

FEAR OF FALLING AND LOWER LIMB CONDITIONING IN THE ELDERLY: IMPACTS ON HEALTHY AGING

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RESUMO

ABSTRACT

Chronic-degenerative changes inherent to aging lead to a significant problem: the fear of falling, present both among fallers and non-fallers. This study aimed to analyze concern and risk of falls, fall frequency, and lower limb strength conditioning in elderly individuals over 60 years of age of both sexes. The methodology used was the application of the Falls Efficacy Scale (FES-1), which measures concern and fear of falling, asked about the number of falls in the last 12 months, and included the Sit-to-Stand physical test. The sample was recruited by convenience from groups attending a Basic Health Unit in Gurupi, Tocantins. Results: Groups that presented occasional concern about falling accounted for 38.5%, those without concern 32.9%, and those with recurrent concern 28.6%. Regarding fall frequency, 59.2% did not experience any fall, 22.1% fell once, 10.8% fell twice, and 8% fell more than three times. In the Sit-to-Stand test, 69% of the elderly presented low lower limb strength conditioning and 31% normal conditioning. The study demonstrated a considerable level of concern among the elderly, particularly those with decreased lower limb strength, regarding falling during daily basic activities.

Keywords: Fear of falling; lower limb conditioning; fall risk; elderly.

INTRODUCTION

Chronic-degenerative changes inherent to aging lead to a significant issue: the fear of falling, present in both fallers and non-fallers. This situation brings severe consequences for the elderly, such as functional decline, social restriction, reduced quality of life, and institutionalization (Martini, 2019). Its prevalence is higher in women and in individuals with a previous history of falls (Freitas; Scheicher, 2019).

Analyzing functionality levels and muscle strength, as well as their relationship with fall risk and fear of falling, is fundamental to identifying profiles of elderly individuals prone to falling. Based on this clinical identification, assessment plans and specific interventions can be developed. In this context, the present study aimed to analyze concern and risk of falls, fall frequency, and lower limb strength conditioning in elderly individuals over 60 years of age of both sexes, enrolled in chronic noncommunicable disease programs at the Vila São José Basic Health Unit in Gurupi, Tocantins.

METHODOLOGY

Participants were recruited by convenience sampling from groups registered at the Vila São José Basic Health Unit in Gurupi, Tocantins. Invitations were extended through community meetings on days when physical education professionals provided care, directly by community health agents, and by the researchers themselves. After calculating the sample size with a 5% margin of error and 95% significance, the total sample was 257 individuals. Of these, 32 declined to participate without justification and 12 dropped out during the study, leaving 213 participants. Data collection involved interviews applying the Falls Efficacy Scale (FES-1), which evaluates fear of falling during activities of daily living (ADL), physical activities (PA), and social activities (SA). Participants were also asked: "How many times have you fallen in the last 12 months?" Additionally, the Sit-to-Stand test was performed to assess lower limb strength conditioning. Protocols were applied in a single session in a reserved room at the Vila São José Basic Health Unit between January and February 2024. The study was approved by the Research Ethics Committee of the University of Gurupi (approval no. 6.240.769).

RESULTS AND DISCUSSION

The variable "falls in the last 12 months" was analyzed using the t-test. The classification of the Falls Efficacy Scale (FES-1) was examined by calculating absolute and relative frequencies.

Tabela 01 valores absolutos e relativos do teste FES-1 (ESCALA DE EFICÁCIA DE QUEDAS)

Variável	Nem um pouco preocupado	Um pouco preocupado	Muito preocupado	Extremamente preocupado
Limpando a casa (ex. Passar pano, tirar poeira)	92 (43.19%)	79 (37.09%)	33 (15.49%)	9 (4.23%)
Vestindo ou tirando a roupa	146 (68.54%)	37 (17.37%)	26 (12.21%)	4 (1.88%)

Preparando refeições simples	173 (81.22%)	21 (9.86%)	16 (7.51%)	3 (1.41%)
Tomando banho	103 (48.36%)	60 (28.17%)	37 (17.37%)	13 (6.1%)
Indo às compras	143 (67.14%)	36 (16.9%)	26 (12.21%)	8 (3.76%)
Sentando ou levantando de uma cadeira	149 (69.95%)	38 (17.84%)	20 (9.39%)	6 (2.82%)
Subindo ou descendo escadas	44 (20.66%)	80 (37.56%)	72 (33.8%)	17 (7.98%)
Caminhando pela vizinhança	153 (71.83%)	38 (17.84%)	18 (8.45%)	4 (1.88%)
Pegando algo acima da sua cabeça ou no chão	75 (35.21%)	75 (35.21%)	51 (23.94%)	12 (5.63%)
Indo atender o telefone antes que pare de tocar	126 (59.15%)	54 (25.35%)	27 (12.68%)	6 (2.82%)
Andando sobre superfície escorregadia	21 (9.86%)	75 (35.21%)	90 (42.25%)	27 (12.68%)
Visitando amigo ou parente	172 (80.75%)	23 (10.8%)	15 (7.04%)	3 (1.41%)
Andando em lugares cheios de gente	129 (60.56%)	34 (15.96%)	40 (18.78%)	10 (4.69%)
Caminhando sobre superfície irregular (pedras, buracos)	30 (14.08%)	75 (35.21%)	86 (40.38%)	22 (10.33%)
Subindo ou descendo uma ladeira	44 (20.66%)	71 (33.33%)	79 (37.09%)	19 (8.92%)
Indo a uma atividade social	177 (83.1%)	19 (8.92%)	14 (6.57%)	3 (1.41%)

FONTE: Pesquisa;2024

The classification of concern about falling ranged from 16 to 64 points, with a mean of 28.32 (SD = 10.01). Among the elderly participants, 38.5% reported occasional concern about falling, 32.9% no concern, and 28.6% recurrent concern.

Regarding fall frequency in the last 12 months, 59.2% reported no falls, 22.1% reported one fall, 10.8% reported two falls, and 8% reported more than three falls.

In terms of lower limb conditioning, as measured by the Sit-to-Stand test, 147 elderly participants (69%) presented low strength conditioning, which represents a high risk of falls, while 66 participants (31%) presented normal strength conditioning.

In the present study, the prevalence of fear of falling among the elderly was 67% (occasional + recurrent concern). This result is similar to national studies (Vitorino et al., 2017), which reported 67%, and Loureiro & Alves (2022), who found 68.9%. A higher prevalence was observed by Fiorito, Cruz & Leite (2020), who reported 95.2%. Nevertheless, the activities most associated with greater concern in this study were the same as in previous findings: walking on slippery surfaces, climbing or descending stairs, bathing, climbing or descending slopes, and walking on uneven surfaces.

Overall, 40.9% of participants who answered whether they had fallen in the previous year reported at least one fall, a result close to those found in Picos (PI) and in national data (Moura et al., 2023), where 38.5% of elderly participants reported falls.

The study conducted in Coimbra, Portugal (Figueiredo, 2020), showed that only 30.8% of participants presented lower limb conditioning below the recommended level. These findings corroborate Nelson et al. (2007), who noted that elderly individuals often lack adequate physical conditioning and may face musculoskeletal limitations.

CONCLUSION

The study demonstrated considerable concern among elderly individuals, particularly those with decreased lower limb strength, regarding the risk of falling, especially during basic daily activities. Therefore, public policies aimed at reducing the number of falls, strengthening lower limb muscles, and providing community guidance should be prioritized. Such measures would help ensure that elderly individuals are not deprived of outdoor activities, which provide autonomy and opportunities for social interaction.

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