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EVALUATION OF FALL RISK FACTORS PRESENT DURING INSTITUTIONALIZATION OF ELDERLY PEOPLE

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ABSTRACT

Objectives: to describe the development and validation of the Scale of Practices of Evaluation of Fall Risk Factors during Institutionalization of Elderly People and to describe the practices of evaluation of communication of fall risks to institutionalized elderly people.
Methods: methodological study, which allowed construction and determination of the psychometric properties of the Scale of Practices of Evaluation of Fall Risk Factors during Institutionalization of Elderly People, which was carried out in six long-term care institutions for elderly people, in 2018.
Results: the scale showed satisfactory internal consistency, with a Cronbach's alpha of 0.949. It was designed to have three dimensions: practices of evaluation of biophysiological risk factors; practices of communication and training; and practices of evaluation of risks related to elderly people's putting on clothing and footwear.
Conclusions: the risk factors that had their value recognized were related to mobility. There is not proper recognition of the importance of information about fall risk factors and communication between elderly people and health teams during institutionalization.

DESCRIPTORS: Accidental falls. Aged. Risk. Caregivers. Homes for the aged. Institutionalization.

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AVALIAÇÃO DOS FATORES DE RISCO DE QUEDA DURANTE A INSTITUCIONALIZAÇÃO DO IDOSO

RESUMO

Objetivos: descrever a construção e validação da escala de práticas de avaliação dos fatores de risco de queda durante a institucionalização do idoso e descrever as práticas de avaliação e comunicação do risco de queda aos idosos institucionalizados.
Método: estudo metodológico, que possibilitou a construção e determinação das propriedades psicométricas da Escala de Práticas de Avaliação do Risco de Queda durante a Institucionalização da pessoa idosa, que decorreu em seis instituições de longa permanência para idosos, em 2018.
Resultados: a escala apresenta uma consistência interna de α=0,949 e 3 dimensões: práticas de avaliação dos fatores de risco bio fisiológicos; práticas de comunicação e formação; práticas de avaliação do risco relacionados com o calçar e vestir do idoso.
Conclusões: os fatores de risco valorizados estão associados à mobilidade. Há uma desvalorização da informação sobre os fatores de risco de queda, ao longo da institucionalização, e da comunicação dos mesmos nas equipes de trabalho.

DESCRITORES: Acidentes por quedas. Idosos. Risco. Cuidadores. Instituições de longa permanência para idosos. Institucionalização.

EVALUACIÓN DE FACTORES DE RIESGO DE CAÍDAS DURANTE LA INSTITUCIONALIZACIÓN DEL ANCIANO

RESUMEN

Objetivos: describir la construcción y validación de la escala de prácticas de evaluación de factores de riesgo de caídas durante la institucionalización del anciano, y describir las prácticas de evaluación y comunicación de riesgo de caídas al anciano institucionalizado.
Método: estudio metodológico que permitió construir y determinar las propiedades psicométricas de las Escala de Prácticas de Evaluación de Riesgo de Caídas durante la institucionalización del anciano, realizado en seis hogares para ancianos, en 2018
Resultados: la escala muestra una consistencia interna de α=0,949 y 3 dimensiones: prácticas de evaluación de factores de riesgo biofisiológicos; prácticas de comunicación y formación; prácticas de evaluación de riesgos relativos a calzado y vestimenta del anciano.
Conclusiones: los factores de riesgo evaluados están asociados a la movilidad. Está infravalorada la información sobre factores de riesgo de caída durante la institucionalización, y la comunicación de los mismos en los equipos de trabajo.

DESCRIPTORES: Accidentes por caídas. Anciano. Riesgo. Cuidadores. Hogares para ancianos. Institucionalización.

INTRODUCTION

The relationship between falls and institutionalized elderly people is complex because of the cause-consequence effect itself. That is, falls are one of the main factors leading to decisions to opt for long-term care institutions (LTCIs), or greatly contribute to such decisions. But falls can also be a consequence of institutionalization, since their incidence is higher and their consequences are more serious when they occur in these environments than in the community[1–4].

Falls are the main reason cited by relatives for looking for LTCIs. Their recurrence and effects can lead to institutionalization and will impact the independence of residents[1,5], given that they are inserted in a space where the prevalence of this problem is markedly higher than that recorded for the community[1,3].

An explanation offered by researchers of the increase in fall risk, fall prevalence, and severity of associated injuries in LTCI is that the population that lives in these places is less independent and more frequently affected by chronic diseases in comparison to elderly people who live in the community[1,5–9]. They have also emphasized that the characteristics of the physical spaces, and even the presence of staff and other elderly people, make these environments different from homes and can themselves be an additional risk factor[5], increasing fear of possible new fall episodes.[6]

The problem begins from the moment elderly people are admitted to LTCIs. One out of five newly admitted residents fall during the first few days after institutionalization[10–11], and 56.2% of the residents fall at least once a year[8]. Some elderly people are institutionalized when they are still independent or show low levels of dependence, but losing their daily routine and not having the obligation of doing a series of everyday activities, combined with losing confidence in their ability to carry out these activities after a fall episode, contribute to inactivity, reduction in physical fitness, and, consequently, increase in fall risk, morbidity, and mortality[1,7–11].

Authors have recommended that evaluation of fall risk factors in institutionalized elderly people follow a special approach and utilize fall risk assessment instruments that have been validated for this specific context[1,8,10], since identifying elderly people who are exposed to fall risks is the first step toward introducing preventive measures[1]. Despite this recommendation, the reality observed in LTCIs is different. A study of teams in an LTCI concluded that professionals were familiar with instruments for geriatric evaluation, but considered that, from the perspective of preventive care, using these tools did not suit the residents' reality[11]. This underestimation of the potential of these instruments to prevent falls can contribute to nonuse or inadequate use of the tools[1].

A study carried out in the community with caregivers showed that risks and mild secondary injuries that follow falls were not always recognized as important by relatives, and that concern about this type of accident manifested after it occurred[12]. Many elderly people and their caretakers ignore fall risk factors and actions that can prevent fall episodes[11–12].

Estimates regarding increased average life expectancy lead to prediction of an increase in the number of elderly people who will live in LTCIs, and, consequently, in the number of falls and associated costs[4–5,8]. This raises the question of whether the approach used in LTCIs is not sufficiently specific regarding individualization of fall risk factors and their association with tailored interventions once risks are identified.

In face of the above scenario and of the fact that risk assessment is a deciding factor in the control of this public health issue, the objectives of the present study were: a) describing the development and validation of the Scale of Practices of Evaluation of Fall Risk Factors during Institutionalization of Elderly People (SPERFI); and b) describing the practices of evaluation of communication of fall risks to institutionalized elderly people.

METHODS

This was a methodological study[13–14].

A literature review was carried out to identify instruments used to evaluate fall risks in the institutionalized elderly population[1], rather than to measure the variable under discussion (practices of caretakers in identification of fall risks present during the institutionalization period).

This latent variable is complex, which hinders its direct observation without involving mistakes. Therefore, it was turned into an observable and mensurable measure[13].

Given the lack of an instrument that measured the variable of interest, the present study resorted to a predefined protocol with the following steps: defining what should be evaluated; collecting data in databases; observing the context; interviewing nurses and professionals in LTCIs; selecting the material to define the dimensions and items that would make up the scale; designing it; pretesting it; reformulating it; applying it; and validating it[13–14].

Consulting nurses who developed their professional activities in LTCIs and gathering data for a population whose characteristics were similar to those of the population that was the object of the study by means of observation and interviews with professionals allowed the authors to understand the context. Over the course of one month, visits were paid to one LTCI, which had authorized the presence of the researcher so the professionals' practices could be observed. Notes and excerpts of witnessed dialogues were recorded in a field diary. Three nurses with experience in working in LTCIs were consulted during this period to obtain clarification regarding organizational aspects of care and identify resources the institution had or did not have, fall risks, and the level of importance given to training in this topic.

Resorting to experts in the subject addressed by the tool to be produced and in the field of design and validation of measuring instruments was fundamental to complementarity between theory and practice. As pointed out by some authors, collecting material for item selection is a mix of interesting and boring work, science and art, and, therefore, researchers need help to do that[14].

After these steps, an initial version of SPERFI was formulated, with 28 indicators. Only statements were used, and the responses were scored on a five-point Likert scale: 1 = "never" and 5 = "always." Higher scores indicated better practices in risk evaluation[13–14].

The population of the present study was professionals at six Portuguese LTCIs, which authorized the implementation of the study in their facilities. The inclusion criteria for the sample were: being an LTCI professional who was providing direct care to institutionalized elderly people (management positions were excluded); and freely agreeing to participate in the study. The criterion of five respondents per item[14] was applied, which resulted in a sample of 152 professionals. The reply rate was 65.52% (232 instruments were distributed).

Once the first version of the scale was ready, a discussion was carried out with six LTCI professionals to test the target population's understanding. The clarity criterion is closely related to the item intelligibility. Consequently, and taking into account the low level of education of the professionals who work in these institutions, the authors of the present study opted for short and simple sentences[14].

The respondents were asked to give their opinion of the clarity of the items, difficulties with understanding them, and difficulties with completion of the instrument. This discussion allowed the items to be improved by means of sharing of comments and verification of item intelligibility and Item completion instructions[13–14].

The data collection instrument had two parts: the first was intended for sociodemographic characterization and the second was the scale itself.

Sociodemographic data included gender, age, time of professional practice (at the current institution and in LTCIs in general), and professional training (previous and current).

Data collection occurred between October and December 2018, and the questionnaire was self-administered (filled out by the participants without the presence of the researcher). Two ballot boxes were placed in the institutions and kept there for 15 days, one for free and informed consent forms and the other for completed instruments. This guaranteed participant anonymity. The boxes were then collected by one of the researchers.

Data were treated statistically by using SPSS version 23.0. The construct validity was assessed by applying exploratory factor analysis, with principal component extraction, Varimax orthogonal rotation, and extraction of factors with values higher than one. Cattell's scree plots were obtained to confirm the number of factors to be extracted, and the Kaiser-Meyer-Olkin test (KMO) and Bartlett's index were used to measure the quality of correlations between the variables and test the validity of the factor matrix. Internal consistency was evaluated by calculating Cronbach's alpha[13–14].

The practices were presented by using descriptive statistics, including calculation of absolute and relative frequencies, and central tendency, dispersion, and variability measures.

To determine the relationship between practices of evaluation of fall risk factors to which elderly people were exposed during institutionalization and some variables, parametric inferential statistics were used, specifically the Student's t-test and Pearson's correlation. Although not all variables showed normal distribution (according to the Kolmogorov-Smirnov test) and homogeneity of variance (according to Levene's test), parametric statistics were applied by resorting to the central limit theorem (n>30)[14].

The present study was developed in the context of the project entitled Management of Fall Risk in Institutions for Elderly People. It was approved by the Research Ethics Committee of the Universidade Católica Portuguesa. The ethical principles described in the Declaration of Helsinki, namely consent, privacy, and confidentiality, were observed.

RESULTS

The sample was 152 LTCI professionals, all women. On average, they were 47.0 ± 10.3 years old, had been developing their professional practice for 13.1 ± 8.35 years, and had been working at that specific institution for 11.9 ± 8.19 years. Only 32% had initiated their professional career in this area after obtaining training that qualified them to perform the function, and 66.7% acquired training over the period of professional practice. The duration of their training was: <50 hours (27%), 50 to 100 hours (11.9%), 100 to 150 hours (11.9%), 150 to 200 hours (11.1%), and >200 hours (38.1%).

The version of the scale that was distributed to the participants had 28 items. Eight were eliminated because they did not show statistical significance (as indicated by Pearson's correlations lower than 0.20 and Cronbach's alpha values for each item higher than the overall value). Therefore, the final number of items in the instrument was 20.

Internal consistency of the scale was expressed as α=0.949, considered excellent. None of the items that were kept in the instrument showed Cronbach's alpha values higher than the overall value. The item/overall ratio ranged from 0.605 to 0.758 (Table 1).

Table 1 – Pearson's correlation of the items making up SPERFI and Cronbach's alpha without the contribution of each item. Lisbon, Portugal, 2018 (n=152).

Item number and content	Overall Pearson's correlation without the item	Overall Cronbach's alpha without the item
1. I identify whether the elderly person has muscle strength	.758	.945
2. I observe whether the elderly person has difficulty walking	.676	.947
3. I observe whether the elderly person has balance alterations	.672	.947
4. I identify whether the elderly person has vision alterations	.686	.946
5. I identify whether the elderly person has hearing alterations	.665	.947
6. I identify whether the elderly person has alterations in their state of consciousness	.629	.947
7. I observe whether the elderly person is dependent in carrying out activities of daily living	.682	.946
8. I ask the elderly person if they are afraid to fall	.694	.946
9. I evaluate whether the elderly person has sedentary behavior	.605	.948
10. I observe whether the elderly person looks thin	.680	.946
11. I verify whether the elderly person has foot problems	.673	.947
12. I evaluate whether the elderly person has incontinence	.627	.947
13. I verify whether the elderly person's footwear is appropriate	.716	.946
14. I verify that the elderly person's clothing is neither too large nor dragging on the floor	.677	.946
15. I find out whether the elderly person has chronic diseases	.696	.946
16. Before taking action, I take time to define fall risk factors	.727	.946
17. I try to deepen my knowledge of the elderly person's health problems	.657	.947
18. I listen and talk to the elderly person about fall risk factors	.666	.947
19. I communicate the identified fall risk factors to nurses	.687	.946
20. I try to keep my knowledge of fall risks updated	.705	.946
Total Cronbach's alpha	0.949	

Construct validity

Table 2 shows the results of factor analysis of the 20 items that make up the scale. By taking into account interpretability and statistical criteria, it was found that the 20 items grouped into three factors that accounted for 64.058% of variance. It must be emphasized that the KMO value of 0.88 (considered good[14]) and Bartlett's sphericity with $p<0.001$ show that the factor analysis was satisfactory. The good commonality values (from 0.498 to 0.791) were also noteworthy.

Table 2 – Principal component matrix after application of Varimax rotation to the 20 items that make up SPERFI. Lisbon, Portugal, 2018 (n=152).

Item number and content	H2	Factor 1	Factor 2	Factor 3
1. I identify whether the elderly person has muscle strength	.681	.640		
2. I observe whether the elderly person has difficulty walking	.748	.805		
3. I observe whether the elderly person has balance alterations	.701	.744		

Table 2 – Cont.

Item number and content	H2	Factor 1	Factor 2	Factor 3
4. I identify whether the elderly person has vision alterations	.559	.493		
5. I identify whether the elderly person has hearing alterations	.498	.485		
6. I identify whether the elderly person has alterations in their state of consciousness	.676	.758		
7. I observe whether the elderly person is dependent in carrying out activities of daily living	.553	.573		
9. I evaluate whether the elderly person has sedentary behavior	.603	.643		
10. I observe whether the elderly person looks thin	.564	.537		
12. I evaluate whether the elderly person has incontinence	.604	.540		
15. I find out whether the elderly person has chronic diseases	.607	.625		
8. I ask the elderly person if they are afraid to fall	.513		.346	
16. Before taking action, I take time to define fall risk factors	.716		.736	
17. I try to deepen my knowledge of the elderly person's health problems	.647		.737	
18. I listen and talk to the elderly person about fall risk factors	.594		.668	
19. I communicate the identified fall risk factors to nurses	.709		.773	
20. I try to keep my knowledge of fall risks updated	.691		.740	
11. I verify whether the elderly person has foot problems	.706			.756
13. I verify whether the elderly person's footwear is appropriate	.751			.756
14. I verify that the elderly person's clothing is neither too large nor dragging on the floor	.791			.799
% of variance explained by factor		23.880	22.004	18.174
Total of explained variance		64.058		
Kaiser-Meyer-Olkin measure	.895			
Bartlett's Test of Sphericity	2,083.680			

Taking into account the literature and the content of the items by factor, the following denominations were given to the factors: F1 - practices of evaluation of biophysiological risk factors to which elderly people are exposed (α=0.934); F2 - practices of communication and training (α=0.912); and F3 - practices of evaluation of risks associated with putting on clothing and footwear (α=0.860).

Table 3 shows that the two items professionals evaluated more often out of the 20 included in the scale were being dependent in carrying out activities of daily living (4.47 ± 0.83) and difficulty walking (4.44 ± 0.85). The indicators that were least frequently assessed were evaluation of fear of falling (3.90 ± 1.15) and of vision alterations (3.91 ± 1.06).

The 20 items that make up SPERFI result in a score ranging from 20 to 100 points. The average value obtained for the sample in the present study was 78.58 ± 19.46.

According to the results, communication and training were present during institutionalization in the following areas: keeping knowledge of fall risk factors updated (4.23 ± 1.02); communicating the identified risk factors to nurses (4.16 ± 1.17); deepening knowledge of the elderly person's health (4.12 ± .92); taking time to define fall risk factors before taking action (4.01 ± 1.03); and listening and talking to the elderly person about fall risk factors (4.01 ± 1.07).

Table 3 – Characterization of the sample regarding practices of evaluation of fall risk factors to which elderly people are exposed during institutionalization. Lisbon, Portugal, 2018 (n=152).

Item number and content	Average	SD
1. I identify whether the elderly person has muscle strength	4.11	1.03
2. I observe whether the elderly person has difficulty walking	4.44	.85
3. I observe whether the elderly person has balance alterations	4.32	.85
4. I identify whether the elderly person has vision alterations	3.91	1.06
5. I identify whether the elderly person has hearing alterations	3.93	1.08
6. I identify whether the elderly person has alterations in their state of consciousness	4.34	.97
7. I observe whether the elderly person is dependent in carrying out activities of daily living	4.47	.83
10. I observe whether the elderly person looks thin	4.07	1.04
12. I evaluate whether the elderly person has incontinence	4.15	1.05
15. I find out whether the elderly person has chronic diseases	4.22	1.04
8. I ask the elderly person if they are afraid to fall	3.90	1.15
16. Before taking action, I take time to define fall risk factors	4.01	1.03
17. I try to deepen my knowledge of the elderly person's health problems	4.12	.92
18. I listen and talk to the elderly person about fall risk factors	4.01	1.07
19. I communicate the identified fall risk factors to nurses	4.16	1.17
20. I try to keep my knowledge of fall risks updated	4.23	1.02
11. I verify whether the elderly person has foot problems	3.95	1.12
13. I verify whether the elderly person's footwear is appropriate	4.06	1.04
14. I verify that the elderly person's clothing is neither too large nor dragging on the floor	4.13	1.06
Total	78.53	19.46
Factor 1 (practices of evaluation of biophysiological risk factors)	41.96	9.84
Factor 2 (practices of communication and training)	24.43	6.39
Factor 3 (practices of evaluation of risks associated with putting on clothing and footwear)	12.14	3.23

SD = standard deviation

No significant statistical correlation was found between practices, age, and time of professional practice ($p \leq 0.05$).

The professionals who took a training course concomitantly to the development of their professional activities carried out correct practices more often. However, this difference was not statistically significant (Table 4).

Table 4 – Results of application of Student's t-test regarding practices and frequency of training courses taken when the professional's career was already in progress. Lisbon, Portugal (n=152).

Scales/course during professional practice		N*	Average	SD	t†	p§
SPERFI – Factor 1	yes	94	46.98	8.12	1.736	.085
	no	43	44.41	7.86		
SPERFI – Factor 2	yes	95	24.87	5.03	1.011	.314
	no	48	23.95	5.25		
SPERFI – Factor 3	yes	98	12.42	2.92	1.515	.132
	no	46	11.65	2.69		
SPERFI – Total	yes	98	84.47	15.00	.886	.377
	no	46	82.07	11.65		

*N = number; †t = Student's t-test; SD = standard deviation; §p = significance probability value

DISCUSSION

Studies about recognition of the importance of fall risk factors by caregivers of institutionalized elderly people were not found in the literature. The scale designed and validated in the present study is an alternative to measure these types of practices and allows evaluation of interventions by teams and/or training oriented toward systematizing fall risk assessment in LTCIs.

The internal consistency of the 20 items in the scale (α=0.949) confirmed their accuracy and indicated the instrument's ability to measure practices of evaluation and communication of fall risks to which institutionalized elderly people are exposed.

Recognizing the importance of fall risks by applying valid instruments that have predictive capacity is key to determining which elderly people will fall[1,15]. However, their use must be associated with the recognition of the importance of these risks by caretakers, so the decisions about preventive measures to be introduced is a central element in fall prevention programs in LTCIs[1,15].

The scale produced and validated in the present study has three factors that allow evaluation of practices of fall risk assessment. These factors are related, not only to biophysiological risks and risks related to the self-care activity of putting on clothing and footwear, but also to practices of communication and training. Comparison of the values obtained in the scale domains with the total possible value showed that practices were carried out frequently, but neither always nor by all team members.

Regarding biophysiological risk factors, professionals favored evaluation of gait capacity, balance, and being dependent in the execution of activities of daily living, which showed the perception that these are the main risk factors for falls[5,7,8] and those that most influence the delivery of care of elderly people[16]. The reasoning behind this is that the greater their dependence, the greater the need for replacement and support in the fulfillment of activities of daily living. Future studies must explore the relationship between recognition of the importance of fall risks, care organization, and evolution of elderly people's functioning during institutionalization.

The data mentioned above reinforced what is described in the literature: Alterations in gait and balance are perceived by caregivers as being worrying risk factors to which they pay special attention[12].

Exploring how the perception of risk by caregivers affects their practices regarding promoting independence and participation of elderly people in social and leisure activities in LTCIs was not an objective of the present study. However, other studies have warned that caretakers, out of fear of the consequences of falls, tend to overprotect elderly people, making them more passive and limiting their participation and decision-making in their self-care[6,11–12,17].

A study carried out with people living in the community concluded that caregivers, especially those who looked after their parents, experienced difficulties communicating fall risks to care receivers, who felt annoyed and were under the impression that caretakers wanted to control them when warnings about fall risks were given repeatedly[12].

Analysis of communication practices in the sample in the present study showed that there was concern about obtaining information on fall risk factors during institutionalization and communicating that information to members of work teams, namely health professionals. These results corroborated the findings of a study which reported that fall risk factors were always discussed by the teams in 38.8% of the situations. For preventive measures and decisions regarding the preventive measures to be applied, these numbers were 31.6% and 33.6% of the professionals, respectively[17].

Communication, as well as organizational policies, leadership, and training of all professionals, is a crucial element in reducing prevalence of fall episodes[10,17–20]. An international study whose objective was evaluating the efficacy of a fall prevention curriculum demonstrated that associating training of teams and communication about fall risks in the elderly population was effective in decreasing fall

prevalence[18]. This is evidence that practices of communication and training in LTCIs must be always maintained to guarantee the safety of institutionalized elderly people.

Communicating with health professionals, mainly nurses, is important because they play a major role in detecting and minimizing risks[21]. Investment in professional training must include development of intra-team communication skills, including elderly people and giving them special attention, because these competencies can help residents express their concerns regarding falls. Educating professionals about factors related to fall occurrence is a way to show their importance in controlling this type of accident. Additionally, it favors the understanding that risk assessment must be combined with preventive interventions to ensure the safety of elderly people[19,22].

It must be emphasized that the indicator that got the lowest score in the second domain of the scale was "I ask the elderly person if they are afraid to fall," which may have indicated nonrecognition of fear as a risk factor. Fear is an invisible risk, not measurable by observation, and, when not addressed by means of questions, goes unnoticed. However, it is present in LTCIs. Around 88% of elderly people who fall are afraid of experiencing a new episode[23].

Fear can become a vicious cycle for both elderly people and caregivers: When a fall episode happens, elderly people become apprehensive, restrict their movements, and, consequently, decrease their balance and mobility, predisposing themselves to fall again[23–24]. Caregivers, in turn, out of fear that the first event will be followed by other episodes, seek to preventively limit some activities that were carried out by elderly people before and replace them, which increases their dependence[12,23].

This vicious cycle has to be dealt with in LTCIs, where the presence of health technicians, employees, and other elderly people can introduce variables different from those found in the community and hospitals[20].

The indicators for the third factor of the scale are related to putting on clothing and footwear. It should be stressed that the eight indicators that did not show statistical significance to integrate this scale were part of other spheres of self-care. The three indicators that were kept in the scale addressed gait capacity and safe mobility of elderly people. Alterations in bipedal support, inappropriate footwear, and clothes that are too tight or too loose affect safe mobility and independence to carry out activities of daily living[3,4,5,8,24].

The present study found that obtaining training over the period of professional practice has a positive impact on practices of evaluation of biophysiological risk factors in the elderly population. This result corroborated other studies that pointed to leadership, teamwork, and training as key elements to bring together risk assessment and individualization of preventive measures[11,17,25].

The present study had limitations related to intentional choice of institutions and sampling. Consequently, generalization of its results is not possible. The instrument type (with indicators designed as statements) and data collection method (the fact that the deadline to complete the scale was 15 days) may have led respondents to provide answers that they felt were socially acceptable.

Despite these limitations, the scale allows a description of the practices of risk assessment and can facilitate control of fall risk factors, if the results obtained by the scale are combined with preventive measures.

The authors of the present study share in the opinion of other authors that the increase in the elderly population and the number of institutionalized elderly people make it economically and morally reasonable to try to preserve their abilities. Therefore, understanding how caregivers perceive fall risk factors and measures to prevent this type of accident, and investing in their education so evidence-based preventive measures can be applied, allow improvement of their ability to provide good care of elderly people and foster good quality of life for those who are more vulnerable[19,22].

CONCLUSION

The good psychometric characteristics of the Scale of Practices of Evaluation of Fall Risk Factors during Institutionalization of Elderly People, which had a Cronbach's alpha of 0.949 for its 20 items, reflect its potential to evaluate the latent variable.

Factor analysis showed that the scale had three practice domains: evaluation of biophysiological risk factors to which elderly people are exposed (α=0.934); communication and training (α=0.912); and evaluation of risk associated with putting on clothing and footwear (α=0.860). Comparison of the value calculated for each scale item with the possible total value allowed the conclusion that the practices were carried out frequently, but neither always nor by all members of teams.

Future studies must associate the total score on the scale total and the score for each dimension with the prevalence of falls in institutions and their recurrence. It is also recommended that assessment of the effectiveness of fall prevention programs invest resources focused on the scale's second dimension (practices of communication and training), aiming to measure them and combine them with other practices.

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NOTES

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