Fall risk prevalence and associated factors in community-dwelling old people

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Abstract

Objective: To estimate the fall risk prevalence and associated factors. *Method:* Cross-sectional study with 339 community-dwelling old people in Juiz de Fora, MG, Brazil. The fall risk was assessed by the Timed Up and Go Test categorized as low (<10 seconds), moderate (11-20 seconds), and high (>20 seconds). The symptoms of anxiety and depression, fear of falling, functional capacity for instrumental activities of daily living and handgrip strength were assessed by the Patient Health Questionnaire, Falls Efficacy Scale - International - Brazil, Lawton and Brody scale and JAMAR hand dynamometer, respectively. A theoretical model of determination with three hierarchical blocks was built. The variables with those with a $p \leq 0.05$ remaining in the final model. *Results*: The prevalence of low, moderate, and high fall risk was 36%, 43.7%, and 20.3%, respectively. The variables associated with a moderate fall risk were female gender, age between 71-80 years, and over 80 years. Over 80 years of age were associated with high risk, negative self-perception of general health, need for help to walk through an auxiliary device, and human assistance and fear of falling. *Conclusion:* The study showed a high prevalence of moderate and high fall risk. Except for advanced age, the factors associated with moderate and high risk were different. These results can be considered in the approach of the old people at risk to enable the choice of the most appropriate intervention and it calls us to think about strategies and public policies that guarantee the prevention of falls and healthy aging.

Keywords: Health of the elderly. Accidental Falls. Risk factors. Prevalence. Cross-sectional studies.

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INTRODUCTION

Falls are the second most common cause of death among old people in the world[1,2]. They represent a complex geriatric syndrome, multifactorial, preventable and associated with morbidity and mortality, which makes it a major public health problem[1-4]. In Brazil, about a third of people over 60 fall at least once a year[2,3]. Prevalence increases to 50% after age 80[1-3]. Old people who have already suffered a fall have a risk of between 60 and 70% of falling again in the following year and 20% of these old people will die within one year[3,5].

The Unified Health System (SUS) has increasing expenses with hospitalization, treatment and rehabilitation of old people victims of falls[6,7]. Since these expenses represent only a small portion of the real value, when considering the underreported cases and the indirect impacts of this event on the old people, their caregivers and family members.

The magnitude of the fall event is widely described in the literature[4-8]. However, there are few studies devoted to investigating the risk of falling and the associated factors in old people community members. As it is a multifactorial condition, the increased risk of falling in this population includes factors related to the individual, lifestyle, environment and socioeconomic conditions[5-7,9]. The identification of the profile of old people who are at increased risk of falling is extremely important for public health, since it can assist managers and health professionals in planning preventive and health promotion actions, reducing the morbidity and mortality associated with the fall event and consequently improving the quality of life of this population[4,5,9,10]. Therefore, the aim of the present study was to estimate the prevalence of risk of falls in the old people and to analyze the associated factors.

METHOD

This study is part of a broader research project, called *Health Survey of the Old People Population of Juiz de Fora (ISPI-JF),* operationalized by means of two waves (2010/2011 and 2014/2015)[4,8]. And the present study is a cross-section of the second wave of collection, which included a sample of old people aged 60 and over, of both genders, living in the community, in the city of Juiz de Fora, Minas Gerais, Brazil.

For the second wave of the ISPI-JF, the calculation of the sample size was estimated from the 2010 sample and the IBGE data from the last census for the population of the delimited area, at the level of disaggregation of the census sector, in order to allow the resizing of the representative probabilistic sample based on stratification and conglomeration. To neutralize the exit of panel members, the "oversample" method was used, which allows the initial sampling to be respected, provided that the initial population is known and that the statistical treatment and weight assignment are different between the groups that make up each panel output situation[11]. Age, gender and education level were selected variables to guide the entry of new subjects. In total, 423 old people were eligible for the study. Individuals who presented results on the Mini Mental State Examination (MMSE) suggestive of cognitive decline (score <25 for old people with four years or more of education or <18 for old people with education <4 years)[12] and who were not accompanied by family members and / or caregivers were excluded (n=23). The total sample of the second wave of the ISPI-JF was 400 old people.

The risk of falling, a dependent variable of this research, was operationalized by the Timed Up and Go Test (TUG). It is a performance test, easy and quick to apply, safe, low cost, in addition to being in the public domain[9,10,13]. Despite being widely used in scientific research and in clinical practice, there is no consensus in the literature regarding cutoff points for determining the risk of falling. At ISPI-JF, the Edmonton Fragility Scale (EFE) was used[14], in which the functional performance domain is evaluated by TUG. The cognitive domain, represented by the Draw-a-Clock test (DAC), is the first domain for the evaluation of EFE and determines which old people will be evaluated in the other domains. Old people who have results suggestive of cognitive decline in DAC and who do not have another respondent are excluded. Of the 400 old people who made up the ISPI-JF sample, 61 were excluded from the present study because they did not meet the criteria proposed in the EFE, leaving 339 old people (Figure 1).

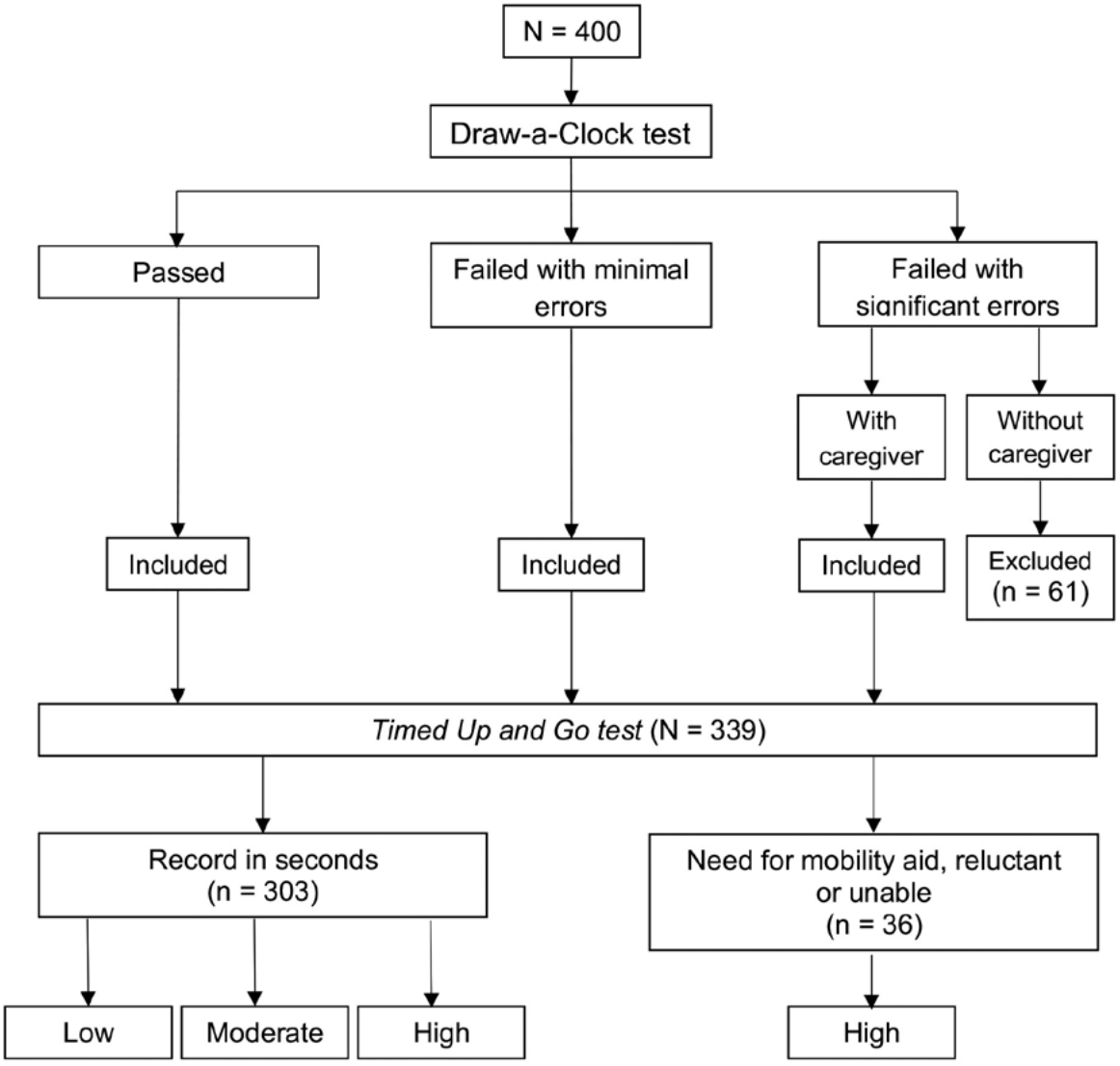

Figure 1. Flowchart of the sample of old people residents in the community. Juiz de Fora, MG, 2015.

EFE guidelines were followed[14] for TUG evaluation. The cutoff points used classified the individuals as: low (<10 seconds), moderate (between 11-20 seconds) and high risk of falling (>20 seconds). To perform the test, the old person was given the following command: "I would like you to sit on this chair with your back and arms supported. When I say "GO", please stand and walk to the mark on the floor (three meters away), go back to the chair and sit again". To record time, a digital stopwatch (Technos, YP2151) was used. Old people who needed assistance with mobility, were reluctant or incapable were classified as having a high risk of falling[14].

The questionnaire used to identify the sociodemographic profile and health issues was designed, standardized and previously tested by the researchers. The presence of anxiety and depression symptoms was assessed by the Patient Health Questionnaire (PHQ) anxiety and depression subscales and dichotomized as yes (score ≥3) or no (score <3)[15]. The fear of falling was verified through the Falls Efficacy Scale - International - Brazil (FES-I-BRASIL), adapted and validated for the Brazilian population[16]. The score ranges from 16 (with no concern for falling) to 64 (with extreme concern). The cut-off point 23 was adopted to classify the

fear of falling[17,18]. The variable History of fall was self-reported and the need for help with walking was also assessed.

Functional capacity to perform instrumental activities of daily living (IADL) was assessed by the Lawton and Brody Scale[19]. The score ranges from 9 (total dependence) to 27 (total independence). For analysis purposes, we dichotomize in independence (score>18) or dependence (score ≤18)[4].

For the measurement of handgrip strength (HGS), a manual hydraulic dynamometer (JAMAR, SH5001) was used and the test was performed and standardized following the recommendations of the American Society of Hand Therapists (ASHT)[20]. The evaluation was made with the individual seated, in the dominant limb with adducted shoulder, elbow flexed at 90º, forearm in neutral position and the wrist between 0 to 30º of extension. Participants were encouraged to develop maximum strength for six seconds. The procedure was performed three times with an interval of one minute between each repetition. The average value of the three measurements, obtained in kilogram/force (kgf), was considered. The HGS variable was dichotomized into low and adequate after adjustment for sex and age group by the median value[17].

The software Statistical Package for Social Sciences (SPSS) version 15.0 was used for statistical analysis. Absolute and relative frequencies were described, as well as the prevalence of the outcome. The chi-square test was used to verify the association between the dependent variable and the independent ones. To estimate the adjusted odds ratios and the 95% confidence interval (95% CI), the multinomial logistic regression model was adopted with robust adjustment of the variance to analyze the independent variables associated with the outcome of interest, controlled by possible confounding factors[4,21]. The hierarchical theoretical approach[21] was used in order to adapt to the proposed theoretical model (Figure 2).

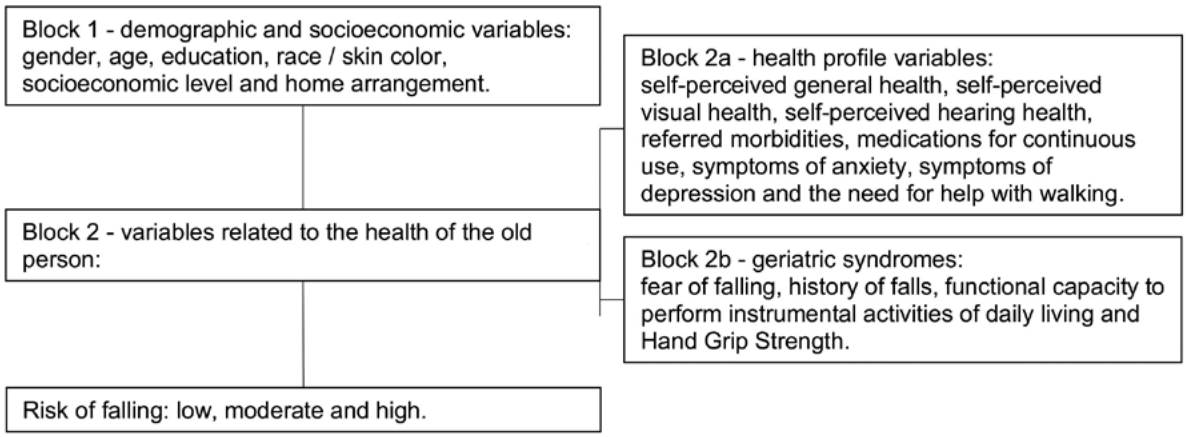

Figure 2. Theoretical investigation model of the association of independent variables with the dependent variable risk of falling in hierarchical blocks. Juiz de Fora, MG, 2015.

The independent variables were adjusted to each other within each block, those that reached a level of significance ≤0.2 were included in the model and adjusted by variables of the same level and higher. The technique of gradual removal of variables was used, remaining in the final model those that maintained a value of p≤0.05[4,21].

The Regulatory Guidelines and Norms for Research Involving Human Beings were obeyed, according to Resolution 466 of the National Health Council. The Ethics Committee of the Federal University of Juiz de Fora approved the study (Opinion 771/916). The recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) were followed[22].

RESULTS

The characteristics of the sample are shown in Table 1. Old people who needed assistance with mobility, were reluctant or incapable and were classified as having a high risk of falling (n = 36). The others (n = 303) performed the TUG and were classified according to their performance on the test. The prevalence of low, moderate and high risk of falling was 36%, 43.7% and 20.3%, respectively.

The independent variables associated with the moderate risk of falling in the multinomial logistic regression analysis by hierarchical blocks were female, age between 71-80 years and over 80 years, fear of falling and low HGS. The variables associated with a high risk of falling were female gender, age between 71-80 years and over 80 years, negative self-perceived general health, need of help to walk through an auxiliary device and human assistance, fear of falling and dependence to perform IADL (Table 2).

After adjusting for the final model in the multinomial logistic regression between hierarchical blocks, the variables that remained associated with the moderate risk of falling were females and age between 71-80 years and over 80 years. Over 80 years of age, associated with high risk of falling, negative self-perceived general health, need help to walk through an auxiliary device, human assistance and fear of falling remained (Table 3).

Table 1. Main characteristics of old people resident in the community (n=339). Juiz de Fora, MG, 2015.

Variables	339 (%)
Block 1 - demographic and socioeconomic variables	
Gender	
Female	207 (61.0)
Age group (years)	
60 - 70	129 (38.0)
71 - 80	121 (35.7)
80 or more	89 (26.3)
Education level	
Illiterate	42 (12.4)
1 to 7 years	250 (73.7)
8 years or more	47 (13.9)
Race / skin color	
Not white	177 (52.0)
Socioeconomic status	
A or B	108 (31.9)
C	200 (59.0)
D or E	31 (9.1)

to be continued

Continuation of Table 1

Variables	339 (%)
Home arrangement	
Lives alone	21 (6.2)
Lives accompanied	318 (93.8)
Block 2.a - variables related to the health profile	
Self-perception of general health [a]	
Positive	149 (58.4)
Self-perception of visual health [a]	
Negative	137 (53.7)
Self-perception of hearing health [a]	
Positive	186 (73)
Referred morbidities	
Yes	303 (89.4)
Five or more medications for continuous use	
Yes	170 (50.1)
Anxiety symptoms [a]	
No	191 (75)
Depression symptoms [a]	
No	206 (81)
Need help walking	
No	275 (81)
Auxiliary device	37 (11)
Human assistance	27 (8)
Fear of falling [a]	
No	145 (57)
Yes	110 (43)
History of falls	
No	218 (64.3)
Yes	121 (35.7)
Functional capacity to perform IADL	
Independent	282 (83)
Dependent	57 (17)
Hand Grip Strength [b]	
Adequate	165 (51)
Low	159 (49)
Risk of falling	
Low	122 (36)
Moderate	148 (43.7)
High	69 (20.3)

Source: The author.

IADL = instrumental activities of daily living; [a]Variables investigated only when the respondent was the old person, N = 255; [b]Variable adjusted for gender and age, N = 324.

Table 2. Multinomial logistic regression by hierarchical blocks. Juiz de Fora, MG, 2015.

Variables	Moderate Risk		High risk	
	$OR_{adjusted}$ (95%CI)	*p*	$OR_{adjusted}$ (95%CI)	*p*
Block 1 - demographic and socioeconomic variables				
Gender				
Female	3.12 (1.79; 5.43)	< 0.001*	2.45 (1.19; 5.03)	0.015*
Male	1		1	
Age (years)				
More than 80	6.07 (2.64; 13.94)	< 0.001*	32.86 (11.81; 91.41)	< 0.001*
71-80	2.28 (1.28; 4.05)	0.005*	4.11 (1.67; 10.09)	0.002*
60-70	1		1	
Education				
Illiterate	2.40 (0.81; 7.17)	0.121	2.65 (0.57; 12.34)	0.213
1 to 7 years	1.56 (0.76; 3.21)	0.233	2.54 (0.77; 8.41)	0.131
8 years or more	1		1	
Block 2.a - variables related to the health profile				
Self-perception of general health[a]				
Negative	1.58 (0.85; 2.93)	0.145	3.73 (1.08; 12.87)	0.037*
Positive	1		1	
Self-perception of visual health[a]				
Negative	1.09 (0.62; 1.91)	0.765	1.31 (0.41; 4.12)	0.647
Positive	1		1	
Self-perception of hearing health [a]				
Negativ	1.82 (0.96; 3.45)	0.066	2.96 (0.95; 9.19)	0.061
Positive	1		1	
Referred morbidities				
Yes	1.61 (0.68; 3.79)	0.276		
No	1			
Five or more medications for continuous use				
Yes	1.28 (0.74; 2.22)	0.385	1.16 (0.39; 3.43)	0.799
No	1		1	
Depressive disorder[a]				
Yes	1.24 (0.37; 2.70)	0.591	2.20 (0.67; 7.28)	0.196
No	1		1	
Need help walking				
Human assistance	4.88 (0.56; 42.55)	0.152	26.77 (2.75; 260.63)	0.005*
Auxiliary device	6.39 (0.76; 53.77)	0.088	11.31 (2.12; 102.25)	<0.001*
No	1		1	
Block 2.b - variables related to geriatric syndromes and HGS				
Fear of falling[a]				
Yes	2.22 (1.25; 3.94)	0.006*	27.01 (5.76; 126. 59)	< 0.001*
No	1		1	
History of falls				
Yes	1.37 (0.76; 2.48)	0.297	2.42 (0.86; 6.79)	0.095
No	1		1	

to be continued

Continuation of Table 2

Variables	Moderate Risk		High risk	
	OR $_{adjusted}$ (95%CI)	*p*	OR $_{adjusted}$ (95%CI)	*p*
Functional capacity to perform IADL				
Dependent	3.62 (0.39; 33.36)	0.256	25.77 (2.45; 271.24)	0.007*
Independent	1		1	
Hand grip strength				
Low	2.44 (1.08; 3.29)	0.026*	2.44 (0.84; 7.12)	0.103
Adequate	1		1	

Source: The author.

IADL = instrumental activities of daily living; [a]Variables investigated only when the respondent was the old person, N = 255; [b]Variable adjusted for gender and age, N = 324; *Significant variable will be included in the final theoretical model of the study.

Table 3. Multinomial logistic regression between hierarchical blocks. Juiz de Fora, MG, 2015.

Variables	Moderate Risk		High Risk	
	OR $_{adjusted}$ (95%CI)	*p*	OR $_{adjusted}$ (95%CI)	*p*
Block 1 - Demographic and socioeconomic variables				
Gender				
Female	2.82 (1.48; 5.35)	0.002*	1.89 (0.47; 7.61)	0.370
Male	1		1	
Age (years)				
More than 80	5.36 (1.98; 14.54)	0.001*	33.25 (4.59; 241.11)	0.001*
71-80	2.15 (1.13; 4.08)	0.019*	4.49 (0.93; 21.88)	0.063
60-70	1		1	
Block 2.a - Variables related to the health of the old person: health profile				
Self-perception of general health[a]				
Positive			6.63 (1.58; 27.8)	0.010*
Negative			1	
Need help walking				
Human assistance			14.50 (1.12; 187.55)	0.041*
Auxiliary device			46.74 (4.59; 476.43)	0.001*
No			1	
Block 2.b - Variables related to the health of the old person: geriatric syndromes and HGS				
Fear of falling[a]				
Yes	1.45 (0.78; 2.73)	0.243	12.13 (2.21; 66.76)	0.004*
No	1		1	
Functional capacity to perform IADL				
Dependent			7.55 (0.52; 109.13)	0.138
Independent			1	
Hand grip strength				
Low	1.34 (0.35; 5.09)	0.667		
Adequate	1			

IADL = instrumental activities of daily living; [a]Variables investigated only when the respondent was the old person, N=255; *Variables that remained significant in the final theoretical model of the study.

DISCUSSION

The prevalence of low, moderate and high risk of falls found in the present study was 36%, 43.7% and 20.3%, respectively. The classification of the risk of falls in three strata allowed the identification of different profiles within the group that presents an increased risk of falling. This analysis, although little explored in research, is important because it allows the choice of the most appropriate intervention depending on the level (moderate or high) of the risk of falling. Systematic reviews and meta-analyzes[2,3,9], who treated this outcome in a dichotomized manner (low and high risk) reveal that the prevalence of risk of falls varies from 30% to 64%. These variations can be attributed to the particularities of each population, the different cutoff points adopted for the TUG, the different instruments used to assess the risk of falling and other methodological attributes[2].

The choice of TUG as a tool to operationalize the outcome variable risk of falling resides in the fact that, in addition to enabling the use of the three strata, as previously discussed, functional mobility is fundamental for a quality life and, often, its worsening is the first sign of functional decline for old people because it reflects the decline of the systems involved in its maintenance (nervous, vestibular, proprioceptive, cardiopulmonary, musculoskeletal systems)[17]. Park et al.[2] identified 26 fall risk assessment tools for old people, of which 23 are used in community-based old people. The TUG was used in five of the 33 studies analyzed and presented grouped high sensitivity (0.76) and low specificity (0.49)[2]. This finding may justify the high prevalence of moderate and high risk of falling (64%) found in the present study. The TUG as a more sensitive tool is of paramount importance for public health, since it can be used to track the population at risk.

As it is a multifactorial condition, some studies point to the need for the association of two or more tools to assess the risk of falling for old people[2,9]. Lusardi et al.[9] suggest that the use of the TUG, a measure of performance, be evaluated together with the investigation of the history of falls, two more measures of performance (Berg Balance Scale and the Sit and Stand Test, for example) and two more measures of self-report (Geriatric Depression Scale and FES-I, for example). The same authors reinforce that such a multifactorial approach, in addition to enabling the identification of possible modifiable risk factors, allows quantifying the change in risk after an intervention[9].

In the demographic and socioeconomic variables block, only the variables related to the biological dimension maintained an independent association with both moderate and high risk of falling. According to the literature, women are 58% more at risk of falling when compared to men[23]. The high prevalence of moderate and high risk of falls in the present study can also be attributed to the predominantly female sample (61%), since these presented 2.82 (95% CI=1.48; 5.35) times more moderate fall risk when compared to male individuals[23].

The possible causes for explaining female gender as an independent variable associated with the risk of falling can be attributed to the physiological changes inherent to women, such as less lean mass and muscle strength compared to men of the same age, greater loss of bone mass due to reduction of estrogen, higher incidence of chronic diseases and longer life expectancy[9,23,24]. A study of old people resident in the community identified a prevalence of risk of falling of 56% among individuals diagnosed with osteoporosis. Of these, 100% were female and 78% reported falling episodes in the last year[24].

While women have the advantage of living longer, they are more exposed to domestic violence and discrimination in access to education, income, meaningful work, social security measures and political power[25]. They also have a higher prevalence of dementia syndromes, depression and functional dependence, with decreased life expectancy free of disabilities[25]. The data found in the literature[9,23-25] draw attention to the complexity of the factors that involve the increased risk of falls in women, and, although it is not possible to act directly on biological factors, intersectoral public policies focused on reducing gender inequities, are fundamental to reduce the risk of falls in old women living in the community.

Although female gender is a variable associated with an increased risk of falling, mortality from falling in old males is higher[7]. This can be explained by the greater involvement of male individuals in intense and dangerous physical activities, which cause more serious events that lead to hospitalizations and deaths[7]. The influence of sociocultural patterns established from early childhood to old age, such as machismo, may partly explain this process, since old men can have an overestimated self-efficacy to avoid falls, which, many times, do not corresponds to their real capacity, resulting in fatal falls[7,10]. According to Abreu et al.[7] these data reinforce the greater vulnerability of men in relation to external causes of morbidity and mortality.

It is widely discussed in the literature that advancing age also increases the risk of falls in the old population[1,9,25]. This relationship between age and risk of falling increases because biological aging is associated with the functional decline of several systems involved in maintaining mobility (neurological, musculoskeletal, cardiovascular, visual, vestibular and proprioceptive)[13,25] which modify the interaction of old people with the external environment and their social relationships. However, it is worth mentioning that the aging process is not determined in isolation by biological processes dictated by chronological age, but by a sum of several factors and experiences accumulated in life cycles, within a logic of understanding the model of social determination of the health-illness process.

Long-lived old people, those aged 80 or over, are four times more likely to fall when compared to younger old people[1]. In the present study, the subgroup of long-lived old people with a moderate risk of falling presented 5.36 (95% CI=1.98; 14.54) times higher risk of falling when compared to old people aged less than 71 years. In a sample of 1005 old people resident in the community, a 0.25 second increase in TUG performance was found for each additional year of age[10]. In the present study, the subgroup of old people aged 80 or over was associated with both moderate and high risk of falling, while the age group 71 to 80 years old maintained an association with moderate risk of falling, data that reinforce the need for screening of this population in order to prevent an increased risk of falling. However, the confidence intervals presented suggest a degree of inaccuracy in the analysis of the association of the risk of falling in this subgroup and point to the need for studies with larger population contingents in older strata.

General self-perceived health is a reliable and robust global health indicator, cited in the literature as a predictor of morbidity and mortality and physical decline in the old people population[26]. Because it is a subjective assessment, self-perceived health has a multidimensional character, which involves lifestyles, in addition to psychological, demographic and socioeconomic aspects.[26-28]. Studies have identified the association between general self-perception of negative health, female gender, advanced age, low education, difficulty in mobility, inability to perform activities of daily living (ADL), fear of falling and falling[26-28]. The present study identified a similar profile of the old people, and the negative self-perception of general health was 6.63 times (95% CI=1.58; 27.8) more associated with the high risk of falling when compared to the positive.

The fear of falling, although it is more prevalent in old people fallers, is also present in the old people population without a history of falls. Our findings revealed a prevalence of falls of 35.7% and fear of falling of 43%. It is widely discussed that the fear of falling may play a protective role against the occurrence of falls, as the low self-efficacy to avoid the event would limit the old people to exposure in situations of high risk[5,29]. In contrast, excessive fear is able to trigger a vicious cycle by leading the old people to functional restriction and its consequences such as decreased muscle strength and changes in pace, which would, in turn, increase the risk of falls[5,18,27,29].

Most studies indicate that the etiology of fear of falling is multifactorial in nature[5,18,27,29]. Adequate physical environments provide the old people with greater independence and security, because when they encounter barriers in the environment there is a tendency to social isolation, depression, functional decline and a consequent increase in fear of falling. About 30% of the old people limit the performance

of ADLs due to fear of falling[18]. In the present study, the fear of falling maintained an independent association with the high risk of falling (OR=12.13; 95% CI=2.21; 66.76).

In the study by Cruz et al.[27], fear of falling was more frequent in old people who had difficulty walking, which corroborates the findings of the present study. It is likely that subjects who report difficulties in walking already show some decline in functional capacity and neuromotor disorders. These changes impair the safety and efficacy of walking and hinder the self-confidence of these old people in preventing falls, creating a basis for building fear[27]. The need for help to walk using both human aid and an auxiliary device remained associated with the high risk of falling in the final model of the present study. While walking aid is a strategy that aims to optimize mobility and increase the safety of the old people during locomotion, it does not always meet this objective and as some studies show, it can increase the risk of falling[5,27].

Numerous factors can be discussed in this context with the aim of promoting strategies that minimize the risk of falling for the old people, such as the training of the caregiver who will assist the old person, the proper prescription of the auxiliary device, the training of the old person to use it, a support network offered by Primary Health Care (PHC), through home visits aimed at identifying potential environmental risk factors such as difficult access to the home, inadequate lighting, objects on the floor, excess furniture around the house, loose rugs, among others; as well as a periodic review that assesses the need for the device and which device is suitable for that old person[5,30]. It is necessary to take into account the importance of the low socioeconomic level of the studied population, which directly influences the living conditions and housing arrangements of the population. In this sense, the old person's own place of residence added to the conditions mentioned above would justify such a finding.

The main limitations of the present study reside in the study design itself, which does not allow establishing a causal relationship, and in the observation of some large confidence intervals, which suggest a degree of inaccuracy in the analysis of the association of the risk of falling in the subgroup of old people aged 80 and over and also for the subgroup of variables investigated only when the respondent was the old person (n=255). Thus, longitudinal studies, with a larger population contingent in older strata and with a greater number of old people respondents, are necessary in order to confirm the results found. On the other hand, it is worth mentioning the careful sample calculation and quality control carried out during all stages of the present study, such as training and retraining of field researchers, testing the instruments, conducting a pilot study, standardization and daily verification of the data obtained and control and thorough analysis of the database, ensuring greater credibility to the data analyzed.

CONCLUSION

The study showed a high prevalence of moderate and high risk of falling. The factors associated with moderate and high risk are distinct, only advanced age remained in both outcomes. The identification of the profile of old people with increased risk of falling is extremely important for public health, since it can assist local managers and professionals of Primary Health Care in tracking the population at risk. Additionally, it will be able to guide prevention and health promotion actions directed to specific individual and collective needs with a focus on active and healthy aging, comprehensive health care, encouragement of intersectoral actions and the guarantee of adequate budget and social control as recommended by the National Policy Health of Old People. The strengthening of health care for old people through discussions with multiprofessional teams, their preparation through continuous training with caregivers and family members of the old people, and the use of appropriate instruments are undoubtedly essential for the prevention of falls.

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