Anxious and depressive symptoms in older adults treated by the Family Health Strategy in rural areas of Campo Grande/MS

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Abstract

Objective: To identify the prevalence of anxious and depressive symptoms, and associated factors, in older adults treated by the Family Health Strategy in rural areas of Campo Grande/MS. *Method:* A cross-sectional study with proportional stratified simple random probabilistic sampling was conducted. Instruments were applied to characterize the sample and assess multimorbidity and functioning, in addition to the Geriatric Anxiety Inventory (GAI) and the Depression Scale Geriatric (GDS) for screening depressive and anxious symptoms. The prevalence ratio (PR), and respective 95% confidence interval (95%CI), was estimated using Poisson Regression with robust variance. *Results:* 249 older adults participated in the study. The prevalence of depressive symptoms was 23.29% (95%CI 18.42-28.98) and anxiety symptoms was 22.09% (95%CI 17.33-27.20). The presence of depressive symptoms was associated with age, marital status, physical activity, self-rated health status, and medication use. The presence of anxious symptoms was associated with gender, marital status, physical activity, self-rated health status, and the presence of multimorbidity. *Conclusion:* Mental illness stems from social vulnerabilities and physical health conditions to which older adults are exposed. The older population in rural areas needs greater visibility and mental health care through the Family Health Strategy, calling for the development of public policies for this population focusing on health promotion, prevention, and rehabilitation.

Keywords: Aged. Mental Health. National Health Strategies. Primary Health Care. Rural Area.

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INTRODUCTION

The aging process occurs gradually in people living in both rural and urban areas. However, some aspects lead to differences in this process between these two settings[1]. For example, older individuals from urban regions may face vulnerabilities owing to difficulties inherent to rural areas. Limitations in transportation, access to health and other social resources are common in the rural areas, among other difficulties that may exist due to the means of existence and subsistence available in these environments, which can have major impacts on the mental health of this population[2,3].

Despite the limitations outlined, the older population residing in rural areas tends to have fewer diseases and better quality of life compare to their urban counterparts. This is because they are able to enjoy more active routines, greater autonomy, closer contact with nature, less exposure to the pollution found in urban areas, and engage in relationships socially and with the environment that favor healthy aging, acting as a potential protective factor for the mental health of this population[3,4].

The Family Health Strategy is present in both urban and rural areas, playing a key role in monitoring the changes that accompany aging, particularly with regard to physical and mental healthcare of older rural dwellers, since this strategy is responsible for practicing and applying public policies for this population, ensuring actions of health promotion, prevention, maintenance and rehabilitation, contributing to healthy aging with quality of life[2].

In Brazil, studies report a high prevalence of depressive and anxious symptoms among the older population, negatively impacting mental health and well-being in late life, including limitations in sociability and social interactions. Generally speaking, anxious symptoms include irritability, headache, agitation, tachycardia, sudoresis and tremors. Depressive symptoms include sadness, hopelessness, social isolation, appetite and sleep disturbances, loss of interest in life, among other aspects[1,5]. It should be noted that the presence of these signs and symptom alone does not indicate the individual has a mental disorder, where such a diagnosis can only be established through specialized clinical investigation.

According to data from the Brazilian Institute of Geography and Statistics (IBGE), an estimated 1,678,436 older adults have Major Depressive Disorder in the country, of which 11,000 reside in the city of Campo Grande, Mato Grosso do Sul state, Brazil[6]. The prevalence of this depression in the older rural population is high.

Studies carried out in different regions of Brazil, such as Rio Grande do Sul and Minas Gerais states, have found rates of depressive symptoms in the older rural population of 8.1% and 22%, respectively[7,8]. Lower, but similar, levels of depressive symptoms were found by another study, performed in the state of Rio Grande do Sul, where 7.1% of older individuals living in rural areas had depression and 9.2% anxious symptoms[9]. Interestingly, around 47.5% of the older population diagnosed with depressive disorder also have a diagnosis of anxiety disorder[5]. Brazil ranks highest in the world for prevalence of Anxiety Disorders, where 9.3% of the population are diagnosed with the condition, corresponding to around 18.6 million people across all age groups[10].

Although studies and research have reported data on screening of anxious and depressive symptoms, there is scant scientific output on the prevalence of these disorders in older rural individuals. A search of the literature databases failed to find any studies on this topic conducted in Mato Grosso do Sul state.

The present study fulfils a need to screen anxious and depressive symptoms in this group, given these symptoms can have negative social, psychological and physical consequences, such as loss of autonomy and freedom, and lead to a worsening of chronic disease, social isolation, among others [1]. There is also a need for studies centering on older adults living in rural areas to improve their visibility, identify their mental health needs, and secure their rights, particularly those enshrined in existing public health policies designed to provide this population with quality care. The resultant knowledge can help inform technicians and managers in defining effective efficient strategies for delivering healthcare to this population.

Therefore, the objective of the present study was to identify the prevalence of anxious and depressive symptoms, and associated factors, in older adults treated under the Family Health Strategy in rural areas of Campo Grande, Mato Grosso do Sul state, Brazil.

METHOD

A cross-sectional study was conducted between January and June 2023 to identify anxious and depressive symptoms in older adults treated under the Family Health Strategy from rural areas of Campo Grande, Mato Grosso do Sul state, Brazil.

Individuals aged ≥60 years, of both genders, able to independently and autonomously answer the instruments applied, and living in rural areas of Campo Grande, Mato Grosso do Sul state, Brazil, were eligible for inclusion in the study.

Sample size was calculated based on the total older adults living in the rural area who were registered users of the respective Family Health Units (946 people), a 5% margin of error, a 22% prevalence rate of depressive symptoms in the older rural population, as reported in the study by Ferreira & Tavares[8], and a 95% confidence interval.

The calculation yielded an estimated sample size of at least 207 participants and, to allow for analysis with multiple associations, this figure was increased by 20%, giving a final sample of 249 individuals.

Random simple probabilistic sampling with proportional stratification was performed for 4 Family Health Units located in the rural areas of Campo Grande, Mato Grosso do Sul state. The study included participants from the following Family Health Units (USF): 13 (5.22%) from USF Dr. Roger A. Buainain (Rochedinho), 32 (12.85%) from USF Manoel Cordeiro (Aguão), 44 (17.67%) from USF Dra. Maria José de Pauli (Três Barras) and 160 (64.26%) from USF Dr. Bento Assis Machado (Anhanduí).

Drawing on records provided by the respective health units, randomized selection was carried out using statistical software. In cases where the randomly selected user refused to take part, the next person on the list was invited, and so on, until inclusion of the total number of participants estimated in the sample size calculation was reached.

The results of the random selection of participants were submitted to the team of each USF so that each Community Health Worker (CHW) could identify the individuals selected in their area and make visits to the households.

At the time of the household visit, the CHW presented the team of researchers to the selected individual, and the study plus its aims were explained. Individuals who agreed to take part signed the Free and Informed Consent Form, enabling commencement of the study by applying the instruments.

In cases where the randomly selected user refused to take part or was not at home, the next person on the list was elected, where randomization was performed with a higher number than the actual sample size, so as to allow for potential abandonment or refusals to participate in the study.

Data collection was performed via interview whereby the interviewer read out each question along with the response options and, after receiving the answer from the respondent, duly recorded this in the study instrument.

An instrument was also applied to collect sociodemographic and epidemiological characteristics of participants. The data on the variables age, sex, race/skin color, marital status, education, personal income, practice of religion, engagement in leisure activity, engagement in physical or sports activity, tobacco use, alcohol use, self-rated health status, use of medications, and presence of chronic pain, together with information on categorization strategies employed, are outlined in Chart 1. Some of the variables were recategorized to facilitate inferential analysis.

Chart 1. Description of study variables and analysis model adaptation strategies. Campo Grande, Mato Grosso do Sul state, 2023.

Variables	Initial Categorization	Recategorization
Age (years)	60 -69 70-79 ≥80	60-79 ≥80
Sex	Male Female	-
Race/Skin color	White Brown Yellow Black Indigenous	White Black (Brown and Black)
Marital Status	Single Married Divorced Widowed Civil union Separated	Single Married or Civil Union Divorced or Separated Widowed
Education (years)	None 1-3 4-7 ≥8	-
Personal income (minimum wages - MW)	No income ≤ 1 MW 1 MW 2 MW ≥3 MW	No income ≤1 MW 1 MW ≥2 MW
Practices a religion	Yes No	-
Engages in leisure activity	Yes No	-
Engages in physical or sports activity	Yes No	-
Tobacco use	Yes No	-
Alcohol use	Yes No	-
Self-rated health status	Very good Good Fair Poor Very poor	Very good or Good Fair Poor or Very poor
In use of medications	Yes No	-
Experiencing chronic pain	Yes No	-

Multimorbidity is defined as the presence of 2 or more chronic health conditions. This status was identified in the population analyzed by applying the semistructured form on Self-Reported Health Problems based on results from the Brazilian Study Group on Morbidity – GBEM[11]. Given the main outcomes of the present study are depressive and anxious symptoms, in order to prevent collinearity, depression and mood disorders were not taken into account when identifying multimorbidity. The multimorbidity variable was categorized into yes/no.

Level of functioning was measured by applying the Katz Index, which assessed aspects related with basic activities of daily living (BADLs) of the individuals based on 6 activities[12]. Final score classifies the individual into independent, when not requiring assistance on any of the activities (Score 0); mildly/moderately dependent, when requiring help on an activity (Score 1-3); and dependent, when needing more help to perform activities (Score 4-6). On the inferential statistical analysis, the variable was categorized into independent (Score 0) and dependent (Score 1-6).

Screening for the presence of anxious and depressive symptoms was done by applying the Geriatric Depression Scale – GDS and the Geriatric Anxiety Inventory – GAI, whose translated transculturally-adapted versions have been validated for use in Brazil, and items have undergone extensive analysis. Thus, these tools are considered to be methods with reliable effective psychometric properties for screening the symptoms in older adults[13-16].

In this study, the GDS containing 15 dichotomous items was used, on which questions 1, 5, 7, 11 and 13 score 1 if answered with "no", and questions 2, 3, 4, 6, 8, 9, 10, 12, 14 and 15 score 1 if answered with "yes". The cut-off point for identifying depressive symptoms in the older population is ≥ 6 points[13].

The GAI comprised 20 dichotomous items, on which "yes" answers score 1 point and the cut-off point established for identifying anxious symptoms in older adults is ≥13 points[14,15].

Data were compiled and a descriptive statistical analysis carried out with results expressed as absolute and relative values. The prevalence of anxious and depressive symptoms were presented together with the respective 95% confidence intervals (95%CI).

Poisson regression with robust variance was used to identify factors associated with depressive and anxious symptoms. Bivariate analysis was performed to estimate prevalence ratio (PR), the respective 95% confidence interval (95%CI) and level of significance. Subsequently, multivariate analysis was conducted using the Forward method, whereby the variables with a value of $p<0.200$ are entered in the model.

Two final models were constructed for each outcome: one encompassing only predictors with 5% level of significance; and another adjusted for age, sex and income.

The final model used was that with goodness of fit considering the parameters Deviance, Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC) and area under the ROC curve.

In accordance with ethical considerations for research involving humans, data collection began only after approval by the Research Ethics Committee for Research in Humans of the Universidade Federal de Mato Grosso do Sul (CEP/UFMS), under permit no. 5.722.052, and pursuant to Resolution CONEP/CNS no. 466/2012.

DATA AVAILABILITY

The complete dataset underpinning the results of the present study are available on Figshare and can be accessed at dx.doi.org/10.6084/m9.figshare.25854001.

RESULTS

A total of 249 individuals took part in the study from the four health units surveyed, where participants were predominantly aged 60-69 years, female, self-identified as brown, and married. Participants had a mean age of 71.46 (95%CI 70.52–72.40) years. The other sociodemographic and epidemiological characteristics of the study participants are presented in Table 1.

Table 1. Sociodemographic and epidemiological characteristics of participants treated under Family Health Strategy in rural area of Campo Grande, Mato Grosso do Sul state, 2023.

Variables	n (%)
Age in years	
60-69	113 (45.38)
70-79	97 (38.96)
≥80	39 (15.66)
Sex	
Male	107 (42.97)
Female	142 (57.03)
Race/Skin color	
White	89 (35.74)
Brown	127 (51.00)
Yellow	2 (0.80)
Black	30 (12.05)
Indigenous	1 (0.40)
Marital status	
Single	14 (5.62)
Married	154 (61.85)
Divorced	19 (7.63)
Widowed	47 (18.88)
Civil union	13 (5.22)
Separated	2 (0.80)
Education in years	
None	59 (23.69)
1-3	73 (29.32)
4-7	82 (32.93)
≥8	35 (14.06)
Personal income (minimum wage)	
No income	29 (11.65)
≤ 1	7 (2.81)
1	181 (72.69)
2	22 (8.84)
≥3	10 (4.02)
Practices a religion	
Yes	191 (76.71)
No	58 (23.29)
Engages in leisure activity	
Yes	37 (14.86)
No	212 (85.14)
Engages in physical or sports activity	
Yes	81 (32.53)
No	168 (67.47)

to be continued

Continuation of Table 1

Variables	n (%)
Tobacco use	
Yes	23 (9.24)
No	226 (90.76)
Alcohol use	
Yes	55 (22.18)
No	193 (77.82)
Self-rated health status	
Very good	25 (10.08)
Good	96 (38.71)
Fair	90 (36.29)
Poor	25 (10.08)
Very poor	12 (4.84)
In use of medications	
Yes	201 (81.05)
No	47 (18.95)
Experiencing chronic pain	
Yes	129 (51.81)
No	120 (48.19)
Presence of multimorbidity	
Yes	123 (49.40)
No	126 (50.60)
Level of functioning	
Independent	170 (68.27)
Partial dependence	77 (30.92)
Total dependence	2 (0.80)

Source: Author elaboration.

In the study population, the prevalence of depressive symptoms was 23.29% (95%CI 18.42-28.98) and of anxious symptoms was 22.09% (95%CI 17.33-27.20).

Regarding presence of depressive symptoms, bivariate analysis showed an association with age, education, personal income, engagement in physical activity, self-rated health status, medications use, chronic pain, multimorbidity and functional dependence. On multivariate analysis, the final model with the best parameters was that adjusted for age, sex and income, which revealed that higher prevalence of depressive symptoms was associated with age, marital status, engagement in physical activity, self-rated health status and use of medications. The results of the analyses performed for the outcome presence of depressive symptoms are given in Table 2.

Regarding presence of anxious symptoms, bivariate Poisson regression showed an association with sex, marital status, engagement in physical activity, self-rated health status, presence of chronic pain, multimorbidity and functional dependence. Based on the parameters for analysis from the models, on multivariate analysis, for the presence of anxious symptoms, the final model showed that higher prevalence was associated with sex, marital status, engagement in physical activity, self-rated health status and presence of multimorbidity (Table 3).

Table 2. Factors associated with presence of depressive symptoms in participants treated under the Family Health Strategy in rural area of Campo Grande, Mato Grosso do Sul state, 2023.

Variable	Depressive Symptoms		Bivariate Analysis		Multivariate analysis	
	Yes	No	*p*	PR	*p*	PRa
	n (%)	n (%)				
Age (years)						
60-79	44 (20.95)	166 (79.05)		1		1
≥80	14 (35.90)	25 (64.10)	0.033	1.71 (1.04 – 2.81)	0.043	1.63 (1.01 – 2.62)
Sex						
Male	19 (17.76)	88 (82.24)		1		1
Female	39 (27.46)	103 (72.54)	0.080	1.54 (0.94 - 2.52)	0.145	1.44 (0.88 – 2.31)
Race/Skin color						
Black	35 (22.29)	122 (77.71)		1		
White	22 (24.72)	67 (75.28)	0.664	1.10 (0.69 – 1.76)		
Marital status						
Single	6 (42.86)	8 (57.14)	0.062	2.23 (0.96 – 5.20)	0.001	4.04 (1.82 – 8.98)
Married or Civil Union	38 (22.75)	129 (77.25)	0.604	1.18 (0.61 – 2.28)	0.237	1.41 (0.79 – 2.49)
Divorced or Separated	5 (23.81)	16 (76.19)	0.659	1.24 (0.47 – 3.26)	0.218	1.71 (0.72 – 4.06)
Widowed	9 (19.15)	38 (80.85)		1		1
Education (years)						
None	15 (25.42)	44 (74.58)	0.068	2.96 (0.92 – 9.54)		
1-3	25 (34.25)	48 (65.75)	0.016	3.99 (1.29 – 12.36)		
4-7	15 (18.29)	67 (81.71)	0.207	2.13 (0.65 – 6.92)		
≥8	3 (8.57)	32 (91.43)		1		
Personal income (minimum wage)						
No income	11 (37.93)	18 (62.07)	0.035	3.03 (1.08 – 8.50)	0.150	1.99 (0.77 – 5.09)
≤1	3 (42.86)	4 (57.14)	0.055	3.42 (0.97 – 12.04)	0.083	2.78 (0.87 – 8.85)
1	40 (22.10)	141 (77.90)	0.244	1.76 (0.67 – 4.61)	0.764	1.13 (0.49 – 2.60)
≥2	4 (12.50)	28 (87.50)		1		1
Practices a religion						
No	12 (20.69)	46 (79.31)		1		
Yes	46 (24.08)	145 (75.92)	0.598	1.16 (0.66; 2.04)		
Engages in leisure activity						
No	48 (22.64)	164 (77.36)		1		
Yes	10 (27.03)	27 (72.97)	0.554	1.19 (0.66 – 2.14)		
Engages in physical or sports activity						
No	46 (27.38)	122 (72.62)	0.037	1.84 (1.03 – 3.29)	0.025	1.89 (1.08 – 3.30)
Yes	12 (14.81)	69 (85.19)		1		1
Tobacco use						
No	52 (23.01)	174 (76.99)		1		
Yes	6 (26.09)	17 (73.91)	0.736	1.13 (0.54 – 2.35)		
Alcohol use						
No	48 (24.87)	145 (75.13)	0.317	1.36 (0.74 – 2.52)		
Yes	10 (18.18)	45 (81.82)		1		

to be continued

Continuation of Table 2

Variable	Depressive Symptoms		Bivariate Analysis		Multivariate analysis	
	Yes	No	*p*	PR	*p*	PRa
	n (%)	n (%)				
Self-rated health status						
Very good or good	15 (12.40)	106 (87.60)		1		1
Fair	26 (28.89)	64 (71.11)	0.004	2.33 (1.31 – 4.14)	0.037	1.92 (1.03 – 3.57)
Poor or very poor	17 (45.95)	20 (54.05)	<0.001	3.70 (2.05 – 6.68)	0.001	3.12 (1.64 – 5.95)
In use of medications						
No	3 (6.38)	44 (93.62)		1		1
Yes	55 (27.36)	146 (72.64)	0.011	4.28 (1.39 – 13.13)	0.029	3.22 (1.12 – 9.24)
Experiencing chronic pain						
No	19 (15.83)	101 (84.17)		1		
Yes	39 (30.23)	90 (69.77)	0.010	1.90 (1.17 – 3.11)		
Presence of multimorbidity						
No	17 (13.49)	109 (86.51)		1		
Yes	41 (33.33)	82 (66.67)	<0.001	2.47 (1.48 – 4.10)		
Level of functioning						
Independent	31 (18.24)	139 (81.76)		1		
Dependent	27 (34.17)	52 (65.83)	0.005	1.87 (1.20 – 2.91)		

Source: Author elaboration. *Deviance Goodness of fit* = 131.002; *p* = 1.000. PR: Prevalence Ratio; 95%CI: 95% Confidence Interval; PRa: Prevalence Ratio adjusted for age, sex and income.

Table 3. Factors associated with presence of anxious symptoms in participants treated under the Family Health Strategy in rural area of Campo Grande, Mato Grosso do Sul state, 2023.

Variable	Anxious Symptoms		Bivariate analysis		Multivariate analysis	
	Yes	No	*P*	PR	*p*	PR
	n (%)	n (%)				
Age (years)						
60-79	46 (21.90)	164 (78.10)				
≥80	9 (23.08)	30 (76.92)	0.871	1.05 (0.56 – 1.97)		
Sex						
Male	12 (11.21)	95 (88.79)		1		1
Female	43 (30.28)	99 (69.72)	0.001	2.70 (1.49 – 4.87)	0.005	2.25 (1.27 – 3.98)
Race/Skin color						
Black	34 (21.66)	123 (78.34)		1		
White	21 (23.60)	68 (76.40)	0.725	1.08 (0.67 – 1.75)		
Marital status						
Married or Civil Union	31 (18.56)	136 (81.44)		1		1
Single	4 (28.57)	10 (71.43)	0.342	1.53 (0.63 – 3.74)	0.032	2.62 (1.08 – 6.33)
Divorced or Separated	5 (23.81)	16 (76.19)	0.557	1.28 (0.55 – 2.94)	0.349	1.46 (0.66 – 3.24)
Widowed	15 (31.91)	32 (68.09)	0.043	1.71 (1.01 – 2.90)	0.126	1.48 (0.89 – 2.46)

to be continued

Continuation of Table 3

Variable	Anxious Symptoms		Bivariate analysis		Multivariate analysis	
	Yes	No	*P*	PR	*p*	PR
	n (%)	n (%)				
Education in years						
None	17 (28.81)	42 (71.19)	0.222	1.68 (0.73 – 3.86)		
1-3	17 (23.29)	56 (76.71)	0.475	1.35 (0.58 – 3.14)		
4-7	15 (18.29)	67 (81.71)	0.883	1.06 (0.45 – 2.52)		
≥8	6 (17.14)	29 (82.86)		1		
Personal income (minimum wage)						
No income	6 (20.89)	23 (79.31)	0.849	1.10 (0.39 – 3.04)		
≤1	4 (57.14)	3 (42.86)	0.024	3.04 (1.15 – 8.01)		
1	39 (21.55)	142 (78.45)	0.725	1.14 (0.52 – 2.49)		
≥2	6 (18.75)	26 (81.25)		1		
Practices a religion						
No	12 (20.69)	46 (79.31)		1		
Yes	43 (22.51)	148 (77.49)	0.771	1.08 (0.61 – 1.92)		
Engages in leisure activity						
No	46 (21.70)	166 (78.30)		1		
Yes	9 (24.32)	28 (75.68)	0.720	1.12 (0.60 – 2.09)		
Engages in physical or sports activity						
No	45 (26.79)	123 (73.21)	0.016	2.16 (1.15 – 4.08)	0.009	2.22 (1.22 – 4.04)
Yes	10 (12.35)	71 (87.65)		1		1
Tobacco use						
No	52 (23.01)	174 (76.99)	0.305	1.76 (0.59 – 5.21)		
Yes	3 (13.04)	20 (86.96)		1		
Alcohol use						
No	43 (22.28)	150 (77.72)	0.942	1.02 (0.57 – 1.79)		
Yes	12 (21.82)	43 (78.18)		1		
Self-rated health status						
Very good or good	18 (14.88)	103 (85.12)		1		1
Fair	24 (26.67)	66 (73.33)	0.037	1.79 (1.03 – 3.10)	0.035	1.81 (1.04 – 3.15)
Poor or very poor	13 (35.14)	24 (64.86)	0.006	2.36 (1.28 – 4.35)	0.066	1.72 (0.96 – 3.09)
In use of medications						
No	5 (10.64)	42 (89.36)		1		
Yes	50 (24.88)	151 (75.12)	0.054	2.33 (0.98 – 5.55)		
Experiencing chronic pain						
No	18 (15.00)	102 (85.00)		1		
Yes	37 (28.66)	92 (71.32)	0.012	1.91 (1.15 – 3.17)		
Presence of multimorbidity						
No	17 (13.49)	109 (86.51)		1		
Yes	38 (30.89)	85 (69.11)	0.002	2.28 (1.36 – 3.83)	0.046	1.69 (1.00 – 2.86)
Level of functioning						
Independent	30 (17.65)	140 (82.35)		1		
Dependent	25 (31.65)	54 (68.35)	0.013	1.79 (1.13 – 2.83)		

Source: Author elaboration. *Deviance Goodness of fit* = 137.8821; *p* = 1.000.PR: Prevalence Ratio; 95%CI: 95% Confidence Interval.

DISCUSSION

The present study revealed that the factors associated with anxious symptoms were being of female gender, single, not engaging in any physical or sports activity, having a self-rated health of fair, and presenting multimorbidity. The factors associated with depression symptoms were being aged ≥80 years, single, not engaging in physical or sports activity, having a self-rated health of poor or very poor, and being in use of medications.

In the older population living in the rural areas studied, the prevalence of depressive symptoms was 23.2% and of anxious symptoms was 22.09%. Few Brazilian studies have investigated the older rural population and those available have reported a prevalence of depressive symptoms ranging from 7.1% to 22%[8,7], while the only study on anxious symptoms found a prevalence of 9.2%[9].

By contrast, studies conducted in older individuals in urban areas identified rates of depression symptoms ranging from 9.6% to 74.5% and rates of anxious symptoms of 33.91% to 48.84%[1,5,-20]. Thus, rates of these symptoms observed in the urban area are higher, whose population is more exposed to factors that can negatively influence physical and mental health, such as fewer hours of sleep, pollution, lack of contact with nature, less healthy diet, and being far from family members. The rural older population, however, tend to have greater autonomy, a healthier diet, a direct permanent relationship with the natural environment and, consequently, better quality of life and fewer diseases[16].

While all of the cited studies used the same tools for screening anxious and depression symptoms (GAI and GDS, respectively), the prevalence of these symptoms in older individuals living in rural areas of Campo Grande, Mato Grosso do Sul state, may have been higher than rates found in other studies owing to cultural, regional and economic differences, given each locale has its own cultural aspects, customs and needs, including rural and urban centers[16,21].

In addition, an important aspect to take into account is the impact of the covid-19 pandemic on the mental health of the older population, which may have contributed to the high prevalence of these symptoms found in the present investigation relative to the cited study that was performed prior to the outbreak. covid-19 contributed to the emergence and worsening of psychoemotional conditions in older individuals by creating fear of becoming infected by the disease, sadness upon hearing the news, grief over relatives and friends who became ill and died, lockdowns which caused feelings of loneliness, economic strain and uncertainties about the future[18].

Exploring the factors associated with depressive symptoms reveals that the older individuals most vulnerable to developing depressive symptoms constitute those exhibiting interrelated factors. Being aged 80 years or older is accompanied by a number of organic changes and shifts in social context that can impact the mental and physical health of this population[20], potentially causing multimorbidity and the need to use medications to treat health issues, including to control chronic pain from the conditions cited.

Consistent with the present investigation, the studies by Ferreira & Tavares[8] and by Rocha, Bezerra and Monteiro[20] found data showing that the oldest-old population aged ≥80 years is more susceptible to depressive symptoms. The oldest-old may be exposed to more experiences of loss, bereavement and risk of developing chronic health conditions[20].

The aging process is marked by a series of physiological transformations that, to varying degrees, impact the physical, cognitive and psychological capacity of these individuals. This situation can lead to functional impairment which, depending on the level, can culminate in dependence. This situation is both complex and interrelated where, cases of reduced functioning can be associated with a reduction or loss in the ability to perform a physical or sports activity, having a major impact on the person´s physical and mental health, in turn contributing to a negative self-rated health status[18].

Perceived health is subjective but tends to reflect a holistic perspective of health by incorporating biopsychosocial aspects. Depressive and anxious symptoms can be evidenced in self-rated health, given that the aging process, depending on the vulnerabilities experienced by the individual, may be accompanied by negative changes and

perceptions that can lead to the development of these symptoms[18,19].

Being an older woman can be linked to a number of vulnerabilities, including physical, such that, beyond a given age, females can be more prone to developing multimorbidity and health-related limitations. It is believed that women face greater social vulnerability because they often experience situations of gender inequality and machismo, heavy work burden, lower educational level and working wage, a higher number of diseases, physical and functional limitations, besides living alone, which can result in lower levels of social and emotional support and greater anxious symptoms[21,22].

Multimorbidity results in the need to use more medications for health conditions and chronic pains, a situation which can cause functional dependence owing to the circumstances which, in turn, may lead to a negative self-rated health status. Perceived health is subjective but tends to reflect a holistic perspective of health by incorporating biological, psychic and social dimensions[19].

Among the older population, individuals with multimorbidity use more medication, often suffer from chronic pain, and tend to rate their current health status negatively[16]. In this respect, according to Terassi et al.[23], older individuals with chronic pain are more prone to developing anxious and depressive symptoms, given that negative feelings such as fear, anger, anxiety and aggressiveness can be triggered by pain.

These factors can prevent or hinder older adults from engaging in physical activities or playing sports, exacerbating anxious or depressive symptoms, since doing physical exercise improves mood and reduces stress, increases autonomy and social interaction, among others[17,19]. Moreover, people who are single, i.e., that may experience loneliness, negative emotions and a lack of support in terms of healthcare, have a higher prevalence of anxious and depressive symptoms. Consequently, these subjects need greater social and family support[16,17,24,25].

The factors associated with depressive symptoms closely resemble those associated with anxious symptoms, especially factors connected with the health status seen in older adults, such as having multimorbidity, use of medications, experience of chronic pain, being functionally dependent, not engaging in physical or sports activity and negatively rating health status. This indicated that people who are physically frail can also have psychological disorders and that the same patients can exhibit coexisting depressive and anxious symptoms, despite these manifesting in different ways, a link which may explain the similar prevalence rates found for the two symptoms seen in this study.

In view of the fact that the practice approach of professionals in the ESFs is, in most situations, still oriented toward the biomedical and curative model, there is a need to reform health care to embrace patients´ day-to-day reality, such as older adults living in rural areas[26]. People´s conceptions of health, disease and care are linked to the social and cultural factors of the environments in which they live, whereby it is important to understand the needs and expectations of ESF users in order to improve care practices. Having a broader perspective, for both managers and health professionals, provides a view beyond the epidemiological data pertaining to biological factors[18].

Health prevention and promotion actions targeting older adults should be implemented within the setting of ESFs located in rural areas, such as physical activities, incentives to lead a healthier lifestyle, therapy group, voluntary services, spaces for social gatherings and interaction, toward improving mental health through lower stress, and reduced anxious and depressive symptoms. Further, these actions promote forging of ties and also support networks, boost self-esteem, encourage positive relationships with other participants of the activities, sharing affection and improving quality of life[27].

Limitations of this study include the fact that the sample covers only the city of Campo Grande, Mato Grosso do Sul state. Also, the study was carried out in the Primary Care setting, and the city does not enjoy full coverage by this type of service and, hence, a considerable contingent of the population may not have been included in the study. However, this bias

was reduced by using the probabilistic sampling method. Lastly, the present study has a cross-sectional design, where the data found represents only a snippet of the phenomenon investigated, and the lack of previous scientific studies involving older adults living in rural areas hampers comparisons and furthering of theory.

In view of the scant information on this subject, further studies in rural areas of other regions in the country investigating mental health in the older population, particularly anxious and depressive symptoms, should be conducted, both to screen for these symptoms and assess exposure of older individuals to risk factors for mental health over time.

CONCLUSION

In the present study, the prevalence of anxious and depressive symptoms identified in older adults treated under the Family Health Strategy in rural areas of Campo Grande, Mato Grosso do Sul state was 22.09% and 23.29%, respectively. According to the findings, the older adults at most risk of developing psychological disorders are those living in circumstances of social vulnerability, that have chronic health conditions, and who are more removed from factors considered protective, such as higher working wage, greater educational level, lower use of medications, fewer self-reported diseases etc.;

The Family Health Strategy plays an important role in providing mental health care, and the current findings highlight the need to plan and implement public policies targeting the older rural population, given the lower health coverage and lack of professionals, including mental health specialists.

AUTHORSHIP

- Amanda G. Torres – data curation; data investigation and Interpretation; formal analysis; article writing, review and editing; approval of version for publication.
- Kenio C. de Lima – conceptualization; writing, review and editing; methodology and supervision; approval of version for publication.
- Alberto M. Martins – conceptualization; writing, review and editing; methodology; approval of version for publication.
- Arthur de A. Medeiros – project administration; conceptualization; methodology; data curation; formal analysis; writing, review and editing; data supervision and interpretation; approval of version for publication.

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