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Quality of life of elderly people living in a municipality with rural characteristics in the countryside of Rio Grande do Sul, Brazil

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Abstract

Objective: to describe the quality of life of elderly residents of a rural municipality in the state of Rio Grande do Sul. *Methods:* a cross-sectional, descriptive study of a population of elderly persons was performed. Systematic probabilistic sampling was carried out. The sample was composed of 100 elderly persons, of whom 67 were female and 33 were male. Two questionnaires were used to collect the data, a sociodemographic and sample characterization survey, and the WHOQOL-BREF, in order to evaluate quality of life. The normality of the data was verified by the Kolmogorov-Smirnov test and analysis of mean and standard deviation was performed. Absolute and relative frequencies, Student T-test and Pearson correlation were also performed. *Results:* Quality of life in the physical domain was negatively impacted for both genders, whereas in the social relationships domain a good evaluation was identified, without significant difference between genders. The correlation of the WHOQOL-BREF domains with the age, weight and height of the women demonstrated, although weak, a positive and direct association in quality of life between environment and weight (r=0.277, p=0.024). When only men were evaluated, a strong inverse association with physical domain and age was found (r=0.725, p<0.001) as well as an inverse association of psychological domain with age (r=0.371, p=0.033). The psychological domain presented a positive association with BMI (r=0.36, p=0.039). *Conclusion:* It was concluded that elderly persons living in a rural environment who participated in this study had a good quality of life.

Keywords: Elderly. Quality of Life. Rural Population.

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INTRODUCTION

Among the factors that determine the health of the elderly population are the characteristics of their social context, which generate inequalities in exposures and vulnerabilities during the aging process and are directly related to the well-being, functional independence and quality of life of elderly persons[1].

The process of urbanization Brazil[2] acts directly on such social contexts, and gives population aging among the urban and rural elderly peculiar, differentiated characteristics, even though both groups were born and lived in the same time period. These differences include economic development, employment opportunities, cultural diversity and the availability and access to goods and services in urban and rural areas, as the greatest public investments in health are concentrated in urban scenarios[3].

In contrast, a greater stability in personal relations has been perceived in rural environments, allowing greater solidification of the affective ties between the population[3].

However, studies that consider the differences between elderly populations in urban and rural environments remain scarce and limited, indicating a need for studies that can contribute to health care planning by identifying the individual characteristics of each environment.

In view of this reality, the present study aimed to describe the quality of life of elderly people living in a municipality with rural characteristics in the state of Rio Grande do Sul.

METHODS

A cross-sectional, observational, descriptive study was carried out among the population of elderly residents in the municipality of Aratiba, located in the extreme north of the state of Rio Grande do Sul. This municipality is considered small, with an estimated population of 6,565 inhabitants in 2010[4]. A total of 1,283 people are elderly, of whom 591 are men and 692 are women[5].

According to data from Alencar et al.[6], considering a standard deviation of 2.3 for quality of life and a maximum error of the estimate of 0.5, in addition to a level of significance of 5%, a sample with a minimum of 80 elderly persons was calculated as necessary to estimate quality of life in rural areas. Another 25% was added to this value due to the possibility of obtaining incomplete data during the study, giving a total of 100 elderly persons. As criteria for inclusion, individuals were required to be aged 60 years or older, be resident in the city in question, and to have the necessary cognitive conditions to respond to the questionnaires or have a responsible caregiver who could answer on their behalf.

Systematic probabilistic sampling was performed, where the first street and the first house to be visited were randomly selected and thereafter, following each house visited by the researcher, the next two houses were excluded and the third was visited. Residences visited where there was no resident that met the inclusion criteria, or where no one answered the door at the time of the visit, were excluded from the study and the next residence was visited. Data collection was performed from March to July 2014.

Of the elderly persons, 67 were female and 33 were male. Two questionnaires were used for data collection. One was composed of sociodemographic questions and data to characterize the sample, such as questions related to age, weight, height, gender, ethnicity, body mass index (BMI), general health status, main disease reported and the use of medications to treat this disease, marital status, number of children, religion, occupation and smoking.

The second questionnaire was the WHOQOL-BREF, a validated instrument for assessing quality of life, composed of 26 questions divided into four domains: Physical, Psychological, Social Relationships and Environment[7]. The scores resulted in values from 4 to 20, based on a positive scale, or in other words, the higher the score, the better the quality of life. There are no cut-off points that determine a score below or above which one can evaluate the quality of life as good or bad[8]. The application time of the instruments was approximately 40 minutes.

The normality of the data was verified by the Kolmogorov-Smirnov Test. As the distribution was Gaussian, the quantitative data was presented in mean and standard deviation, while the qualitative data was presented in absolute and relative frequencies. The comparative inferential analysis between the female and the male genders was performed by the Student's t-test for independent samples, while the associations between the biophysical variables and the WHOQOL-BREF domains were verified through the Pearson Correlation Test. A level of significance of 5% was applied for all the analyses ($p \leq 0.05$).

The study was approved by the Research Ethics Committee of the Centro Universitário Metodista (IPA) of Porto Alegre, under protocol number 442-2009. All the participants signed a Free and Informed Consent Form in compliance with National Health Council Resolution 466/2012.

RESULTS

According to the sample data, most of the elderly persons interviewed were female, Caucasian, eutrophic and described suffering from a disease, for which they took medication, with cardiovascular diseases being the most prevalent in both genders. In addition, the clear majority said they did not use tobacco, as demonstrated in Tables 1 and 2 of the sample characterization.

According to the WHOQOL-BREF questionnaire, the quality of life for both genders was negatively impacted in the physical domain, while in the domain related to social relationships, a good quality of life was found, with no significant difference between men and women (Table 3).

Table 1. Mean age. weight and height of the sample of elderly persons evaluated in the municipality of Aratiba. Rio Grande do Sul. 2014.

Variables	Female n=67 Mean (sd)	Male n=33 Mean (sd)
Age (years)	70.49 (±7.35)	70.36 (±6.42)
Weight (Kg)	66.73 (±10.46)	75.42 (±14.95)
Height (m)	1.59 (±0.06)	1.72 (±0.06)

sd: standard-deviation;

Table 2. Characterization of sample of elderly persons evaluated in the municipality of Aratiba, Rio Grande do Sul, 2014.

Variables	Female n=67 n (%)	Male n=33 n (%)
Ethnicity		
White/Caucasian	55 (82.1)	31 (94)
Black/Afro-Brazilian	7 (10.4)	1 (3)
Others	5 (7.5)	1 (3)
Body Mass Index*		
Thin (<22 kg/m2)	7 (10.45)	7 (21.21)
Eutrophic (22-27 kg/m2)	38 (56.72)	18 (54.54)
Obese (>27kg/m2)	22 (32.83)	8(24.24)
General state of health		
Reported a disease	57 (85.1)	21 (63.6)
Healthy	10 (14.9)	12 (36.4)

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continued from table 2

Main disease reported		
Cardiovascular diseases	41 (71.9)	7 (33.3)
Dyslipidemias	3 (5.3)	2 (9.5)
Diabetes *Mellitus*	2 (3.5)	4 (19.1)
Pulmonary diseases	0 (0)	2 (9.5)
Osteomuscular diseases	6 (10.5)	4 (19.1)
Neurological Diseases	2 (3.5)	2 (9.5)
Others	3 (5.3)	0 (0)
Medication taken for main disease reported		
Yes	55 (82.1)	21 (63.6)
No	12 (17.9)	12 (36.4)
Smoker		
Yes	1 (1.5)	2 (6.1)
No	66 (98.5)	30 (90.9)
Ex-smoker	0 (0)	1 (3)

n=absolute frequency; %=relative frequency; * BMI according to classification of Lipschitz et at.4 for the elderly.

Table 3. Description of WHOQOL-BREF values of elderly residents of the municipality of Aratiba, Rio Grande do Sul, 2014.

Domains	Female Mean (sd)	Male Mean (sd)	*p*
Physical	13,49 (±2,41)	12,73 (±2,86)	0,17
Psychological	14,63 (±1,94)	13,86 (±1,99)	0,068
Social relationships	15,30 (±2,14)	15,67 (±1,80)	0,378
Environment	14,50 (±1,55)	14,98 (±4,74)	0,454
Total	15,00 (±2,39)	14,54 (±3,05)	0,419

sd: standard-deviation; Gaussian distribution; Values expressed in mean and standard deviation; Student's t-test for independent samples ($p \leq 0.05$).

When correlating the WHOQOL-BREF domains with the age, weight and height of the evaluated women, we noticed a weak positive and direct association between quality of life in the environment domain and weight ($r=0.277$, $p=0.024$).

When men were evaluated separately, some significant correlations were identified. A strong and inverse association between the physical domain and age ($r=-0.725$; $p<0.001$) and an inverse association between the psychological domain and age ($r=-0.371$; $p=0.033$) were observed. Moreover, the psychological domain was positively associated with BMI ($r=0.36$; $p=0.039$).

DISCUSSION

In the present study, the great majority of the elderly persons referred to suffering from a disease, with women reporting more diseases than men. Cardiovascular diseases, which are the most frequent causes of death in the world[9], were the most prevalent among the sample (71.9%). It is worth noting that another Brazilian study on the quality of life of the elderly found that cardiovascular diseases were the most frequent illnesses among this population group, notably systemic arterial hypertension (75.4%)[8]. Despite the expressive number of elderly persons who report suffering from disease, it is important to reiterate

that aging can cause changes in all the organs and systems of the human body, and diseases are not an automatic part of the aging process[10].

To have a good quality of life over the years, avoiding smoking is of the utmost importance[11]. This trend has been observed in Brazil over time, as in 1989 the prevalence of elderly smokers was 26.04%, decreasing to 15.4% in 2003[12]. In the present study, 90.9% of elderly men and 98.5% of elderly women declared themselves non-smokers.

When quality of life was evaluated through the WHOQOL-BREF questionnaire, it was affirmed that the elderly persons evaluated in the present study have a good quality of life, as the final scores of the domains were very close to 20, the maximum value of the scale.

No significant differences were found in the quality of life scores between the genders, a finding similar to the results of a study by Costa et al.[13], who also assessed the quality of life of the elderly using the WHOQOL-BREF scale. However, there was an association between advanced age and low physical and psychological scores among men. This result may suggest that men are more emotionally affected by aging than women, and that women are more "prepared" to accept the physical and emotional changes that aging brings. Other studies have also highlighted the relationship between advancing age and declining levels of quality of life for elderly men[13,14].

In this study, the lowest scores were registered in the physical domain, and such scores were directly related to old age. This can be explained by the increasing difficulty in maintaining balance, strength and functional independence among the elderly, caused by the physical and deleterious changes in the bones, muscles and joints systems produced by aging itself, which tends to be a negative factor for quality of life[15].

However, a good score was obtained in the present study in the areas related to social relationships and the environment. It is suggested that this result is due to the hypothesis that the socio-affective involvement and differentiated rhythm of life in rural areas allow the elderly to maintain social relationships and a connection with the environment. While inhabitants of rural areas have less contact with people, such contact is more direct and enduring than the relationships of those living in the city, allowing greater social integration and companionship[16]. There are also environmental differences, as rural dwellers have closer contact with nature, unlike urban populations living in the artificial environment of the city[17].

When elderly women were separately evaluated, there was a positive correlation between the environment and weight, or in other words, the rural context seems to stimulate maintaining or gaining the latter. As with women, there was a positive association between the psychological domain and BMI among men.

The mean age of the sample was around 70 years, the period of life in which there is a decrease in body weight due to the gradual decrease of body height, loss of bone mass, increase of body fat, decrease of fat-free mass and its main components (minerals, water, protein and potassium), and also by the decrease of the resting metabolic rate[18]. However, the sample was eutrophic, with a BMI within the range of normality for age and gender, suggesting that, although advanced age promoted a reduction in body weight[18], the rural environment contributed to the fact that these elderly people remained within the ideal weight range.

One limitation of the present study was the fact that it was not possible to visit all the residents, as some were not at home at the time of data collection, and these residences were excluded. The fact that the relationship between the causes and effects of the results could not be identified or affirmed was also a weakness.

CONCLUSION

The present study found that the rural environment provides a good quality of life for the elderly persons who live there. Exploring the quality of life of the elderly population and the domains affected by advancing age is fundamental for the elaboration of public policies and the planning of programs focused on the elderly. In view of this, we suggest further studies with the longitudinal monitoring of elderly populations in municipalities with distinct rural and urban characteristics, as well as the comparison between the quality of life of these populations.

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