# Factors related to self-perception of aging in elderly people registered in an Elderly Care Unit

## Fatores relacionados à autopercepção sobre o envelhecimento de idosos cadastrados em uma Unidade de Atenção ao Idoso

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**RESUMO**
Este estudo teve o objetivo de identificar a percepção sobre o envelhecimento dos idosos usuários de uma Unidade de Atenção ao Idoso de um município brasileiro e avaliar a relação entre características sociodemográficas e de autopercepção sobre o envelhecimento. Estudo de caráter quantitativo, analítico, observacional e transversal realizado com 228 idosos. Foram utilizados os seguintes instrumentos: questionário sociodemográfico, Mini Exame do Estado Mental, APQ (*Aging Perception Questionnaire*), WHOQOL-Bref, WHOQOL OLD e ASKAS. Foram realizadas análises bivariada e multivariada. Encontrou-se predomínio do sexo feminino, com média de idade de 78,86 anos. A autopercepção sobre o envelhecimento foi moderada. Idosos do sexo feminino e aqueles que residem com filhos demonstraram maior autopercepção do envelhecimento.

**Palavras-chave:** Autoimagem. Envelhecimento. Idoso. Qualidade de vida.

**ABSTRACT**
This study aimed to identify the perception of aging of elderly users of an Elderly Care Unit in a Brazilian city and to evaluate the relationship between sociodemographic characteristics and self-perception of aging. An observational and descriptive, cross-sectional study with 228 elderly people. The following instruments were used: sociodemographic questionnaire, Mini Mental State Examination, APQ (Aging Perception Questionnaire), WHOQOL-Bref, WHOQOL OLD and ASKAS. Bivariate and multivariate analyzes were performed. There was a predominance of females, with a mean age of 78.86 years. Self-perception of aging was moderate. Elderly females and those who live with children have greater self-perception of aging.

**Keywords:** Aged. Aging. Quality of life. Self concept.

## INTRODUCTION

The world health scenario has been experiencing a demographic transition with significant changes in health patterns of the elderly population, related to economic, social, cultural and environmental factors[1,2,3,4]. This transition has been due to the reduction in fertility and mortality rates, which leads to an increase in the life expectancy of this population, triggering population aging[3,5,6,7].

The aging process is a complex phenomenon caused by multiple biological, psychological and social factors, which are related and produce the most diverse trends and consequences[3,1,7]. These changes are capable of increasing the vulnerability of the elderly population to various diseases related to biopsychosocial well-being[3,1,2,6]. The Brazilian Institute of Geography and Statistics (IBGE) points out that by 2060 the Brazilian elderly population will comprise 58 million people[8]. Faced with scenarios like this, the need for public policies that contribute to healthy aging increases, since the growth of the elderly population brings with it a series of issues that directly or indirectly interfere with the quality of life of this population[3,6,7].

Although there are many methods to assess the health status of the elderly population, self-perception has been widely used, because despite its subjectivity, its practicality and reliability have been evidenced, being able to predict morbidity and mortality and functional decline[3,9]. The perception an individual has about aging contributes significantly to this process[3,10].

It is important to emphasize that the choices made during life influence the self-perception of aging. Also, because the real understanding of the elderly about the changes in their own body and in the environment in which they live significantly impact active aging and a good perception of old age[10,9].

Non-acceptance/knowledge about aging can harm the health-disease process of the elderly, which can lead to illness, in addition to reducing their quality of life[9]. Health professionals are responsible for promoting actions that assist in the biopsychosocial well-being of the elderly[11], especially nurses, as they are facilitators of the population's self-care and encourage healthy aging[4]. Nurses need to be attentive and investigate how the elderly perceive their aging, in order to work in a multidisciplinary team to prevent the emergence of diseases and the occurrence of injuries. Therefore, the hypothesis is that the self-perception of aging in the elderly is influenced by their sociodemographic characteristics and sexuality.

Thus, the present study had as a primary objective to identify the self-perception of aging of elderly attending an Elderly Care Unit and as a secondary objective to evaluate the relationship between sociodemographic characteristics, quality of life and sexuality.

## METHODOLOGY

## DESIGN, STUDY LOCATION AND PERIOD

This was a quantitative, analytical, observational, cross-sectional study that allows testing the hypothesis formulated regarding factors that delimit the frequency and distribution of the phenomenon studied[12]. Research methods are strategies used to structure, analyze and gather information relevant to a particular issue to be studied. The use of the quantitative method provides for the adoption of a systematic and objective strategy, employing the measurement of pre-established variables for the use of mechanisms designed to control the research situation in order to reduce biases and enhance precision and validity. The application of the observational, cross-sectional method is related to the observation of the studied environment, without generating interference and modifying its aspects[13]. The location of study is an Elderly Care Unit (UAI) linked to the Social Development Department of the municipality of Uberaba, state of Minas Gerais, from December 2018 to March 2019. The UAI offers daily, from Monday to Friday, water aerobics classes, swimming, gymnastics, weight training, choral singing, cooking and ballroom dancing, among other recreational activities. It also has rooms for digital inclusion, literacy and handicrafts[14].

## SAMPLE AND INCLUSION/EXCLUSION CRITERIA

The sample calculation considered a coefficient of determination in a multiple linear regression model with seven predictors (QV - WHOQOL OLD, QV WHOQOL BREF, sexuality (ASKAS - Aging Sexual Attitudes and Knowledge Scale), income, age, sex and number of morbidities), because the outcome was quantitative, not referring to a dichotomous outcome variable, so the choice of this type of calculation was in accordance with the nature of the outcome variable of the study, with the level of significance or type I error $\alpha = 0.01$ and type II error $\beta = 0.1$, thus resulting in an a priori statistical power of 90%. Using the application PASS (Power Analysis and Sample Size) version 14, and introducing the values described above, a minimum sample size of n = 228 was obtained. Considering a sampling loss of 20% (refusals to participate), the final number of interview attempts was n = 285.

For inclusion in the study, the following criteria were considered for the elderly: being registered at the UAI in the city of Uberaba, state of Minas Gerais; periodically attend the institution (at least once a week), for at least one month; accept to participate in the research, through guidance and subsequent signing of the Informed Consent (IC); and obtaining a score (minimum of 13 points) according to schooling, after application of the Mini Mental State Examination (MMSE).

Participants were recruited by convenience sampling.

As an exclusion criterion, those elderly people who, despite meeting the criteria for participation, refused to sign the informed consent, were excluded from the study.

STUDY PROTOCOL

Initially, cognitive ability of the elderly was evaluated by the MMSE. This instrument, translated and validated in Brazil, is composed of questions related to orientation, immediate and recall memory, concentration, calculation, language and spatial domain[15]. The ASKAS, also translated and validated in Brazil, aimed to assess the knowledge and attitude towards the sexuality of the elderly in an indirect way, taking into account the person's opinion about sexuality in old age, not referring to individual habits[16].

The ASKAS scale consists of 28 items, 20 in the format "true/false/don't know" (true = 1 point, false = 2 points and don't know = 3 points) and 8 items with responses on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree". The 20 questions, false/true, access the respondents' knowledge about age-related changes in sexuality; the 8 questions, "disagree/agree", assess respondents' attitudes towards the sexual behavior of the elderly[16].

To analyze the perception of aging, the Aging Perception Questionnaire (APQ), validated by Barker *et al.*[17], and translated/culturally adapted in Brazil by Ramos *et al.* (2012), evaluated the self-perception of aging from eight different domains. The instrument has two parts: the first, consisting of seven domains and 28 items, which assesses the individual's opinion about their aging: (Acute timeline) - TA (1, 2, 3); (Cyclic timeline) - TC (24, 26, 27, 28); (Emotional representation) - E (10, 22, 23, 25); (Positive control) - CTLP (7, 8, 9, 11, 12); (Negative control) - CTLN (18, 19, 20, 21); (Positive consequences) - CP (4, 5, 6); (Negative consequences) - NC (13, 14, 15, 16, 17), answered using a Likert scale, with five options ranging from strongly disagree to agree; the second, composed of 17 items, referring to identity, assesses the existence of disease and its relationship with the aging process. The higher the score, the greater the negative self-perception of the individual's aging in each domain or factor. This study administered the APQ instrument to capture respondents' perceptions of self-perception of aging and related factors. The APQ states that aging is a stressor demanding resilience and adaptation from the individuals involved[17].

The Whoqol-Bref consists of 26 questions, two of which are general questions and the others comprise the following domains: physical, psychological, social relationships and environment. It also presents the complementary module WHOQOL-Old, consisting of 24 questions, which in turn integrate the facets of the instrument, which are: functioning of the senses, autonomy,

past, present and future activities, social participation, death and dying, and intimacy. The answers are presented in both instruments on a Likert scale, ranging from 1 to 5[18].

Convenience sampling was used for recruiting participants, and according to the availability of the elderly in the intervals of activities at the UAI, the interviews were carried out.

All interviewers were trained by the responsible researchers and were instructed in relation to approaching and communicating with the elderly, data collection instruments, conducting the interviews and ethical aspects.

During the approach, the interviewer identified themselves, provided clarification about the research and offered freedom to the elderly to participate or not in the study. According to the elderly's permission, the researcher read the informed consent to the same, and if the elderly consented to participate, the informed consent was signed, and the interview continued.

In addition to administering the MMSE, APQ and ASKAS questionnaires, a sociodemographic questionnaire prepared by the researchers was also administered, containing the following variables: header (date of interview, interviewer's name, house identification number, interviewee's name, identification number of interviewee), participant identification data (date of birth, age, sex, marital status, race, religion, education, individual income, family income, number of children, number

of people living in the household), and health characteristics (morbidities, smoking, alcohol consumption, and physical activity).

RESULTS ANALYSIS

Data were typed, tabulated and consolidated in Microsoft Excel® and analyzed in Software Statistical Package for Social Scienses (SPSS) version 20.0. Categorical variables were summarized using tables of absolute and relative frequencies, while quantitative variables were summarized using measures of central tendency (mean or median) as well as measures of variance (standard deviation).

Bivariate analysis was considered through the relationship between the predictors and the outcome - self-perception of aging[17]. In the first bivariate analysis, the paramedical comparative T test was applied between two independent samples that compared the qualitative predictors of gender, income, marital status, religion with self-perception of aging. In the second bivariate analysis, Pearson's correlation (p = 0.01) was performed for the quantitative predictors dependent on the APQ, age, education, and then, the comparison with the outcome.

In the multivariate analysis, we sought to explain an outcome variable based on a set of independent variables[17]. For that, two tests were used: linear regression and logistic regression. Linear regression associated the APQ and age with the self-perception of aging, in the logistic

regression, the qualitative variables associated with the self-perception of aging. The p-value considered was p = 0.01.

ETHICAL ASPECTS

This study was linked to a larger project entitled "Quality of life and Sexuality of users of the Elderly Care Unit in Uberaba", carried out in accordance with the requirements of Resolution 466/12 of the National Health Council and approved by the Research Ethics Committee from the Federal University of Triângulo Mineiro (CEP-UFTM) with opinion 2769435, CAAE 92090618.9.0000.5154.

**RESULTS**

A total of 228 elderly people attending the UAI were interviewed, of which 144 (63.1%) were women and 83 (36.4%) were men. The mean age was 78.86 years. Regarding marital status, 88 (38.6%) lived with their spouse or partner, 74 (32.5%) were widowed; in relation to religion, 132 (57.9%) were Catholic.

Regarding education, 106 (46.5%) had zero to four years of study and 69 (30.2%) had five to eight years. As for individual income, 132 (57.9%) elderly people received up to a minimum wage of R$ 998.00, 85 (37.3%) from one to three, and the others received income above four minimum wages. In relation to morbidities, 143 (62.7%) had more than two pathologies.

With regard to chronic pathologies, the following were reported: 146 (64%) Systemic Arterial Hypertension (SAH); 103 (45.2%) arthritis/arthrosis; 79 (34.6%) vascular pathologies; and 56 (24.6%) Diabetes mellitus (DM).

Out of the 228 respondents, the mean APQ score was 97.17±13.38, which showed a satisfactory self-perception of the aging process. Regarding the association between the presence of diseases and the aging process, it was found that approximately 3.41 (SD = 2.74) diseases were related to aging (Table 1).

**Table 1.** Elderly people attending the Elderly Care Unit, regarding the perception of aging and the relationship between aging and diseases, Uberaba, state of Minas Gerais, 2018

| Instrument Section* | Mean ± SD** | Minimum | Maximum |
|---|---|---|---|
| Perception of aging | 97.17±13.38 | 48 | 133 |
| Relationship between aging and disease | 3.41±2.74 | 0 | 13 |
| Total | 228 | | |

* *Aging Perception Questionnaire* (APQ); **SD = Standard deviation.
Source: Prepared by the authors, 2018.

There was no association between the income and gender, but it is noteworthy that those with lower purchasing power and women presented a higher perception of

aging, in relation to men and those receiving more than three minimum wages (Table 2).

**Table 2.** Elderly people attending the Elderly Care Unit, according to correlations between the perception of aging and sociodemographic and clinical variables, Uberaba, state of Minas Gerais, 2018

| Variables | Perception of Aging | | |
|---|---|---|---|
| | N | Mean ± (SD*) | p-value** |
| **Gender** | | | 0.9 |
| Male | 83 | 97.02(13.6) | |
| Female | 145 | 97.25(13.3) | |
| **Income** | | | 0.38 |
| Up to 3 MW*** | 217 | 97.35(13.3) | |
| 3MW or more | 11 | 93.72(14.9) | |

\* SD = Standard deviation; **p = Multiple Linear Regression; ***MW = Minimum Wage; **** Minimum Wage Value at the time of the study R$ 998.00 (Brazilian currency).
**Source:** Prepared by the authors, 2018.

There was a correlation between morbidities, quality of life and knowledge about sexuality in relation to the perception of aging (Table 3).

**Table 3.** Correlations between the perception of aging and quality of life, knowledge about sexuality, sociodemographic variables and clinical morbidities of the elderly attending an Elderly Care Unit, Uberaba, state of Minas Gerais, 2018

| Variables | Perception of Aging | |
|---|---|---|
| | Pearson Correlation Coefficient | p-value* |
| Age | -0.052 | 0.4 |
| Number of Morbidities | 0.243 | **<0.001** |
| Quality of Life (BREF)** | -0.310 | **<0.001** |
| Quality of Life (OLD)*** | -0.286 | **<0.001** |
| Knowledge about sexuality**** | 0.22 | **0.001** |

Statistically significant results. *p = Multiple Linear Regression; **Measured by the WHOQOL-BREF questionnaire; ***Measured by the WHOQOL-OLD questionnaire; ****Measured by the ASKAS questionnaire.
Source: Prepared by the authors, 2018.

In relation to the number of morbidities, it was possible to observe that the greater the number of morbidities, the higher the perception about aging (r = 0.243; p < 0.001), a similar interpretation is made with knowledge about sexuality, considering that the greater the ASKAS result - less knowledge - higher perception of aging (r = 0.22; p = 0.001).

Regarding quality of life, the specific module for the elderly (WHOQOL-OLD) was considered, in which the higher the result, the better the perception of quality of life, which was associated with the perception of aging (r = -0.286; p < 0.001) showed that the lower the quality of life score, the better the perception of aging. As for the abbreviated quality of life

instrument (WHOQOL-BREF), there was a similar interpretation to the WHOQOL-OLD, realizing a relationship with the perception of aging (r= -0.310; p < 0.001), and the lower the quality of life score, the greater the perception of aging.

In the simultaneous confirmation of the relationship between the variables, quality of life, measured through the specific module for the elderly, knowledge about sexuality and the number of morbidities, remained significant (Table 4).

**Table 4.** Correlations between the perception of aging and sociodemographic and clinical variables of the elderly attending an Elderly Care Unit, Uberaba, state of Minas Gerais, 2018

| Variables | Perception of Aging | |
|---|---|---|
| | β | p-value* |
| QV-OLD (WHOQOL-OLD) | -0.16 | **0.01** |
| QV–BREF (WHOQOL-BREF) | -0.17 | 0.02 |
| Sexuality (ASKAS) | 0.20 | **0.001** |
| Income | -0.01 | 0.8 |
| Age | -0.07 | 0.2 |
| Gender | -0.01 | 0.7 |
| Number of morbidities | 0.16 | **0.01** |

Statistically significant results. *p = Multiple Linear Regression.
Source: Prepared by the authors, 2018.

## DISCUSSION

The study revealed a predominance of women in the elderly population, with a mean age of 78.86 years old, and a predominance of elderly people living with their partners. 64% elderly interviewed had comorbidities, the main one was SAH. Elderly women and those with a salary income of up to three minimum wages had a greater perception of the aging process. And it was observed from the administration of the research instruments, that the lower the knowledge of the elderly individual about sexuality, the higher the perception of aging.

Regarding the predominance of women, similar results were found in other studies such as the one carried out in a

Family Health Unit (FHU) in the metropolitan region of Belém (state of Pará)[9], in which the percentage of elderly women participating in the research was 67.9%, and in another survey[19] carried out with elderly people attending a UAI in the interior of Minas Gerais, which also had a mostly female audience (74%). The prevalence of women may be related to the longer longevity of this population, in which studies have reported the "feminization of aging", a phenomenon that results in a longer life expectancy for women compared to men[9,18]. Currently, in Brazil, life expectancy at birth is 81.04 years, while for females, this expectation reaches 84.23 years[8]. Due to health promotion actions and cultural issues in

which health care is higher among women, they tend to live longer than men[6,20].

The mean age of the participants in this study was 78.86 years, unlike other findings[9,20]. This discrepancy may be related to the selection criteria of participants in the aforementioned studies, as well as the fact that the present study was developed in the state of Minas Gerais, which has shown a significant increase in its elderly population[8].

Regarding marital status, most elderly people lived with their spouses or partners. Similar to studies by Keomma *et al.*[22] and Lindemann *et al.*[10], which also showed a predominance of married or living with a partner.

There was a predominance of elderly people who had children, corroborating the study by Figueiredo, Ceccon and Figueiredo[20], in which 54.7% elderly had one or more children. And although the number of elderly people who live with their children is significant, many of them feel alone and helpless, which can directly influence the quality of life of the elderly, and that can be a result of changes in family dynamics over generations[20].

In relation to schooling, 46.5% had zero to four years of schooling, and 30.2% had five to eight years. A survey carried out with the elderly in a community center reported that 34.2% studied from four to seven years, and only 6% studied for 12 years or more[19]. Keomma *et al.*[21] found in their research a percentage of 24.1% illiterate elderly. These data point to a low level of education among the elderly, an

important factor in weakening the self-perception of this population, since the lower the level of education, the higher the percentage of self-perception related to the aging process[10].

Most elderly people had a monthly income of up to one minimum wage. This reality was also pointed out in other studies[7,10,20,22], which leads to a reflection on the quality of life experienced by Brazilian elderly people in relation to low wage income, as the percentage of elderly people living with only one minimum wage was shown to be high, referring to the most frequently paid pension amount in Brazil.

In the use of health services by the elderly population, Keomma *et al.*[22] sought to analyze the profile of Brazilian elderly in Primary Health Care in a municipality in the state of Paraíba, in which they found that 62.9% used public health services exclusively, findings similar to the survey in question. Similar data were also reported by Lindemann *et al.*[10], who found that 53.7% elderly used public health services.

National studies[9,20] showed that most of the elderly interviewed had some chronic non-communicable disease (NCD), and the predominant pathology among the elderly was SAH, in line with the present study, which showed that 62.7% participants had more than two NCD.

The present study also showed a significant percentage of elderly people who reported having SAH. A survey[23] carried out with elderly people living in the Federal District identified that the most frequent chronic diseases in these

individuals were SAH (59.8%), dyslipidemia (33.9%) and DM (18.3%), among other pathologies. Another study[2] developed with 5,575 elderly Brazilians also showed a predominance of SAH among the participants. The results of this study revealed that 3.41 diseases are related to the aging process, a worrying number when correlated with the population aging underway in recent years, evidencing the urgent need to work on health promotion with the adult population and elderly, with a view to healthy aging.

As for sexuality, in this study it was identified that the lower the knowledge of the elderly individual about sexuality, the higher the perception of aging. In a study[24] carried out with elderly people in the state of Pará, most respondents considered the continuous stimulation of sexuality to be reasonable or very important for the health and well-being of the elderly. However, society discriminates when this issue is addressed in relation to the elderly[5,24]. People are induced to believe that it is wrong to continue exercising their sexuality during aging[19]. The suspension and abandonment of these activities can accelerate the aging process and have a negative impact on the life of the elderly, and sexuality plays a key role in the health and biopsychosocial well-being of the elderly, supporting the maintenance of self-confidence and self-esteem[5,19].

The elderly interviewed showed moderate self-perception of the aging process. There was also a predominance of higher perception of the aging process in

women participants (63.6%) and with a salary income of up to three minimum wages (95.1%). Such results corroborate the findings of the study by Lindemann *et al.*[10], carried out in the municipality of Pelotas, state of Rio Grande do Sul, which sought to assess the negative self-perception of health among users of primary health care.

Studies[3,10,9,5] have shown that positive and negative perceptions influence disease recovery and prevention and, in addition, are associated with the biopsychosocial well-being of individuals, presenting itself as a relevant health indicator. Furthermore, self-perception can be used as a tool to improve the health conditions of the elderly[3,10,9].

When evaluating a group of elderly women, a study[25] carried out in Porto Alegre, state of Rio Grande do Sul, related the self-perception of aging with the practice of physical activities, and the greater the practice of physical activity, the lower the self-perception of aging; and the present survey showed that 83.8% elderly were practitioners of physical activity. The regular practice of physical activity is considered a tool of fundamental importance for healthy aging, capable of minimizing the physical and mental effects inherent to the aging process[1,26].

Assessing the self-perception of the elderly regarding the aging process is a determining factor for the individual's quality of life. It was possible to perceive that the more the elderly perceive aging, the worse the perception of quality of life. Another study[10] reinforces this finding,

pointing out the relationship between advancing age and worse levels of quality of life in the elderly.

There was a limitation in the development of this study, since there were few studies on the topic addressed and there are few studies developed with the APQ in Brazil. In turn, this study can bring support to new scientific productions and to health professionals and managers in the planning of actions and the implementation of interventions that can contribute to the promotion, recovery and rehabilitation of health, in addition to the prevention of diseases in the elderly population, with a view to maintaining the health of the growing population.

In view of the acceleration experienced by population aging, studies aimed at the elderly population are essential to improve health care and to focus on actions to promote, prevent and maintain the health of this population. The self-perception of aging brings to light the knowledge of the multiple factors affecting this variable, among them, the way the elderly face the aging process.

## CONCLUSION

The study characterized the participating elderly population and pointed out the factors that favor the self-perception of the elderly towards aging. The female population and those who live with their children predominantly showed a higher self-perception of aging.

It was also clear that the greater the number of morbidities and the less knowledge about sexuality, the greater the negative perception of aging. Quality of life was also significant for this outcome, in which the lower the quality of life, the greater the negative perception of aging.

More studies are required to address the self-perception of aging in the elderly, so that different challenges of each reality are able to act articulately in the different spheres of government with a focus on ensuring the integrality of health care for the elderly.

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