Quality of life and self-esteem among the elderly in the community

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Abstract *This study sought to investigate the association between the scores for quality of life (QoL) and self-esteem among the elderly in an urban community. A cross-sectional, quantitative and analytical household survey was conducted with 1,691 elderly persons resident in an urban area in a county in Minas Gerais state. The World Health Organization Quality of Life BREF (WHOQOL-BREF), the World Health Organization Quality of Life OLD (WHOQOL-OLD) questionnaires and the Rosenberg Self-Esteem Scale were used in this study. A descriptive statistical analysis and a linear regression model (p < 0.05) were conducted. The results revealed that the social relationships domain (71.19) and the topic of death and dying (74.30) had the highest mean scores among the elderly; while the lowest mean scores were the environment domain (60.39) and the topic of social participation (63.06). The self-esteem scores showed an average of 9.36 ± 4.09. Associations were evident for the lower scores of quality of life in all the WHOQOL-BREF domains and WHOQOL-OLD aspects (except death and dying) with lower levels of self-esteem (p <0.001). The results provide data that contribute to a better understanding of the aspects that influence the QoL of the elderly due to reduced self-esteem, thus providing information for the development of health strategies.*

Key words *Elderly, Quality of Life, Self-image*

Introduction

Aging is an intrinsic, active and progressive process, accompanied by physical, physiological and psychological changes, which can cause difficulty for elderly persons to cope with their daily routine[1]. In this scenario, the increase in life expectancy becomes a phenomenon of interest given its impact on quality of life (QoL) at this stage of life[2].

Consequently, it is important that health professionals should implement strategies to encourage the elderly to live well[3], in order to attain the best QoL. The feeling of happiness and joy, the feeling of being at peace with life and oneself is healthy especially when one is aging[3]. To reach this stage of life with optimism, self-control and high self-esteem can bring increased sense of security in living the last stage of the life cycle and impacts positively on QoL[3].

Research conducted with elderly members of a community in Montreal, Canada, found that the decline in self-esteem may contribute to deregulate the hypothalamic-pituitary-adrenal axis functions which can cause adverse outcomes to the health of the elderly, such as social isolation and a negative score in QoL[4]. Thus, knowledge on this topic can help to systematize care for the elderly with low self-esteem.

Self-esteem can be characterized as the feeling, appreciation and consideration that people have for themselves, namely how much they like themselves, how the see and what they think about themselves[5]. Therefore, research into QoL and self-esteem is of great importance.

As with the concept of self-esteem, QoL is considered to be subjective and multidimensional, comprising positive and negative aspects of life[6]. It is defined as the "individual's perception of his/her position in life in terms of culture and value systems in which he/she lives and in relation to his/her goals, expectations, standards and concerns"[6].

National surveys conducted with the elderly with self-esteem as the goal of the study did not evaluate the QoL[1,7] and involved people who practiced some form of physical activity[1,7]. Thus, considering the lack of national studies, as well as the possible cultural differences and specificities of the elderly, the association between QoL and self-esteem among the elderly in a community, measured by means of specific tools for this age group is yet to be answered.

This research aims to contribute to further knowledge in this field, in order to support strategies that can influence the domains and issues of QoL, based on maintaining the self-esteem of the elderly. Thus, the objective of this study was to investigate the association between the QoL and self-esteem of the elderly in a community.

Methodology

A household survey with a cross-sectional, quantitative and analytical approach was carried out with elderly persons residing in an urban area of Uberaba county, Minas Gerais, Brazil.

This study arises from research initiated in 2005[8] that calculated the sample based on a population of 24,714 elderly persons, with a 95% confidence interval, test power of 80% and a 4% margin of error for interval estimates, and with an estimated proportion p = 0.5 for ratios of interest. Thus, the sample size was estimated to be 2116 elderly persons. In 2012, interviewers visited the homes of 2,116 elderly people, of which 1,691 were interviewed after taking into account the inclusion criteria, namely being 60 years old or older, living in an urban area of the county and not having any cognitive impairment. Exclusions and/or losses were related to deaths (265) and cognitive impairment (160).

The survey questionnaires were applied in private at the homes of the elderly by ten (10) selected interviewers who had been previously trained by the lead researcher on how to approach the elderly, apply the questionnaires as well as the ethical aspects of the research. Field supervisors reviewed the interviews to check for any incomplete answers or inconsistency in the responses. If such situations occurred, the interviewer returned to the interviewee to correct and/or complete the data on the form.

Initially, the cognitive status of the sample was assessed using the Mini Mental State Examination (MMSE), translated and validated for Brazil[9], with scores that range from 0 to 30 points. The MMSE questions are grouped into seven categories: orientation to time and place; mention of three words; attention and calculation; recall of the three words; language and constructive visual capacity. In MMSE, the cutoff point for cognitive decline considers the respondent's educational level, corresponding to 13 points for illiterates, 18 points or less for those with 1 to 11 years of schooling and 26 points for those with over 11 years of education[8].

The QoL assessment used the *World Health Organization Quality of Life BREF* (WHO-QOL-BREF) questionnaire that has 26 questions;

two general, related to global QoL and overall health, and 24 that make up the four domains: physical, psychological, social relations and environmental[10]. Also, the *World Health Organization Quality module of Life Old* (WHOQOL-OLD) questionnaire, validated for the elderly Brazilian population that consists of 24 items divided into six topics: sensory abilities, autonomy, past, present and future activities, death and dying, and intimacy[11] was applied. The WHOQOL-OLD[11] is a specially designed instrument to assess QoL in the elderly and should be applied jointly with the WHOQOL-BREF. The scores are calculated by specific criteria and range from 0 to 100, where higher numbers represent better QoL.

The Rosenberg Self-Esteem Scale, which contains 10 randomly distributed items, evaluated the self-esteem of the sample. Each item is assigned a value, from 0 to 3, and the sum of all the questions varies from 0 to 30 points[5]. Low scores are associated with high self-esteem.

Some variables (age, sex, schooling, income, number of illnesses, functional incapacity for Basic Activities of Daily Living (BADL) and Instrumental Activities of Daily Living (IADL) and signs of depression were considered as potentially confounding factors for the analysis of association. Therefore, adjustments were made for these variables.

To characterize the sample studied and for the adjustment variables the instrument built by the Research Group on Health for socioeconomic and demographic data and self-reported morbidities, the Scale of Independence for BADL[12] (Katz Scale) and the Lawton and Brody (1969) Scale[13] that assesses the IADL were used.

Elderly persons who showed no difficulty in any of the BADL and IADL tasks were considered independent and those with difficulty tackling one or more of the tasks were considered dependent. Besides these, the Geriatric Depression Scale (GDS-15) adapted for Brazil was applied and a score over 5 was considered to be a sign of depression[14].

The following variables were selected for the study: gender (male/female); age bracket in years (60 70, 70 80 and 80 or over); marital status (never married or lived with a partner, lives with spouse or partner, a widow(er); separated, legally separated or divorced, unspecified); education in years of schooling (no schooling, 1 4, 4 8, 9 11, ≥ 11); individual monthly income in minimum wages (no income, <1, 1, 1 3, 3 5, > 5); number of self-reported morbidities; disability for BADL (dependent/independent) and IADL (depen-

dent/independent); signs of depression (yes/no); self-esteem; QOL: domains (physical, psychological, social relationships and environment) and aspects (sensory abilities, autonomy, past, present and future activities, social participation, death and dying, and intimacy).

An Excel® spreadsheet was created to perform the analysis. The data collected were processed in two databases to check consistency. In the case of any inconsistent data the original interview was verified for accuracy. Later, the data were imported into version 17.0 of the software Statistical Package for Social Sciences (SPSS).

Descriptive statistical analysis was conducted by means of the distribution of absolute frequencies and percentages for the categorical variables and averages and standard deviations for the numerical variables. Each WHOQOL-BREF domain and WHOQOL-OLD topic were considered in isolation, with their respective criteria.

A linear regression model (enter method) was used to confirm the association between the WHOQOL-BREF domains and the WHOQOL-OLD topics with the self-esteem scores, through the analysis adjusted for the variables: age, gender, education, income, number of self-reported diseases, lack of ability for the BADL and IADL tasks and signs of depression (p <0.05). The age, education, number of self-reported diseases, lack of ability variables for the BADL and IADL tasks and signs of depression were considered quantitative. Minimum prerequisites were considered including the residue analyses (normality, linearity and homoscedasticity) and multicollinearity.

The Ethics Committee on Human Research of the Universidade Federal do Triângulo Mineiro (CEP/UFTM) approved this study. The elderly were asked to sign the Free and Informed Consent form before the interview was conducted.

Results

Among the 1.691 respondents, there was a predominance of females, aged between 70 and 79 years old, married, 1 to 4 years of schooling and an individual monthly income of one minimum wage, Table 1.

There was a high percentage of elderly people with five and more morbidities, independent in terms of the BADL and IADL tasks, and with no signs of depression, Table 2.

The social relationships domain (71.19) and the death and dying topic (74.30) had the highest

Table 1. Frequency distribution of the sociodemographic and economic variables of elderly persons resident in urban areas of Uberaba, MG, Brazil, in 2012.

Variables	n	%
Gender		
Feminine	1077	63.7
Masculine	614	36.3
Age group (in years)		
60 ⊢ 70	645	38.1
70 ⊢ 80	735	43.5
80 and over	311	18.4
Marital Status*		
Never married or lived with companion	89	5.3
Married	729	43.1
Separated/Legally separated/Divorced	682	40.3
Widower	190	11.2
Education (in years)**		
None	343	20.3
1 ⊢ 4	890	52.6
4 ⊢ 8	254	15
9 ⊢ 11	33	2
11 and over	169	10
Individual monthly income***		
Without income	115	6.8
(in minimum wages)		
< 1	30	1.8
1	808	47.8
1-⏐ 3	572	33.8
3-⏐ 5	104	6.2
> 5	59	3.5

Minimum wage during the data collection period: R$ 678.00; * 0.1% (n = 1); ** 0.1% (n = 2); *** 0.2% (n = 3) (not answered).

Table 2. Frequency distribution of clinical and health variables of elderly persons residing in urban areas of Uberaba, MG, Brazil, in 2012.

Variables	n	%
Self-reported morbidities		
None	58	3.5
1 to 4	721	42.6
5 and more	912	53.9
Lack of ability for BADL		
Dependent	359	21.2
Independent	1332	78.8
Lack of ability for IADL		
Dependent	576	34.1
Independent	1115	65.9
Signs of depression		
Yes	446	26.4
No	1245	73.6

BDLA: Basic Activities of Daily Living; IADL: Instrumental Activities of Daily Living.

Table 3. Distribution of QoL scores for the WHOQOL-BREF domains and WHOQOL-OLD topics of elderly persons residing in urban areas of Uberaba, Minas Gerais, Brazil, in 2012.

QoL scores	Mean	Standard Deviation
Whoqol-Bref		
Physical	61.74	18.08
Psychological	65.87	15.94
Social relations	71.19	14.65
Environment	60.39	14.28
Whoqol-Old		
Sensory abilities	70.75	23.39
Autonomy	64.78	16.34
Past, present and future activities	67.03	15.51
Social participation	63.06	16.68
Death and dying	74.30	25.39
Intimacy	69.34	20.97

mean scores of QOL among the elderly; while the lowest were observed in the environment domain (60.39) and social participation topic (63.06) Table 3. The self-esteem scores had a mean of 9.36 ± 4.09.

In order to analyze the association between QoL and self-esteem, adjustments were made for the variables: age, gender, education, income, number of diseases, lack of ability for BADL and IADL tasks and signs of depression, thus avoiding any potentially confounding factors. The minimum prerequisites considered were met and the determining coefficients in the adjusted analysis ranged from 0.160 to 0.534.

The lowest scores of all the QoL domains and topics (except for the death and dying topic) were associated with the worst levels of self-esteem (p < 0.001), with emphasis on the psychological domain and the topic of intimacy, Table 4.

Discussion

The demographic and economic data collected in this work tally with a Brazilian study of the elderly in a community where there was a predominance of women, with low educational and income levels, average age of 72 years old and married[15].

Table 4. Linear regression analysis adjusted for the WHOQOL-BREF domains and the WHOQOL-OLD topics with self-esteem scores. Uberaba, MG, Brazil, in 2012.

Variables	Self-esteem scores Adjusted analysis*		
	R^2	β	p**
QoL Scores			
WHOQOL-BREF			
Physical	0.501	-0.141	< 0.001
Psychological	0.534	-0.248	< 0.001
Social relations	0.194	-0.184	< 0.001
Environment	0.343	-0.176	< 0.001
WHOQOL-OLD			
Sensory abilities	0.196	-0.108	< 0.001
Autonomy	0.291	-0.230	< 0.001
Past, present and future activities	0.307	-0.215	< 0.001
Social participation	0.357	-0.168	< 0.001
Death and dying	0.042	-0.031	0.308
Intimacy	0.160	-0.239	< 0.001

R^2 = coefficient of determination; β = standardized linear regression coefficient; *Adjusted for age, gender, education, income, number of diseases, lack of ability for BADL and IADL tasks and signs of depression; ** P < 0.05.

However, divergent results concerning clinical conditions were found in a study conducted with the elderly in a community in São Paulo, where the highest percentage had only one morbidity (65.1%)[16].

In terms of overall health, the prevalence of independence related to the BADL and IADL tasks is consistent with the results found in a survey of elderly persons in Montes Claros, State of Minas Gerais[17]. Divergent data was found in relation to signs of depression in research among the elderly in Alfenas, State of Minas Gerais[15].

The QoL measured by the WHOQOL-BREF indicated that the higher scores in the social relations domain are probably related to greater opportunities for the elderly in this study to experience and participate in daily activities, especially in the community, as shown by the items evaluated in this domain[10].

With respect to the higher scores for the death and dying topic, it should be remembered that the end of life process, although little discussed in society, is part of human existence, ending the life cycle, from birth, through growth to development[18]. However, in this research, the perception of death did not have a negative influence on the QoL of the elderly.

A survey with the elderly in the city of São Paulo had low QoL scores in the environment domain, as was the case in this investigation[18]. It is assumed that this result may be related to the low financial resources of the elderly, which additionally can contribute to reduced access to health services, a lesser sense of safety, poor housing and few opportunities for recreation and leisure; items that were evaluated in this topic[10].

In the study in Curitiba, State of Paraná, which tallied with the findings of this research, the lowest QoL scores were in the social participation topic[19], which assesses the satisfaction of the elderly in participating in daily activities, especially in the community[10]. From this standpoint, it is important that the health team, with the support of family members, encourage the elderly to participate in activities provided by the community, favoring the (re)integration or expansion of participation in the social environment.

The results showed high levels of self-esteem among the elderly, which is consistent with other studies conducted in Brazil, for this age bracket[20,21].

On the other hand, elderly persons with low self-esteem were shown to have low QoL scores. The concepts of self-esteem[5] and QoL[6] prove to be interrelated as they deal with an individual's subjective perceptions of him/herself[5,6] and life[6]. Thus, low self-esteem scores are expected to produce low QoL scores.

Moreover, the scientific literature states that self-esteem is correlated with aspects of living such as: human relations, work, health and consequently with healthy aging[22,23]. In this context, it is important that the health team identify the factors that may be affecting the self-esteem of the elderly, in order to intervene and promote improvements in QoL.

Concerning the relationship between low levels of self-esteem and the scores in the physical domain, it is possible, although this has not been investigated, that this is due to the termination of professional activities and the advent of retirement. Leaving the job market for the elderly can result in dissatisfaction, less social participation and more concerns about income. Therefore, in this stage of life, qualified listening and reintegration of the elderly into society, not only through work activities, but also in areas that provide personal satisfaction and the development of new projects, must be recognized as an important strategy which will benefit the QoL[24].

Research conducted with the elderly has shown a relationship between self-esteem and self-image[25] and complaints about loss of memory[26], which are topics in the psychological domain. Satisfaction with self-image can interfere, directly or indirectly, in maintaining a healthy and active lifestyle, which impacts health care[27] and can improve QoL. Complaints related to memory, which are frequent among the elderly, should be investigated, in order to identify related factors, since this alone represents dissatisfaction with their abilities and can negatively influence their well-being and QoL[26].

The social relationships domain evaluates, among other factors, satisfaction with sexual activity[9]. A study of literature reviews highlights that sexual satisfaction combined with self-esteem, improves sexual, mental and physical health. Having a positive sexuality, refers to the recognition and valorization of past sexual experiences[28]. However, it is known that with aging, physiological changes in the body, besides prejudice, stereotypes and culture of asexuality in old age can inhibit the desires and the sexual act[29]. Health education activities may be relevant strategies to assist in the improvement of social relations, by including information and instructions on obtaining a positive sex life, including sexual communication, the understanding of the physiological factors and self-confidence[28].

The environment domain shows that when the elderly have the opportunity to walk on the sidewalks, in the parks, or even use a form of transport safely, they have a greater chance of being more physically and socially active[30]. Therefore, actions that provide greater security at home and in the external environment should be developed. Such measures would allow the health professionals to stimulate the elderly in activities at home, as well as broaden their social life, and thus improve their levels of self-esteem and QoL for this domain.

Sensory changes that occur with aging can have a negative effect on the elderly's QoL, as the sensory functions establish an individual's connection with his/her world and can influence his/her behavior[31]. This fact may explain the association between the 'functioning of the senses' topic and low levels of self-esteem.

The lower QoL scores in the autonomy topic among those with low levels of self-esteem may be related to inhibiting their decision-making capacity among the elderly as they get older; this result tallies with a study of elderly persons in the state of Paraíba[32]. This fact may impact the

self-esteem of the elderly, and one way to minimize this process is to ensure the maintenance of autonomy and independence[33].

Past, present and future activities portray satisfaction with the achievements made and future hopes[11]. The results indicate that the elderly with low scores in the past, present and future activity topics may not be satisfied with their achievements or hold few prospects for the future, negatively influencing their self-esteem. Groups for the elderly can enhance the skills of individuals and help them carry out their projects[34], and thus indirectly increase their self-esteem.

The topic of social participation measures the satisfaction with participation in routine activities, especially within the community[11]. In this study, the elderly that had low QoL scores also had low self-esteem, a fact that should be further investigated by the health team. However, involvement in social activities can provide benefits that relate to physical, cognitive, functional issues and longevity. Moreover, such social activities contribute to further exchange of experiences and the sense of feeling useful and belonging to society[35]. Thus, the inclusion of the elderly in community activities should be encouraged by family members, health professionals and those they live with.

The intimacy topic assesses the capacity for personal and intimate relations[11]. The findings of the research may be explained by the dissatisfaction in the elderly of living with their partners and with those around them. In this sense, intimate relationships should be considered by the health professionals during the evaluation and monitoring of the elderly that have demonstrated impaired self-esteem. Therefore, it is important to train health professionals to work on the issue of intimate relationships with the elderly and their families, even if these are delicate issues to address.

It should be stressed that the lack of research on the relationship between QoL and self-esteem in the elderly hampers a comparative discussion of these results with other studies. Moreover, this study had some limitations such as the cross-sectional design, which does not allow for the establishment of causal relationships; and the use of a questionnaire, which may underestimate or overestimate some of the information found.

In conclusion, the data analyzed shows that the low QoL scores in all domains and topics are associated with low levels of self-esteem, except for the death and dying issue. The psychological domain and the social participation topic were the most affected by a low level of self-esteem.

The results of this study could help to develop health actions, considering the specificities of the aging process, based on a better understanding of the aspects that influence the QoL of elderly due to reduced self-esteem.

Collaborations

DMS Tavares contributed to the conception and design, its critical review and approval of the version to be published; TGC Matias, PCS Ferreira, JS Nascimento and MM Paiva contributed to the conception and design and the writing of the article; MS Pegorari for data analysis and the writing of the article.

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