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Elderly caregiver: knowledge, attitudes and practices about falls and its prevention

Cuidador de idosos: conhecimentos, atitudes e práticas sobre quedas e sua prevenção

Cuidadores de ancianos: conocimientos, actitudes y prácticas sobre las caídas y su prevención

Abigail Roxana Nina Mamani[I]
ORCID: 0000 0002 3646 1250

Annelita Almeida Oliveira Reiners[I]
ORCID: 0000 0002 5699 8215

Rosemeiry Capriata de Souza Azevedo[I]
ORCID: 0000 0001 7986 5768

Akeisa Dieli Ribeiro Dalla Vechia[I]
ORCID: 0000 0002 2749 9695

Neuber José Segri[I]
ORCID: 0000 0001 7509 8792

Joana Darc Chaves Cardoso[I]
ORCID: 0000 0003 1989 4043

[I]*Universidade Federal de Mato Grosso. Cuiabá, Mato Grosso, Brazil.*

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Corresponding Author:
Abigail Roxana Nina Mamani
E-mail: abigail_nina@hotmail.com

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ABSTRACT

Objective: investigate the knowledge, attitudes and practices of informal elderly caregivers about falls and its prevention. **Method:** this is a descriptive cross-sectional study conducted with 97 informal elderly caregivers residents in areas covered by five Health Strategy Units (ESF) in Cuiabá. **Results:** more than half of the participants are aware of falls and identify them as a problem, as well as they identify some risk factors and prevention measures. Regarding attitudes, more than half of the caregivers do not seem to act effectively to prevent falls. Most of them report adopting practices to prevent falls of the elderly, supervising the activities of their daily lives. **Conclusion:** caregivers know about falls and its prevention, but in a superficial way, and it seems to influence their attitudes and practices regarding the prevention of this event.
Descriptors: Health Knowledge, Attitudes, Practice; Caregivers; Accidental Falls; Aged; Health Services for the Aged.

RESUMO

Objetivo: investigar o conhecimento, as atitudes e as práticas dos cuidadores informais de idosos sobre quedas e sua prevenção. **Método:** trata-se de um estudo transversal descritivo, realizado com 97 cuidadores informais de idosos residentes nas áreas de abrangência de cinco Unidades de Estratégia Saúde da Família (ESF) do município de Cuiabá. **Resultados:** mais da metade dos participantes tem conhecimento das quedas e as identificam como um problema, assim como apontam alguns fatores de risco e medidas de prevenção. Em relação às atitudes, mais da metade dos cuidadores se mostram não favoráveis à prevenção das quedas. A maioria deles refere adotar práticas de prevenção de quedas dos idosos, principalmente a supervisão das atividades de sua vida diária. **Conclusão:** Os cuidadores conhecem sobre quedas e sua prevenção, porém de maneira superficial, e isso parece influenciar em suas atitudes e práticas referentes à prevenção desse evento.
Descritores: Conhecimentos, Atitudes e Prática em Saúde; Cuidadores; Acidentes por Quedas; Idoso; Serviços de Saúde para Idosos.

RESUMEN

Objetivo: investigar el conocimiento, las actitudes y las prácticas de los cuidadores informales de ancianos sobre caídas y su prevención. **Método:** se trata de un estudio transversal descriptivo realizado con 97 cuidadores informales de ancianos residentes en las áreas cubiertas por cinco unidades de Estrategia de Salud de la Familia (ESF) del municipio de Cuiabá. **Resultados:** más de la mitad de los participantes son conocedores de las caídas y las identifican como un problema, además de señalar algunos factores de riesgo y medidas de prevención. En lo referente a las actitudes, más de la mitad de los cuidadores no favorecen la prevención de caídas. La mayor parte de ellos reportan haber adoptado prácticas para prevenir las caídas de los ancianos, sobre todo la supervisión de las actividades de vida diaria del anciano. **Conclusión:** los cuidadores tienen conocimiento sobre caídas y su prevención, pero de manera superficial, lo que influye en sus actitudes y sus prácticas referentes a la prevención del evento.
Descriptores: Conocimientos, Actitudes y Práctica en Salud; Accidentes por Caídas; Anciano; Servicios de Salud para Ancianos.

INTRODUCTION

Handling falls is a challenge currently faced in a world where many people are aging and is one of the most common and significant problems among the elders. Each year, approximately 28% to 35% of people over 65 years old fall, this proportion increases with age and the degree of fragility[1-2]. This event has serious consequences not only for the aged, but also for the family and society[3-5].

In order to reduce the risk of falls and its consequences, efforts have been made all over the world, with the application of multiple and multisectoral preventive measures [2]. Fall prevention practices should be properly performed by the aged in order to be effective. When the aged is dependent, the involvement of caregivers in the identification of risk factors and in the process of prevention of falls is recommended [6].

The role of the caregiver is fundamental in the prevention of falls of the elders. However, this function is usually added to those that the caregiver already has, often without preparation and for unpredictable time [7-8]. Studies have shown that many caregivers do not have enough skills and knowledge to care for the people they assist adequately, performing it based on experiences, observations, orientations from professionals or close people, based mainly on intuition and beliefs[9-10].

The knowledge of the caregivers is essential, since the highest degree of knowledge is related to positive attitudes and best practices in health [11-14]. In the case of falls of the elderly, the knowledge of caregivers is important for preventive practices to be properly adopted at home, in order to reduce the probability of its occurrence.

Studies about knowledge, attitudes and practices (KAP) of caregivers have been conducted with people of different age groups, especially children, and in different health conditions [12-20]. Investigations with elderly caregivers was conducted only about the knowledge and attitudes of caregivers or only about attitudes regarding topics such as cerebrovascular risk and some diseases, like Alzheimer's and delirium [21-24].

Only two studies with elderly caregivers focused on falls and their prevention were conducted, but the objective was to investigate only the caregivers' knowledge. In one of the studies, the results showed that less than a half of the caregivers (42.7%) reported having knowledge about how to reduce the occurrence of falls, and 48.3% considered that the prevention of the event is possible [25]. In another study, the authors found that the knowledge that caregivers had about the prevention of falls of the elderly was superficial because they had not received adequate guidance [26].

OBJECTIVE

To investigate the knowledge, attitudes and practices of informal elderly caregivers about falls and its prevention.

METHOD

Ethical aspects

The study is in accordance with Resolution No. 466/2012 of the National Health Council, and presents approval of the Research Ethics Committee of the Hospital Universitário Júlio Müller. The participation of elderly caregivers was conditioned to the signing of the Informed Consent Form.

Design, place of study and period

This is a cross-sectional and descriptive study conducted in five Family Health Strategy Units (ESF) located in the northern region of Cuiabá city (MT), Brazil. These units have the largest population of registered elderly in this region. Data collection was carried out from June to August 2017, at the caregivers' homes.

Population or sample; inclusion and exclusion criteria

The study population consisted of caregivers residing in the areas covered by the Units, and the selection of participants was done by non-probability sample of convenience type. We used the following inclusion criteria: being an informal caregiver and main an elderly caregiver, and being 18 years of age or older. Caregivers aged 60 years or older who presented cognitive deficit evaluated by the Mini Mental State Examination (MMSE), with cutoff points equal to or lower than 19 for the illiterate; 23 for one to three years of schooling, 24 for four to seven years of schooling and 28 for seven years of schooling were excluded. [27].

From a list of elders registered in the Individual Register of the Unified Health System (SUS), via the e-SUS, and with the help of community health agents (CHW) responsible for the micro areas, 158 elders with caregivers were identified. Of these, 26 caregivers did not satisfied the inclusion criteria, four were excluded for presenting cognitive deficit, 24 were not found after two tries of communication and seven did not agree to participate of the study. At the end, 97 caregivers were part of the investigation.

Study protocol

The data were collected by an interview conducted by the researcher, using a structured questionnaire, based on models suggested in the literature about KAP[28-29], with questions related to the knowledge, attitudes and practices of caregivers regarding falls and their prevention.

The content of the questionnaire was evaluated and validated by a committee of nine judges, selected by criteria such as experience in research about elderly falls, caregivers and KAP. The content validity index (CVI)[30] was 0.93, showing agreement of the judges regarding the adequacy of the questionnaire.

The variables related to the caregiver were age group, gender, marital status, type of relationship with the elderly, years of study, income, source of income, time that act as elderly caregiver, previous experience in the activity and training. The variables related to the caregiver's health conditions were self-evaluation of current health status, presence of health problem, type of health problem, regular use of medications and number of medications.

The variables of the aged who received care were age, cognitive alteration - evaluated by the MMSE -, health problems reported, degree of dependence - evaluated using the Functional Independence Measure - (FIM), history of falling in the last 12 months, and risk of falling - evaluated by Downton risk score.

The caregivers' KAP in relation to falls and their prevention were defined based on Kaliyaperumal [31] and Macías and Glasauer [28]. Knowledge is the individual's understanding about falls, elders' falls and its prevention, including the ability to remember facts related to the event. Attitudes are preconceived ideas, opinions, feelings, predispositions and beliefs that influence positively or negatively the caregiver's behavior or practice in relation to falls of the elderly and its prevention. Practices are self-reported actions to prevent falls of the elders.

In order to classify the caregivers' KAP, these criteria were established:

- Knowledge - know and do not know. We considered that the caregiver *knew*, when answered correctly the questions 25, 27, 29 and cited at least one risk factor, a consequence and a measure for the prevention of falls correctly.
- Attitudes - favorable and unfavorable. We considered that the caregiver had a *favorable attitude* when answered at least six questions.
- Practices - practices and not practices. The caregiver was considered as *practicing* fall prevention measures when reported that performed at least three preventive measures correctly.

Analysis of results and statistics

The data were coded and typed twice in electronic spreadsheets of the Epi Info program, version 7.2, of the Centers for Disease Control and Prevention (CDC). The data analysis was descriptive, presented in tables and graphs with absolute and relative frequencies for each variable.

RESULTS

Of the 97 elderly caregivers interviewed, the majority (72.2%) are in the age group between 40 and 69 years (average of 51.1 years) and are female (85.6%); 47.4% of them are married or are in stable union. They have nine or more years of schooling (71.1%) and receive from one to three minimum wages (60.9%), something from formal or informal work, retirement or pension. The majority (60.8%) of the participants are son/daughter of the aged, and report not having previous experience as a caregiver (73.2%). The function is performed for a time that varies from less than one to four years (44.4%), and most part of them (94.8%) were not trained to be a caregiver.

Regarding the caregiver's health conditions, 40.2% self-evaluated their health status as good and 70.1% reported having health problems - the main ones were hypertension (28.9%), spine problems (17.5%) and endocrine problems (16.8%). Half of the caregivers (50.5%) regularly use medications, and 77.7% use one to three medications. The main ones were antihypertensives (26.8%) and oral hypoglycemic agents (14.4%).

In relation to the characteristics of people receiving care, more than half (57.8%) of the aged cared for by caregivers are aged 80 years or older, most (74.2%) have cognitive deficit, 40.2% have modified dependence with assistance of up to 25%; and 25.8% have modified independence. The main health problems were hypertension (61.9%), sensory problems (38.1%) and osteoarticular problems (34%). Concerning falls, 42.3% of the aged reported an accident in the last 12 months; of these, 43.9% fell once and 26.8% three times or more. About the risk of falls, almost all the aged people (90.7%) were classified at high risk for the event.

With respect to the KAP classification of caregivers in relation to elderly falls and its prevention, it was evidenced that more than half (51.6%) know it, 56.7% have an unfavorable attitude and 73.2% do not practice preventive measures (Figure 1).

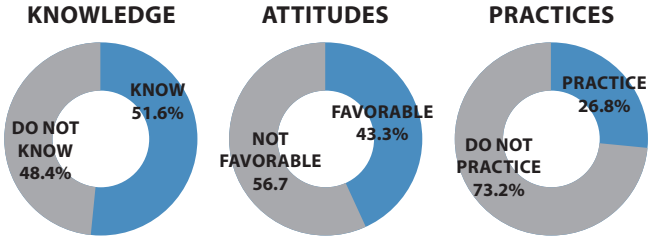

Figure 1 - Elderly caregivers according to the classification of knowledge, attitudes and practices of fall prevention, Cuiabá, Mato Grosso, Brazil, 2017

About the caregiver's knowledge about falls and its prevention, more than half (53.6%) consider that all the elders can suffer falls, 38.1% reported that it is a frequent event and 19.6% do not know to inform. The main causes for the occurrence of falls mentioned by caregivers were changes in balance (50.5%), loss of muscle strength (48.5%), carelessness or lack of attention (26.8%), loose mats at home (25.8%) and wet floors (24.7%). Almost all (99%) caregivers reported that the fall has consequences for the aged, such as fractures (82.5%), loss of functional capacity (43.3%) and head injuries (22.7%) (Table 1).

In relation to the prevention of falls of elderly people, 89.7% of them reported that it is possible to prevent it. The main prevention measures mentioned were changes in the home (52.6%) and supervision of the aged person (47.4%). When asked about the source of knowledge they had about falls and their prevention, the majority (42.3%) reported that the experience/coexistence with the aged is the origin of the learning, followed by radio/television (32%) and health professionals (9.3%) (Table 1).

Regarding the caregivers' attitudes towards falls and its prevention, more than half (52.6%) partially agree that falling is a natural event in old age and 86.6% of them consider it as a problem, of which 60.7% report it as a very serious problem. The majority (92.8%) totally agree that the caregiver should be concerned with the fall of the elderly; 55.7% absolutely believe in the prevention of falls, and that every caregiver should identify the risks for falls and adopt preventive measures (84.5%). Most of them (96.9%) report feeling very worried when the elderly fall frequently (Table 2).

Table 3 shows the practices of prevention of falls of the elderly performed by caregivers. Almost all of them (99.0%) report practicing it in daily care. The main preventive measures mentioned and related to the behavior of the elderly are vigilance (57.7%), orientation to walk with caution (18.6%) and restriction of their activities (12.4%). The practices related to changing the environment are to avoid loose mats in the house (28.9%), avoid the floor wet (23.7%), and install support bars in the bathroom and other environments (12.4%).

Table 1 – Distribution of elderly caregivers according to knowledge of falls and prevention of falls, Cuiabá, Mato Grosso, Brazil, 2017

Variable	Frequency (n)	Percentage (%)
Is it possible for any elderly person to fall?		
Yes	52	53.6
No	45	46.4
The fall of an elderly person is an event		
Infrequent	23	23.7
Frequent	37	38.1
Very frequent	18	18.6
I don't know	19	19.6
What can cause an elderly person to fall?*		
Change in balance	49	50.5
Loss of muscle strength	47	48.5
Neglect or lack of attention	26	26.8
Loose mats at home	25	25.8
Wet floors	24	24.7
Flat floor	17	17.5
Comorbidity	14	14.4
Stairs with irregular steps	13	13.4
Old age	12	12.4
Use of inappropriate slippers or shoes	10	10.3
Irregular sidewalks	10	10.3
Sensory problems	9	9.3
Scattered objects	8	8.2
Furniture arrangement	7	7.2
Inadequate nutrition	6	6.2
Stubbornness	6	6.2
Difficulty with mobility	5	5.2
Lack of supervision	4	4.1
Insufficient lighting	3	3.1
Dementia	2	2.1
Climbing and descending stairs without precaution	2	2.1
Rise in the bank	1	1
Other	9	9.3
Do the fall bring consequences to the elderly?		
Yes	96	99
No	1	1
Which consequences?*		
Fractures	80	82.5
Loss of functional capacity	42	43.3
Head injuries	22	22.7
Death	21	21.7
Contusions	12	12.4
Skin abrasions	11	11.3
Fear of falling	10	10.3
Social isolation	6	6.2
Depression	1	1
Economic expenses	1	1
Other	6	6.2
Does exist a way to prevent the fall of elderly people?		
Yes	87	89.7
No	10	10.3
How to prevent the fall of elderly people?*		
Changes in domicile	51	52.6
Supervision	46	47.4
Use of walking stick or walker, if necessary	9	9.3
Good nutrition and calcium supplementation	8	8.3
Use of handrails on stairs	5	5.2
Practice of physical exercise	2	2.1
Use of suitable anti-slip shoes	1	1
Other	7	7.2
Source of knowledge *		
Daily experience/coexistence	41	42.3
Radio/TV	31	32
Internet	16	16.5
Family members	14	14.4
Friends	12	12.4
Health professionals	9	9.3
Magazine/journal	4	4.1
Other	10	10.3

*Note: *Multiple choice variable.*

Table 2 – Distribution of elderly caregivers according to attitudes to prevent falls, Cuiabá, Mato Grosso, Brazil, 2017

Variable	Frequency (n)	Percentage (%)
The fall is a natural event in old age		
Disagree	14	14.4
Partially agrees	51	52.6
Totally agree	32	33
Do you consider the fall of an elderly person as a problem?		
No	13	13.4
Yes	84	86.6
If yes, how much serious?		
Not serious	7	8.3
Very serious	51	60.7
Extremely serious	26	31
Every caregiver should be concerned about the fall of the elderly		
Partially agrees	7	7.2
Totally agree	90	92.8
Do you believe that falls can be prevented?		
Do not believe	9	9.3
Partially believe	34	35.1
Totally believe	54	55.6
Every caregiver must identify the risks and prevent accidents by falls		
Partially agree	15	15.5
Totally agree	82	84.5
If the elderly fall frequently, how do you feel about it?		
Not too worried	3	3.1
Very concerned	94	96.9
Total	97	100

Table 3 – Distribution of elderly caregivers according to fall prevention practices, Cuiabá, Mato Grosso, Brazil, 2017

Variable	Frequency (n)	Percentage (%)
In the daily care of the elderly, do you usually prevent fall accidents?		
Yes	96	99
No	1	1
How do you prevent fall accidents?*		
Watch the elderly	56	57.7
Avoid loose mats in the house	28	28.9
Avoid wet floor	23	23.7
Orient the elderly to walk with caution	18	18.6
Restrict the activities of the elderly	12	12.4
Install sling bars in the bathroom and other environments	12	12.4
Use anti-slip mats	9	9.3
Avoid scattered toys	8	8.3
Removes furniture that represents danger to the elderly	6	6.2
Orients to the use of walking stick and walker, if necessary	5	5.2
Orients to the use of suitable shoes and not to the use of slippers	5	5.2
Install anti-slip floors	5	5.2
Provides healthy nutrition	3	3.1
Performs periodic check-ups with the doctor	3	3.1
Advises not to climb on banks, chairs or boxes to reach objects	2	2.1
Avoids leaving loose cables in the house	2	2.1
Install lighting in the house	1	1
Other	9	9.3

*Note: *Multiple choice variable.*

DISCUSSION

This study is the first to be carried out about KAP of informal elderly caregivers in relation to falls and its prevention. Its results contribute to deeper scientific knowledge as they produce information about what these caregivers know about falls and its prevention, their attitudes towards them and how they act to prevent this problem.

The participants in this research have similar characteristics to the informal elderly caregivers of other studies. In general, they are daughters and wives of elders, middle-aged and low-income, and they are in this position for a short time, without previous experience of care [32-35].

According to the criteria adopted in this study, caregivers know about falls of the elderly and its prevention. A little more than half of the participants minimally know that the fall of the aged is a frequent event and that it is at risk, identifying some causes and consequences of falls and referring to certain measures to prevent them. This result is compatible with those of other studies in which the knowledge about fall prevention presented by informal elderly caregivers was incomplete or considered minimal [25] and superficial [26].

Probably this is because most of the caregivers in this study started the function recently, without preparation, and due to the ways in which this knowledge was acquired. One of the main sources of knowledge about falls mentioned comes from experience, and this type of knowledge, in general, they can achieve from their coexistence with older people who have fallen or from the experience of others. Likewise, the media, such as television and the Internet, are another important source of knowledge of the caregivers of this work. Today, these media is accessed at any place and time, allowing them to obtain information about health problems, treatments and means of prevention [36].

However, although the experiences and means of communication are sources of information and their role in adult learning is very important [37], it should be considered that the knowledge of these caregivers is superficial, limited to information far from the scientific knowledge produced and available about the subject.

Superficial knowledge can affect the caregivers' attitude towards health situations, as well as the way that they care for people [38]. With regard to falls of the elders, this level of knowledge may lead caregivers to adopt few practices or perform them inappropriately. The prevention of falls of the elderly at home effectively requires a more detailed knowledge, which includes the specific changes of aging and the causes and consequences of falls, as well as the appropriate measures to prevent it.

Caregivers need to have a better knowledge in quantity and quality, so that they can adequately care for the elderly, producing positive effects in the prevention of falls. Health education is an effective strategy for the improvement of knowledge demonstrated by some studies (39,40). In this process, it is important the active participation of health professionals, since only 9.3% of the caregivers in this study reported obtaining knowledge from them. It is worth emphasizing that nurses have competencies to develop health education and they may be a key element to provide spaces for dialogue and exchange of knowledge, as well as actions to monitor caregivers, strengthening trust and fostering their responsibilities to the elderly.

The caregivers' attitudes are not favorable to the prevention of falls, according to the criteria adopted in this study. This result rises attention because, even if they are concerned about the occurrence of falls of the elderly they care for and feel responsible for avoiding them, they do not face the problem in a favorable way.

Equally, this result is surprising because the caregivers are mainly daughters and wives, people whose bond is greater with the elderly. The family bond and the fact that they are women usually leads to more committed care[41-43]. A probable explanation for this result is the fact that attitudes can be influenced by knowledge [44-45]. To the extent that the caregivers of this study have a superficial knowledge, it is likely that this influences their attitudes, that is, the way they are predisposed to face the problem of falls.

The influence of attitudes on people's behavior is known, because they affect their way of interpreting and dealing with falls and its prevention [2]. The attitudes of caregivers are essential for the adoption of preventive measures and maintenance of the elderly in safety inside and outside the home.

This may also be an explanation for the result of the classification of caregivers' practices in relation to the prevention of falls. According to the criteria adopted in this study, the caregivers should report performing at least three preventive measures of correct falls, but the majority mentioned only one, demonstrating that they do not perform them, even if almost all of them affirm the opposite.

This does not guarantee the prevention of the fall of the aged. In order for an effective prevention of falls performed by caregivers, it is necessary that the practices encompass both behavioral and environmental measures. The set of practices offers greater safety to the elderly and prevents them of being exposed to fall risks in their daily domestic activities [2, 46].

Certainly, knowledge is not the only determinant of the lack or insufficiency of health behaviors [45,47]. However, it is an important component to be considered in the adoption of fall prevention practices by caregivers. Without considerable and satisfactory knowledge about this subject, its practices will be insufficient to prevent falls of the elderly they care for.

Considering that people's behavior is very complex and involves the influence of several factors, another explanation for the caregivers of this study not to adopt the preventive practices of falls of the aged may be their social conditions. There are fall prevention measures that necessarily require financial investment from the caregiving families in order to be implemented - for example, the installation of support bars, floor replacement and the acquisition of devices, among others. In the implementation of these measures, the performance of health professionals is fundamental, with evaluation of the real risks of falls of the elderly and the socioeconomic conditions of the family to be able to acquire the devices or invest in necessary changes. Health professionals can intervene as mediators between caregivers and social support institutions in case of need.

Study limitations

A limitation of the study is the convenience sample, which does not allow generalizations to be made to other groups of caregivers. However, our result is relevant because it offers a better understanding of the knowledge, attitudes of informal elderly caregivers and their fall's prevention practices.

Contributions to the area of nursing, health or public policy

Our results have important implications for public health, since provide support for the planning and implementation of educational programs, directing health professionals in the development of specific actions for the older part of the population, thus contributing to the process of promotion and prevention of falls to this group. In addition, it provides subsidies to future intervention studies for this population.

CONCLUSION

We concluded that elderly caregivers know about falls and their prevention - however, this knowledge is superficial and limited to common sense information. Their attitudes are not favorable to the prevention of falls and they do not practice the measures in order to ensure the prevention of the occurrence of this event to the elders they care for.

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