Prevalence and factors associated with the rates of depression among elderly residents in rural areas*

PREVALÊNCIA E FATORES ASSOCIADOS AO INDICATIVO DE DEPRESSÃO ENTRE IDOSOS RESIDENTES NA ZONA RURAL

PREVALENCIA Y FACTORES ASOCIADOS AL INDICADOR DE DEPRESIÓN ENTRE ANCIANOS RESIDENTES EN ZONA RURAL

Pollyana Cristina dos Santos Ferreira[1], Darlene Mara dos Santos Tavares[2]

ABSTRACT

This study aimed to determine the prevalence of elderly patients with an indication of depression by sex and age group and to identify the factors associated with the indication of depression. Analytical, observational and cross studies were conducted with 850 elderly residents in the rural areas of the municipality of Minas Gerais. For data analysis, we applied the prevalence formula and logistic regression model (p<0.05). The project was approved by the Ethics in Research Human of the Triângulo Mineiro Federal University (Protocol No. 1477). The prevalence of the indicators of depression accounted for 22%, with a greater occurrence among females and individuals aged 60⬚ 70 years. In females, a higher number of comorbidities and higher functional disability with respect to performing the activities of daily living remained associated with the indication of depression. These results reinforce the need to implement actions to promote health and disease prevention, focusing on depression.

RESUMO

O presente estudo objetivou verificar a prevalência de idosos com indicativo de depressão, segundo sexo e faixa etária, e identificar os fatores associados ao indicativo de depressão. Estudo analítico, transversal e observacional, realizado com 850 idosos residentes na zona rural de um município de Minas Gerais. Para a análise dos dados aplicou-se a fórmula de taxa de prevalência e o modelo de regressão logística (p<0,05). O Projeto foi aprovado pelo Comitê de Ética em Pesquisa com Seres Humanos. A prevalência de indicativo de depressão correspondeu a 22%, com maior ocorrência entre o sexo feminino e na faixa etária entre 60 ├ 70 anos. O sexo feminino, o maior número de comorbidades e de incapacidade funcional para o desempenho de atividades instrumentais da vida diária permaneceram associados ao indicativo de depressão. Esses resultados reforçam a necessidade de se implementarem ações de promoção de saúde e prevenção de agravos, com enfoque para a depressão.

RESUMEN

Se objetivó evaluar la prevalencia de ancianos con indicador de depresión según sexo y faja etaria, e identificar factores asociados al indicador de depresión. Estudio analítico, transversal, observacional; realizado con 850 ancianos residentes en zona rural de un municipio de Minas Gerais. Para análisis de datos se aplicó la fórmula de tasa de prevalencia y el modelo de regresión logística (p<0,05). Proyecto aprobado por Comité de Ética en Investigación con Seres Humanos. La prevalencia del indicador de depresión correspondió a 22%, con mayor incidencia entre sexo femenino, faja etaria de 60 a 70 años. El sexo femenino, el mayor número de comorbilidades y de incapacidad funcional para desempeñar actividades instrumentales cotidianas se asociaron al indicador de depresión. Estos resultados expresan la necesidad de implementación de acciones de promoción de salud y prevención de enfermedades, con enfoque particular en la depresión.

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INTRODUCTION

The aging population has been experienced by most societies, and projections indicate that in 2050 there will be approximately two billion elderly individuals in the world, with much of that population living in developed countries.

During the aging process, changes experienced by the elderly, such as the loss of a spouse, financial difficulties, lack of familiar and social support, and the occurrence of comorbidities may frequently contribute to psychological imbalances, especially depression[1].

Depression is a serious mental disorder. In the elderly with depression, symptoms such as a decrease in self-esteem, hypochondria, alterations in sleep and appetite patterns, feelings of worthlessness, dysphoric moods and a tendency towards recurrent thoughts of suicide, have been reported[2].

The etiology of depression in the elderly is complex as there are several biological, social, neurological and personality factors that influence the onset of a depressive episode. Several factors are common at any age, but there is evidence that some factors are specific to this age group[3].

A study conducted with elders in northeastern Brazil found that an age older than 75 years, illiteracy and dependence for the performance of instrumental activities in daily life were factors associated with the indications of depression[4].

Concerning the place of living, a survey of elders in Mexico found a major prevalence of depression in rural zones compared with urban zones, mainly in the older age group[5].

In another study performed in rural China, the presence of depression indicators was associated with the female gender, older age, lack of schooling, widowhood and living alone. The surveyors suggested that the limited options for health care or the lack of social support in the rural zone may cause other difficulties in the elders´ daily routine, contributing to the presence of depressive symptoms[6].

Knowledge about depression in the elderly and its associated factors is fundamental for planning action strategies by health care professionals because such plans can contribute to decreased hospitalization and because the use of medicines improves the functional condition and reduces health care costs[4].

Nevertheless, notably in Brazil, most studies that have investigated depression in the elderly have been conducted in urban zones[2-4], and surveys focused on the aging topic in rural areas are scarce[7].

...destaca-se que, no Brasil, a maioria dos estudos que investigam a depressão em idosos têm sido realizados na zona urbana, sendo escassas as pesquisas que abrangem a temática do envelhecimento em áreas rurais.

To increase knowledge about the health situation of elderly individuals living in rural areas under the perspective of depressive symptoms, the present study aimed to evaluate the prevalence of the elderly with depression indicators who were residents in the rural zone of a town in the Minas Gerais countryside according to sex and age groups and to identify the social-demographic and economic factors and the number of self-reported morbidities and functional disabilities associated with the indicators of depression.

METHODS

This survey is part of a larger study that is evaluating the health and life quality of elderly individuals living in rural zones. The present study was outlined as a home, analytical, transversal and observant inquiry. The data collection was performed in the rural zone of a town in the Minas Gerais countryside, which is formed by three health districts and covered by the Health Strategy of the Family (HSF).

The population of the study was composed of all elderly individuals living in the rural zone of the town who were registered by the HSF. A list offered by the HSF was used, which contained the total number of registered elderly individuals, which was 1297 people.

The following inclusion criteria were considered for this study: an age equal to or older than 60 years, living in the rural zone of the town, either sex, not having a cognitive deficiency and agreement to participate in the survey. Of the total group, 117 moved from this region, 105 showed cognitive decline, 75 refused to participate, 57 were not located after three attempts, 11 had died, three were in the hospital, and 79 were excluded due to other reasons. Thus, 850 elderly participated, with 167 having depression indicators and 663 without the indicators.

The interviews were conducted by 14 interviewers properly trained between June 2010 and March 2012. The data were collected in the elderly individuals´ homes, following the lists from the HSF containing the names and addresses of the participants as a reference. Because the Health Secretary Office authorized the data collection in partnership with the HSF, the interviewers relied on the participation of the Health Community Agents to locate the residences of the elderly individuals.

The interviews were reviewed by the field supervisors (teaching staff and master's students) who participated in the Group of Survey in Collective Health of a university in the countryside of Minas Gerais. When there were questions that were not completed or inconsistent, the surveys were returned to the interviewer, who then contacted the elderly individual for the proper answer.

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Before starting the interview, the cognitive evaluation of the elderly individual was performed to evaluate his/her ability to answer the questionnaire. The Mini Exam version of Mental Condition was used (MEMC), adapted to Brazilian society[8]. The cut-off point of cognitive decline was considered in accordance with the schooling of the individual: less than or equal to 13 points for those without schooling, less than or equal to 18 points for one to 11 years of study and less than or equal to 26 for those with a college degree with more than 11 years of study[8].

The data concerning the identification, social-demographic and economic profiles and self-reported diseases were collected by an instrument based on the questionnaire, Older Americans Resources and Services, adapted in Brazil[9].

For the functional capacity evaluation, the validated version was adapted from the Katz Index for Brazil[10], which evaluates the elderly functional capacity to perform the basic activities of daily life (BADL), and the version adapted from Lawton and Brody´s Scale[11] for Brazil to evaluate their abilities to perform instrumental activities in daily life (IADL). Dependence was considered for those elderly who mentioned not performing the BADL. To determine the depression indicators, the Abbreviated Geriatric Depression Scale was adapted for Brazil[12], which consisted of 15 closed questions with objective answers (yes or no) and a score that varies from 0 to 15 points. A score greater than five 5 was considered to indicate depression.

The data were typed in double entrance in an electronic data bank using Excel® and further analyzed with the Statistical Package to the Social Sciences (SPSS), version 17.0.

The prevalence rate was calculated according to sex (male, female) and the age groups (60 ├70, 70 ├80, 80 or more).

To examine the factors associated with the depression indicators, the preliminary bi-varied analysis used a chi-square test for categorical variables and Student t-test for the numerical variables. The tests were considered significant when $p < 0.10$. The dependent variable was the presence of depression indicators, and the predictors were sex (male/female), age group (60 ├70 – yes or no; 70 ├80 – yes or no; 80 or older – yes or no), marital status (with or without a spouse), income (without income; up to a minimal salary; larger than one salary), schooling (without or with), number of diseases and functional inability number. The association was considered significant when $p < 0.05$.

The project was approved by the Ethics in Research with Human Beings Committee of the Triângulo Mineiro Federal University, protocol nº 1477. The interviewers showed the elderly individuals the objectives of the survey and the Free and Clarified Consent Form. The interview was conducted only after the consent of the interviewee and the signature of the referred to the terms were obtained.

RESULTS

The prevalence of depression indicators corresponded to 22%, with a higher occurrence among women (14%) than among men (8%). With respect to age, the depression indicator prevalence was higher among the elderly who were 60 ├70 years (12%), followed by those who were 70 ├80 (6.2%) and 80 or older (2.9%).

Concerning the factors associated with the depression indicators, the variables were submitted to multivariate analysis according to the established inclusion criteria ($p < 0.10$), female sex ($X^2 = 68.0$; $p < 0.001$), being 80 years or older ($X^2 = 6.767$; $p = 0.034$), not having a spouse ($X^2 = 5.967$; $p = 0,015$), no schooling ($X^2 = 68.000$; $p = 3.097$), larger number of functional disabilities for IADL ($t = 4.266$; $p < 0.001$) and larger number of morbidities ($X^2 = 8.852$; $p < 0.001$). The variables included in the multivariate pattern of logistic regression are exhibited in Table 1.

Table 1- Multivariate logistic regression of the factors associated with depression indicators in the elderly residing in a rural zone. Uberaba, MG, 2011

Variables	Initial Model			Final Model		
	β*	IC (95%)	p	β*	IC (95%)	p
Sex						
Female	1.46	1.00-2.13	0.048	1.53	1.06-2.21	0.024
Age group						
80 or more	1.49	0.78-2.82	0.226	-	-	-
Marital status						
With no spouse	1.37	0.94-2.00	0.090	-	-	-
Schooling						
With no schooling	1.40	0.93-2.10	0.104	-	-	-
Number of morbidities	1.25	1.17-1.33	<0.001	1.24	1.17-1.32	<0.001
Number of functional inabilities (IADL)	1.26	1.06-1.49	0.007	1.32	1.12-1.55	0.001

*β exponent

In the final multivariate model, the remaining predictors for depression were female gender, high number of morbidities and high number of functional disabilities for AIDL (Table 1).

Concerning the socio-demographic and economic variables, only female sex remained associated with the depression indicators ($p = 0.024$, Table 1). Elderly women showed a 53% higher chance of having depression than men (Table 1).

A high number of morbidities was associated with depression ($p < 0.001$). The elderly with a higher number of self-reported morbidities presented a 24% higher chance of having depression indicators (Table 1).

A high number of functional inabilities for the performance on the AIDL also presented a significant association with depression indicators ($p = 0.001$). Interestingly, the elders who had a higher number of functional inabilities on the AIDL had a 32% higher chance of having depression (Table 1).

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DISCUSSION

In this study, the prevalence of depression indicators was 22%. In Brazil, an investigation conducted in Santa Catarina showed that the elderly living in a rural zone had a reduced prevalence (16.4%)[7]. However, in a survey performed in elderly residents in a rural zone in Spain, a percentage similar to that of this study was obtained (23.6%).

An effective approach to problems related to mental health by professionals from the Basic Health Attendance favors management among community and inter-sectorial resources, reducing actions, and focusing on the *complaint-behavior* model. Knowledge of the socio-cultural conditions, the community and the family´s means becomes a necessity to face the problems that go beyond biological issues, such as mental disorders[13], including depression.

Improvement in the organizational arrangements of health services, such as providing a means of transportation to the ESF, establishing a system of referral to secondary and tertiary care when necessary, and executing efficient reception, are essential to provide the elderly residing in rural zones with health care[14].

The nurse should be responsible for performing the early detection of the symptoms related to depression in the elderly via the use of tracking timetables and then sending those individuals for medical evaluation to confirm the diagnosis. Moreover, education practices through the health groups may be performed to discuss the depressive symptoms with the elderly and his/her family, cooperating for improved knowledge of the disease and placement of the elder and his family in the therapeutic process.

The highest prevalence of depression indicators was among women in this survey, supporting other international studies performed in the elderly residing in rural zones[15].

The largest effect on the female sex may be related to factors that occur during menopause, such as hormone alterations. In addition, the social and emotional aspects[16], such as financial difficulties, the mourning experience and the lack of familiar support and interpersonal relationships, should be comprehended.

During menopause, several aspects contribute to the manifestation of depressive symptoms, such as a decrease in self-esteem, irritability, and reductions in concentration, memory and libido[17]. These symptoms may represent an affective expression related to different moments, such as children leaving home, retirement, and a decline in the marital relationship, combined with the physical transformation as the woman realizes the loss of her youth. Thus, this phase of life requires a systematic accompaniment by nurses and other health professionals with respect to health promotion, detection and treatment of aggravation and damage prevention[17], such as depression.

Notably, the psychiatric specialty stigma makes it difficult for a person to ask for help from the health team when he/she presents symptoms of mild to moderate depression[16]. The nurse should evaluate the signs of depression among older women using their complaints and identify the causal factors that may be related to the triggering of this disease. Then, the nurse should suggest interventions for these factors, favoring early treatment.

During the data collection, we noticed that the women spent long periods alone in the investigated rural zone due to the absence of children, who went to the town in search of better study conditions, job opportunities and leisure. The husbands in these locations were also used to keeping their professional activity in the country, even after retirement.

The identification of activities that are interesting for older women who live in the rural zone may assist the nurses in the performance of appropriate health actions. Such actions should motivate the elderly women to perform activities that keep them active and personally satisfied, strengthening the social support net.

Although not the main focus of our survey, during the data collection, we could also evaluate the existence of cooperatives that contribute to the socialization of elderly participants and improve personal satisfaction to enable the elderly to feel valued. In these cooperatives, the women perform handcrafting activities, such as embroidery and crocheting, and produce homemade sweets and cheese that are sold within the same community and in the city. However, the distance between the place where the activities are performed and the residence of the older women may be a factor that makes the access of a large number of people difficult.

The highest prevalence of depression indicators in 60-70-year-olds diverges from a study performed in Canada, in which the prevalence of depression indicators among the elderly in rural zones was highest among individuals older than 80 years[15].

However, these findings are in agreement with a survey conducted in Minas Gerais, in which there was a higher prevalence of depression among 60 ├70 year old elders. Notably, worrying about children and grandchildren, taking care of another adult and managing events that threatened, to a certain extent, their own well-being were relevant characteristics among the people in this age group who presented a symptomatic depressive condition[18].

From this perspective, health professionals should offer support to elders who are experiencing familiar or personal difficulties. Group meetings allowing the elderly individuals to share their experiences and life events may help them overcome this phase.

With respect to factors associated with depression that are in agreement with the current survey, a study performed in rural China showed an association between

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the female sex and depression indicators, with older women presenting a two-fold higher chance (β=2,19) of being depressed than older men[19].

Emphasizing the social and health actions to the older female residents of rural zones is necessary to prevent aggravation, especially of symptoms related to depression.

The strategies that may be developed in the Primary Attention to Health scope include community therapy, which may be a useful tool for mental health promotion, acting as a spring to increase the attendance to problems linked with emotional and psychological needs[20].

In a town in Rio Grande do Norte, where depression was noteworthy as a prevalent morbidity among the elderly, a community therapy group was developed at the Family Health Unit. The surveyors noticed that the community therapy provided the elders with a feeling of strength and spirituality, creating support nets based on shared experiences, autonomic rescue and the possibility of behavior changes. The gathering of these factors favored the confrontation of problems and difficulties and constituted a viable method to execute such therapy [20].

The individual attendance of therapy, cultural workshops, and groups focused on income generation in the community, sporting activities (such as hiking and guided gymnastics), and promoting community parties may make social reintegration viable, form support nets and stimulate self-care. These activities may favor the promotion of health to reduce the aggravations and help older women suffering with this disease[1].

We emphasize the indication for medicinal treatment as many times correcting a chemical imbalance that leads to depression becomes necessary. The prescription of medicine should be performed by a qualified professional as the indiscriminate use of certain psychotropics, especially among women, may change the treatment into an addiction[1].

The elderly with a higher number of morbidities presented a greater chance of having depression. A superior result was obtained in a study conducted in Spain in which a higher number of comorbidities resulted in a two-fold greater chance of the elderly, from both rural and urban zones, to have depression indicators (β=2.38)[5].

The onset of the clinical symptoms related to these morbidities, such as the lack of appetite, insomnia, fatigue, and low self-esteem, may overwhelm the depressive symptoms and thus make the diagnosis of depression difficult, leading to disease aggravation. In these cases, the health professional should be aware of the symptoms' intensity being disproportionate to the expected clinical condition of the elder to prevent the depression diagnosis and its treatment from being delayed.

Concerning the higher number of functional inabilities on the AIDL performance as a predictor of depression, in Brazil, a survey developed in the Northeast showed values similar to those found in this survey, with the chance of presenting depression indicators being approximately three times greater among elders who needed help to perform the AIDL (β=3.72)[4].

The high number of comorbidities among the elders with depression may have contributed to the limitation of their functional capacity in the AIDL performance in this group.

Dependence refers to a functional condition in which a person, due to the loss of physical, psychic or intellectual autonomy, requires assistance or help from others to perform daily habitual actions[22]. In this sense, the family has a fundamental role for the elder´s rehabilitation with respect to both the functional abilities and emotional support for treating depression. Thus, the inclusion of the family in the therapeutic process enable the expression of doubts, anguishes and experiences related to the elder´s care. The nurse´s support may contribute to a major link between the family and the elder, favoring the recovery of independence, when possible, and a decrease in the work and emotional overload among the caretakers.

Even though the elder may have functional limitations, he/she needs to be stimulated to develop his/her daily activities to improve self-confidence, aid recovery or contribute to the empowerment of the IADL performance. However, it is essential that the treatment of depression occurs concomitantly with the process of recovering the functional abilities. The rehabilitation process of an elderly individual who presents functional inabilities and depression requires the support of both the family and health team as this process is gradual. This way, each conquest by the elder should be recognized to make him/her feel valued.

CONCLUSION

This survey demonstrated a high prevalence of depression indicators among the elderly residing in a rural zone (22%), with a greater occurrence among women and those aged 60 ├70 years old. The female gender presented the largest number of comorbidities and functional inabilities for the performance of instrumental activities in daily life. These were factors that remained associated with the presence of depression indicators, and the female sex was the predictor that contributed the most to the presence of depression indicators.

A limitation of the current study is the self-reported nature of the comorbidities, which may be under-diagnosed.

The outcomes of this survey might assist with the planning and implementation of strategies with the main focus of confirming the diagnosis of depression cases. The treatment procedures should include the elders and their family groups and actions aimed at the health promotion and prevention of diseases among the elderly, especially

in the primary care scope as they act directly in the studied locations.

The academic background of the health professionals is important to contemplate their professional performance in attending to the needs of the aged population who live in rural zones, considering their specifications and peculiarities.

Notably, the surveyors contacted the individuals who attended the Strategies of the Family Health in the rural zones of the town, having access to the list containing the names and addresses of the elderly individuals who presented depression indicators. These elders should be clinically evaluated to confirm the diagnosis of depression and establish a therapeutic plan by the health team.

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Correspondence addressed to: Darlene Tavares
Rua Jonas de Carvalho, 420 – Olinda
CEP 38055-440 - Uberaba, MG, Brazil