







FALLS OF PATIENTS WITH HOME CARE: PREVALENCE AND ASSOCIATED FACTORS

QUEDAS EM PACIENTES DA ATENÇÃO DOMICILIAR: PREVALÊNCIA E FATORES ASSOCIADOS

CAÍDAS EN PACIENTES DE ATENCIÓN DOMICILIARIA: PREVALENCIA Y FACTORES ASOCIADOS

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ABSTRACT

Objective: to estimate the prevalence of falls, identify the associated factors and establish a prediction model for their development in patients treated by a home care program. **Methods:** a cross-sectional study conducted between June 2017 and January 2018, with 131 patients treated by *Melhor em Casa* Program, in a city in the north of *Minas Gerais*. We collected socio-demographic and clinical data through an instrument. Descriptive analysis was performed and the adjusted prevalence ratios were obtained by multiple Poisson regression analysis with robust variance. **Results:** 72 (55%) of the 131 patients were female, the average age was 66.8 years old and 43.5% had a fall. The independent variables that had a significant and joint impact on the fall outcome were: type of fall - accidental; fall location - bedroom; fall location - dining room; fall location - kitchen; fall location - yard; fall location - street; and fear of further falls. **Conclusion:** falls are a common finding with home care patients and care for their prevention should be established.

Keywords: Homebound Persons; Accidental Falls; Home Nursing; Nursing.

RESUMO

Objetivo: estimar a prevalência de quedas, identificar os fatores associados e estabelecer modelo de predição para seu desenvolvimento em pacientes atendidos por um programa de atenção domiciliar. **Métodos:** estudo transversal realizado entre junho de 2017 e janeiro de 2018, com 131 pacientes atendidos pelo Programa Melhor em Casa, de uma cidade do norte de Minas Gerais. Com o auxílio de um instrumento foram coletados dados sociodemográficos e clínicos. Realizou-se análise descritiva e as razões de prevalências ajustadas foram obtidas por análise múltipla de regressão de Poisson com variância robusta. **Resultados:** dos 131 pacientes, 72 (55%) eram do sexo feminino, a média de idade foi de 66,8 anos e 43,5% apresentaram queda. As variáveis independentes que impactaram de forma significativa e conjunta no desfecho queda foram: tipo de queda - accidental; local de queda - quarto; local de queda - sala; local de queda - cozinha; local de queda - quintal; local de queda - rua; e medo de novas quedas. **Conclusão:** a queda é achado comum em pacientes da atenção domiciliar e cuidados para sua prevenção devem ser estabelecidos.

Palavras-chave: Pacientes Domiciliares; Acidentes por Quedas; Assistência Domiciliar; Enfermagem.

RESUMEN

Objetivo: estimar la prevalencia de caídas, identificar los factores asociados y establecer un modelo de predicción para pacientes de un programa de atención domiciliar. **Métodos:** estudio transversal realizado entre junio de 2017 y enero de 2018 con 131 pacientes del programa "Melhor em casa", en una ciudad al norte de Minas Gerais. Los datos sociodemográficos y clínicos se recogieron mediante un instrumento. Se realizó un análisis descriptivo y, con el análisis múltiple de regresión de Poisson con varianza robusta, se obtuvieron las razones de prevalencia ajustadas. **Resultados:** de los 131 pacientes 72 (55%) eran mujeres, edad promedio de 66.8 años y 43.5% había tenido

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alguna caída. Las variables independientes de impacto significativo y conjunto en el resultado de la caída fueron: tipo de caída - accidental; lugar de caída - habitación; lugar de caída - salón; lugar de caída - cocina; lugar de caída - patio; lugar de caída - calle; y miedo a nuevas caídas. Conclusión: las caídas suelen ser comunes en pacientes de atención domiciliaria y, por ello, deben establecerse medidas para su prevención.

Palabras clave: Personas Imposibilitadas; Accidentes por Caídas; Atención Domiciliaria de Salud; Enfermería.

INTRODUCTION

Brazil has been going through an accelerated demographic and epidemiological transition in the last decades, characterized by a reduction in the population growth rate, changes in the age structure and a significant increase in chronic non-communicable diseases.^{1,2}

Therefore, in view of this reality, the development of different health care strategies was necessary, highlighting those with activities close to the patient's home. Thus, in Brazil, in 1960, the home care service (HC) was created as an innovative proposal for health care and social assistance.^{3,4}

HC is a type of health care still in the process of consolidation in the Unified Health System (*Sistema Único de Saúde - SUS*), developing actions for promotion, prevention, treatment, palliation, and rehabilitation. The care is carried out at home and is recommended for patients in a situation of restriction to the bed or home, temporarily or permanently. The main clinical conditions for its indication are dementia and frailty syndromes, cerebrovascular accident, cardiocirculatory, respiratory and musculoskeletal diseases by car accidents and violence.⁴

Even with the benefits of HC to the patient such as proximity to the family, low risk of infections and better organization of care, this assistance occurs in a home environment that was not designed to provide health care. Thus, there must be actions aiming at patient safety at home, promoting an adequate environment, preventing infections, pressure injuries, medication errors and falls, characterized as adverse events.⁵

The fall is defined as an unintentional contact with the surface, resulting from the change of position to a level lower than the initial position, without an intrinsic determining factor or inevitable accident and without loss of consciousness.⁶ A recent study showed that falls are the most common adverse event in patients with home care, associated with an increased risk of hospitalization and death.⁷

HC patients may be exposed to extrinsic risk factors (related to the environment, such as poor lighting, stairs without a handrail, carpets and slippery floors) and intrinsic risk factors (specific to the individual, for example, age, posture, and balance).⁸⁻¹⁰

Falls are considered a public health problem, being common in the advancing age, and normally occurring at home.^{11,12} Previous studies specifically carried out with elderly people at home showed a prevalence of falls ranging from 24.3 to 59.3%.^{11,13-17}

The consequences of falls are related to emotional, motor, physiological and psychological damages. It also contributes to increased public health spending for patients and their families and it is also associated with increased morbidity, hospitalization and mortality.^{5,17}

Fall prevention measures should be based on comprehensive care, according to the patients' health needs. In this context, we highlight the work of the nurse who is a professional committed to the care of human beings. Specifically in HC, the nurse performs fundamental functions both for coordinating the care plan and for the bond established with the patients, family members and caregivers, being indispensable for adherence and carrying out preventive actions.¹⁸

Although the literature states that problems related to falls are expected in HC patients, there is a lack in the literature of studies that have generated information on the prevalence and factors associated with falls in HC patients without stratification of age group or specific clinical profile. Given the importance of this theme for the Nursing area and the vulnerability of patients to the problem, there is a need to verify the occurrence and the possible factors associated with the outcome in this patient profile.

Therefore, the study aimed to estimate the prevalence of falls, identify the associated factors and establish a prediction model for their development in patients treated by a home care program.

METHODS

This is a cross-sectional study carried out with registered patients and assisted by a home health care program in northern *Minas Gerais*, Brazil, from June 2017 to January 2018.

This program has four multi-professional HC teams composed of a doctor, a nurse, a physiotherapist, and a Nursing technician, besides two multi-professional support teams, integrated by a speech-language therapist, physiotherapist, nutritionist and psychologist. The municipality where the study was carried out has been authorized by the Ministry of Health (*Ministério da Saúde* (BR)) since December 2013.

Patients who met the following inclusion criteria were included: age equal or greater than 18 years old, to be registered and in assisted by the HC program and to consent to participate in the study or to have their participation authorized by the responsible/caregiver by signing the Informed Consent Form (ICF). The exclusion criteria were: not being found at home in up

to three attempts, dying before data collection and hospitalized patients.

During the data collection period, we found 172 patients registered and in attendance. Ten were excluded because they were minors, seven because they were not found at home in up to three attempts, six because they were hospitalized, five because they did not consent to participate in the study and 13 who died before the data collection was carried out. After applying the inclusion and exclusion criteria, a total of 131 patients were counted in the sample.

A graduate student in the seventh period of the Nursing course at a public university in the state of *Minas Gerais*, duly trained and under the supervision of the supervising professor performed data collection. The training had a theoretical explanation of anamnesis and clinical examination, practical training, and reading articles and texts on the topic.

Anamnesis and clinical examination of patients at home were performed for data collection. Data collection lasted an average of 1 hour and 30 minutes. A systematic instrument was used, elaborated from the literature review,^{8,15,16} containing the socio-demographic and clinical characterization variables. The process of the refinement of the data collection instrument was through the assessment of specialists, who assessed its quality and relevance, and all the suggested changes were accepted and the final instrument was consolidated by consensus.

The data collection instrument is also composed of variables described in the literature related to falls and their associated factors, such as the visual and hearing acuity; the aid of a gait device; the number and the characterization of falls in type, the location, if there were a fracture and fear of suffering new falls; the family environment; the humidity of floors and walls; the ventilation and brightness of the room; if there are rugs in the environment; steps, ramps, floor unevenness; and protection on windows and staircases.^{8,9,16,19,20}

The data were entered into a Microsoft Excel 2013 spreadsheet and exported to the Statistical Package for Social Science (SPSS), version 20.0. We conducted a descriptive analysis (simple and percentage frequencies). The prevalence was established considering the number of patients (new and old cases) who reported the outcome during the data collection period.

We used a bivariate analysis for the variables studied using the chi-square and Fisher's exact tests. Prevalence ratios (PR) were calculated to investigate the existence of associations between the independent variables and the fall. The adjusted prevalence ratios were obtained through multiple Poisson regression analysis with robust variance, considering the independent variables that were most strongly associated with the drop in the bivariate analysis (up to the significance level <0.20). For the final analysis, we considered a final significance level of 0.05 ($p < 0.05$).

The study is in accordance with Resolution 466/2012 for research with human beings. The project was referred to the Ethics and Research Committee (COEP) of the State University of *Montes Claros*, obtaining a favorable opinion under number 1,866,616.

RESULTS

Seventy-two (55%) patients of the 131 registered and assisted by the home health care program were female. The age range varied between 20 and 110 years old. The mean age was 66.8 years old and the median was 72 years old ($SD \pm 21.232$). Most patients were brown (47.3%), single or married (31.3%), illiterate (27.5%) and with a family income of one to three minimum wages (53.4%).

The main medical diagnoses identified were circulatory system diseases (42%). The family history of diseases was present in 82.4% of the patients, especially with diseases of the circulatory system (50.4%). Regarding drug therapy, 47.3% of patients use more than five drugs, configuring polypharmacy (Table 1).

Regarding the locomotion and the level of dependence, most patients (71%) were totally dependent on the aid of a walking device or third parties to walk, followed by those partially dependent (16.8%) and independent (12.2%). Regarding physical activity, 97.7% do not perform it or have some difficulty that prevents this practice. In patients with limitations, 65.6% had one or more limiting situations, the most prevalent was the paresis (30.5%).

Regarding the history of falls, 57 (43.5%) patients suffered a fall in the last year. Of the total number of participants, 30.5% expressed difficulty in seeing, 11.5% used walking aids, being the cane and the walker the most prevalent ones (4.6%), and 16.8% said they had already suffered a fracture (Table 2).

Regarding the characteristics of the environment, 13% of the patients reported that they were not in a familiar environment, 19.8% lived in places with inadequate ventilation/light, with steps (54.2%), unevenness floor (43.4%), without protection in windows and staircases (81.7%) and with carpets and objects around the house that make falls possible (17.6%).

Table 3 shows the association between the socio-demographic and clinical characteristics with the fall of patients treated by the public home care program.

The variables were evaluated and the associations were determined in a general model carried out using the robust and adjusted Poisson regression. The socio-demographic and clinical characteristics identified in patients treated by the public home care program with a significant and joint impact on the fall outcome were: marital status, type of fall - accidental, fall location - bedroom, fall location - living-room, fall location - kitchen, fall location - yard, fall location - street and fear of new falls (Table 4).

Table 1 - Clinical variables of patients treated by the home health care program. MG, 2018

Variables	n	%
Medical diagnostic		
Vascular disease	55	42.0
Neurological Disease	36	27.5
Metabolic Disease	26	19.8
Control of health and lifestyle habits		
Alcoholism	8	6.1
Smoking	2	1.5
Surgeries		
No	37	28.2
Yes	87	66.4
Missing	7	5.3
Previous hospitalizations		
No	8	6.1
Yes	116	88.5
Missing	7	5.3
Medication use		
	126	96.2
Other uncategorized drugs	53	40.5
Antihypertensive	47	35.9
Anticoagulant	42	32.1
Antidepressant	42	32.1
Antiepileptic	38	29.0
Inhibitors of gastric secretion	33	25.2
Hypolipidemic	32	24.4
Diuretics	27	20.6
Beta-blockers	28	21.4
Hypnotics/sedatives/anxiolytics	25	19.1
<i>Polypharmacy use (+5 medications)</i>	62	47.3
Family history of diseases		
	108	82.4
Vascular disease	66	50.4
Metabolic Disease	53	40.5
Neoplasm	38	29.0

Table 2 - History of falls in patients treated by the home health care program. MG, 2018

Variables	n	%
Have you suffered a fall in the last year?		
No	74	56.5
Yes	57	43.5
If yes, how many falls?		
1	28	21.4
2	9	6.9
3	4	3.1

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Table 2 - History of falls in patients treated by the home health care program. MG, 2018

Variables	n	%
If yes, how many falls?		
>4	16	12.2
Fall type		
Spontaneous	23	17.6
Accidental	34	26.0
Fall location		
Bathroom	11	8.4
Bedroom	20	15.3
Living-room	17	13.0
Kitchen	9	6.9
Yard	19	14.5
Out of home	7	5.3
Other places	1	0.8
Have you suffered a fracture?		
No	109	83.2
Yes	22	16.8
Fracture location		
Vertebra	1	0.8
Femur	12	9.2
Forearm/arm	6	4.6
Others	3	2.3
Not applicable	109	83.2
Are you afraid of suffering further falls?		
No	12	9.2
Yes	48	36.6
Not applicable	71	54.2

Table 3 - Association between the dependent variable, fall and independent variables of patients treated by a public home care program. Montes Claros, MG, Brazil, 2017-2018

Variables	Group	Fall				P-Value
		Yes		No		
		n	%	n	%	
Gender	Female	36	50.0	36	50.0	0.093
	Male	21	35.6	38	64.4	
Age	Adult (20-59)	16	39	25	61	0.477
	Elderly (60-110)	41	45.6	49	54.4	
Education level	Illiterate	17	39.5	26	60.5	0.515
	Literate	40	45.5	48	54.5	
Locomotion	Dependent	49	42.6	66	57.4	0.586
	Independent	8	50	8	50	

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Table 3 - Association between the dependent variable, fall and independent variables of patients treated by a public home care program. *Montes Claros, MG, Brazil, 2017-2018*

Variables	Group	Fall				P-Value
		Yes		No		
		n	%	n	%	
Report of memory impairment	Yes	31	37.8	51	62.2	0.092
	No	26	53.1	23	46.9	
Metabolic Disease	Yes	9	34.6	17	65.4	0.282
	No	48	45.7	57	54.3	
Vascular disease	Yes	29	52.7	26	47.3	0.072
	No	28	36.8	48	63.2	
Neurological Disease	Yes	10	27.8	26	72.2	0.015
	No	47	49.5	48	50.5	
Antidepressant	Yes	18	42.9	24	57.1	0.917
	No	39	43.8	50	56.2	
Antiepileptic	Yes	15	39.5	23	60.5	0.545
	No	42	45.2	51	54.8	
Antihypertensive	Yes	27	57.4	20	42.6	0,018
	No	30	35.7	54	64.3	
Beta blockers	Yes	16	57.1	12	42.9	0.112
	No	41	39.8	62	60.2	
Diuretics	Yes	14	51.9	13	48.1	0.339
	No	43	41.3	61	58.7	
Hypnotics/Sedatives/Anxiolytics	Yes	13	52	12	48	0.354
	No	44	41.5	62	58.5	
Polypharmacy	Yes	31	50	31	50	0.155
	No	26	37.7	43	62.3	
Help needed to go to the bathroom	Yes	26	59.1	18	40.9	0.012
	No	31	35.6	56	64.4	
Wearing glasses or contact lenses	Yes	16	59.3	11	40.7	0.073
	No	41	39.4	63	60.6	
Using hearing aid	Yes	2	33.3	4	66.7	< 0.578
	No	55	44	70	56	
Using a device for walking aid	Yes	12	80	3	20	0.001
	No	45	38.8	71	61.2	
Fall type	Accidental	34	100	0	0	< 0.001*
	Spontaneous	23	23.7	74	76.3	
Falling Place: bathroom	Yes	11	100	0	0	< 0.001*
	No	46	38.3	74	61.7	
Fall location: bedroom	Yes	20	100	0	0	< 0.001*
	No	37	33.3	74	66.7	
Fall location: living-room	Yes	17	100	0	0	< 0.001*
	No	40	35.1	74	64.9	

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Table 3 - Association between the dependent variable, fall and independent variables of patients treated by a public home care program. *Montes Claros, MG, Brazil, 2017-2018*

Variables	Group	Fall				P-Value
		Yes		No		
		n	%	n	%	
Fall location: kitchen	Yes	9	100	0	0	< 0.001*
	No	48	39.3	74	60.7	
Fall location: yard	Yes	19	100	0	0	< 0.001*
	No	38	33.9	74	66.1	
Fall location: street	Yes	7	100	0	0	< 0.001*
	No	50	40.3	74	59.7	
Suffered a fracture	Yes	15	68.2	7	31.8	0.012
	No	42	38.5	67	61.5	
Fear of suffering further falls	Yes	41	85.4	7	14.6	< 0.001
	No	16	19.3	67	80.7	
Humidity on floors and walls in the house	Yes	2	28.6	5	71.4	0.351
	No	55	44.4	69	55.6	
Room ventilation/brightness	Yes	9	34.6	17	65.4	0.282
	No	48	45.7	57	54.3	
Rugs/objects that allow falls	Yes	11	47.8	12	52.2	0.651
	No	46	42.6	62	57.4	
Steps	Yes	38	53.5	33	46.5	0.010
	No	19	31.7	41	68.3	
Ramps	Yes	7	41.2	10	58.8	0.833
	No	50	43.9	64	56.1	
Unevenness floor	Yes	32	45.7	38	54.3	0.585
	No	25	41	36	59	

*Fisher test.

Table 4 - Factors associated with falls in patients treated by a public home care program. *Montes Claros, MG, Brazil, 2017-2018*

Independent Variable	PR*	CI 95%		P-value
		Inferior	Superior	
Fall type: accidental	2.134	1.570	2.901	< 0.001
Fall location: bedroom	2.133	1.543	2.950	< 0.001
Fall location: living-room	1.745	1.257	2.423	0.001
Fall location: kitchen	1.667	1.015	2.740	0.044
Fall location: Yard	2.446	1.806	3.313	< 0.001
Fall location: street	2.212	1.474	3.319	< 0.001
Fear of suffering further falls	2.016	1.413	2.905	< 0.001

*RP: Prevalence ratio.

DISCUSSION

In this study, the prevalence of falls in patients assisted by a home care program was 43.5%, higher than in previous studies

carried out in Canada and Sweden, which had a prevalence of 18.8 and 42%, respectively.^{7,21}

National studies carried out specifically with elderly people at home had a prevalence ranging from 24.3 to 59.3%.^{11,13-16} The prevalence of falls is even higher in research with older people (> 80 years old) and institutionalized elderly people, reaching 80%.^{10,19} These differences between the prevalence of falls in the studies can be attributed to the divergences in the design, in the methodologies adopted, and in the profile of the studied sample.

In this study, the average age of the participants was 66.8 years old, in which 90 (68.7%) were elderly patients and 45.6% of them had the fall outcome. This finding is corroborated by recent studies conducted with elderly patients with home care, in which the occurrence of falls was also a prevalent adverse event.^{12,15,16}

Advancing age shows structural and functional changes that can reduce the ability to respond quickly and effectively to balance, compromising the performance of motor skills, muscle strength, gait, and postural stability, which make the elderly individual more vulnerable to falling.¹³ There is a lack of research showing the prevalence of falls in patients with home care, regardless of clinical profile or age, emphasizing studies focused on the elderly population.

Seventy-two (55%) of the 131 patients were female and the average age was 66.8 years. Demographic and epidemiological changes worldwide are occurring and Brazil follows these trends, such as the increase in the number of elderly people and the phenomenon of the feminization of aging.^{10,13,15,22}

In this study, 50% of women suffered falls. The prevalence in men was 36.5%. The higher proportion of females than males can be explained by the better lifestyle of women, adherence to preventive measures and the high mortality rate of men.¹⁵

Although there is still no consensus between the prevalence of falls in elderly women, some factors are described as possible causes of falls in them such as the reduction of lean mass and muscle strength after 60 years old, the increase in the likelihood of developing osteoporosis resulting from the reduction of estrogen, the higher prevalence of chronic diseases compared to men and the fact that women are more active, both in carrying out domestic activities and in their greater social interaction and availability for leisure.^{10,22}

The most prevalent medical diagnoses in this research were the diseases of the vascular system (42%), followed by neurological diseases (27.5%). Patients with cardiovascular diseases are related to the risk of falling since the decreased cardiac output can lead to decreased cerebral flow and cognitive decline, considered risk factors for falling.²³ Arterial hypertension was highlighted in another study, and the justification for the relationship between the disease and the fall outcome can be explained by the use of antihypertensive

drugs, which mainly in the elderly person can cause postural hypotension, increasing the risk of falls.¹⁹

Strokes can cause hemiplegia or paresis, resulting in changes in gait. They can also generate visual dysfunction and spatial-visual injury, influencing balance and mobility,¹⁴ increasing the risk of falls.

On the other hand, patients with neurological disorders usually present changes in the level of consciousness, sensory, orthostatic, bladder or intestinal hypotension and impaired mobility, factors that make them more susceptible to falls.²³ Cognitive decline is recognized as a variable that directly influences the risk of falls.¹⁶

In medication use, 47.3% of patients use more than five drugs daily. This is an important item to highlight since some medications can cause changes in balance, gait instability, performance in reaction time and other motor functions, impairing them. The elderly people are more vulnerable to these side effects due to changes in pharmacokinetics and pharmacodynamics related to aging.²⁴

With the exception of anti-Parkinson drugs, the use of anti-hypertensive, anxiolytics and hypnotic agents is frequent in patients diagnosed with neurological or cardiovascular diseases. Such medications are described in the Nursing Diagnosis (ND) taxonomy NANDA International Inc. (NANDA-I) as risk factors for the ND risk of falls.²³

Regarding locomotion, 71% of patients were totally dependent on the aid of a walking device or third parties to move. Such devices are recommended as an important measure to minimize the risk of falls since they provide an improvement in functional independence, mobility, and balance, reducing the effects of several individuals or acquired deficiencies. In a previous study, the statistically significant association ($p \leq 0.05$) between the non-use of a walking aid device and falls is evident.²²

In this study, 19.8% of the patients live in places with inadequate ventilation/light, with steps (54.2%) ($p = 0.010$), unevenness floor (43.4%), without protection in windows and stairs (81.7%) or who have carpets and objects around the house that make falls possible (17.6%). The association between falls and slippery/wet floors, steps, unevenness floor, loose carpets with non-slip floors is described in the literature.^{11,15,20}

The home is recognized as a dangerous place for falls of people in all age groups but it is privileged for preventive action, which can be carried out by health professionals. The house can be an unsafe environment due to the existence of obstacles such as steps, slippery floors, loose carpet and poor lighting, which can be considered factors predisposing to falls. In a previous study conducted at the home of the elderly person with the aim of identifying extrinsic risk factors for falls, only 7.4% of homes were adequate, with a lower risk for falls.⁸

In this investigation, there was statistical significance between falls and the following locations: bedroom ($p < 0.001$), living-room ($p = 0.001$), kitchen ($p = 0.044$), yard ($p < 0.001$) and streets ($p < 0.001$). In other studies, the bathroom, the living room, and the bedroom were cited as the places with the highest prevalence of falls.^{12,16}

Inside the home, factors such as falling/slippery/wet floors, rugs/loose objects, steps, unevenness floor, problems with shoes, poorly lit environments and pets stand out as factors related to falling. Outside the home, the external places with the highest occurrence of falls are gardens, patios, sidewalks, and streets.¹⁷ The influence of environmental factors on the risk of falls is mainly linked to the person's functional state and mobility. In the case of the elderly person, the more fragile, the more vulnerable.¹⁰

The fear of suffering from new falls was another prominent variable ($p < 0.001$). A previous study carried out with the elderly person also highlights this variable, although it does not describe an association between the fear of falling and the occurrence of falls.¹¹ The first episode of fall has a negative impact on the person's life and, even if this fact does not happen directly with him, fear of the consequences of this possible fall are decisive for their autonomy.⁹

The fear of new episodes of falling generates losses in self-confidence, emotional security, and independence,²⁵ interfering in the performance of the individual's daily activities and favoring isolation, which can result in depression, physical inactivity, and muscle atrophy, contributing to new falls.²²

There are several factors associated with falls in HC patients. It is essential to emphasize the importance of multi-professional performance and the performance of a broad and multidimensional clinical examination. The identification of possible risk factors for falls by nurses can assist in the management of care, in the determination and implementation of Nursing interventions for its prevention.

In this study, there were some limitations such as the lack of research that evaluated the outcome of falls in patients with home care, regardless of the clinical profile or age since the studies focused mainly on falls in the elderly population. Also, the sample losses and the cross-sectional study were highlighted, in which the exposure and outcome are collected in a single moment in time, hindering to establish the temporal relationship, and the cause and effect.

CONCLUSION

The results found showed that it is possible to verify that the fall with home care patients is a common finding and they are exposed to a set of internal and external risk factors that can contribute to the outcome.

After bivariate analysis and an adjustment step of the multivariate analysis in the demographic and clinical factors identified, those that remained as the best predictors for the phenomenon under study were: type of fall - accidental, fall location - bedroom, fall location - living-room, fall location - kitchen, fall location - yard, fall location - street and fear of new falls.

To early recognize the factors that contribute to the increased risk of falls and the adoption of preventive measures will certainly reduce the likelihood of this problem with home care patients.

We recommend further investigations to establish the best Nursing care in the prevention of falls, especially for home care patients.

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