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Depressive symptoms and associated factors in elderly long-term care residents

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Abstract *Objective: To determine the prevalence and factors associated with depressive symptoms in institutionalized elderly. Methods: This is an epidemiological cross-sectional study with 42 elderly in a Long-Term Care Institution for the Elderly (LTCIE). Data was collected from April to December 2014 through a questionnaire with information on demographic and socioeconomic aspects, the Geriatric Depression Scale short version (GDS-15) and the Mini Mental State Examination (MMSE). Results: Of the elderly studied, 54.8% had depressive symptoms and were predominantly females (64.7%). There was a significant association between depressive symptoms and variables retired (p = 0.043); urinary incontinence (p = 0.028); self-perceived health (p-value = 0.042) and sleep quality (p-value = 0.000). Conclusion: The study found a high prevalence of depressive symptoms in institutionalized elderly, associated with the presence of urinary incontinence, (negative) self-perceived health, (poor) quality of sleep and retirement (yes). Following the study and in the face of the needs of this population, it is necessary to seek measures that act directly on the modifiable variables, preventing and treating them.*

Key words *Ageing, Elderly, Depression, Institutionalization*

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Introduction

Following the world demographic setting, Brazil has shown a rapid growth of the elderly population[1]. Because of greater life expectancy, 30.8 million elderly people are expected by 2020, an average of 14.2% of Brazilians[2].

Population ageing has been accompanied by changes in the family profile; historically and culturally known as housewives and caregivers, women are increasingly working in the labor market[3]. According to data from the latest demographic census, the country's fertility rate dropped from 6.16 in 1940 to 1.90 in 2010, so the number of children, potential caregivers of the elderly, has been declining[4]. In this context, there is an increased demand for care and a reduced supply of caregivers. Another issue that may compromise the permanence of this population in the family environment is the financial issue, since they have specific needs and require differentiated care[5].

As a result of this increased number of elderly and their longevity, together with the socioeconomic and cultural hardships of the elderly and their relatives and/or caregivers, the health of the elderly and their family, the lack of caregivers in the household and family conflicts, the demand for Long-Term Care Institutions for the Elderly (LTCIE) is growing.

LTCIEs' role is to care for the elderly when they no longer have a connection with their community, providing social welfare and health care through support to their needs, providing quality of life and palliative care[6]. However, many LTCIEs face problems related to human, physical and financial resources, such as insufficient number of health professionals and caregivers, lack of professional qualification and physical, recreational or occupational activities that may reflect low interaction, motivation and little stimulusfor the elderly in the institutional space[7]. These institutions face the challenge of effectively meeting global guidelines for elderly care, as well as dealing with limitations of each institutionalized elderly person[8].

The institutional context leads to the elderly experiencing losses in several aspects of life, increasing vulnerability to depressive conditions that can trigger psychiatric disorders, loss of autonomy and aggravation of preexisting pathological conditions[9,10]. Depressive symptoms may also be exacerbated by the development of functional dependence, by the deterioration of family support and distance of family members, which leads to situations of loneliness and affective isolation, as well as feelings of emptiness, abandonment, sadness and fear[11].

The prevalence of depressive symptoms among LTCIEs' residents is higher than among those living with their families[12]. According to the WHO, depression is a serious public health problem and an estimated 154 million people are affected worldwide[13]. The worldwide prevalence of depression in institutionalized elderly people ranges from 14% to 42%[14]. In Brazil, the prevalence of depressive symptoms in this population varies between 21.1% and 61.6% in different regions of the country[9,15-17].

Therefore, understanding the elderly's institutionalization context is an important element in the identification of its impacts to society as well as to the elderly. While a high prevalence of depressive symptomatology in institutionalized elderly people has already been found compared to elderly people living in the community, evaluation, diagnosis and treatment of problems and conditions that may be related to this symptomatology are often neglected. The recognition of conditions that can be treated and modified can minimize the causes and/or effects of this mental condition that brings so many negative impacts on the life of the elderly. Thus, researchers and health professionals must work to understand these impacts and the interventions that are developed with a view to providing a better quality of life to this population, as well as reducing the economic, social and psychological impacts.

In this perspective, this study aimed to verify the prevalence and factors associated with depressive symptoms in institutionalized elderly.

Methods

This is an epidemiological study with a cross-sectional design consisting of individuals aged 60 and over, of both genders, living in a philanthropic LTCIE in the city of Jequié-Bahia. Data was collected in the period April-December 2014 by the physiotherapy course students.

Of the 64 elderly residents, 13 did not show clinical conditions to answer the questionnaire due to psychiatric conditions (found through medical records), aphasia due to stroke and/or severe hearing impairments; 4 refused to participate in the study and 5 subjects were absent during the collection period. Thus, 42 elderly people participated in the study.

We used the short version of the Geriatric

Depression Scale (GDS-15)[18] to detect depressive symptoms. The scale consists of 15 questions, through which the presence or lack of depressive symptoms is checked, where a score > 5 is considered indicative of symptoms[19]. The cognitive status was evaluated by the Mini Mental State Examination (MMSE) with cutoff point of 13[20].

The elderly who consented to participate in the study answered a questionnaire, where the demographic and socioeconomic aspects, such as gender, age, marital status, children, schooling, color, income, institutionalization time and health conditions, such as level of dependence/limitation, medication use, associated diseases and sleep quality were verified.

The data were tabulated and analyzed in the statistical program Statistical Package for the Social Sciences for Windows (SPSS, version 21.0). The sociodemographic variables related to the health conditions were submitted to descriptive analysis; absolute and relative frequency, for the categorical variables; mean, standard deviation, minimum and maximum values for the quantitative variables. The association between depressive symptoms and sociodemographic factors and health conditions was estimated by Pearson's chi-square test. The level of significance used was 5%.

The Research Ethics Committee of the State University of Southwest of Bahia approved the research. Participants received information on the objectives of the research, as well as procedures that were submitted. Elderly participation was voluntary, in compliance with Resolution 466/2012 of the National Health Council, which establishes the Guidelines and Standards governing human research. Participants signed an informed consent form (ICF).

Results

Of the 42 elderly interviewed, 19% used auxiliary devices such as cane, walker and prosthesis. The main chronic diseases were arterial hypertension and diabetes mellitus, 11.9% evidenced the two associated diseases, 23.8% had only hypertension and 9.5% only diabetes mellitus. In the study, 45.2% of the total elderly patients used three or more medications per day and 42.8% used 1-2 medications per day.

The results showed a higher frequency of male elderly (57.1%), aged < 80 years (52.39%), with more than one year of institutionalization (78.6%) and 54.8% did not know how to read and write, according to Table 1.

According to Table 2, most of the elderly had depressive symptoms (54.8%), cognitive impairment (69%) according to the MMSE and 33.3% evidenced some type of urinary incontinence.

Regarding the demographic and socioeconomic aspects, a significant association was found for the variable retired ($p > 0.05$), according to Table 3.

The association between depressive symptoms and variables of health conditions was significant for urinary incontinence ($p = 0.028$), self-perceived health ($p > 0.05$) and sleep quality ($p = 0.000$), according to Table 4.

The results of this study were shown to professionals and caregivers of the institution where the research was carried out.

Discussion

Depressive symptoms in the elderly can lead to functional impairments, such as loss of auto-

Table 1. Sociodemographic aspects of institutionalized elderly, Jequié (BA), Brazil, 2014.

Sociodemographic Variables	Total	
	N	%
Age (years)		
< 80 years	22	52.3
≥ 80 years	20	47.6
Gender		
Women	18	42.9
Men	24	57.1
Marital status		
Single	27	64.3
Widow /widower	12	28.6
Married	03	7.1
Skin color		
Black	15	35.7
Brown	22	52.4
White	05	11.9
Knows how to read and write		
Yes	19	45.2
No	23	54.8
Retired		
Yes	36	85.7
No	06	14.2
Length of institutionalization		
≤ 1 year	09	21.4
> 1 year	33	78.6

Table 2. Health conditions of institutionalized elderly. Jequié (BA), Brazil, 2014.

Variables	N	%
Depressivesymptoms (N:42)		
Asymptomatic	19	45.2
With symptoms	23	54.8
Urinary incontinence (N:42)		
No	28	66.7
Yes	14	33.3
Cognitive Status (N:42)		
Not compromised	13	31.0
Compromised	29	69.0
Self-perceived health (N:39)		
Positive	15	38.5
Negative	24	61.5
Sleep quality (N:41)		
Good	21	51.2
Bad	20	48.8
Fall in the last year (N:41)		
No	28	68.3
Yes	13	31.7

Table 3. Prevalence of depressive symptoms according to demographic and socioeconomic aspects of institutionalized elderly. Jequié (BA), Brazil. 2014.

Variables	Depressive symptoms				p-value
	Asymptomatic		With symptoms		
	N	%	N	%	
Gender					0.286
Male	13	52.0	12	48.0	
Female	6	35.3	11	64.7	
Age					0.059
60 to 79 years	13	59.1	9	40.1	
≥80 years	6	30.0	14	70.0	
Marital Status					0.513
Married	2	66.7	1	33.3	
Single	13	48.1	14	51.9	
Widow/ widower	4	33.3	8	66.7	
Skin color					0.207
White	4	80	1	20	
Brown	8	36.4	14	63.6	
Black	7	46.7	8	53.3	
Knows how to read and write					0.382
Yes	10	52.6	9	47.4	
No	9	39.1	14	60.9	
Retired					0.043
Yes	14	38.9	22	61.1	
No	5	83.3	1	16.7	

Table 4. Prevalence of depressive symptoms according to health conditions of institutionalized elderly. Jequié (BA), Brazil, 2014.

Variables	Depressive symptoms				
	Asymptomatic		With symptoms		
	N	%	N	%	p-value
Urinary incontinence					0.028
No	16	57.1	12	42.9	
Yes	3	21.4	11	78.6	
Cognitive Status					0.453
Not compromised	7	53.8	6	46.2	
Compromised	12	41.4	17	58.6	
Self-perceived health					0.042
Positive	10	66.6	5	33.3	
Negative	8	33.3	16	66.6	
Sleep quality					0.000
Good	15	71.4	6	28.6	
Bad	3	15.0	17	85.0	
Fall in the last year					0.843
No	12	42.9	16	57.1	
Yes	6	46.2	7	53.8	

nomy, making them more dependent on performance of their daily activities[21-23].

In this study, 54.8% of the elderly had depressive symptoms. This high prevalence corroborates with other studies conducted in the same region of the country, such as that of Verçosa et al.[24] carried out with 52 elderly people in a capital of the Northeast, with a prevalence of 58%, as well as in other regions, such as the study by Alencar et al.[25] performed in Belo Horizonte with 47 elderly people, of whom 59.6% obtained values that suggest depressive symptoms.

In part, these symptoms may be related to the elderly's dissatisfaction with living with the unknown and following a scheduled routine[26], losing part of their right to choose and the feeling of not feeling important, of being just one more within the institution[27]. Other factors that may also contribute to these symptoms are difficulty in creating bonds, overcoming losses, family abandonment and loss of privacy.

There was a significant association between depressive symptoms and being retired

(p=0.043), which can be justified by the fact that, by having financial resources coming from retirement, these elderly people feel dissatisfied that they do not have total independence and/or autonomy to control what might be the return of a life of work and dedication. On the other hand, the elderly who are not retired can see in the Institution an opportunity for survival and assurance of minimum housing and care conditions.

Of the elderly with depressive symptoms, 78.6% (p = 0.028) had urinary incontinence. In a study carried out by Borm[28], 33% of elderly people living in asylums suffer from (urinary and/or fecal) incontinence, often due to some psychological and/or dementia problems. Ageing alone does not cause urinary incontinence (UI), but also changes related to the aging process[29,30]. UI can become the first and only symptom of urinary tract infection, with causes such as detrusor instability, urethritis, diabetes, central nervous system diseases, loss of cognition, among others[31]. This change can lead to the elderly physical problem, such as skin irritations and infections and/or psychosocial problems such as depression, social isolation, family rejection and loss of self-confidence[32].

The high prevalence of urinary incontinence in the study population may be related to the lack of human and financial resources required for the prevention, diagnosis and treatment of this condition. For many institutions, especially public and philanthropic, hiring professional experts is a very high cost. In addition, the insufficient number of caregivers may hinder individual care for the most dependent elderly at the time requested, affecting early use of absorbents and geriatric diapers. Depressive symptoms and the lack of human resources to boost the current capacity may contribute to some losses, such as loss of strength of the pelvic floor musculature and lower limbs.

Regarding self-perceived health, in this study 66.6% (p = 0.042) of the elderly with depressive symptoms reported their health as negative. In a study by Carvalho et al.[33], 46.9% of the elderly population reported regular or poor health. The worse perception of health in the literature is associated with depressive symptoms, dissatisfaction with personal relationships, the use of a greater number of medications and the worse socioeconomic situation of the family[34].

Health perception or health self-assessment is one of the indicators used in gerontological research, and its use is justified because the worse perception of health is a robust and consistent predictor of mortality[35]. The association found can be justified by the existence of feelings of malaise, where family abandonment, dependence, lack of stimuli and activities that work out the body and mind bring a negative view about their condition.

Another positive association for depressive symptoms was with sleep quality (p = 0.000). In a study by Silva et al.[36], 72.5% (p = 0.0001) of the sample had insomnia. Sleep and rest pattern modifications affect the immune system, psychological function, performance, body response, mood and adaptive capacity[37,38].

Poor sleep and sleep disorders can lead to losses in the daily life and health of the elderly. This leads to reduced response speed, impairment of memory, concentration, performance and difficulty in maintaining the focus, and in the elderly, these signs can be indicative of cognitive impairment or dementia[39]. The few time and stimulus benchmark information during the day are hallmark environmental characteristics in LTCIEs, which may lead individuals to show irregular patterns of the wake/sleep cycle and worsen the quality of sleep, or exacerbate existing disorders[40].

This study evidenced that 69% of the population had an impaired cognitive state (score < 13) according to the MMSE. However, the MMSE was not used as an exclusion criterion, because it was decided to consider the clinical cognitive evaluation through the medical records. The high prevalence of cognitive deficit according to the MMSE may be a reflection of the lack of spatial, temporal, physical, and playful orientation activities that stimulate these brain activities of the elderly in the institution.

Conclusions

This study found a high prevalence of depressive symptoms in institutionalized elderly people, associated with urinary incontinence, negative self-perceived health, poor sleep quality and being retired. This study and the needs faced by this population call for measures that act directly on the modifiable variables, preventing and treating them.

Low-cost strategies that can be carried out in these institutions and have positive impacts on the daily life of the elderly are available, and they are: bringing the bed of more dependent elderly closer to the bathroom; increased water intake; agreement with schools, universities and

social groups that promote recreational activities and workshops that can motivate and stimulate the elderly; promotion of time orientation with clocks, television, calendars, activities on commemorative dates and adjustment of the elderly in rooms with more than one bed according to similar sleep/wake routines.

Since it is a cross-sectional study, there is no causal relationship between the factors studied. However, showing the association between these variables can direct care and guidance programs of the professionals involved, benefiting the quality of life of these elderly. We suggest that such issues be realized and assessed at elderly's admission in LTCIE so that time-related circumstances can be checked by health professionals and researchers for measures more directed to the causal factors.

Collaborations

TA Brito, KR Pithon and LA Guimarães worked on the conception, research, methodology and final writing of the manuscript. CS Jesus worked on the analysis and final writing. CS Souto, SJN Souza and TS Santos contributed to data collection, data discussion and final writing.

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