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ORIGINAL ARTICLE

DEPRESSION AND COGNITIVE DEFICIT EVALUATION IN ELDERLY ASSISTED BY THE FAMILY HEALTH STRATEGY
AVALIAÇÃO DE DEPRESSÃO E DÉFICIT COGNITIVO EM IDOSOS ASSISTIDOS PELA ESTRATÉGIA DE SAÚDE DA FAMÍLIA
EVALUACIÓN DE DEPRESIÓN Y DEFICIT COGNITIVO EN ANCIANOS ASISTIDOS POR LA SALUD DE LA FAMILIA

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ABSTRACT
Objective: to describe the social profile, the self-perceived health of elderly people assisted by the Family Health Strategy (FHS). *Method:* a descriptive and exploratory study with a quantitative approach. Data was collected through interviews with elderly people over 60 years in Bonito / MS, using the Mini Mental State Examination - MMSE, and the Geriatric Depression Scale (GDS). Data was subjected to statistical tests, PASW program being used in version 18.0. Pearson's chi-square test was used to verify the associations between the independent variables and the outcome was calculated (depressive symptoms and cognitive deficits). All results were analyzed with p <0.050 as a significant difference. *Results:* female predominance, with per capita income up to the minimum wage. Average age 72.6 years, 2.8 years of study. Of these, 75% of the elderly had depressive symptoms and no significant association between the independent variables. *Conclusion:* depression was more prevalent in older people with a more advanced age and low education, and greater difficulty in answering the questions of the MMSE. *Descriptors:* Health of the Elderly; Depression; Cognition.

RESUMO
Objetivo: descrever o perfil social, a autopercepção da saúde de idosos assistidos pela Estratégia Saúde da Família (ESF). *Método:* estudo descritivo e exploratório, com abordagem quantitativa. Os dados foram coletados por meio de entrevista com idosos acima dos 60 anos no município de Bonito/MS, usando o Mini Exame do Estado Mental - MEEM, e a Escala de Depressão Geriátrica (EDG). Os dados foram submetidos a testes estatísticos, sendo utilizado o programa PASW na versão 18.0. Calculou-se o teste qui-quadrado de Pearson para verificar as associações entre as variáveis independentes e as de desfecho (sintomas depressivos e déficit cognitivo). Todos os resultados foram analisados tendo p<0,050 como diferença significativa. *Resultados:* predomínio do sexo feminino, com renda *per capita* até um salário mínimo. Média de 72,6 anos de idade, de 2,8 anos de estudo, 75% dos idosos apresentaram sintomas depressivos, não havendo associação significativa entre as variáveis independentes. *Conclusão:* a depressão foi mais prevalente nos idosos com idade mais avançada e baixa escolaridade, e maior dificuldade em responder às questões do MEEM. *Descritores:* Saúde do Idoso; Depressão; Cognição.

RESUMEN
Objetivo: describir el perfil social y autopercepción de la salud de los ancianos asistidos por la Estrategia de Salud de la Familia (ESF). *Método:* estudio descriptivo y exploratorio con enfoque cuantitativo. Los datos fueron colectados a través de entrevistas con personas mayores por encima de 60 años de edad en la ciudad de Bonito / MS, utilizando el Mini Examen del Estado Mental-MMSE, EDG y las variables: edad, sexo; arreglo familiar, el ingreso per cápita y la auto-evaluación de la salud. *Resultados:* predominio del sexo femenino, con ingreso per cápita de hasta un salario mínimo. Promedio de 72,6 años, 2,8 años de estudio. De éstos, el 75% de los ancianos tenían síntomas depresivos y ninguna asociación significativa entre las variables independientes. *Conclusión:* la depresión es más frecuente en las personas mayores con la edad avanzada y el bajo nivel educativo, y una mayor dificultad para responder a la pregunta MMSE. *Descriptores:* Salud del Anciano; Depresión; Cognición.

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INTRODUCTION

The occurrence of depressive symptoms in older people may be related to biological, social and psychological determinants and be responsible for the loss of autonomy and for the worsening of pre-existing pathological conditions. It is noteworthy that in a study carried out in Dourados / MS, the symptoms of depression in the elderly assisted by the Family Health Strategy were significantly associated with cognitive impairment, functional decline and poor health self-assessment which corroborates other international studies.[1]

Depression in the elderly is often accompanied by cognitive deficits, which supposes that there is a strong association between these conditions. The authors inquire some questions such as "whether depression causes cognitive decline or vice versa; if the age of onset of depression is related to worse prognosis and increased risk for the occurrence of dementia; the presence of cognitive impairment in depressed elderly would be a first symptom of dementia and the remission of depression also would cause the remission of cognitive deficits, "however, with aging and the common changes in different areas of cognition people over 60 years complain about difficulties with memory and other cognitive skills. In this context depressive disorders and degenerative brain diseases affecting cognition deserve attention.[2]

It is known that the causes of depression can vary from Psychosocial factors, such as adverse conditions that can influence the onset and persistence of depressive episodes, genetic and biological factors often being attributed to stressful and negative events.[3] Additionally, the prevalence of depression in older populations assisted by primary care as well as their clinical, cognitive and daily living activities implications have been highlighted by different surveys. [3]

In relation to cognitive states, studies associate decreased functional capacity of the elderly to the presence of diseases, disabilities or health problems. Their results also show that functional capacity is influenced by demographic, socioeconomic, cultural and psychosocial conditions.[4]

However, age is one of the most important determinants of cognitive decline. Population-based studies have consistently shown that there is a worsening of performance in the MMSE with increasing age. And education is one of the factors that determine the performance in MMSE.[5] In this context,

dementia and depression are the most common neuropsychiatric disorders in the elderly. Dementia affects about 5% of seniors of 65 years of age and about 20% of those with 80 years or more, since depression has prevalence rates between 5% and 35%, varying according to the level of disease severity and its prevalence in the population of over 65 years of age living in the community varies between 10.3% and 13.5% .[6]

The performance of physical, cognitive, social and complex organizational or advanced activities enable older people to be active, productive and socially involved. When health conditions are not adequate and functional disabilities compromise their lives, a chain reaction begins, making this the starting point of this dissatisfaction with their lives. Thus, the elderly decrease their chances of enjoying the benefits of social interaction that is associated with an increased risk for mortality, morbidity, physical and cognitive disability, inactivity and depression.[7]

This study aims to:

• describe the social profile, and the self-perceived health of elderly people assisted by the Family Health Strategy (FHS).

• To evaluate the association between variables with cognitive status and the items that make up the Geriatric Depression Scale.

METHOD

A descriptive, cross-sectional, quantitative study carried out in the urban area of Bonito / MS, the main region of Bodoquena sierra located 330 km from the capital Campo Grande / MS. According to the last census, the 19,587 inhabitants of Bonito / MS, 1735 (8.8%) were elderly with 943 men and 792 women.[8]

Bonito/MS has four urban FHS and all of them participated. The population consisted of people aged over 60 years, of both sexes, assisted by the FHS. The calculation of sample size was based on the prevalence of 34.0% of elderly patients with depression, sample error of 9% with 95% confidence interval is estimated at 100 elderly. The sampling technique was random, simple and stratified. People unable to communicate and those who refused to participate or to sign the Term of Consent were excluded.

Data collection was conducted from April to May 2013 through home interviews.

The socio-demographic and health variables addressed were: age (categorized by age group 60-74 years and 75 years and over); sex; family arrangement (lives alone or accompanied); per capita income (up to a

minimum wage and above one) and health self-assessment (good, fair or poor).

Cognitive assessment was carried out with the Mini Mental State Examination (MMSE). For the tracking of the cognitive status of the elderly, education was considered for adoption of the most appropriate cutoff point. This study adopted as the cutoff scores 19/20 (case / non-case) for the elderly and illiterate and 24/25 (case / non-case) for the literate elderly, regardless of years of completed studies, and categorized the results in normal or cognitive deficit.[9]

Depressive symptoms were assessed using the Geriatric Depression Scale (GDS) of 15 items, which aims to track depression is the clinical context as in researches.[1] This research adopted cutoff scores, between 0 and 5 will be categorized as normal (without depressive symptoms) and 06 or more points as depression.[10]

Data were subjected to statistical tests, the PASW program being used in version 18.0. Pearson's chi-square test to verify the associations between the independent variables and the outcome was calculated (depressive symptoms and cognitive deficits). All results were analyzed with $p < 0.050$ as a significant difference.

The participation of each elderly person was authorized by them or their legal guardian by signing the Term of Consent. The Ethics Committee of the Federal University of Grande Dourados approved the study, Case No. 221,318. This study complied with all ethical principles advocated by CNS Resolution No. 466/2012.

RESULTS AND DISCUSSION

The sample consisted predominantly of female seniors who lived with someone with per capita income of up to the minimum wage. Average 72.6 years old (SD ± 8.4), 2.8 years of education (SD ± 4.4) and R$ 726.88 per capita income (SD ± 748.06).

75% of seniors were identified with depressive symptoms and Table 1 highlights that there was no significant association between the independent variables and the presence of depressive symptoms.

By analyzing each item of the GDS, it was observed in Table 1, that between the sexes, there was a significant difference only in the question 14. But those who were not literate answered in the affirmative only question 08 and 11, and negatively question 09. Questions 02 and 09 were the only ones that showed significant differences between age groups. Regarding the per capita income issues 02 and

10 obtained significant differences. In relation to the self-assessment of health questions the ones that predominated were 02, 03 and 05

Table 1. Items answered the Geriatric Depression Scale for elderly assisted by the Family Health Strategy according to gender, education, age, per capita income and self-assessed health .Bonito/MS, 2013

GDS 15 Items	Gender			Age (in years)			Education			Per capita Income (in minimum wage*)		
	Fem	Male	Value P	60 to 74	75 and more	Value P	Illiterate	Literate	Value P	Up to 1	More than 1	Value P
Number of respondents	64	36		63	37		38	62		80	20	
1. (No) Do you feel satisfied with life?	01	01	0,677	01	01	0,702	01	01	0,725	01	01	0,286
2. (No) Did you interupt many of your activities ?	23	36	0, 456	32	27	0,029	23	36	0,808	54	05	0,001
3. (No) Do you think your life is empty?	11	17	0,669	18	10	0,868	14	14	0,125	24	04	0,375
4. (No) Do you frequently get upset?	12	24	0,677	24	12	0,569	13	23	0,770	30	06	0,532
5. (No) Do you feel good about your life most of the time?	02	03	0,849	02	03	0,569	02	03	0,925	04	01	1,000
6. (No) Do you think something bad will happen?	08	18	0,518	19	97	0,216	08	18	0,377	21	05	0,909
7. (No) Do you feel happy most of the time?	03	07	0,678	05	05	0,369	03	07	0,585	07	03	0,407
8. (No) Do you frequently feel helpless?	08	14	0,968	09	13	0,150	14	08	0,005	20	02	0,150
9. (No) Do you prefer to stay home as opposed to going out and doing new things?	28	43	0,263	40	31	0,031	31	40	0,068	58	13	0,509
10. (No) Do you think you have more memory problems than other people?	08	10	0,410	11	07	0,855	05	13	0,324	17	01	0,091
11. (No) Do you thinks it is wonderful to be alive now?	01	01	0,677	01	01	0,702	02	00	0,069	02	00	0,477
12. (No) Is it worth it to live like you do now?	01	01	0,678	01	01	0,702	01	01	0,725	02	00	0,477
13. (No) Do you feel full of energy?	06	06	0,281	05	07	0,103	03	09	0,325	09	03	0,644
14. (No) Do you think your situation has a	08	04	0,019	06	06	0,320	07	05	0,122	11	01	0,284

solution?												
15. (No) Do you think there are people in better situations?	05	14	0,328	48	33	0,110	31	50	0,908	67	14	0,161
Total Score	46	29	0,237	44	31	0,120	29	45	0,543	63	12	0,083

Table 2 assessed the results of the MMSE a significant difference for the variable age was observed (p=0,049).

Table 2. Univariate analysis between socio-demographic determinants of health self-assessment and the presence of cognitive impairment in elderly assisted by the Family Health Strategy. Bonito, 2013.

Profile of the elderly	Cognitive Deficit		Value of p
	No	Yes	
Gender			
Male	13	23	0,178
Female	15	49	
Age group (in years)			
60 to 74	22	41	0,049
75 and more	06	31	
Per capita income (in minimum wage*)			
Up to 1	22	58	0,824
More than 1	06	14	
Family Arrangement			
Acompanied	18	51	0,526
Alone	10	21	
Education			
Illiterate	13	25	0,281
Literate	15	47	

(*)The value of the minimum wage at the time of collection was R$ 622,00

The socio-demographic characteristics of the elderly respondents are similar to those observed in Brazilian population studies, predominantly female related to higher male mortality and consequent feminization of aging, that live with someone these results that are equal to studies carried out.[11-12]

The feminization of old age corroborates several other population studies. Women are generally more attentive to symptoms, have greater knowledge of diseases, better express their symptoms and seek more health services, determinants that contribute to the highest percentage of elderly women in the population.[13-14]

In addition, several studies discuss how the socioeconomic status of this age affects their health, because seniors who have low income and low education have worse health statuses and determinants are interruption of activities due to health problems, chronic diseases and worse physical functions. There is evidence that the most needy elderly seek less health services, in addition to having low adherence to treatment and have little access to drugs, which directly reflects on the health status of these individuals. In turn, these cultural, social, economic, and health issues refer to social vulnerability of these elderly people.[15-16]

In this context, use of health services by the elderly is multifactorial, because it involves individual and structural factors of the services offered, as well as factors of their own social life. So, identifying the factors that influence this demand can help in proposing public adequate policies.[17]

In this context depression is considered a major health problem that affects people of all ages. This problem causes feelings of sadness and social isolation that often have as suicide as an outcome. Mainly affecting people of advanced ages it reaches the highest rates of morbidity and mortality in that it assumes nonspecific ways, often difficult to diagnose and, consequently, treat.[18]

In addition, there are studies that highlight depressive symptoms in elderly people associated with cognitive and functional decline, lack or loss of social contact, widowhood, stressful life events, low income, social isolation, lack of social activity, low education and medication use in addition to considering that women may be more vulnerable to depression because they live more isolated from society.[19]

In Bonito/MS it was observed that 57% of elderly respondents had mild symptoms of depression and only 18% with severe

symptoms. This result is supported by a study carried out in Portugal that found that 70.6% of the elderly had mild symptoms of depression, 28.6% had no depression levels and only 0.8% had a severe type of depression (19). In Brasilia, Distrito Federal, research evaluated 102 elderly people and found that 50 (49.0%) had depression, 37 (36.3%) were classified with mild depression and 13 (12.7%) with severe depression. All these studies have linked depression of the elderly respondents with demographic and socioeconomic variables, and significant variables were age (patients aged over 70 years) gender (female), low education (less than four years of study) and low income per capita (less than minimum wage) .[20]

Research conducted in Passo Fundo/RS, with 151 elderly participants found prevalence of depression when applying the Geriatric Depression Scale was 21.2%. Of these, 17.9% were diagnosed with mild to moderate depression and 3.3% with severe depression. With significance in the univariate analysis for the diagnosis of depression, according to the GDS with 15 variables: perceived health, family loss, asthma, incidence of fractures, heart failure, arthritis, a depressive episode reported by the patient, in progress or at some time in their life.[3]

In the elderly surveyed in the Triangulo Mineiro, who investigated the prevalence of depression in the elderly, according to socio-demographic and economic profiles and self-reported morbidities, found higher rates of depressive symptoms in elderly females, those with the highest number of morbidities and more in- functional capacities to IADL.[21]

A study in Dourados, MS, identified four factors within the Geriatric Depression Scale and added the following dimensions: apathy/anxiety (items 2, 3, 4, 6, 8, 10 and 15), mood / hopelessness (issues 11, 12, 13 and 14), unhappiness / de-motivation (items 1, 5 and 7) and isolation (question 9). In the same study we obtained as a result that more than 70.0% of the elderly respondents who stopped many of their activities (item 2), who preferred to stay at home to go out and do new things (item 9) and that many people are better off than them (item 15) .[22]

In Bonito/MS, the results were not very different, because 44% of the elderly aged between 60-74 years of age responded negatively to items 2 and 9. Still following this context, 29% of non-literate elderly, there was a predominance of negative responses in item 9 (do you prefer staying home to going out and doing new things?). Regarding the per capita income there were higher negative responses in item 2 (had they interrupted many of their activities?).

Social isolation and hopelessness were more prevalent among non-literate elderly people, since it was significant in questions 8 (often feel helpless), 9 (prefer staying home to going out and doing new things?) and 11 (Think it is wonderful to be alive now?). The presence of chronic diseases increased significantly the number of seniors who said they fear that something bad might happen to them, that they interrupted many of their activities and find their lives empty.

The same happened with the study in Dourados/MS which showed that social isolation was more present among the non-literate elderly and the presence of chronic diseases had significantly increased the number of seniors who responded they do not feel satisfied with life .[23]

As for the items of the Mini Mental State Examination (MMSE) it was observed that the elderly aged between 60-74 years were those who had greater cognitive impairment. Brazilian studies have shown that older people with low educational levels had low scores on the application of MMSE.[24] Another study of people over 60 years old in the city of Rio de Janeiro, diagnosed 41 illiterates and 17 patients (19, 7%) with demência.[6]

The Bambuí Project developed in Minas Gerais interviewed 1,558 individuals, which correspond to 97% of the baseline of cohort participants. In this study females predominated (60.1%), mean age 69 years, low education (64.8%). The results show that older seniors (70 years and older), females, lower education (less than four years) had low scores on the MMSE [5] . These studies show that age, education and women are directly associated with cognitive impairment [24,5,6] .

In Florianópolis/SC, with 122 elderly respondents, it was found that 17.4% were suspected of depression, being that the prevalence of cognitive disorders was 9.1%. Thus, when analyzing the frequency between presence and absence of depressive symptoms and the classification of the MMSE, 80.2% concordance was observed between classifications.[3]

FINAL REMARKS

It was observed that depression was more prevalent in those elderly who were older and less educated. The issues that contributed to the analysis of depression were: *did they interupt many of their activities; they find their lives empty; they often feel helpless;*

and prefer to stay at home to going out and doing new things. These factors contribute to apathy, lack of motivation and hopelessness of the elderly; we also observed that in this study older seniors, with low education, low income had more difficulty answering the MMSE issues. Demonstrated memory problems, spatial orientation, language and praxis.

One limitation of the study points out that the sample was made up solely of elderly of the Family Health Strategy of Bonito/MS, not depicting the total population of elderly.

It is up to the teams of the Family Health Strategy to identify the factors that may adversely affect the health, detect the signs of depression and cognitive impairment early, to promote activities that contribute to minimizing or changing this picture, causing them to preserve the autonomy and quality of life of this segment of the population.

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