conveniences that can either facilitate or impede effective adaptation. Thus, the objective of this study is to identify how healthcare professionals' actions for fall prevention in elderly individuals in both the hospital and home settings have influenced the adaptation and continuity of home-based care.

#### METHOD

An integrative literature review that systematically organized data regarding healthcare professionals' fall prevention actions in both hospital and home settings and their influence on the continuity of care. The review protocol for this study was registered on the Open Science Framework (OSF) repository under the identifier 10.17605/OSF.IO/V5Q4G. This type of investigation is relevant across all fields, particularly in healthcare, as it enables the synthesis, analysis, and concise presentation of knowledge on a specific subject. It allows for insights that can inform decision-making, enhance clinical practice, and identify knowledge gaps, thereby providing a basis for recommending further studies<sup>8</sup>.

For this integrative review, six fundamental steps were followed: 1) Identification of the theme and selection of a clear and specific research question to underpin theoretical reasoning; 2) Establishment of inclusion and exclusion criteria to initiate searches in the databases, identifying articles of interest. This stage begins with a broad material selection and gradually narrows it down throughout the searches; 3) Initial material selection involving a thorough review of titles, abstracts, objectives, and keywords. In cases of uncertainty at this stage, full-text articles should be read; 4) Critical evaluation of selected studies, collecting relevant information from the collected material, such as the database, publication journal with its impact factor, publication year, authors, study design (method, sample size, analysis method), and key results relevant to this review; 5) Analysis and interpretation of results - interpreting and discussing the data after organizing it, identifying gaps, and suggesting future agendas and; 6) Presentation of the review/knowledge synthesis - creating a literary framework based on the synthesis of existing scientific knowledge on the topic This study adopted the guidelines of the EQUATOR network and adhered to the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)<sup>9</sup>.

In line with the first step, the research question was defined as follows: "What are the healthcare professionals' actions for fall prevention in elderly individuals with a focus on home adaptation and continuity of care?" This question was constructed using the Population, Interest, and Context (PICo) mnemonic<sup>10</sup> as follows: P = Elderly individuals who were hospitalized due to falls and returned home, I =Healthcare professionals' actions for fall prevention and the outcomes of these actions for home adaptation, C = Hospital and home environment.

Descriptors were selected from the Medical Subject Headings (MeSH) and combined using the Boolean operators "AND" and "OR" as follows: Aged AND "Accidental Falls" AND "Patient Discharge" OR "Discharge, Patient" OR "Discharges, Patient" OR "Patient Discharges" OR "Discharge Planning" OR "Discharge Plannings" OR "Planning, Discharge" OR "Plannings, Discharge" (Chart 1). During the searches, the MeSH descriptor "Social Adjustment" was also added, which, in its scope note, provides the following definition: "a person's adaptation to the social environment. Adjustment may occur by adaptation of the individual (self) to the environment or by modification of the environment." This addition aimed to align with the desired perspective of adaptation for this research. However, this combination identified articles that were not aligned with the study's objective, which is why it was excluded. Furthermore, the majority of the studies selected for the sample used the keyword "Patient Discharge."

Chart 1. Details of search strategies in the databases.

		1
Database	Search strategies	Articles obtained
VHL Regional Portal	((Aged)) AND ((Accidental Falls)) AND ((Patient Discharge)) OR ((Discharge, Patient)) OR ((Discharges, Patient)) OR ((Patient Discharges)) OR ((Discharge Planning)) OR ((Discharge Plannings)) OR ((Planning, Discharge))	21.169
PubMed	(((((((Aged[All Fields]) AND (Accidental Falls[All Fields])) AND (Patient Discharge[All Fields])) OR (Discharge, Patient[All Fields])) OR (Discharges, Patient[All Fields])) OR (Patient Discharges[All Fields])) OR (Discharge Planning[All Fields])) OR (Discharge Planning[All Fields])) OR (Discharge Planning[All Fields])) OR (Planning, Discharge[All Fields])	103.657
SciELO	(Aged) AND ("Accidental Falls") AND ("Patient Discharge") OR ("Discharge, Patient") OR ("Discharges, Patient") OR ("Patient Discharges") OR ("Discharge Planning") OR ("Discharge Plannings") OR ("Planning, Discharge") OR ("Plannings, Discharge")	298
EBSCO	TX Aged AND TX "Accidental Falls" AND TX "Patient Discharge" OR TX "Discharge, Patient" OR TX "Discharges, Patient" OR "Patient Discharges" OR "Discharge Planning" OR "Discharge Plannings" OR "Planning, Discharge" OR "Plannings, Discharge"	47.705
Scopus	(TITLE-ABS-KEY ( ( aged ) ) AND TITLE-ABS-KEY ( 'accidental AND falls' ) AND TITLE-ABS-KEY ( 'patient AND discharge' ) OR TITLE-ABS- KEY ( 'discharge, AND patient' ) OR TITLE-ABS-KEY ( 'discharges, AND patient' ) OR TITLE-ABS-KEY ('patient AND discharges' ) OR TITLE-ABS- KEY ( 'discharge AND planning') OR TITLE-ABS-KEY ('discharge AND plannings') OR TITLE-ABS-KEY ('planning, AND discharge') OR TITLE- ABS-KEY ('plannings, AND discharge' ) )	258
Web Of Science	((((((TS=(Aged)) AND TS= ("Accidental Falls ")) AND TS= ("Patient Discharge ")) OR TS=("Discharge, Patient ")) OR TS=("Discharges, Patient ")) OR TS=("Patient Discharges")) OR TS=("Discharge Planning ")) OR TS=("Discharge Plannings")	3.381

The searches were conducted independently and blindly by two reviewers between November and December 2022 on the Regional Portal of the Virtual Health Library (VHL), the Scientific Electronic Library Online (SciELO), the United States National Library of Medicine (PubMed), EBSCO, SCOPUS, and Web of Science, through the Capes Periodicals Portal, accessed via CAFe.

Original articles from the last five years were included without language restrictions, provided they were electronically available in open access and addressed the research question. Duplicate articles across databases were considered only once.

For screening the titles, abstracts, and objectives of the studies found in the initial selection, the Intelligent Systematic Review software – Rayyan<sup>11</sup>, was employed. The studies selected based on eligibility criteria were organized in Microsoft Office 2016 Excel software. The material was read in its entirety by both reviewers, who once more examined the criteria. Any doubts and/or disagreements were resolved by the two reviewers through consensus, without requiring the involvement of a third researcher.

The description of study characteristics, including title, authorship, publication year, study location, objectives, healthcare professionals' actions for fall prevention in elderly individuals in both hospital and home settings, and the influence of these actions on home adaptation and continuity of care, was organized into a summary table. The journal impact factor for the selected articles was obtained using the Journal Citation Reports (JCR), which involves dividing the total citation count of a journal's investigations by the total number of journals in the Institute for Scientific Information database<sup>12</sup>.

Two synoptic tables were created to organize and qualitatively describe the information from each selected article (A01 to A08). As this analysis involves publicly available secondary data, there was no need for submission and approval by the Research Ethics Committee for studies involving human subjects. Copyrights were respected in accordance with Decree N°. 9,574, of November 22, 2018<sup>13</sup>, maintaining principles of integrity, clarity, accuracy, objectivity, and scope to enhance care for the elderly population following hospitalization due to falls. The study protocol was rigorously followed to ensure its validity. The extraction and analysis of data from the primary studies in the sample respected the research and findings of other investigators. The synthesis of the studies involved connecting elements related to healthcare professionals' actions for fall prevention and the influence of these actions.

To analyze the discursive content of the selected studies, the three phases of Content Analysis<sup>14</sup> were followed: 1. pre-analysis, 2. material exploration, and 3. treatment of results. In phases 1 and 2, the information was organized into two synoptic tables, constituting the research corpus. To identify healthcare professionals' actions and their influence on home adaptation and continuity of care, homogeneity among the themes found was respected. In phase 3, inference and interpretation of the results were conducted, linking them to Dr. Afaf Ibrahim Meleis' Theory of Transitions. This theory discusses transitional processes, including situational transitions and those related to the health-illness process, where an individual's context is modified and influenced by elements that can lead to a healthy transition with adaptation to new life circumstances, or otherwise.

#### RESULTS

Initially, 176,468 articles were identified in the literature. Of these, 149,713 were excluded because they were not in open access, complete, or published within the last five years. An additional 26,711 investigations were excluded as they did not address the theme, 12 investigations were literature reviews, and 24 were duplicates. Thus, eight articles were included in this review, as illustrated in the PRISMA flowchart (Figure 1).



Figure 1. Flowchart of study selection according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Salvador, Bahia, Brazil, 2023.

Out of the selected studies, one was published in Portuguese<sup>15</sup>, and the rest were in English. The journal with the highest impact factor<sup>20</sup> was PLOS Med (Chart 2).

The majority of the authors used the follow-up method (Chart 3) to continue monitoring elderly individuals after hospital discharge, with the exception of A01<sup>15</sup>, which was a Convergent Care Research, where the impact and magnitude of fall prevention guidance were not described after returning home. Despite this, this publication was retained because, during hospitalization, interventions such as bed mobilization demonstration, repositioning, pressure point relief, and prosthesis dislocation prevention, which are essential for the recovery and adaptation process after hospital discharge, were implemented. Studies conducted and published in Australia accounted for 75%<sup>5,16-18,20,21</sup> of the sample, while 12.5%<sup>15</sup> were from Brazil and 12.5%<sup>19</sup> were from Spain, with the year 2019 having the highest number of publications. These studies highlighted important actions such as: follow-up after discharge through monthly phone calls for three months<sup>5,16-18</sup>, a home visit and six phone calls over six months<sup>20</sup>, home visits at 30 days and six months after hospital discharge<sup>21</sup>, and five home visits at the following intervals: 24 hours, seven days, 14 days, 30 days, and one year after discharge<sup>19</sup> (Chart 3).

Among the selected studies, most of the authors were physiotherapists<sup>16,18,21</sup> and occupational therapists<sup>5,17,18</sup>, who were also involved in the actions. The prevailing actions included home risk assessment and guidance (Chart 3).

Article Identifier	Database	Journal	Journal Impact Factor
A01 <sup>15</sup>	VHL Regional Portal	Rev. Enfer UERJ	Not found
A02 <sup>16</sup>	PubMed	Front. Public Health	6.461
A03 <sup>5</sup>	EBSCO	Health Soc. Care Community	2.395
A04 <sup>17</sup>	PubMed	J. Gerontol. Ser. A-Biol. Sci. Med. Sci.	6.591
A05 <sup>18</sup>	PubMed	J. Am. Geriatr. Soc.	7.538
A06 <sup>19</sup>	Scopus	Med. Clin.	3.200
A07 <sup>20</sup>	Scopus	PLos Med.	11.613
A08 <sup>21</sup>	Web of Science	Clin. Rehabil.	2,.84

**Chart 2.** Characteristics of the selected articles according to the article identifier, database, journal, and journal impact factor. Salvador, Bahia, Brazil, 2023.

Source: Authors.

**Chart 3.** Characteristics of the articles regarding article identifier, title, authorship, year, objective, study type, location, healthcare professionals' actions for fall prevention in elderly individuals, and the influence of these actions on home adaptation and continuity of care. Salvador, Bahia, Brazil, 2023.

Article Identifier   Título / Autor / ano / / Study Type / objetivo Location	Healthcare professionals' actions for fall prevention in elderly individuals	Influence of actions on home adaptation and continuity of care
A0115Demands of hospitalized elderly individuals afterAssistential Research / Brazilproximal femur fracture correction due to falls/ Jacobi et al., 2019.Identify the demands of hospitalized elderly individuals after proxim femur fracture correction due to falls and their caregivers and propose health education actions	<ul> <li>a) Demonstration to the elderly and caregivers on bed mobilization with the help of the caregiver.</li> <li>b) Repositioning of the decubitus and pressure point relief.</li> <li>c) Prevention of prosthesis dislocation.</li> <li>d) Use of devices to assist with walking.</li> <li>e) Use of higher chairs and armchairs when sitting.</li> <li>f) Guidance on adapting the bed and toilets when necessary.</li> </ul>	<ul> <li>a) Better adaptation and continuity of care.</li> <li>b) Feelings of gratitude and motivation for continued care.</li> <li>c) Greater safety to resume and perform care at home.</li> </ul>
	Nurse	
A0216Tailored EducationQuantitativeIncreased Capability	<ul><li>a) Safe exercise execution.</li><li>b) Home risk assessment to allow</li></ul>	a) Motivation to create fall prevention strategies after
investigation and Motivation for Fall	gradual return to independence.	hospital discharge.
based on Prevention in Older Peo	pple c) Follow-up method used.	
randomized After Hospitalization/	d) Monthly phone calls for three	
data / Australia	montris.	
Measure the impact of	<b>Professional involved in the action:</b>	
the level of capacity and		
motivation of the elderly	y to	
engage in fall prevention	1	
tor 6 months after hospitalization.		

to be continued

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Article Identifier / Study Type / Location	Título / Autor / ano / objetivo	Healthcare professionals' actions for fall prevention in elderly individuals	Influence of actions on home adaptation and continuity of care
A03 <sup>5</sup> Exploratory study based on interpretative phenomenological analysis / Australia	Perspectives of older adults regarding barriers and enablers to engaging in fall prevention activities after hospital Discharge/ Nesari et al., 2020. Explore the perspectives of older adults regarding barriers and facilitators for engaging in fall prevention activities within 6 months after hospital discharge.	<ul> <li>a) Personalized education on falls and how to prevent them after discharge with pamphlets and videos.</li> <li>b) Follow-up method used.</li> <li>c) Monthly phone calls for three months.</li> </ul> <b>Professionals involved in the action:</b> Physiotherapist and Occupational Therapist	<ul> <li>a) Increased knowledge and awareness to implement</li> <li>fall prevention plans after</li> <li>discharge.</li> <li>b) Ease and motivation to</li> <li>continue engaging in home-</li> <li>based prevention plans.</li> <li>c) Participants who received</li> <li>physical and social support</li> <li>from healthcare professionals,</li> <li>family members, or formal</li> <li>caregivers after hospital</li> <li>discharge expressed optimism</li> <li>in managing their fall risks.</li> </ul>
A04 <sup>17</sup> Single-blind randomized controlled trial / Australia	Falls After Hospital Discharge: A Randomized Clinical Trial of Individualized Multimodal Falls Prevention Education/ HILL et al., 2019b Evaluate the effect of providing a personalized multimedia falls prevention education program, in addition to usual care, on fall rates in the 6 months after hospital discharge.	<ul> <li>a) Personalized education for falls prevention at home after hospital discharge.</li> <li>b) Individual discussions with the elderly to adapt information according to their social and medical characteristics.</li> <li>c) Development of a documented and guided action plan for discharge.</li> <li>d) Monthly phone calls for three months after discharge to reinforce education and modify the plan as needed.</li> <li>e) Follow-up method used.</li> <li>f) Monthly phone calls for three months.</li> </ul>	a) Reduction in falls in the six months after hospital discharge.
A05 <sup>18</sup> Quantitative investigation based on randomized controlled trial data / Australia	Evaluation of Tailored Falls Education on Older Adults' Behavior Following Hospitalization/ Naseri et al., 2019. Assess the effect of a personalized educational program provided in the hospital on the engagement of the elderly in fall prevention strategies within 6 months after hospital discharge.	<ul> <li>a) Health education using booklets, videos, and individual discussions.</li> <li>b) After hospital discharge, elderly participants received monthly phone calls for three months to reinforce information and training acquired during hospitalization, provide feedback, and modify the action plan as needed.</li> <li>c) Follow-up method used.</li> <li>d) Monthly phone calls for three months.</li> </ul> <b>Professional involved in the action:</b> Physiotherapist	a) The intervention did not significantly increase elderly engagement in fall prevention strategies within 6 months after hospital discharge.

Continuation of Chart 3

to be continued

Article Identifier / Study Type / Location	Título / Autor / ano / objetivo	Healthcare professionals' actions for fall prevention in elderly individuals	Influence of actions on home adaptation and continuity of care
A06 <sup>19</sup> Experimental study / Spain	Efectividad de una intervención educativa multidisciplinar en pacientes con fractura de fémur: estudio SWEET HOME/ Boli-Sanclemente et al., 2019 Evaluate the effectiveness of a multidisciplinary educational intervention in patients with hip fractures to facilitate their return home and reduce hospital complications.	<ul> <li>a) Elderly patient education during hospitalization and support after returning home (multimodal support).</li> <li>b) Multimodal support.</li> <li>c) Assessment of the home and its environment from the perspective of functional capacity.</li> <li>d) After discharge, reinforce the training received during hospitalization.</li> <li>e) Support in the transition process until returning to primary care.</li> <li>f) Follow-up method used.</li> <li>g) Five home visits at intervals: 24 hours, seven days, 14 days, 30 days, and one year after hospital discharge.</li> <li>Professional involved in the action: Nurse</li> </ul>	<ul> <li>a) Empowerment and autonomy of elderly patients with hip fractures along with their caregivers.</li> <li>b) Acquisition of the knowledge and skills needed to face the transition home.</li> <li>c) Improvement in the mobility and cognitive performance of the elderly one year after hospital discharge.</li> <li>d) 35% reduction in the caregiver burden of elderly individuals hospitalized for falls.</li> </ul>
A07 <sup>20</sup> Single-blind Randomized Controlled Trial / Australia	Evaluation of RESPOND, a patient-centred program to prevent falls in older people presenting to the emergency department with a fall: A randomised controlled trial/ Barker et al., 2019. Investigate the effectiveness of RESPOND in reducing falls and fall-related injuries in the elderly after presenting to the emergency department with a fall.	<ul> <li>a) In-person intervention using educational pamphlets for falls prevention at home after hospital discharge.</li> <li>b) Phone calls for six months after recruitment to reinforce these guidelines.</li> <li>c) Follow-up method used.</li> <li>d) One home visit and six phone calls.</li> </ul> <b>Professional involved in the action:</b> Physician	a) Reduction in falls in the elderly after returning home.
A08 <sup>21</sup> Single-blind Randomized Controlled Trial/ Australia	Predischarge home visits after hip fracture: a randomized controlled trial/ Lockwood et al., 2019 Investigate whether pre-discharge home assessment visits for patients recovering from hip fractures reduce falls and prevent hospital readmissions in the first 30 days and six months after home discharge.	<ul> <li>a) Use of the Home Falls and Accidents Screening Tool to collect information about the home environment.</li> <li>b) Assessment of mobility, self-care, and home safety.</li> <li>c) Involvement of family members in the assessment and discharge planning process.</li> <li>d) Education, counseling, and recommendations regarding equipment, home adaptations, and community support services.</li> <li>e) Identifying the ability to manage home activities.</li> <li>f) Follow-up method used.</li> <li>g) Home visit at 30 days and six months after hospital discharge.</li> <li>Professionals involved in the action: Physiotherapists and Occupational Therapists</li> </ul>	<ul> <li>a) Participants who received a home visit before discharge showed higher levels of functional independence at six months.</li> <li>b) Pre-discharge home visits were associated with a reduction in the number of falls in the 30 days after home discharge.</li> </ul>

Source: Authors

## DISCUSSION

In this study, it is observed that transitional care, including actions for preventing falls in older people with the aim of adapting to the home environment and ensuring continuity of care, is still relatively unexplored and not widely disseminated in Brazil. This raises concerns, especially in light of the current epidemiological scenario related to this health issue. Accidental falls accounted for 50.5% of the morbidities leading to hospitalizations among the elderly, as reported in the records of the Brazilian Unified Health System between January 2020 and February 2023<sup>22</sup>.

Upon returning to their homes after hospitalization due to falls, these individuals may face mobility difficulties and may require walking aids such as canes and walkers to move around<sup>16,18</sup>. They might also return home alone, be on polypharmacy (taking four or more medications), and be using psychotropic medications<sup>18</sup>. These challenges can reduce their ability for self-care, including tasks such as feeding and medication management, as well as hinder the gradual and safe resumption of daily activities. Consequently, this increases the risk of an unhealthy transition, leading to a loss of confidence and coping skills. As a consequence of ptophobia, they may experience new falls, social isolation, rehospitalizations, and other complications.

In Australia, the care for the transition from the hospital to the home for elderly people appears to be well-established, as indicated by the studies conducted in this country. This may be due in part to the Medicare program<sup>23</sup>, a government-run universal system that provides various services to the population, including the Stay on Your Feet<sup>24</sup>– fall prevention program linked to the Western Australia Department of Health<sup>25</sup>.

This program provides information and strategies to elderly individuals, their families, and healthcare professionals, specifically 'community health workers' (CHW), regarding measures to prevent this condition, including the identification of risk factors such as mobility issues, medication management, and the promotion of a safe home environment. These aspects are essential and can be addressed by CHW during home visits to the elderly for fall prevention and reducing the risk of new incidents. Recommendations are better accepted when delivered by CHW, as they have strong community ties and proximity, which can lead to an efficient adaptation and continuity of care after discharge<sup>24, 25</sup>.

Regarding this, the author Afaf Meleis<sup>7</sup> points out in her theory of transitions that feeling connected to these healthcare professionals can result in a positive transition experience because exchanges of information and clarification of doubts, many of them residual, can occur in the face of challenges experienced at home after hospital discharge. Moreover, the connection with the community allows for interaction, the creation of a context for effective and harmonious self-care and care, which the elderly person receives as a supportive gesture<sup>7</sup>.

In the analyzed studies, actions for fall prevention in older people during hospitalization and after discharge occurred through health education, with specific guidance for returning home<sup>5,16-20</sup>. This strategy is essential to prevent older individuals and their caregivers from being overwhelmed with specific information on the day of discharge, which often does not align with their life contexts and daily routines, leaving them confused and insecure<sup>26</sup>.

The described actions were mostly carried out by professionals such as physiotherapists<sup>5,16,18</sup>, occupational therapists<sup>17,21</sup>, nursing teams<sup>15,19</sup>, and doctors<sup>20</sup>. Regarding the involvement of nursing, it's worth noting that the specialty of rehabilitation nursing is relatively new and emerging in Brazil. However, it is more established in countries like Portugal, Spain, Canada, and the United States, allowing for greater engagement of these professionals in this type of approach.

The role of a nurse is crucial in the hospital assessment for discharge and subsequent home environment evaluation for readjustment and fall prevention. They can manage the discharge and promote continuity of care, involving other professionals when necessary. Furthermore, the increased interaction of nurses with elderly patients and their families during hospitalization facilitates this process. 9 of 13

As instructions were delivered in person with the aid of digital videos<sup>5,16-18</sup>, which, according to the authors<sup>27</sup>, provide motivation, understanding, and support for various cognitive, social, psychological, and behavioral demands. Furthermore, considering that elderly individuals have some of the lowest literacy rates<sup>27,28</sup>, technological resources can overcome difficulties in written communication, thereby contributing to knowledge translation.

Regarding guidance on the home environment, the studies did not provide details about approaching this environment during hospitalization. However, it is important to become familiar with it to offer relevant guidance and align instructions. To achieve this, professionals can request photos and videos of the home from family members or caregivers during the hospitalization period, facilitating the assessment and referrals for potential changes and necessary care in an environment that is not always safe, considering social and health circumstances. Nevertheless, the most frequently mentioned action in the analyzed studies<sup>5,16,18-20</sup> was guidance on modifying/adapting the home environment. Environmental modifications are crucial since, after hospitalization, the elderly may become dependent for ADLs due to the negative repercussions of prolonged bed rest. Therefore, adapting the home to the individual's new physical and cognitive conditions upon returning home increases the likelihood of a safe routine, independence, and quality of life.

Another action implemented through health education was to provide the elderly with an understanding of their needs, allowing them to seek assistance in ADLs and enabling a gradual and safe return to independence at home<sup>5,16,18</sup>. This is important because, after hospitalization, many do not have enough time to restart these activities gradually and safely<sup>19</sup>. This setback, when combined with limited knowledge about fall prevention after hospitalization and the resistance of individuals who, in some cases, believe that fall prevention actions are more important for others than for themselves<sup>16</sup>, contributes to new fall episodes and unfavorable health situations<sup>18</sup>, ultimately resulting in an unhealthy transition from the hospital to the home.

The actions of healthcare professionals raised awareness among the elderly about their own risks

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and loss of independence<sup>5,16</sup>, which is a key element for a healthy transition between the hospital and home, as per Meleis<sup>7</sup>, as they promoted motivation and engagement for health education. The authors of the selected studies did not explicitly describe actions related to raising awareness among those affected. However, when they describe the repercussions of their actions, it becomes clear that this process is inherent. In most of the works, the outcomes were positive, with individuals engaged and achieving the necessary mastery for self-care.

Awareness increased motivation for engagement in activities that prevent falls and aid recovery after hospital discharge. This is crucial for adaptation, given that after hospitalization due to falls, these individuals often avoid necessary exercises, leading to worsened function, increased dependence, and deteriorating overall health<sup>5</sup>. This awareness is built through the exchange of information and guidance between healthcare professionals and the elderly within the context of hospitalization.

Authors<sup>19</sup> also depict the positive outcomes of educational interventions, whether during hospitalization or through post-discharge phone calls and home visits, through the exchange of information and the establishment of bonds between professionals, users, and their caregivers. This may have contributed to the development of awareness. At this point, the significance of communication at various levels throughout the process is highlighted<sup>29</sup>.

In the study<sup>19</sup>, although 100% of the elderly individuals were at high risk of falls 30 days and one year after hospitalization, none of them fell in the first month. This result demonstrates the effectiveness of the implemented actions, especially in the first four weeks after hospital discharge, a delicate period of intense transformations and redefinitions that, when combined with functional dependence<sup>18</sup>, significantly interfere with a safe adaptation at home.

Furthermore, the implemented actions reduced caregiver burden by 35% 30 days after the elderly individuals were discharged following falls-related hospitalization<sup>19</sup>. This is a significant gain, as this support network will be less exposed to ergonomic risks and injuries from repetitive strain resulting from an intense routine, allowing more time for self-care and thus ensuring better continuity of care. In this regard, the theory of transition emphasizes that the support network in the community is a condition that facilitates the transition process<sup>7</sup>.

On the other hand, two studies demonstrated that personalized health education for the elderly before hospital discharge and through phone calls did not reduce the number of falls<sup>17</sup> and did not increase engagement in prevention strategies six months after hospital discharge<sup>18</sup>. They recognized that interventions needed to be continued in the home environment and progressed throughout the elderly person's recovery<sup>18</sup>. Another study<sup>20</sup> observed that despite patient-centered interventions positively impacting the reduction of falls, the intervention time was too short to modify the social and health issues of the individuals involved.

Therefore, it is urgent to implement hospitalto-home transition programs and coordinate them with the healthcare system to identify and intervene, if necessary, in the facilities, difficulties, and needs experienced after returning home. This observation is based on the theory of transition, which reveals personal conditions such as meanings, attitudes, beliefs, socioeconomic status, and knowledge preparation as important factors that facilitate achieving a healthy transition, as well as a strengthened support network in the community, among others<sup>7</sup>.

Authors emphasized the importance of continued monitoring after discharge through home visits and phone calls at various intervals, such as monthly calls for three months<sup>5,16-18</sup>, one home visit and six monthly calls<sup>20</sup>, home visits at 30 days and six months after discharge<sup>21</sup>, home visits at 24 hours, 7 days, 14 days, 30 days, and one year after hospital discharge<sup>19</sup>. However, it is essential that these strategies are not rigidly bound by institutional protocols and can be adapted based on the clinical situation, social opportunities, and motivation for engagement in fall prevention strategies. This adaptability facilitates a healthy transition and continuity of care. To achieve this, healthcare professionals need to be cautious, understand the individual's context, and implement feasible strategies.

It is assumed that the study has limitations due to its methodological design and eligibility criteria. The selection and inclusion of studies with various research methods do not allow for the extraction of a single level of evidence. However, it was possible to achieve the proposed objective based on the analyzed scientific evidence, as the results obtained enable healthcare professionals, especially the nursing team directly involved in care, to realize that actions performed in the hospital setting for discharge planning can have a positive impact on the continuity of care.

#### CONCLUSION

The research revealed that the year 2019 had the highest number of publications related to actions for preventing falls in the elderly, with a significant amount of research originating from Australia. The main healthcare professional actions for preventing falls found in the studies included: providing guidance through digital videos on modifying and adapting the homes of the elderly individuals, and offering individualized instructions in the hospital setting. These instructions helped the elderly individuals understand their healthcare and functional needs.

The development of these actions had a positive impact on the motivation, engagement, and awareness of the elderly population and caregivers at home after hospitalization due to falls, providing, especially for the seniors, mastery and skills for the continuity of their care and recovery.

The results, when analyzed through the lens of transition theory, contribute to healthcare professionals identifying, even in the hospital setting, the needs and challenges of the elderly population affected by falls. This allows them to develop feasible strategies for adaptation and prevention within the socio-family cycle.

It is necessary to expand studies on this topic, especially in Brazil, where accidental falls represent alarming percentages of hospitalizations among the elderly. Additionally, the scarcity of measures by the healthcare team, especially nursing, in preventing this event after hospital discharge is evident. There is a lack of publications on this topic, especially in Brazil, with the majority of studies being found in Australia.

## AUTHORSHIP CONTRIBUTIONS

- Jeferson Moreira dos Santos: Conception and design, data analysis and interpretation, article writing or critical revision, approval of the version to be published, and overall responsibility for all aspects of the work, ensuring accuracy and integrity.
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- Roberta Pereira Góes: Data analysis and interpretation, article writing, critical revision, approval of the version to be published, and

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## REFERENCES

- Júnior RFM, Costa AN, Maneschy RB, Pontes CDN, Silva YJA, Holanda LS et al. Principais fatores de risco para delirium encontrados nos pacientes idosos internados nas enfermarias de clínica médica de um hospital da Amazônia. Revista Eletrônica Acervo Saúde. 2019; 17:ee272. Available at: https://doi. org/10.25248/reas.e272.2019
- Silva RP, Pinto PIDP, Alencar AMC. Efeitos da hospitalização prolongada: o impacto da internação na vida paciente e seus cuidadores. Saúde (Santa Maria). Epub ahead of print. 2018; 44(33):2-12. Available at: https://doi.org/10.5902/2236583424876.
- Gettel CJ, Hayes K, Shield RR,Guthrie KM, Goldeberg EM. Care Transition Decisions After a Fall-related Emergency Department Visit: A Qualitative Study of Patients' and Caregivers' Experiences. Acad Emerg Med. 2020; 27(9):876-886. Available at: https://doi.org/10.1111%2Facem.13938
- Lázari MR, Costa-Bertelli T, Scaramel IC, Adorno I, Vernin LRS, Neri AL. Prevalência e incidência de deficit cognitivo em pessoas idosas: associações com atividade física no lazer. Rev. Bras. Geriatr. Gerontol. 2022; 25(5):e220127. Available at: http://dx.doi. org/10.1590/1981-22562022025.220127.pt
- Naseri C, McPhail SM, Haines TP, Morris ME, Etherton-Berr C, Shorr R et al. Evaluation of Tailored Falls Education on Older Adults' Behavior Following Hospitalization. J. Am. Geriatr. Soc . 2019; 67(11):2274-2281. Available at: https://doi.org/10.1111/jgs.16053

- Hill A-M, Hoffmann T, Haines TP. Circumstances of falls and falls-related injuries in a cohort of older patients following hospital discharge. Clin Interv Aging. 2013; 8:765-774. Available at: https://doi. org/10.2147/cia.s45891
- Meleis AI, Sawyer LM, Im E-O, Messias DKH, Schumacher K. Experiencing Transitions: An Emerging Middle-Range Theory. Advances in Nursing Science. 2000; 23(1):12-28. Available at: https://doi.org/10.1097/00012272-200009000-00006
- Mendes KDS, Silveira RC de CP, Galvão CM. Uso de gerenciador de referências bibliográficas na seleção dos estudos primários em revisão integrativa. Texto Contexto Enferm. 2019; 28:e20170204. Available at: https://doi.org/10.1590/1980-265X-TCE-2017-0204
- Galvão TF, Pansani TSA. Principais itens para relatar Revisões sistemáticas e Meta-análises: a recomendação PRISMA. Epidemiol. Serv. Saúde, 335 Brasília, 24(2):2015 (Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred Reporting Items for Systematic Reviews and MetaAnalyses: The PRISMA Statement. Available at: www.prisma-statement.org
- Oliveira IC, Megier ER, Halberstadt BMK, Beck CLC, Santos JLG, Solder RM. Preparação para aposentadoria de docentes universitários: revisão integrativa. Rev. Bras. Geriatr. Gerontol.. 2022; 24(1): e200286. Available at: http://dx.doi.org/10.1590/1981-22562021024.200286

- Ouzzani M, Hammady H, Fedorowicz Z, Elmargamid A. Rayyan – a web and mobile app for systematic reviews. Syst Rev 2016; 5(210):2-10. Available at: 10.1186/s13643-016-0384-4
- Ruiz MA, Greco OT, Braile DM. Journal impact factor: this editorial, academic and scientific influence. Braz. J. Cardiovasc. Surg 2009; 24(3): 273-278. Available at: https://doi.org/10.1590/s0102-76382009000400004
- Brasil. Decreto N° 9.574, de 22 de Novembro de 2018. Consolida atos normativos editados pelo Poder Executivo federal que dispõem sobre gestão coletiva de direitos autorais e fonogramas, de que trata a Lei nº 9.610, de 19 de fevereiro de 1998. Diário Oficial da União 2018. Available at: https://www.planalto.gov. br/ccivil\_03//\_Ato2015-2018/2018/Decreto/D9574. htm#art44
- Bardin, L. Análise de conteúdo. Edição 70, São Paulo, 2016.
- Jacobi CS, Beuter M, Venturini L, Benetti ERR, Bruinsma JL, Santos NO. Demandas de idosos hospitalizados pós-correção de fratura de fêmur proximal por queda. Rev. Enferm. UERJ 2019; 27e34460. Available at: https://doi.org/10.12957/ reuerj.2019.34460
- 16. Naseri C, McPhail SM, Morris ME, Haines TP, Etherton-Beer C, Shorr R et al. Tailored Education Increased Capability and Motivation for Fall Prevention in Older People After Hospitalization. Front Public Health. 2021; 3(9):e683723. Available at:https://doi.org/10.3389/fpubh.2021.683723
- Naseri C, McPhail SM, Morris ME, Haines TP, Etherton-Beer C, Shorr R et al. Perspectives of older adults regarding barriers and enablers to engaging in fall prevention activities after hospital discharge. Health Soc Care Community. 2020; 28(5):1710-1722. Available at: https://doi.org/10.1111/hsc.12996
- Hill A-M, McPhail SM, Morris ME, Haines TP, Etherton-Beer C, Shorr R et al. Falls After Hospital Discharge: A Randomized Clinical Trial of Individualized Multimodal Falls Prevention Education. J Gerontol A Biol Sci Med Sci. 2019; 74(9):1511-1517. Available at: https://doi.org/10.1093/ gerona/glz026
- Sanclemente-Boli T, Ponce-Ruiz S, Álvarez-Lorenzo C, Pérez-Zuriguel E, Melenchon-Tepia R, Sintas-Ramentol M et al. Efectividad de una intervención educativa multidisciplinar en pacientes con fractura de fémur: estudio SWEET HOME. Med. Clin. (Barcelona). 2019; 153e12:446-453. Available at: https://doi.org/10.1016/j.medcli.2019.02.026

- 20. Barker A, Cameron P, Flicker L, Arendts G, Brand C, Etherton-Beer C et al. Evaluation of RESPOND, a patient-centred program to prevent falls in older people presenting to the emergency department with a fall: A randomised controlled trial. PLoS Med. 2019; 16(5):e1002807. Available at: https://doi.org/10.1371/journal.pmed.1002807
- Lockwood KJ, Harding KE, Boyd JN, Taylor NF. Predischarge home visits after hip fracture: a randomized controlled trial. Clin. Rehabil. 2019;33(4):681-692. Available at:https://doi. org/10.1177/0269215518823256
- 22. Brasil. Morbidade Hospitalar do SUS por Causas Externas -por local de internação. Departamento de Informática do Sistema Único de Saúde [Internet]. Brasília; 2022 [cited 2023 may 22]. Available at: http:// tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/fiuf.def.
- 23. Australia's health system (AIHW) [Internet]. web. archive.org. 2014 [cited 2023 Apr 20]. Available from: https://web.archive.org/web/20141208161542/http:// www.aihw.gov.au/australias-health/2014/healthsystem/#t3
- 24. Health Direct. Physical activity guidelines for older adults [Internet]. Healthdirect.gov.au. Healthdirect Australia; 2018. Available at: https://www.healthdirect. gov.au/physical-activity-guidelines-for-older-adults
- 25. Stay On Your Feet® Falls Prevention Program WA [Internet]. www.injurymatters.org.au. Available at: https://www.injurymatters.org.au/programs/stay-onyour-feet/
- 26. Sousa LS, Pontes MLF, Pereira RR, Leite MAP, Nova FALV, Monteiro EA. Transição do idoso do hospital para o domicílio na perspectiva do cuidador/ idoso: revisão de escopo. Acta Paul. Enferm. 2023; 36:eAPE03631. Available at: https://doi.org/10.37689/ acta-ape/2023AR03631
- Sá GGM, Santos AMRD, Neto NMG, Carvalhoet KM, Feitosa CDA, Mendes PN. Building and validating an educational video for elderly individuals about fall risks. Rev. Bras. Enferm. 2020;73:e20200010. Available at: https://doi.org/10.1590/0034-7167-2020-0010
- 28. Serbim AK, Santos NO, Paskulin LMG. Effects of the Alpha-Health intervention on elderly's health literacy in primary health care. Rev. Bras. Enferm.2022;75(Suppl 4):e20200978. Available at: https://doi.org/10.1590/0034-7167-2020-0978
- 29. Kraun L, Vliegher K, Vandamme M, Holtzheimer E, Ellen M, Achterberg TV. Older peoples' and informal caregivers' experiences, views, and needs in transitional care decision-making: a systematic review. Int. J. Nurs. Stud. 2022; 134:e104303. Available at: https://doi.org/10.1016/j.ijnurstu.2022.104303

