Perception of the quality of life of older adults of Borba-AM, Brazil

Percepção da qualidade de vida de idosos de Borba-AM, Brasil

Percepción de la calidad de vida de los ancianos de Borba-AM, Brasil

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Abstract
Quality of life is a multidimensional concept that refers to an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and is affected by their physical health and the psychological state. This study aimed to describe the perception of health-related quality of life of elderly people living in the municipality of Borba-AM, Brazil. The sample consisted of 233 elderly people (71.2 ± 8.9 years). The data were obtained through the generic instrument of quality of life "Medical Outcomes Study 36-Item Short-Form Health Survey" (SF-36). It is verified that the domains: functional capacity, pain, general health, vitality and social aspects had higher and statistically significant values (p<0.05) for the male group compared to the female gender. Elderly people presented a good perception of health-related quality of life in most of the investigated domains (physical functioning, role-physical, bodily pain, general health, vitality, role-emotional, social functioning and mental health).
Keywords: Quality of life; Aged; Aging.

Resumo
Qualidade de vida é um conceito multidimensional que se refere à percepção do indivíduo de sua posição na vida no contexto da cultura e do sistema de valores em que vive e em relação aos seus objetivos, expectativas e padrões e é afetado pela sua saúde física e o estado psicológico. O objetivo do estudo foi descrever a percepção da qualidade de vida de idosos residentes no município de Borba-AM, Brasil. A amostra foi composta por 233 idosos (71,2 ± 8,9 anos). Os dados da percepção da qualidade de vida foram obtidos por meio do Medical Outcomes Study 36-Item Short-Form Health Survey" (SF-36). Verifica-se que os domínios: capacidade funcional, dor, estado geral de saúde, vitalidade e aspectos sociais apresentaram valores maiores e estatisticamente significantes (p<0,05) para o grupo masculino em relação ao feminino. Os idosos apresentam uma boa percepção de qualidade de vida na maioria dos domínios investigados (capacidade funcional, aspectos físicos, dor, estado geral de saúde, vitalidade, aspectos sociais e emocionais e saúde mental).
Palavras-chave: Qualidade de vida; Idoso; Envelhecimento.

Resumen
La calidad de vida es un concepto multidimensional que se refiere a la percepción que tiene un individuo de su posición en la vida en el contexto de la cultura y el sistema de valores en el que vive y en relación con sus metas, expectativas y estándares, y se ve afectada por su salud física y el estado psicológico. El objetivo del estudio fue describir la percepción de la calidad de vida de los ancianos residentes en la ciudad de Borba-AM, Brasil. La muestra estuvo compuesta por 233 ancianos (71,2 ± 8,9 años). Los datos de percepción de la calidad de vida se obtuvieron atravués de la Encuesta de salud de formato corto de 36 elementos del Estudio de resultados médicos (SF-36). Se verifica que los dominios: capacidad funcional, dolor, salud general, vitalidad y aspectos sociales presentaron valores mayores y estadísticamente significativos (p<0,05) para el grupo masculino en comparación con el femenino. Las personas mayores tienen una buena percepción de la calidad de vida en la mayoría de los dominios investigados (capacidad funcional, aspectos físicos, dolor, salud general, vitalidad, aspectos sociales y emocionales y salud mental).
Palabras clave: Calidad de vida; Anciano; Envejecimiento.

1. Introduction

Population aging is a worldwide phenomenon that has been expressive and accelerated over the years (Cebrià I Iranzo et al., 2020). Brazil, the fifth most populous country in the world, with more than 200 million inhabitants, is among the most demographically aging in the world, a trend that will accelerate throughout the 21st century (Lima-Costa et al., 2018). As a result of the rapid aging of the population and the increase in life expectancy, maintaining and/or improving the health-related quality of life (HRQL) of the elderly has become one of the main current health goals (Andrade et al., 2020). HRQL is a strong predictor of mortality among the elderly (Brown et al., 2015) and is associated with socio-demographic factors (Brown et al., 2015; Camelo et al., 2016; Henchoz et al., 2017), lifestyle habits (Camelo et al., 2016; Kim et al., 2017), social relationships (Camelo et al., 2016; Kim et al., 2017) and health conditions (Camelo et al., 2016; Maatouk et al., 2012). As a result of this rapid population aging and increased life expectancy, the Brazilian population has faced a significant increase in the prevalence of non-communicable chronic diseases and disabilities (Camelo et al., 2016). In this sense, it becomes increasingly important to ensure that this greater longevity of the population is also accompanied by a better quality of life (Camelo et al., 2016). Quality of life is a subjective and multidimensional construct that considers the perception and understanding of reality and incorporates satisfaction in the areas of life that individuals value (Andrade et al., 2020). It is an individual construct and associated with the degree of expectation, culture, and personality (Camelo et al., 2016).

In general, quality of life is related to self-esteem and personal well-being and, therefore, tends to be influenced by various aspects such as health status, socioeconomic level, lifestyle, social interaction, family support and life satisfaction (Balboa-Castillo et al., 2011). Some authors consider that the functional aspect is the main determinant of quality of life, as health status influences the proper performance of functions considered important by individuals (Camelo et al., 2016). Thus, the concept of "health-related quality of life (HRQOL)" was created precisely to incorporate this valuation of health status as a determinant of quality of life (Balboa-Castillo et al., 2011). HRQoL is a strong prognostic indicator of mortality in the elderly (Brown et al., 2015) and previous studies carried out in Brazil identified that social adversity (Henchoz et al., 2017), lifestyle habits (such as regular physical activity, alcohol consumption and smoking) (Lima-Costa et al., 2018) and current health conditions (Lima-Costa et al., 2018) are important aspects to understand HRQoL in the elderly. Quality of life (Qol) is a multidimensional concept that refers to an "individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, and standards" and is affected by a person's physical health and psychological state (Pequeno et al., 2020). It can therefore be assumed that the assessment of Qol should consider aspects of physical health, psychological state, level of autonomy, social relationships, beliefs, and relationship to salient features of the environment (Pequeno et al., 2020). Globally, the proportion of older persons is growing and survival rates for chronic noncommunicable diseases (CNCD) are improving (Pequeno et al., 2020).

Quality of Life is clinically related to several CNCD, the most common of which are cardiovascular disease, diabetes, hypertension, dyslipidemia and obesity (Pequeno et al., 2020). Clinical and epidemiological research has therefore tended to emphasize the physical health aspects of QoL, focusing on individuals' perceptions of their living conditions in face of illness and their capacity to lead a meaningful life (Kim et al., 2017). Given the complex nature of the concept, the assessment of QoL is a complex undertaking requiring multiple measures to capture subjectivity and multidimensionality. Various instruments have been developed to measure the above domains, adding the subjective parameters considered necessary for a comprehensive assessment of QoL (Campolina et al., 2011).

The most widely used instruments are either generic, which provide an overall assessment of the impacts of health status, or specific, designed to measure particular aspects of QoL, such as QoL related to oral health, visual function, cancer, HIV, etc. (Pequeno et al., 2020). The body of literature on QoL has steadily grown over recent years, spurred by the promotion of research and the cross-cultural adaptation and validation of assessment instruments in different languages (Pequeno et al., 2020). However, limited information exists on the most commonly used instruments against the backdrop of current demographic and epidemiological trends. In light of the above, the aim of this study was to assess the perception of quality of life in the elderly in the city of Borba, Amazonas, Brazil, using the SF-36 questionnaire.

2. Methodology

2.1 Participants

The research performed is a descriptive cross-sectional study with a quantitative approach. According to Marconi and Lakatos (2021), descriptive research classifies, explains and interprets the facts that occur, without the interference of the researcher. Associated with this, quantitative studies work with numerical values and employ rigid resources and statistical techniques to classify and analyze them. These studies are used because of their greater precision, reliability and are susceptible to generalization (Prodanov & Freitas, 2013).

The sample consisted of 233 elderly volunteers, 96 men and 137 women, belonging to the research project "Morphological Profile and Functional Aptitude in the Elderly". Considering the total number of inhabitants by age and sex, in total, the sample consisted of 15% women and 8.3% men living in the municipality of Borba, Amazonas, Brazil. The sample size was calculated considering a confidence level of 95%, margin of error of 5%, population proportion of 6% and population size of 2,064. The minimum number of elderly people needed to meet the desired statistical restriction was 84 people, with a margin of error of 2.87%. The following inclusion criteria were used for participation in the research: belonging to the municipality of Borba, having sufficient autonomy to visit the evaluation site, absence of medical contraindications in relation to performing submaximal exercises according to the guidelines of the American College of Sports Medicine (Liguori & Medicine, 2020) and ability to understand and follow study assessment protocols. All assessments were carried out between May and June 2015, at the University of the State of Amazonas (UEA), a higher education center in Borba. The study was released on the Borba radio station.

Participation was voluntary and the subjects were recruited through direct contact with the person responsible for the study in the Basic Health Units - UBS, in the area of residence and in public places such as markets and churches. Participants signed the Informed Consent Form (ICF), informing them about the procedures and risks of the research. The research was approved by the Research Ethics Committee of the University of the State of Amazonas (UEA), opinion nº 020130/2015. This study did not expose the participants to any risk and the procedures met the national guidelines contained in CNS Resolution No. 466/2012.

2.2 Sample Characteristics

Participants responded to a questionnaire applied by the interviewer regarding sociodemographic data (age and education). The Brazilian Association of Research Companies (2016) questionnaire was applied to evaluate socioeconomic status, which considers the possession of some consumer goods, educational level of the head of household, and access to public services. Individuals were then classified into five social classes, ranging from class A (those with greater purchasing power) to class E (those with lower purchasing power).

2.3 Physical Function Assessment

Functionality was assessed by the physical function scale of Rikli and Jones (2013). Each of the tasks is scored with 2 points if you succeed, 1 point if you succeed with difficulty or help and 0 if you cannot do it. A total score is derived from the sum of the scores for each of the questions (Rikli & Jones, 2013).

2.4 Depression Assessment

Depression was assessed using the Geriatric Depression Scale (Yesavage et al., 1982) and is one of the instruments most frequently used to detect depression in elderly adults. The short version consists of 15 questions with a dichotomous answer (yes or no). Answers suggestive of the existence of depression correspond to 1 point.

2.5 Nutritional Assessment

Nutritional status was assessed by Mini Nutritional Assessment (MNA) (Rubenstein et al., 2001). A score $\leq 24/30$ points was considered as a cut-off for risk of malnutrition, and a score $\leq$ of 17/30 points as malnutrition (Rubenstein et al., 2001).

2.6 Health-related Quality of Life

HRQoL was assessed using the 36-item Short-Form Health Survey (Ware & Sherbourne, 1992) validated for the Brazilian population (Ciconelli et al., 1999). The SF-36 is composed of eight domains: Physical function (PF), Physical Role (PR), Body Pain (BP), General Health (GH), Vitality (V), Social Function (SF), Emotional Function (EF) and Mental Health (MH). To evaluate the results, a raw scale is calculated, where the results of each component are tabulated, to grade the scores on a scale from 0 to 100 for each of the 8 components, being graded zero (0) as the worst state of the component, and one hundred (100) as a best state, thus enabling an individual analysis of each dimension. The internal consistency of the SF-36 is good, with the Cronbach coefficient ranging between 0.76 and 0.90 for all domains of the questionnaire. Quality of life was classified as: poor (0), regular (1 to 25), good (26 to 60), very good (61 to 84) and excellent (84 to 100) (Ciconelli et al., 1999).

2.7 Statistical analysis

Descriptive statistics, including means, standard deviation, minimum and maximum, were calculated for all outcome measurements. Comparison between sex were made by using Student-T test (T-Test) for all variables. A level of significance of $p < 0.05$ was adopted. Effect size was used to evaluate the magnitude of the differences between sex was classified as nonsignificant (< 0.35), small (0.35-0.80), medium (0.80-1.5), and large (> 1.5) (Rhea, 2004). The results were analyzed using SPSS (26.0, Chicago, IL, USA) and G Power 3 (Heinrich-Heine-Universität, Düsseldorf, Germany) software's.

3. Results and Discussion

Table 1 shows the descriptive characteristics of participants.

Table 1 - Descriptive characteristics of the population.

Variables	All (%)	Male (%)	Female (%)
	233	96	137
Age group (years)			
60-69	75 (32.2)	33 (34.4)	42 (30.7)
70-79	93 (39.9)	37 (38.5)	56 (40.9)
> 80	65 (27.9)	26 (27.1)	39 (28.5)
Socioeconomic class (pts)			
C	10 (4.3)	6 (6.3)	4 (2.9)
D/E	223 (95.7)	90 (93.8)	133 (97.1)
Physical Function (pts)			
Low functionality	21 (9.0)	7 (7.3)	14 (10.2)
Moderate functionality	38 (16.3)	3 (2.1)	36 (26.3)
High functionality	174 (74.7)	87 (90.6)	87 (63.5)
Depression (pts)			
Yes	40 (17.2)	14 (14.6)	26 (19.0)
No	193 (82.8)	82 (85.4)	111 (81.0)
Nutritional Assessment (pts)			
Malnourished	198 (85)	86 (89.6)	112 (81.8)
Nutrition Risk	25 (10.7)	7 (7.3)	18 (13.1)
Nourished	10 (4.3)	3 (3.1)	7 (5.1)

Source: Authors (2022).

In total, the sample comprised 13% of females and 8.3% of elderly males. Most of the elderly are in the age group of 70 to 79 years old (39.9%), are from the socioeconomic class "D and E" (95.7%), have high functionality (74.7%), do not show any traces of depression (82.8%) and are malnourished (85%) (Table 1).

Table 2 shows the classification of the quality of life of the elderly from "good" to "excellent" in all investigated domains.

Table 2 - HRQoL profile of the older adults in Borba, Amazonas, Brazil.

SF-36 domains	Mean	SD	Minimum	Maximum	Classification*
Physical functioning	71.42	30.89	0	100	Very Good
Role-physical	55.15	40.93	0	100	Good
Bodily pain	58.91	30.77	10	100	Good
General health	47.18	9.80	25	85	Good
Vitality	79.94	19.48	10	100	Very Good
Role-emotional	89.65	20.94	0	100	Excellent
Social functioning	53.36	42.87	0	100	Good
Mental health	86.20	17.30	16	100	Excellent

SD: Standard Deviation; * Quality of life classification according to Ciconelli et al. (1999). Source: Authors (2022).

Table 2, referring to the quality of life of the elderly, shows that all investigated domains (functional capacity, physical aspects, pain, general health status, vitality, social and emotional aspects, and mental health) were classified from good to excellent.

Table 3 presents the indicators of quality of life for the elderly by gender.

Table 3. Comparison of HRQoL between Male and female.

SF-36 domains	Male	Female	p	power
	Mean (SD)	Mean (SD)		
Physical functioning	76.56±29.81	67.81±31.23	0.032	0.30
Role-physical	59.64±39.30	52.01±41.91	0.157	0.18
Bodily pain	66.96±32.09	53.28±28.60	0.001	0.45
General health	49.49±10.00	45.55±9.35	0.003	0.41
Vitality	83.59±15.12	77.37±21.72	0.016	0.33
Role-emotional	94.14±15.91	86.50±23.39	0.006	0.38
Social functioning	56.25±41.69	51.34±43.73	0.387	0.11
Mental health	87.63±17.58	85.20±17.09	0.295	0.14

$p<0.05$ (Student's t test for independent samples); SD: Standard Deviation. Source: Authors (2022).

It is verified that the domains: functional capacity, pain, general health, vitality and social aspects had higher and statistically significant values ($p<0.05$) for the male group compared to the female gender (Table 3).

The main results of this study show that elderly people living in the city of Borba -AM, Brazil have quality of life ratings from "good" to "excellent" in all investigated domains (functional capacity, physical aspects, pain, general health status, vitality, social and emotional aspects, and mental health). These findings agree with other studies carried out in the Brazilian population (Iguti et al., 2021; Schlemmer et al., 2018; Silva et al., 2021; Ximenes et al., 2017).

Silva et al. (2021) used the SF-36 quality of life questionnaire to assess the quality of life of 134 elderly between 60 and 79 years old in a city in Minas Gerais, Brazil. Most investigated variables showed results like the present study, classified as good (functional capacity, pain, general status, vitality, and mental health), very good (social aspect) and excellent (emotional aspect). Only the physical appearance was rated as bad. According to the authors, the reduction in mobility, difficulty in balance and reduction in strength throughout life is a natural process that happens to most elderly people.

Iguti et al. (2021) investigated the quality-of-life 1192 adults (18 to 59 years) in the city of Campinas-SP, Brazil using the same survey instrument and the results showed a variation from 64.3 to 94.4 points for the 8 domains of quality of life. This score is like the one found in this study and corresponds to a quality of life between "good" and "excellent".

Schlemmer et al. (2018) investigated the relationship between the quality of life (WHOQOL-bref questionnaire) and the functional independence of 52 elderly people (70.68 ± 9.3 years) from Santa Maria – RS, Brazil. Even using a different instrument from the present study, the results show that the perception of quality of life was classified as good, and they were satisfied with their health and with their lives. Furthermore, the more satisfied the elderly were with their health, the greater their functional independence.

In another study, Fernandes and Duque (2017) show that health is one of the most important factors for acquiring quality of life, as poor health can deprive and compromise the autonomy of the elderly. They also reinforce that social and family support, economic capacity and employment were also considered by the elderly as indicators of good old age.

Ximenes et al. (2017) evaluated the quality of life (WHOQOL-Bref questionnaire) of 38 elderly people in the city of Ferrão-SP, Brazil. Most considered that their quality of life was good and that they were satisfied with their health. Low education and income were not determining factors for their quality of life. The results of the present study corroborate the findings of Ximenes et al. (2017). In Brazilian cities, with similar characteristics, quality of life may be simply linked to the interpretation that everyone makes of his/her life, that is, a satisfactory socioeconomic situation is not always associated with a better quality of life.

In Borba-AM, most of the elderly (95.7%) are from economic class "D" and "E"[1], they do not have an adequate space for the practice of exercises, nor do they have a Physical Education professional to guide them. Therefore, the creation of a community center for the elderly or groups of physical exercise practices guided by qualified professionals are important for the maintenance and improvement of health.

Farias et al. (2017) evaluated balance, functional mobility, and quality of life in 58 elderly (60 or more years) participants and non-participants of a community center in the city of Santo Amaro da Imperatriz-SC, Brazil. The results show that community center participants had better balance, functional mobility, and quality of life (all domains of the SF-36 quality of life questionnaire) than older adults from the same community who did not participate in community centers. Wichmann et al. (2013) emphasize that community centers can help in the search for autonomy, improved self-esteem, resilience, and reduced vulnerability. In addition, in these places, the elderly could participate in leisure activities, such as travel, occupational and recreational activities, to talk with friends and exchange life experiences.

The studies by Farias et al. (2017) and Wichmann et al. (2013) emphasize the importance of community centers for the elderly, as they believe that social interaction and the practice of regular physical exercise at the community center were decisive for these results. These studies emphasized the importance of community centers for the elderly, as they believe that interaction through social interaction, the practice of regular physical exercise, influence the improvement of physical and mental health and, consequently, the improvement in the quality of life of the elderly.

Daniel et al. (2018) evaluated 300 elderly (74 ± 8.5 years), by gender, from the province of Lousã, Coimbra, Portugal, the indicators of quality of life: functional capacity, pain, general health, vitality, and social aspects of elderly people. Women presented results of greater disease severity and a worse perception of quality of life than men. According to the authors, these differences between genders in this age group can be explained by the culture of more traditional families, with the role of

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[1] Class D: families with incomes above two and up to four minimum wages. Therefore, total salaries vary between R$ 2,201 and R$ 4,400. Class E: monthly earnings reach two minimum wages, that is, R$ 2,200.

provider being more up to the man and the housework, the care of children being the role of the woman. The indicators of quality of life of the elderly by sex: functional capacity, pain, general health, vitality, and social aspects had higher and statistically significant values ($p<0.05$) for the male group compared to the women.

However, some studies by Silva et al. (2020) and Krug et al. (2019) carried out with the elderly did not show statistically significant differences when comparing the sexes. This can also be highlighted in the present study when analyzing the effect size (Table 3), that is, even if there was a statistical difference in the variables (functional capacity, pain, general health, vitality and social aspects) inherent to the perception of quality of life between men and women, this difference was small or irrelevant according to the classification of Rhea (2004). Krug et al. (2019) investigated the relationship between the quality of life and the level of physical activity in 1378 elderly people (+ 60 years) in the cities of Alto do Jacuí and Alto do Botucaraí, RS, Brazil. The results show that the quality of life levels were better in the elderly classified as active. As additional results, the perception of quality of life between men and women was similar. Silva et al. (2020) carried out an integrative literature review on the quality of life of older adults of both sexes and found different answers reported by older and older women. According to the authors, it was not possible to conclude whether the quality of life is better in men or women. Therefore, the perception of quality of life, as it is a subjective and multifactorial variable, may present different results, even when analyzing the same age group and similar regions. Thus, further studies with this population are suggested, standardizing the research instruments, associating quality of life with socioeconomic factors and level of physical activity. The limitations of the study were that it was cross-sectional and the use of a questionnaire to assess the perception of quality of life, as this variable is subjective and multifactorial, and may not reveal the real perception of the elderly. However, this study highlights the relatively large sample of a small municipality in the interior of Amazonas, with results that can contribute to the understanding of the quality of life and perception of health in the elderly.

4. Conclusion

This study provides relevant and specific data from the municipality of Borba's population that is useful to provide further knowledge for this region of Brazil. Elderly people from Borba-AM, Brazil presented a good perception of health-related quality of life in most of the investigated domains (physical functioning, role-physical, bodily pain, general health, vitality, role-emotional, social functioning and mental health). More research that investigates the health and quality of life of the elderly living in regions of difficult access should be carried out in order to prevent and delay the risk conditions linked to aging. In addition, it is suggested to increase the number of studies with the elderly and the validation of instruments for the population of the northern region of Brazil, seeking to encourage discussions and comparisons on this topic with other regions of Brazil.

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