ORIGINAL ARTICLE

Quality of life in the elderly with and without chronic pain

Qualidade de vida de idosos com e sem dor crônica

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ABSTRACT

BACKGROUND AND OBJECTIVES: In the last decade, the elderly population has grown worldwide, both in developed and developing countries. Together with the aging process, the prevalence of chronic diseases and consequently the presence of pain are common and may have a strong impact on the quality of life of the elderly. The objective of this study was to evaluate the quality of life of elderly patients with and without chronic pain and to compare the quality of life with the number of chronic pathologies, pain intensity and age range

METHODS: A quantitative, descriptive cross-sectional study carried out in a city in the West of the state of Santa Catarina with a sample of 385 senior people living in the urban area. The instruments of analysis were: the Mental State Mini Exam; the general data questionnaire adapted from Morais, Rodrigues e Gerhardt; The WHOQOL-OLD questionnaire, and a visual numerical scale. For the intergroup comparison, the Mann-Whitney test was used, and Pearson's correlation was used in the correlations.

RESULTS: It was observed the predominance of pain of moderate intensity. Old people with chronic pain have a lower quality of life index than the group without pain regardless the gender, and those who have chronic pain and age above 71 years have a lower quality of life index.

CONCLUSION: The presence of chronic pain, number of diseases, pain intensity, female gender and age group above 71 years negatively influenced the quality of life of the elderly studied.

Keywords: Aging, Chronic pain, Elderly, Physiotherapy, Quality of life.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Na última década, a população idosa cresceu mundialmente, tanto nos países desenvolvidos quanto nos países em desenvolvimento. A prevalência de doenças crônicas aumenta com a velhice. As de origem osteomioarticular podem ter quadros de dor associado, o que pode produzir impactos na qualidade de vida do idoso. Os objetivos deste estudo foram avaliar a qualidade de vida de idosos com e sem dor crônica e correlacioná-la com o número de doenças crônicas, intensidade de dor e faixa etária.

MÉTODOS: Estudo quantitativo, descritivo de corte transversal, realizado em um município do Oeste catarinense, com uma amostra de 385 idosos residentes na área urbana. Utilizou-se como instrumentos de análise o Mini-Exame do Estado Mental; o questionário de dados gerais; o questionário WHOQOL-OLD; e a escala visual numérica da dor. A comparação da qualidade de vida entre idosos com e sem dor crônica foi realizada por meio do teste U de Mann-Whitney, e as correlações foram realizadas pelo teste de correlação de Spearman.

RESULTADOS: Observou-se a predominância de dor de intensidade moderada. Idosos com dor crônica possuem índice de qualidade de vida menor que o grupo sem dor, independentemente do sexo, sendo que aqueles que têm dor crônica e idade maior que 71 anos possuem um menor índice de qualidade de vida.

CONCLUSÃO: Os fatores presença de dor crônica, quantidade de doenças, intensidade da dor e faixa etária acima de 71 anos influenciaram de forma negativa a qualidade de vida dos idosos estudados.

Descritores: Dor crônica, Envelhecimento, Fisioterapia, Idoso, Qualidade de vida.

INTRODUCTION

Chronic diseases (CD) are considered one of the world's biggest public health problems. In Brazil, these diseases are prevalent in 70% of the elderly population, causing a health deficit of great magnitude[1]. Among those related to the musculoskeletal system, many can be associated with CD. The International Association for the Study of Pain[2] defined it as an unpleasant emotional, sensitive experience lasting more than three months. It is ranked as one of the most important health problems that interfere with the performance and autonomy of the elderly in their daily life functions. Functional independence is a fundamental factor for the health of old people. When there is dependence, at any level, their well-being and the quality of life (QoL) is affected[3].

The World Health Organization[4] defines the QoL as the perception of the individual of its position in life, in the context of the culture and the value system in which he/she lives, regarding the objectives, expectations, standards, and concerns. Therefore, QoL cannot be seen as a single concept since the term encompasses many meanings that vary according to what is at stake, that is, it depends on the evaluated aspects[5]. The prevalence of CD found in the study of Dellaroza et al.[6] conducted with 400 old subjects, was 29.7%. These researchers pointed out that CD can strongly impact the QoL of the elderly.

Considering the higher life expectancy of the Brazilian population, living as a healthy, independent and happy old person becomes a target, even for those who live with a chronic condition[7]. Although pain is recognized as a public health problem, little is done regarding the prevention and the impacts that it produces in the life of old people. Studying the QoL of the elderly with and without chronic pain may produce information that supports the elaboration of programs and strategies that prioritize the prevention of CD, as well as to improve the QoL of the elderly population. Considering the increasing number of old people, the high prevalence of chronic pain, the incapacity produced by this syndrome and that this picture can impact the QoL of the elderly,

The objectives of this study were to evaluate the QoL of the elderly with and without chronic pain and compare the QoL with the reported number of chronic diseases, the intensity of pain and age group.

METHODS

This research is of quantitative, descriptive nature and cross-sectional. It was considered a population of 13,606 old subjects, both genders, from the urban area of a city in the west of the Santa Catarina State to calculate the sample[8]. The sample of the study was calculated by an online sample calculator, considering a confidence interval of 95% and margin of error of 5%, totalizing 385 old subjects.

As inclusion criteria, only the old subjects living in the urban area were considered; with age equal or above 60 years; good cognition tested by the Mini-Mental State Examination (MMSE)[9]. As exclusion criteria, we considered the old subjects absent from home at two visits of the researcher in a one-month interval; bedridden subjects or those who used auxiliary devices like wheelchairs.

The instrument used for data collection was the MMSE - a cognitive test used in the screening stage as an inclusion criterion. The Morais, Rodrigues and Gerhardt[10] General Data Questionnaire of Senior Citizens were used to register the sociodemographic and clinical data regarding gender, age, the number of self-reported CD and the presence of chronic pain or not. The visual numeric scale (VNS) was used to assess pain. In the assessment of the QoL, the WHOQOL-OLD questionnaire was used. Data collection was organized according to the 38 census sectors of the city. Ten sectors were randomly selected for data collection. CR, ELD, BV, VR, PDF, SA, SC, EF, EB and UNV, in an attempt to ensure the diversity of all regions. The collection started at the crossing of two streets: a researcher took the right side and the other the left side - until reaching the number of 385 old subjects.

Each old subject found at home was informed about the purpose of the study. Those that accepted to participate signed the Free and Informed Consent Form (FICT). Right after, the MMSE was applied only for those with preserved cognitive, considering the following score: minimum of 17 points for illiterates or less than four years of schooling, and 24 for individuals with four years or more of schooling[9]. Then, Morais, Rodrigues, and Gerhardt adapted questionnaire[10] was applied, the VNS to quantify the pain and, finally, the WHOQOL-OLD questionnaire. The interviewer asked the questions, and the subject answered. In case there was more than one elderly person living in the house, the data collection was conducted in different rooms of the house, in a place with less noise and interference from others in the process data collection. The study was approved by the Ethics Committee of Research with Humans of the Institution with number CAAE 613611160.0000.0116 and followed the recommendations of Resolution 466/2012/CONEP/CNS/MS, of the National Health Council.

Statistical analysis

The data was tabulated and categorized in a database in a Microsoft Excel electronic spreadsheet. First, we performed the descriptive analysis with average and standard deviation, or the frequency distribution of the qualitative variables, the intensity of pain, age, and the number of self-reported CD. To check data normality, we used the Kolmogorov-Smirnov statistic test. To compare the intergroup QoL (with and without CD) we used the Mann-Whitney U test, and for the correlations, the Spearman's correlation coefficient. The analyses were performed using the SPSS software, version 20.0, and the adopted level of significance was $p < 0.05$.

RESULTS

Participants' profile (Table 1) showed that 32.7% (n=126) of the sample was male and 67.3% (n=259) female. Regarding the age group, the predominant age bracket was 60 to 69 years (45.5%). CD was reported by 58.2% (n=224) of the subjects, and the prevalent was moderate pain reported by 28.3% (n=109).

Table 1. Clinical characteristics - profile of the elderly sample of a city in the West of Santa Catarina (2017)

Variables	Classification	n=385 n (%)
Age (years)	60-69	175 (45.5)
	70-79	154 (40.0)
	+80	56 (14.5)
Gender	Male	126 (32.7)
	Female	259 (67.3)
Chronic diseases	Yes	331 (86.0)
	No	54 (14.0)
Number of diseases	None	50 (13.0)
	Up to 3	304 (79.0)
	Above 4	31 (8.1)
Chronic pain (VNS)	None	161 (41.8)
	Mild	40 (10.4)
	Moderate	109 (28.3)
	Severe	75 (19.5)

VNS = visual numeric scale; n = number.

Table 2 shows the facets of WHOQOL-OLD instrument compared among the elderly with and without CD. In almost all facets, the old subjects with CD had a lower QoL index (p<0.05), except in the privacy facet. When analyzing the variables separately, it is noted bigger differences between the groups in facets of sensory skills (p=0.000001), social participation (p=0.0002) and autonomy (p=0.0004).

Table 2. Quality of Life according to the WHOQOL-OLD facets in the elderly with and without chronic pain (2017)

WHOQOL-OLD facets	Elderly with chronic pain		Elderly without chronic pain		
	Average	Standard deviation	Average	Standard deviation	p value*
SS	3.53	0.92	3.92	0.86	0.000001
AUT	3.73	0.55	3.93	0.56	0.0004
PPFA	3.84	0.53	3.97	0.54	0.02
SP	3.73	0.59	3.96	0.56	0.0002
DD	4.20	0.90	4.39	0.86	0.02
INT	3.88	0.62	3.99	0.58	0.07

SS = sensory skills; AUT = autonomy; PPFA = past, present and future activities; SP = social participation; DD = death and die; INT = intimacy; p*: level of significance: p<0.05.

It was observed that regardless the gender, the elderly with CD have QoL index lower than the group without pain (p<0.05). When comparing the groups, a statistically significant difference was observed between women with and without CD and their overall QoL index (p=0.000001), compared to the men group (p=0.07). Also, differences between the elderly's age brackets have been observed: the general average of QoL in the elderly above 71 years is worse (p=0.000001) (Table 3).

Table 3. Prevalence of chronic pain by gender and age bracket according to the WHOQOL-OLD (2017) general average

	Elderly with chronic pain		Elderly without chronic pain		p value
	Average	Standard deviation	Average	Standard deviation	
Gender					
Female	3.79	0.41	4.04	0.40	0.000001
Male	3.85	0.38	4.00	0.42	0.07
Age group (years)					
Up to 70	3.85	0.40	3.98	0.38	0.08
Above 70	3.75	0.39	4.06	0.43	0.000001

Significance level (p<0.05).

Figure 1 represents the correlation between the number of CD (N) and intensity of pain with the WHOQOL-OLD general score. It was observed a negative correlation between QoL and CD and the QoL final score (rs= -0.112; p=0.028), as well as a more significant negative correlation between the intensity of pain and the QoL final scores (rs= -0.221; p=0.000001). When we correlated the number of CD (n) and pain intensity with the overall WHOQOL-OLD score among the elderly, we observed a negative correlation in women between the

number of CD and the final QoL score (rs = (Rs = -0.164; p=0.008). In addition, there was a significant negative correlation between pain intensity and the final QoL score (rs = -0.249; p=0.00004). (Figure 2) Among men, no correlation was identified between the variables - rs= - 0.037 and p=0.67; and rs= -0.130 and p=0.14, respectively.
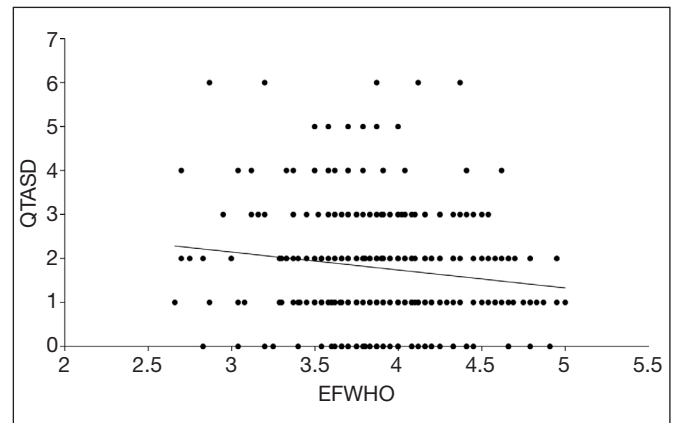

Figure 1. Correlation between the variables number of chronic diseases and intensity of pain related to the quality of life (2017)
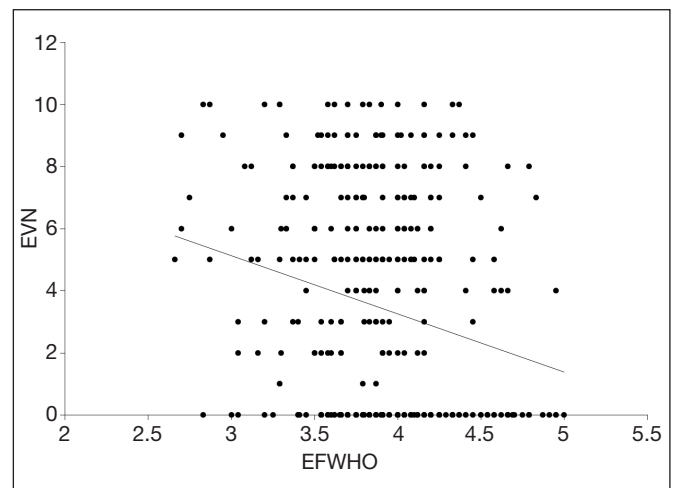EFWHO = Final score of quality of life of the elderly; QTASD = Number of chronic diseases.

Figure 2. Correlation between the variables number of chronic diseases and intensity of pain related to the quality of life in women (2017)
EFWHO = Final score of quality of life of the elderly; VNS = visual numeric scale; Rs = Spearman's correlation.

DISCUSSION

The main result of this study is that the QoL varies according to the presence or absence of pain. The facets that presented greater significant difference were abilities (p=0.000001), social participation (p=0.0002) and autonomy (p=0.0004). Ruviaro and Filippin[11] affirmed that CD directly affects the individual's independence and the QoL. Pain are limiting factors to perform daily activities within the normality, which restricts social participation and produces a negative perception in the elderly's QoL[12].

Another result was the statistically significant difference between old subjects with CD in the age bracket of 71 years and above (p=0.000001). This indicates that the elderly CD above 71 years has a minor perception (or bad perception) about his/her QoL (3.75) than those who do not have CD (4.06). Linden Júnior and Trindade[13], in a study with 376 ole subjects, observed that the higher the age, the worse is the QoL of this population. Maués et al.[14], when evaluating the QoL of the elderly and comparing the participants of 60 to 70 years (n=35) and long-living ones (n=34) using the WHOQOL-OLD questionnaire, concluded that the QoL of the elderly was considered good, and the comparison between the groups showed that the QoL averages did not reduce with age. Andrade and Martins[15] state that the higher the age group, the worse is the QoL of the elderly, a result of more frequent health problems, and losses and disabilities at various levels. Veras[16] adds that age is a risk factor to develop comorbidities.

In a study of Inoue et al.[17] with individuals from Japan identified a prevalence of 39.27% (n=1032) of CD – of these, 592 were above 60 years. The prevalence of CD increased with age, from 22.2% to 52.6% among individuals above 90 years; followed by 50.9% among those between 81 and 90; and 46.6% between 71 and 80 years. The authors found that the prevalence of CD is associated with mental health problems, reduction in the QoL and social loss, which represents a significant impact in the life of the elderly. The study also identified that women reported more CD than men and that aging, living alone, sedentarism and lack of job are also associated with a picture with a higher presence of CD.

Orfila et al.[18], in a cohort carried with 544 old subjects evaluated to what extent differences in the QoL between men and women could be explained by differences in the functional capacity. The basis was the performance and chronic conditions, and they found that women (65.4%) had worse results than men in the QoL and functional capacity. Functional capacity and CD - arthritis, back pain, diabetes, and depression - were significantly associated with loss of QoL score. Therefore, the authors suggest that the negative report on the QoL in old women is due, mainly, to a higher prevalence of disability and chronic conditions. The present study found significant differences in the quality of life regarding the number of diseases and intensity of pain, and women with the highest number of self-reported CD and higher pain intensity, according to VNS, had lower QoL score.

The correlation analysis showed that the higher the number of diseases, the lower the QoL score; and, the higher the intensity of pain, the lower the QoL scores. Regarding CD, the study of Camelo, Giatti and Barreto[19] with 366 old subjects identified that the bigger the number of reported medical diagnostics, the worse is the result of the health-related QoL. The study by Lacerda et al.[20] that evaluated 23 old subjects with mean age of 84.22±7.89 years showed that the QoL of the elderly who reported pain was downgraded in relation to those who did not have pain. Regarding the VNS, the higher the score, the worse the QoL. Ferreira et al.[21] emphasized that CD can significantly affect the well-being and QoL of the individuals. Moreover, moderate and severe pain tend to be disabling, affecting the QoL, reducing social interaction and compromising daily leisure activities of the elderly population[22].

Therefore, we can say that pain interferes with the perception that each person has of its life. Pain is described as a syndrome that causes suffering regardless the age. So, it requires adequate actions aiming at the well-being and control of pain, since this is a right of the elderly. There is the need of strategies aiming at the reduction of pain complaints to improve the functional capacity and the QoL of this population[23]. Moreover, it is necessary to early detect the CD in order to develop preventive strategies to help to improve the health of these individuals[18].

Raggi et al.[24] highlighted the importance of identifying the changeable risk factors that act as a determinant in the QoL. They give suggestions that could support the actions to favor more physical activity, identification and management of pain-related problems, improvement of social bonds, as well as the implementation of universal projects for houses and infrastructures that could improve the QoL of the elderly.

The use of polypharmacy during a prolonged period due to the common CD in this phase of life can compromise the health and QoL of the elderly. This is due to changes in the drug metabolization and the highest possibility of adverse events in this population. Thus, it is fundamental to adopt nonpharmacological measures so, in many situations, it will be possible to use fewer drugs in lower doses, reducing the undesirable effects and keeping an adequate pain control[25].

The increasing number of people over 70 years has also increased the CD indexes, and many of them could be prevented with preventive measures, adoption of healthy habits and activities. It is worth mentioning the importance of the multi-professional team caring for the elderly to develop strategies to provide the relief of pain as well as to prevent new occurrences, contributing with the well-being and, consequently, a better QoL of this population[26].

CONCLUSION

The results found allow to conclude that the perception of the QoL is worse among old subjects that have some type of CP. Moreover, the presence of chronic pain, more diseases, and high intensity of pain have negatively influenced the QoL of the elderly in this study.

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