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RESEARCH ARTICLE (ORIGINAL)

Quality of life of non-institutionalized older people

Qualidade de vida em idosos não institucionalizados

Calidad de vida en ancianos no institucionalizados

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Abstract
Background: Older people's perceived quality of life (QoL) is based on several factors and can be assessed through generic and/or specific scales.
Objectives: To assess the QoL of a sample of non-institutionalized older people and analyze its association with sociodemographic and clinical variables.
Methodology: A descriptive-correlational, cross-sectional, quantitative study was conducted with a sample of 250 older people. Data were collected using two scales for assessing QoL: one generic (EUROHIS-QOL-8) and another specific for older people (WHOQOL-OLD).
Results: On a scale from 0 to 100, a mean QoL index above the midpoint was found for the total scales (67.19 +/- 17.95 in EUROHIS-QOL-8 and 67.49+/- 15.46 in WHOQOL-OLD). Statistically significant differences were found between perceived QoL and gender, education level, and marital status. Unlike the EUROHIS-QOL-8, no statistically significant differences were found in the WHOQOL-OLD for the variable "presence of a disease".
Conclusion: Older people's perceived QoL was associated with the variables of gender, education level, and marital status.

Keywords: quality of life; aging; aged

Resumo
Enquadramento: A perceção dos idosos acerca da sua qualidade de vida (QdV) é decorrente de uma multiplicidade de fatores, podendo ser avaliada através de escalas genéricas e/ou específicas.
Objetivos: Avaliar a QdV de uma amostra de idosos não institucionalizados e analisar a sua relação com variáveis sociodemográficas e clínicas.
Metodologia: Estudo descritivo-correlacional, transversal, de cariz quantitativo. Obteve-se uma amostra de 250 idosos. Aplicou-se um instrumento de recolha de dados que integrava duas escalas que avaliavam a QdV, uma genérica (EUROHIS-QOL-8) e outra específica para a população idosa (WHOQOL-OLD).
Resultados: Ambas as escalas, numa classificação 0-100, revelaram, para o global, um índice médio de QdV acima do ponto médio (67,19 ±17,95 na EUROHIS-QOL-8 e 67,49±15,46 na WHOQOL-OLD). Revelaram ainda diferenças estatisticamente significativas da perceção da QdV com o sexo, escolaridade e estado civil. A WHOQOL-OLD não revelou a existência de diferenças estatisticamente significativas em função da variável "presença ou não de patologias", contrariamente à EUROHIS-QOL-8.
Conclusão: A perceção da QdV dos idosos estava associada às variáveis: sexo, escolaridade e estado civil.

Palavras-chave: qualidade de vida; envelhecimento; idoso

Resumen
Marco contextual: La percepción de los ancianos sobre su calidad de vida (QdV) es el resultado de una multiplicidad de factores y puede ser evaluada a través de escalas genéricas y/o específicas.
Objetivos: Evaluar la QdV de una muestra de ancianos no institucionalizados y analizar su relación con variables sociodemográficas y clínicas.
Metodología: Estudio descriptivo-correlacional, transversal y cuantitativo. Se obtuvo una muestra de 250 ancianos. Se aplicó un instrumento de recogida de datos que incluía dos escalas que evaluaban la calidad de vida, una genérica (EUROHIS-QOL-8) y otra específica para la población anciana (WHOQOL-OLD).
Resultados: Ambas escalas, en una clasificación de 0 a 100, mostraron, para el total, un índice de QdV medio por encima del punto medio (67,19±17,95 en la EUROHIS-QOL-8 y 67,49±15,46 en la WHOQOL-OLD). También mostraron diferencias estadísticamente significativas en la percepción de la QdV según el sexo, la escolaridad y el estado civil. La WHOQOL-OLD no mostró la existencia de diferencias estadísticamente significativas en función de la variable "presencia o ausencia de patologías", al contrario que la EUROHIS-QOL-8.
Conclusión: La percepción de la QdV de los ancianos se asoció con las siguientes variables: sexo, escolaridad y estado civil.

Palabras clave: calidad de vida; envejecimiento; anciano

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Introduction

Demographic aging is a reality in the countries of the European Community, and Portugal is not an exception. For 2019, the National Institute of Statistics (Instituto Nacional de Estatística [INE], 2020) indicated an aging index of 163.2 for Portugal as a result of the marked demographic aging in recent decades, the low birth rate, and the increase in longevity. The number of people in the oldest-old group (aged 85 and over) has been increasing, representing 14.1% of the population aged 65 and over (INE, 2020).

Living with quality is a desirable premise for any human being. Aging is a universal, individual, and heterogeneous process responsible for biopsychosocial changes. It is influenced by a multiplicity of factors, and, as Jacob (2019) states, it is "a gradual and personal process that each individual experiences in a different and unique way" (p. 144).

Being an older person does not necessarily mean "being ill". However, there is an association between older ages and the presence of more diseases, mainly chronic diseases such as high blood pressure, high cholesterol, and diabetes (Instituto Nacional de Saúde Doutor Ricardo Jorge [INSA], 2019). These diseases do not contribute individually to the individual's perception of their quality of life (QoL) because QoL can be defined as "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, standards and concerns" (World Health Organization [WHO], 1997, p. 1). According to Botelho (2019), self-perceived QoL has "a classificatory approach that overlaps with the self-assessment of health, and both of these assessments do not necessarily coincide" (p.180). In this regard, QoL is usually ranked higher than health.

As a result of demographic aging, and driven by WHO, several researchers have searched for a reliable and easy-to-apply instrument to assess perceived QoL suitable for older people. The instruments for assessing QoL in populations are essential tools for planning interventions related to health, social, education, and work policies, among others. This study aimed to assess the QoL of a sample of non-institutionalized older people living in an insular region of Portugal and identify any significant differences based on sociodemographic and clinical variables using two instruments already validated for the Portuguese population (one generic and one specific).

Background

According to Canavarro (2010), the widespread interest in QoL is largely due to this concept's multidimensionality, which facilitates the approach to the same object of study by different disciplines, and heuristic power, which is responsible for an exponential increase in the amount of research in this area. The author also emphasizes its pragmatic value, which is visible in its specific applications in clinical assessment and intervention and health policy decision-making.

In the 1990s, according to Pereira et al. (2011), a group of WHO experts focused on building a reliable instrument to assess QoL that would overcome cross-cultural barriers. The WHOQOL-100 is a 100-question self-assessment scale consisting of several domains, such as physical health, psychological state, level of independence, social relationships, environment, and spiritual/religious/personal beliefs. Later, a shorter 26-question scale was created from this scale based on the questions with better psychometric performance, called WHOQOL-BREF. Another version followed that was adapted from these two scales to facilitate participation and completion, called EUROHIS-QOL-8. This version consisted of only eight questions, with each two items representing one of the four domains (physical health, psychological state, social relationships, and environment). These instruments generically assess QoL. In 1999, a specific instrument to assess QoL in older adults started being developed, called WHOQOL-OLD (World Health Organization Quality of Life - Older Adults Module). This 24-item scale consisted of six facets (sensory abilities; autonomy; past, present and future activities; social participation; death and dying; intimacy). The adaptation and validation of this scale for the Portuguese elderly population added four items related to a new facet called family/family life (Vilar et al., 2014; Vilar, 2015; Vilar et al., 2016).

Vilar et al. (2015) analyzed the influence and magnitude of the effect of sociodemographic variables and perceived health on the variability of QoL scores in a sample of 921 older people recruited in mainland Portugal, using the WHOQOL-OLD parameters as reference. This study found that older people who perceived themselves as healthy, those who were married, and those with higher education levels reported better scores. It also found significant differences with a medium-high effect size for the variable "perceived health" and a medium effect size for the variables "education level" and "marital status". Ermel et al. (2017) assessed the perceived QoL of older people in Portugal and Brazil using the WHOQOL-OLD, concluding that both groups positively perceived their quality of life. They also found that the "Family/family life" facet among Portuguese older people had the highest score (74.05, out of 0-100) while the "Death and dying" facet had the lowest score (52.55). Among Brazilian older people, the "Death and dying" facet had the highest score (75.37), while the "Autonomy" facet had the lowest score (58.66). In a study conducted in Brazil to assess the functional capacity and QoL of community-dwelling older people using the WHOQOL-OLD, Aguiar et al. (2019) found that the highest mean score was obtained in the "Sensory abilities" facet and the lowest score in the "Autonomy" facet. They also found that age and gender were associated with older people's functional capacity and QoL.

Research question/hypotheses

What is the perceived QoL of a sample of non-institutionalized older people and how does it differ according to sociodemographic and clinical variables? (i) There are

significant differences between older people's perceived QoL and gender; (ii) There are significant differences between older people's perceived QoL and age range; (iii) There are significant differences between older people's perceived QoL and education level; (iv) There are significant differences between older people's perceived QoL and marital status; (v) There are significant differences between older people's perceived QoL and the presence or not of a disease.

Methodology

An observational, analytical, cross-sectional, quantitative study was conducted to assess the perceived QoL of a sample of non-institutionalized older people living in an insular region of Portugal. The inclusion criteria were: living in one of the parishes of the municipality; aged 65 years or more; no cognitive impairment; and not being institutionalized. The Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975) was used to assess cognitive impairment. This scale was translated and adapted to the Portuguese population by Guerreiro et al. (1994). The cut-off values were updated by Morgado et al. (2009). Using the non-probability convenience sampling technique, a final sample of 250 older people was obtained after applying the inclusion criteria.

The dependent variable was the perceived QoL. The sociodemographic and clinical variables were the independent variables. The EUROHIS-QOL-8 and the WHOQOL-OLD scales were used to assess the perception of QoL.

The EUROHIS-QOL-8 was translated and adapted to the Portuguese population by Pereira et al. (2011). It consists of 8 questions rated on a Likert-type scale (from 1 to 5 points). The total score is the sum of the eight items, ranginf from 8 to 40 points, with higher scores corresponding to a better perception of QoL. The total scores were later converted into a scale from 0 to 100 points.

The WHOQOL-OLD was adapted and validated for the Portuguese population by Vilar et al. (2014). It consists of 28 items rated on a Likert-type scale (from 1 to 5 points). This scale includes seven facets with four items each: Sensory abilities; Autonomy; Past, Present, and Future Activities; Social Participation; Death and Dying; Intimacy; and Family/Family Life. Each facet consists of four items, generating independent scores ranging from 4 to 20 points. Higher scores indicate a better perception of QoL. The items formulated in the negative were reconverted. The total score of this scale results from the sum of the answers to the 28 items, ranging from 28 to 140 points. The final scores for each facet and the total scale were converted into a scale from 0 to 100 points.

The study was submitted for ethical appraisal to the Ethics Committee of the Health Sciences Research Unit: Nursing (UICISA: E) of the Nursing School of Coimbra, which approved it (Opinion No. 408-03/2017). Authorization was also requested from the authors who validated the QoL assessment scales for Portugal, namely the EUROHIS-QOL-8 and the WHOQOL-OLD. After a public presentation on the importance and objectives of the study, non-institutionalized older people were recruited door-to-door in the community. Those who freely agreed to participate in the study signed an informed consent form and were informed that they could withdraw from the study at any time without providing any justification. Data anonymity and confidentiality were ensured.

After data collection, a database was built using IBM SPSS Statistics, version 21. Data were treated and analyzed using descriptive and inferential statistics. Absolute and relative frequencies, measures of central tendency (mean, mode, and median), and measures of dispersion (standard deviation) were calculated. To analyze the dissimilarity between variables, tests for comparison of means were used when the assumptions for the use of parametric tests were met, namely the parametric Student's *t*-test for two independent samples. When the assumptions were not met, the non-parametric Mann-Whitney test was used as an alternative. For three or more independent samples, the non-parametric Kruskal-Wallis test was also applied, given the non-normal distribution in the various independent groups under analysis. In hypothesis testing, the significance level was set at 5% for decision-making. Cronbach's alpha was calculated to assess the internal consistency of the scales (EUROHIS-QOL-8 and WHOQOL-OLD).

Results

Sociodemographic and clinical characterization of the sample

The sample consisted of 250 older people, most of whom were women (n = 185; 74.0%). The predominant age range was 65-69 years (n = 86; 34.4%), followed by 70-74 years (n = 68; 27.2%). The mean age was 73.60 ± 72.15 years. As for marital status, 44.4% (n = 111) were married and 43.6% (n = 109) widowed. A smaller percentage of participants were single (9.6%) and divorced (2.4%). Most of the participants had completed the 4th grade (n = 161; 64.4%), followed by the 6th grade (n = 50; 20.0%). In this sample, 11.2% of the participants had no schooling. These results are shown in Table 1.

Table 1

Distribution of the sample according to gender, age range, marital status, education level, and presence of a disease

Variables		*n*	%
Gender	Female	185	74.0
	Male	65	26.0
Age range	65-69 years	86	34.4
	70-74 years	68	27.2
	75-79 years	45	18.0
	80-84 years	25	10.0
	85 years or more	26	10.4
	M ± *SD* = 73.60 ± 7.215		
Marital status	Single	24	9.6
	Married	111	44.4
	Divorced	6	2.4
	Widowed	109	43.6
Education level	No schooling	28	11.2
	4th grade	161	64.4
	6th grade	50	20.0
	9th grade	6	2.4
	Secondary education	3	1.2
	Higher education	2	0.8
Presence of a disease	Yes	226	90.4
	No	24	9.6
	Total	*250*	*100.0*

Note. *M* = Mean; *SD* = Standard deviation

The most prevalent diseases were: hypertension (56.8%), high cholesterol (46%), diabetes (42.0%), heart conditions (14.8%), and osteoporosis (14.4%), among others. The number of medications taken in the last 24 hours ranged from 1 to 24, with the mode being 6 medications per day and the mean 6.49 medications per day (standard deviation of 3.92). The majority of medicated older people were polymedicated, given that they took 5 or more drugs (68.1%).

QoL assessment

The assessment of the internal consistency of the scales revealed a Cronbach's alpha of 0.89 for the EUROHIS-QOL-8 and 0.88 for the WHOQOL-OLD, which indicate a good internal consistency.

Table 2 shows the minimum and maximum values, the mode, the median, the mean, and the standard deviation of perceived QoL in this sample assessed using the EUROHIS-QOL-8 and the WHOQOL-OLD.

The EUROHIS-QOL-8 scores ranged from 10 to 40 points, with a mean of 29.50 (± 5.74) points. The conversion to a 0-100 scale was also performed, corresponding to a mean value of 67.19 (± 17.95).

In the WHOQOL-OLD total scale, recalculated from 0 to 100 points, scores ranged from 25.90 to 100 points, with a mean of 67.49 (± 15.46) points.

The lowest mean scores were found on the "Death and dying" facet (45.29 ± 31.54), the only facet with a score below the midpoint. In the "Intimacy" and "Past, present, and future activities" facets, the mean was slightly higher than 60 points. Older people had a better perceived QoL in the "Sensory abilities" and "Family/Family life" facets, with mean scores above 75 points.

Table 2

Minimum and maximum values, measures of central tendency and dispersion of QoL assessed for the EUROHIS-QOL-8 total scale and the WHOQOL-OLD facets and total scale

	Minimum	Maximum	Mode	Median	Mean ± *SD*
EUROHIS-QOL-8	10	40	32	30	29.50±5.74
(0-100 points)	6	100	75	68.75	67.19±17.95
WHOQOL-OLD (0-100 points)					
SAB	6.30	100.00	93.80	87.50	77.08±21.47
AUT	6.30	100.00	100.00	75.00	74.87±20.80
PPF	0.00	100.00	62.50	62.50	63.55±19.53
SOP	0.00	100.00	100.00	68.80	69.64±21.96
DAD	0.00	100.00	25.00	43.80	45.29±31.54
INT	0.00	100.00	100.00	62.50	62.09±32.31
F	0.00	100.00	100.00	81.30	79.99±21.99
Total	25.90	100.00	62.50	67.90	67.49±15.46

Note. SD = Standard deviation; SAB = Sensory abilities; AUT = Autonomy; PPF = Past, present, and future activities; SOP = Social participation; DAD = Death and Dying; INT = Intimacy; F = Family/Family life.

QoL assessment with the independent variables

Table 3 shows the results of the QoL assessment using the EUROHIS-QOL-8 in the independent variables. Statistically significant scores were found between QoL and gender (p = 0.010); education level (p = 0.023); marital status (p = 0.007); presence of a disease (p = 0.002). These results show that older men, individuals with the 6th grade or more, married individuals, and individuals without diseases had higher mean and median scores.

Table 3

Perceived QoL assessed by the EUROHIS-QOL-8 scale according to gender, age range, education level, marital status, and presence of a disease

Variable		*EUROHIS-QOL-8*			Statistical test	*p-value*
		Mean	*SD*	Median		
Gender	Female	65.46	17.98	68.8	Student's *t*-test	0.010
	Male	72.12	17.07	71.9		
Age range	65-69 years	69.08	19.26	71.9	*Kruskal-Wallis*	0.614
	70-74 years	66.50	15.48	68.8		
	75-79 years	64.31	18.85	65.6		
	80-84 years	66.50	20.58	71.9		
	85 years or more	68.39	15.57	64.1		
Education level	No schooling	63.62	22.02	64.1	*Kruskal-Wallis*	0.023
	4th grade	65.94	16.98	68.8		
	6th grade or more	72.13	17.75	75.0		
Marital status	Single	66.28	16.94	65.6	*Kruskal-Wallis*	0.007
	Married	71.42	17.62	71.9		
	Divorced	58.85	20.96	64.1		
	Widowed	63.53	17.58	62.5		
Presence of a disease	Yes	66.12	17.83	68.8	*Mann-Whitney*	0.002
	No	77.21	16.16	75.0		

Note. SD = Standard deviation; p = statistical significance.

Table 4 shows the results of the QoL assessed by the WHO-QOL-OLD total scale. A significant dissimilarity was found between QoL and gender (p = 0.016), education level (p = 0.012), and marital status (p < 0.001). Thus, older men, individuals with the 6th grade or more, and married individuals scored higher in the mean QoL index and medians.

Table 4

Comparison of QoL assessed by the WHOQOL-OLD by gender, age range, education level, marital status, and presence of a disease

Variables		WHOQOL-OLD			Statistical test	*p-value*
		Median	*SD*	Median		
Gender	Female	66.19	14.38	67.0	Student's *t*-test	0.016
	Male	71.18	14.14	70.5		
Age range	65-69 years	69.83	15.12	71.4	*Kruskal-Wallis*	0.126
	70-74 years	67.73	13.68	67.0		
	75-79 years	66.85	14.32	67.0		
	80-84 years	62.12	13.69	65.2		
	85 years or more	65.38	14.44	63.0		
Education level	No schooling	61.16	16.83	63.8	*Kruskal-Wallis*	0.012
	4th grade	67.23	13.23	67.0		
	6th grade or more	71.07	15.53	73.2		
Marital status	Single	61.91	12.05	63.0	*Kruskal-Wallis*	<0.001
	Married	75.06	12.57	75.9		
	Divorced	58.33	17.82	63.0		
	Widowed	61.50	12.98	61.6		
Presence of a disease	Yes	67.08	14.66	67.9	*Mann-Whitney*	0.166
	No	71.32	11.99	69.2		

Note. *SD* = Standard deviation; p = statistical significance.

Discussion

The predominance of women in the sample is aligned with the data estimated for the resident population in Portugal between 2009 and 2019 (INE, 2020). The majority of the participants had completed basic education, which is in line with the education level in the last two decades for the group of people aged 65 or older in Portugal (Pordata, 2021). High blood pressure and high cholesterol are the most frequent diseases in this sample, as in the study conducted by INSA (2019).

From 0-100 points, both scales had similar total scores, with a mean QoL index above the midpoint (67.19 ±17.95 in EUROHIS-QOL-8 and 67.49 ± 15.46 in WHOQOL-OLD). These data are corroborated by those found in national and international studies. In a sample of mostly non-institutionalized (77.3%) 921 adults aged 60 or over recruited in mainland Portugal, Vilar et al. (2015) found a total QoL of 92.72 on the Portuguese version of the WHOQOL-OLD (corresponding to 66.23 ± 12.16 on a scale from 0-100). In Brazil, Reis et al. (2015) used the WHOQOL-OLD to assess the QoL of 238 non-institutionalized older people and also found a perceived QoL above the midpoint (65.19 ± 11.82). Junior et al. (2019) obtained a perceived QoL of 66.06 on a sample of 106 non-institutionalized older people who attended a community center.

Concerning the seven facets of the specific scale, the "Death and dying" facet scored below the midpoint, indicating a worse perception of QoL in this domain, while the "Family/Family Life" facet had the highest mean score (79.99). The "Death and dying" facet refers to the concerns, worries, and fears about death and dying, which may be related to the perception of difficulties in accessing health services, as also pointed out in studies such as that of Reis et al. (2015). In a study with older people in Portugal, Ermel (2017) found that this facet had the lowest score, while the "Family/Family Life" facet had the highest score.

Both scales revealed that male individuals, those with the 6th grade or more, and those who were married had higher overall scores, indicating a better perception of QoL, which is aligned with the study carried out by Vilar et al. (2015). Several studies indicate that the presence of diseases is a crucial variable among the older population, given the known association between the presence of diseases and advancing age, especially chronic diseases (INSA, 2019). Unlike the EUROHIS-QOL-8, the specific scale used to assess the perceived QoL showed no statistically significant differences based on the variable "presence of a disease". According to Botelho (2019), there is not always an overlap between health self-assessment

and perceived QoL. The author also emphasizes that the disease can lead to little or compensated suffering, which the patient became aware of and/or accepted.

Conclusion

This study aimed to assess the QoL of a sample of non-institutionalized older people and analyze its association with sociodemographic and clinical variables. The overall results point to a QoL index above the midpoint. Concerning the association with the independent variables, both scales revealed statistically significant differences in QoL according to the variables: gender, education level, and marital status. Thus, male individuals, individuals with the 6th grade or more, and married individuals had the highest scores, indicating a better perceived QoL. Unlike the EUROHIS-QOL-8, the WHOQOL-OLD did not reveal any statistically significant differences according to the variable "presence of a disease". Using a specific scale with different facets (dimensions) for assessing QoL in older populations based on other sociodemographic and clinical variables provides more reliable and detailed data. The professionals can use these data to plan community strategies for increasing QoL. Therefore, further studies should address other variables of interest, such as access to health services and cohabitation of generations. The sample included non-institutionalized older people living in an insular region of Portugal. The scarce research on the assessment of perceived QoL in these regions was a limitation for the discussion of results. Longitudinal studies should be conducted using the specific WHOQOL-OLD scale in the older populations of these regions and older people institutionalized in Residential Structures for Older People.

Author contributions

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Writing – review and editing: Fernandes, P. O., & Magalhães, C. P.

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