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Prevalence of depressive symptoms among elderly women from a Center of Reference and Care for the Elderly in the city of Passo Fundo, Rio Grande do Sul

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Abstract

Objective: To analyze depressive symptoms and factors associated with this pathology among elderly women. *Method:* A cross-sectional study nested in the longitudinal study of the Care and Reference Center for the Elderly of the Universidade de Passo Fundo (Passo Fundo University) in Rio Grande do Sul, Brazil, was carried out. Standardized questionnaires, pre-coded with sociodemographic information, were applied. The Geriatric Depression Scale was used to assess the outcome of depression. The International Physical Activity Questionnaire was used to evaluate the level of physical activity and parameters of Body Mass Index were used to assess nutritional status. The chi-squared test or the Fisher exact Test were applied to verify the association between outcome and exposure. *Results:* 313 elderly women were assessed. They were aged from 60 to 89 years, and most (284 - 91.3%) belonged to economic classes B and C. Depression was present in 22 (7.1%) of the elderly women. In bivariate analysis, depression was associated with non-white elderly women (14.6%; p=0.039) who were classified as insufficiently active (10.6%; p=0.033). *Conclusion:* The results indicate the need to encourage the elderly to perform physical activities to contribute to the prevention of geriatric depression.

Keywords: Aging. Health of the Elderly. Depression.

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INTRODUCTION

Aging is a gradual and irreversible physiological process which causes a decrease in functional capacity in individuals[1], as well as psychological and motor disorders and an increase in the prevalence of diseases[2-4]. Depression is one of the most serious diseases among the elderly population and its presence can lead to functional disability[5]. In Brazil, more than 10% of the elderly population suffers from depressive disorders, which are one of the most significant global public health problems[6]. In a recent study, Roncon et al.[7] reported that depression was the disease that most affected the physical and psychological life of the elderly.

Psychological, social and biological changes throughout life can make the elderly vulnerable to developing certain diseases. Literature has established a direct relationship between social relationships, quality of life and functional capacity and an inverse relationship between these factors and depression[8].

Depressive symptoms involving biological, psychological and social aspects have a serious functional impact on the lives of individuals of all ages. In old age, they may be associated with various losses, such as limiting access to activities that promote satisfaction and well-being, in addition to an increased risk of the onset and worsening of chronic diseases. A sedentary lifestyle, obesity, and lifestyle habits detrimental to health are risk factors for this population[9,10].

Factors associated with depressive symptoms in the elderly include the female gender[7,11-15], advanced age[7,12-15] and living alone[7,13,14]. Among sociodemographic characteristics, factors associated with a greater occurrence of depression are the use of medication[14,15], commorbidities[7,15], functional disability[7], a negative perception of health[12] and physical inactivity[12,15].

Maintaining the functional capacity of the elderly is one factor that affects the quality of life of this population. Physical activity should therefore be encouraged among this age group as it is an important means of achieving this goal, which brings physical and psychosocial benefits and improves resistance to disease and stress[3,16].

Groups for the elderly, when properly structured, are an example of a space for coexistence with people of the same age and an opportunity to enjoy physical and cognitive activities[16]. Ferreira and Barham[17] state that the less the individual is involved in pleasurable activities, the greater the chance of experiencing discouragement, which can lead to depression.

The high prevalence of depressive symptoms and subsyndromal depression among the elderly reinforces the importance of scientific research, as these disorders are associated with other medical conditions and the risk of progression to more serious depression[18]. Regional, population based studies are required so the identified variables can be addressed in a more effective and immediate manner by health managers and all healthcare areas serving this population. Given the above, the objective of this study was to analyze the prevalence of depressive symptoms among the elderly and factors associated with this disease, in a Center of Reference and Care for the Elderly in the city of Passo Fundo, Rio Grande do Sul.

METHOD

A cross-sectional study based on a convenience sample was performed. The study was nested in the longitudinal study of the Centro de Referência e Atenção ao Idoso (Center of Reference and Care for the Elderly) (Elo-Creati). The study was realized at Creati, which is linked to the Universidade de Passo Fundo (Passo Fundo University), in Rio Grande do Sul. The center offers workshops in foreign languages, information technology, origami, choir singing, memory and a number of types of physical activities.

According to the 2010 census, 21,245 elderly persons live in the urban area of Passo Fundo, of whom 8,865 are men and 12,560 are women[19]. Around 600 of such elderly individuals participate in activities at Creati. All women aged 60 or older, enrolled in one or more workshop, between August 2014 and August 2015 and who agreed to participate were included in the study. The decision was made to study women only, as the majority of Creati students are female, and to characterize only those aged at least 60 as elderly, as this center admits people aged 55 years old and older.

Data was collected for a year based on a strategy to encourage greater adherence to the survey. The elderly women were made aware of the importance of education through lectures and posters in the center and addressed before and/or after the workshops, in order not to change the flow of their activities at the center.

As is characteristic of a cross-sectional study, the questionnaires were applied only once to each participant, by ten students and three professors from the University of Passo Fundo connected with the research, and distributed at times when there were activities at the center. All the interviewers were previously trained and received a manual with general instructions and guidelines about each question to assist in the collection and coding of responses. Additionally, a professor was always available as a proofreader following collection to deal with any questions from the interviewers. For response collection, the interviewers and interviewees were arranged in several classrooms to create a calm and quiet environment. Each interview session lasted between 20 and 30 minutes.

It was calculated that a sample of 307 elderly women would be required, based on a 95% confidence level, a statistical power of 80%, an exposed: unexposed ratio of 1:1.5 and a prevalence ratio of 2. This number was similar to the number of elderly women surveyed. Statistical power was also tested to verify the associations, and all the exposure variables had a power greater than 90%.

The outcome of depression was measured with the Geriatric Depression Scale (GDS). This instrument has 15 questions with objective answers about how the elderly person has felt over the past week. The GDS is not a substitute for a diagnostic interview conducted by professionals in the mental health field. It is a rapid assessment tool to facilitate the identification of depression among the elderly. Questions cannot be changed, and must be asked exactly as described in the instrument. The evaluation was made as follows: a score between 0 and 5 meant without depression, while 6 or more represented depression[20].

The exposure variables were age, marital status, skin color/ethnicity, economic status, body mass index (BMI) and physical activity level. Economic class was identified by the Critério de Classificação Econômica Brasil da Associação Brasileira de Empresas de Pesquisa (the Economic Classification Criteria of the Brazilian Association of Research Companies) in 2013[21]. This instrument consists of questions about the ownership and quantity of certain items, such as color television, radio and a bathroom, among others, and the educational level of the head of household. After the scores are totaled, respondents are classified according to cutoff points into economic class A, B, C, D and E.

BMI was calculated by dividing weight in kilograms by height in meters squared (kg/m2). The cutoff points used to assess nutritional status were proposed by Lipschitz22: underweight (<22 kg/m2), normal weight (22-27 kg/m2) and overweight (>27 kg/m2). Body weight was measured using a Tanita® brand portable digital scale. To evaluate height a Seca® brand stadiometer was used with a precision of 0.1cm.

The short version of the International Physical Activity Questionnaire (IPAQ)[23] was used to measure physical activity. Levels of physical activity were calculated based on the Guidelines for Data Processing and Analysis of the IPAQ, using days of physical activity and applying the metabolic equivalent of task (MET) value that corresponded to the activity, with 3.3 MET for walking; 4.0 MET for moderate physical activity and 8.0 MET for intense physical activity. In this manner, the individuals were classified as insufficiently active (those that did no physical activity or who were not included in the other categories), sufficiently active (those that achieved a minimum of 600 MET) and highly active (those that reached a minimum of 1,500 MET).

The statistical power of the database was calculated to determine the association between outcome and exposure. All the exposure variables had a statistical power greater than 90%. For the quantitative variables measures of central tendency and dispersion were calculated while the qualitative variables were presented as simple absolute and relative frequencies. The chi-squared test or Fisher's exact test were applied to verify the association between outcome and exposure.

The present study was approved by the Ethics Research Committee of the University of Passo Fundo under registration nº 741.214.

RESULTS

A total of 313 elderly women aged between 60 and 89 years, with a mean age of 69.24 (+6.85) years, were evaluated. A total of 292 (93.3%) of the elderly women were aged less than 80 years; 195 (62.3%) did not have a partner; 262 (84.5%) described their skin color as white and 284 (91.3%) elderly women belonged to economic classes B and C (table 1).

In terms of nutritional status, it was found that 46 (15.8%) elderly women were underweight and 92 (31.5%) were overweight. The sufficiently active and highly active levels of physical activity were found in 181 (57.9%) of the elderly women, due in large part to the workshops offered by the center. Depression was present in 22 (7.1%) elderly women (table 2).

In bivariate analysis, the greatest prevalence of depression was associated with non-white elderly persons (14.6%; p=0.039) who were classified as insufficiently active (10.6%; p=0.033) (table 3).

Table 1. Description of demographic and socioeconomic characteristics of elderly women from the Reference and Care Center for the Elderly. Passo Fundo, Rio Grande do Sul, 2015.

Variables	n (%)
Age (years)	
60 to 69	179 (57.2)
70 to 79	113 (36.1)
80 to 89	21 (6.7)
Marital status*	
Divorced/Separated	37 (11.8)
Widowed	117 (37.4)
Married	114 (36.4)
Civil union	4 (1.3)
Single	41(13.1)
Skin color**	
White	262 (84.5)
Brown	33 (10.6)
Black	10 (3.2)
Indigenous	1(0.3)
Asian-Brazilian	4 (1.3)
Economic class***	
A	17 (5.5)
B	162 (52.1)
C	122 (39.2)
D	10 (3.2)

*n=313 (valid responses); **n=310 (valid responses);

***n=311 (valid responses).

Table 2. Description of nutritional state, level of physical activity and depression among elderly women of the Reference and Care Center for the Elderly. Passo Fundo, Rio Grande do Sul, 2015.

Variables	n (%)
Body mass index*	
Underweight	46 (15.8)
Normal weight	154 (52.7)
Overweight	92 (31.5)
Level of physical activity**	
Insufficiently active	132 (42.2)
Sufficiently active	147 (47.0)
Highly active	34 (10.9)
Geriatric Depression Scale***	
Without depression	288 (92.9)
With depression	22 (7.1)

*n=292 (valid responses); **n=313 (valid responses); ***n=310 (valid responses)

Table 3. Description of association between depression and demographic and socioeconomic characteristics, nutritional state and level of physical activity of elderly women of the Reference and Care Center for the Elderly. Passo Fundo, Rio Grande do Sul, 2015.

Variables	Depression		*p-value*□
	Yes	No	
	n (%)	n (%)	
Age (years)*			0.551
60 to 69	162 (91.5)	15 (8.5)	
70 to 79	107 (94.7)	6 (5.3)	
80 to 89	19 (95.0)	1 (5.0)	
Marital status*			0.216
With partner	178 (91.8)	16 (8.2)	
Without partner	110 (94.8)	6 (5.2)	
Skin color**			0.039■■
White	244 (94.2)	15 (5.8)	
Non-white	41(85.4)	7 (14.6)	
Economic class***			0.081
A and B	168 (94.9)	9 (5.1)	
C and D	118 (90.1)	13 (9.9)	
Body mass index*			0.640
Underweight	44 (95.7)	2 (4.3)	
Normal weight	140 (92.1)	12 (7.9)	
Overweight	83 (91.2)	8 (8.8)	
Level of physical activity*			0.033■■
Insufficiently active	118 (89.4)	14 (10.6)	
Sufficiently active and highly active	170 (95.5)	8 (4.5)	

*n=304 (valid responses); **n=301 (valid responses); ***n=302 (valid responses);

●n=283 (valid responses);□Chi-squared test; ■■Fisher's exact test.

DISCUSSION

The socioeconomic and demographic data of the present study revealed that the majority of the sample consisted of younger elderly women. In studies aimed at this population group, samples formed only of women are common, and when samples are mixed, the number of women frequently exceeds the number of men[4,7,11,13]. These findings reinforce the fact that on average women live longer than men and that more women attend specific programs specifically aimed at the elderly [2,11-15,24].

Regarding marital status, most of the sample (62.3%) had no partner, or were single, divorced or widowed. Studies have indicated that the elderly population in general live without partners[25] while a study in Paraná found that approximately 34% of respondents were widowed[26]. At the age of 80 years old or more, this figure rises to approximately 63%7,[13,27]. It has been found that when facing widowhood women are less likely than men to seek a new relationship[26].

Regarding the financial condition of the group studied, the fact that the majority of elderly persons belonged to economic classes B and C is characteristic of Brazil, where personal financial situations change with retirement, resulting in a social decline, a lowering of housing standards and a diminishing of the productive role, which can result in a reduction in status[2,12,24,28].

Regarding the prevalence of depression in this group of elderly women, only 22 (7.1%) had depression, less than half the prevalence found in studies by Oliveira et al.[26] (24.2%) and Borges et al.[12] (17 4%), both of which studied elderly persons living in a family environment. Another study conducted in Passo Fundo, Rio Grande do Sul, by Borges and Dalmolin[29], which evaluated 151 elderly persons receiving care through the Estratégia de Saúde da Família (the Family Health Strategy), using the same data collection instrument, the GDS, found that 18.0% had mild depression and 3.3% had severe depression, values greater than those of the present study. Casagrande et al.16 assessed a group of elderly persons and found that only 12.0% of respondents had symptoms of depression. This result is similar to that found in the present study, suggesting a reduced prevalence of depression in those who belong to specific groups for the elderly, probably because they are more socially, culturally and physically active[4-6,12]. In addition, health education activities in groups allow professionals and care recipients to grow closer and contribute to offering information to people undergoing through a shared experience, and a space to express their feelings, doubts, anxieties, and to obtain answers to questions1.

In this context, a high prevalence was verified by Suassuna et al.28 in elderly persons in a geriatric clinic, where 53.0% of the population studied had depressive symptoms, with greater impairment of health than elderly persons living in the community.

Brazilian studies related to the prevalence of depression in the elderly often obtain different results to international studies. This can be explained by the use of different measuring methodologies among the studies, in addition to possible sociodemographic differences in each country[9,13,19].

Depression among the elderly is a worldwide problem and highlights the need for research to identify the factors associated with this public health issue. It should also be noted that cross-sectional studies based on associations should be evaluated carefully due to the great variability of methodological criteria[5,8,12-14,24,30].

With regard to the nutritional status of the study group, the results showed that 92 (31.5%) of the elderly women were overweight. Duarte and Rego31 evaluated 1,120 elderly persons, of whom 19.0% were underweight and more than half (54.0%) of whom were classified as normal weight31. Magro et al.[32] found that 50.0% of elderly persons were overweight. Andrade et al.[33] found a high prevalence of overweight and obesity, with 41.8% and 23.4%, respectively. The results of the present study found that most of the elderly persons surveyed (n=181; 57.9%) carried out physical activities and were considered as highly active or sufficiently active, which may have contributed to the relatively low frequency of overweight compared to other studies[3-5].

However, when bivariate analysis was performed, the data showed that depression was associated with elderly persons classified as insufficiently active (p=0.033). This reinforces the belief that physical

inactivity can contribute to increased levels of depression in the elderly. The relationship between exercise, health, quality of life and aging is being increasingly discussed and analyzed scientifically by professionals from different areas[3-6,24,28].

Data from a Vigitel[34] study showed that 51.7% of women over 65 years old do not practice physical activities. Silva et al.[35], when comparing the physical activity and quality of life of sedentary and active elderly persons reported that elderly practitioners of physical exercise have a better quality of life. Ferreira et al.[36] also found that regular physical exercise contributes to preventing depression.

Maintaining the functional capacity of elderly persons contributes to an improved quality of life for this population. Physical activity in the elderly is a means of achieving this goal, providing psychosocial improvement[3], a decrease in the occurrence of depressive symptoms, and an increase in self-esteem and motivation[5], as well as reducing the effects of aging and preventing coronary and degenerative diseases[4].

Therefore, identifying the characteristics of this sample of active women and the associations with depression can provide a warning and add to our knowledge, enabling a deeper understanding of this theme, as it deals with a different segment of the aging population which is more active than those who are institutionalized or restricted to their homes. One limitation of the study may be the fact it is a cross-sectional study with a possibility of recall bias, since the variables investigated occurred in the past.

CONCLUSION

The results revealed a low prevalence of depression in the investigated sample. Depression was higher among non-white elderly women with lower levels of physical activity. These findings suggest that the fact that the elderly persons are active, in this case through participation in a Reference and Care Center for the Elderly, is relevant.

The conditions of health care, social security and social services in Brazil are still considered poor, with most of these responsibilities transferred to the elderly persons themselves, causing feelings of fear and worry. In this sense, planning by health professionals and programs of actions aimed at this population, which will grow considerably in the coming years, is increasingly important.

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