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Quality of life (QOL) axiological profile of the elderly population served by the Family Health Program (FHP) in Brazil

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ABSTRACT

With the purpose of optimizing the satisfaction of the elderly subjects, either existential or not, presenting their unique preference, this research aimed to evaluate the effects of aging on QOL of the aged persons, served by the FHP. The basic intention was to establish parameters of QOL-impact on aging. Our sample was a non-selected population of aged volunteers from Perequê-Mirim-I Family Health Unity, in Caraguatatuba, São Paulo, Brazil. In this correlational descriptive research, the elderly subjects answered a questionnaire on QOL, specific to the aged persons (WHOQOL-OLD). These answers revealed the degree to which of the six facets of WHOQOL-OLD was given priority. The dimensional techniques of descriptive statistics (mean ± S.D., median, coefficient of variation) normality evaluation (Kolmogorov–Smirnov), and inferential statistical techniques (Z-score test, χ^2) were adopted, considering the level-II error = 10% and accepting level-I error = 5%. The main results revealed a correlation between the income and QOL. Death and dying appeared to be a substantial preoccupation, opposed to intimacy that raised the QOL level. It is suggested that any works directed to the elderly population should take in consideration the self-evaluation of aging effects on QOL.

1. Introduction

The QOL is conceptualized as a generic, multidimensional parameter describing an individual's subjective perception of his/her physical and psychological health, as well as his/her social functioning, environmental, and general life status (Jang et al., 2004). Defined as a subjective well-being that reflects the distance between individual hopes and expectations and the effective experience, although its subjectivity is recognized as "demand to feel happy", feel good, satisfied, the subjectivity can be supported by objective factors such as achieving socio-cultural goals as status, wealth, and physical well-being (Dantas, 2002). Maintaining a fairly adjusted QOL, even facing adverse circumstances becomes easier, as hope adjustments to concrete reality are usually made: this is called adaptation.

QOL is an eternal quest for human being. It has been recognized that QOL is the individual perception of someone's position in life, both in the cultural context and in the value system, where one is inserted, related to someone's goals, expectations, patterns and worries, depending on satisfaction of social, economical, physical, emotional, psychical and mental conditions (WHO, 2002). Hence a broad approach is essential for the purpose of comprising human being as a whole (Varejão et al., 2007). Stating that QOL is an individual, subjective perception of the way someone lives, Saupe and Broca (2004) suggested that QOL evaluation should be periodical, as feedback overcoming the focus on necessities and dependencies, changing it to focusing on potentialities, and, in that way, promoting health. For the elderly subjects, QOL is more than rating their physical health status; emotional and social health are also recognized as very important factors for their well-being (Srapyan et al., 2006).

Life expectancy is increasing nowadays, and the population aging occurs world-wide (Dantas and Vale, 2008). However, investigate on aging and evaluating its effects on QOL discloses relevant and actual realities, leading to better understanding of aging and the elderly subjects themselves. With the purpose of approaching this increasing elderly population in a realistic way, the WHOQOL group elaborated the WHOQOL-OLD instrument: it is a transcultural questionnaire evaluating the QOL of the elderly subjects, allowing a comparison between the aging effects of aging

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on: sensory functioning; autonomy; future, present and past activities; social participation; death and dying; and intimacy (Fleck et al., 2002). QOL blends with health, considered as a complex result structured in social and biological basis, and mediated by emotional, psychical and mental conditions. Adjusting to the health concept, as a state of complete physical, mental and social well-fare (WHO, 2004), the federal government of Brazil proposed the FHP to the municipalities. Since 1994 FHP has been implemented as basic attention to Brazilian population's health. It is based on a strategy of reorganizing assistance, rehabilitation, promoting health and preventing diseases (SIAB, 2008).

At the very moment, the elderly subject defines his/her priorities, captures the own desires and intentions, the medium he/she is inserted in, perceives it and gives an interpretation of this singular act. This interpretation is called axiological profile as it goes into value and value judgment dimensions of what the elderly subjects establish about themselves. Selecting between varieties of alternatives, being sure of their relative value, the older subjects make an evaluation: process of asserting values related to alternatives that compete between themselves, hence it is an axiological process, action of establishing or attributing a judgment of the value of the study object (Beresford, 2008). In this case, the study object that is evaluated, is the effects of aging on the QOL of the elderly subjects. Realizing the personalized, individualized QOL-evaluation of the aged subjects, served by FHP, is an attitude driven to prevent or to minimize the problem of real necessities, either existential or not, and to improve the definition of difficulty by those aged themselves. Therefore, the purpose of this study was to present the QOL-evaluation of the elderly subjects served by the FHP Perequê-Mirim-I.

2. Subjects and methods

2.1. Preliminaries, data collection

Previously, in this study, two steps have been taken: (i) tests application approval by the health-responsible authority in Caraguatatuba, SP and (ii) participants' agreement. Lately data collection started by QOL instrument application: WHOQOL-OLD, via face-to-face interview, during regular medical consulting, by one of the responsibles by this research (always the same). Every elderly subjects participating in this research were individually oriented, related to the actions driven in the QOL-tests, to which they were submitted.

The utilized protocol for QOL observation was the questionnaire WHOQOL-OLD, developed by the WHO in search of an evaluation instrument of the aged QOL. The WHOQOL-OLD is a WHOQOL adaptation to the elderly in a transcultural approach (Winkler et al., 2006). It was developed and validated by a team coordinated by Mick Power and Silke Schmidt (Power et al., 2005), and translated and adapted to Portuguese with authorization by the authors, performed under supervision by Eduardo Chachamovich and Marcelo Pio de Almeida Fleck, in Porto Alegre (Fleck et al., 2003).

The final version of WHOQOL-OLD contains six facets of 4 items each, verified by a Likert scale (1 to 5 points): the facet I on "Sensorial Functioning"; the facet II on "Autonomy"; the facet III on "Future, Present and Past Activities"; the facet IV on "Social Participation"; the facet V on "Death and Dying"; and the facet VI on "Intimacy" (WHO, 2008). As each of the six facets possesses 4 items, evaluated within the range from 1 to 5, the facet-scores outcome can oscillate from 4 to 20. The verified result consists in a set of facet scores plus a gross total score (TS), and a percentile-transformed score. The questionnaire is individually applied and it is asked to individuals to have in mind their own values, hopes, pleasures and concerns, based on the last 2 weeks when they're answering to it.

This assay attends to the Human Being Research Rules, from National Health Council, 196/96 Resolution, 10/10/1996 (National Health Council, 1997) that comply with the principles laid down in the Helsinki Declaration (1996). Its project of research has been approved by Castelo Branco University Research Ethics Committee, under the protocol number 0017/2008.

2.2. Universe and sample

The state of São Paulo, fourth in the national ranking of the frequence of elderly, with 9.3% of its total population, in absolute terms registered in 2000 census almost one million of aged people. In Caraguatatuba city, area of this study, with 78,921 inhabitants, the census counted 6319 aged subjects: 3790 were between 60 and 69 years, 2054 between 70 and 79 years, and 474 of 80 years and above (IBGE, 2000). In January 2008, DATASUS has registered that the Perequê-Mirim-I FHP serves 4080 people, from which 258 are over 60, community dwelling subjects in this project (SIAB, 2008). Hence the young-aged population of (60–69) represents 60%, the middle-aged (70–79) 33%, and the old-aged 7% of the total elderly of Caraguatatuba residents.

This sample comprised 31 elderly subjects (over 60), of both genders, non-selected volunteers: the mean age of them was 71.51 ± 8.36 years (range 61–94). These 31 elderly consists of 12% of the aged population served by the Perequê-Mirim-I FHP, Caraguatatuba, São Paulo.

2.3. Data analysis

Descriptive statistical techniques through frequency distribution in absolute and relative values, mean, variance, and the variation coefficient (VC) used to verify the symmetry of the sample was utilized to treat data via SPSS 16.0 and Excel programs. To analyze sample's homogeneity the Kolmogorov–Smirnov test was applied aiming to observe if the distribution is parametric or non-parametric. After this procedure the *Z*-score test was used utilizing the cut point 14 (top limit of the maximum mean of facets scores), subsequently the ANOVA one-way test (analysis of variance) to analyze the mean difference between facets, furthermore the Tukey Post Hoc (2000). The significance level utilized was 95% ($p < 0.05$).

3. Results

The observed values at individual facets and TS representing an empirical evaluation of QOL in elderly, from the point of view of the answerer, is presented in Table 1, underlying that TS results from the combination of the 6 facets scores (Fleck et al., 2003). The elderly presented mean TS = 11.67 ± 1.65, that is a percentile mean TS = 47.94% of QOL satisfaction on WHOQOL-OLD test. This score is supported mainly by the facets 1, 2, 3 and 4 scores. On the other hand, score 5 (death and dying) had the lowest score, reducing the TS, and opposed to that, score 6 was quite superior to the mean TS, raising it.

Analyzing the sample homogeneity by Kolmogorov–Smirnov (K–S, p) normality test considering $p < 0.05$, it was observed (Table 1) that the variables did not present statistically significant differences. It means that the values represent a normal Gaussian distribution ($p < 0.05$).

The measures of central tendencies were: mean or median. When the VC < 25%, i.e., the sample was homogenous (Shimakura, 2008), the mean (summarizing symmetrical quantitative data) was chosen as the measure. Median (dividing sequential non-symmetrical data in half) was utilized to the other facets (2, 4, 5 and 6).

ANOVA one-way analysis of variance between facets concluded that there is a statistical significance ($p = 0.007$) between them. Lately, the *Z*-score test was carried out between groups ($p < 0.05$),

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Table 1
Analysis of the descriptive variables, mean ± S.D.

	Parameters				
	Number	Age	Range	Median	%-VC
	31	71.51 ± 8.36	61–94	69.0	12.0

Facet scores		Range	K–S, p	Z-score, p	%-mean	
1	12.19 ± 2.76	8–20	0.31	0.96	51	23
2	11.13 ± 3.42	4–17	0.51	0.82	45	31
3	11.94 ± 2.60	8–18	0.35	0.93	50	22
4	11.68 ± 3.87	4–20	0.73	0.69	48	33
5	10.10 ± 3.44	4–18	0.92	0.55	38	34
6	13.00 ± 3.65	4–20	0.45	0.86	56	28
TS	11.67 ± 1.65	–	1.00	0.44	47.94	14

Table 2
Tukey Post Hoc analysis: finding patterns in the facets.

Facet contents	Facets	2	1
Death and dying	5	−0.2168	
Autonomy	2	−0.1689	−0.1689
Social participation	4	−0.1161	−0.1161
Future, present and past activities	3	−0.1147	−0.1147
Sensorial abilities	1	−0.0903	−0.0903
Intimacy	6		−0.0500
Significance, p			**0.067**

comparing the difference between each facet and the number 14 (chosen as top limit of the facet-scores maximum mean), reducing the magnitude of the range to QOL's range findings. Therefore, it was possible to perform a special comparison between scores, for the Tukey Post Hoc test exposed groups differing from each other: facets 1, 2, 3 and 4 were grouped in both classes, facet 5 in class 2, and facet 6 in class 1, as shown in Table 2. It could also be observed that the significance values of the classes were, respectively, $p = 0.067$ and $p = 0.102$, i.e., $p > 0.05$ denying a normal distribution. Hence facets could be organized in a sequence according to the increasing Z-score test.

The elderly subjects presented three dilemmas in this research, when judging the value on the important aspects of their existential lives. This can be seen if presenting the visualization of integration between facet means, as defined by grouping (Table 2), showing facets in increasing sequence of QOL. The facets 5 and 6 proved to be clearly prominent: facet 6 revealed greatest satisfaction related to QOL, giving the information that respecting intimacy these elderly presented greater satisfaction than concerning the other themes; facet 5 revealed the lowest QOL, demonstrating the existence of a massive preoccupation with death and dying.

Evaluating if there was a statistically significant difference compared to the variables: age, facets and TS between the genders, the Student t-test was applied. There was no statistically significant difference between those variables when split by gender, hence the variables presented a normal Gaussian distribution.

4. Discussion

As the WHOQOL-OLD is a specific instrument to the elderly subjects, it is not possible to develop a comparative analysis with each facets of WHOQOL-100 or WHOQOL-Bréf. Their questions were tested and those that showed strongest statistical weight and high relevance were pondered in order to develop this specific WHOQOL-OLD instrument for elderly (WHO, 2008), as multicenter and cross-cultural researches require the use of common protocols if the results are to be compared (Hawthorne et al., 2006a). To sum up, the number of studies utilizing the WHOQOL-OLD is yet restricted, so a more specific comparison with other assays is almost impossible to do. Based on this, a comparative analysis was performed with those WHOQOL quoted instruments, comparing the TS of QOL exclusively. Although with those assays, a comparative interpretation of value judgment was held underlying the reality of the population, the nature of value judgment of this assay is individual, comparing the facets, not the sample groups.

Over the last few years, there has been a growing consensus that QOL includes objective dimensions, e.g., diagnosis, housing, and economy, as well as subjective dimensions (Luleci et al., 2008). In an economically depressed area of China, an investigation on 360 elderly individuals showed correlation between income and QOL. The results of the logistic regression analysis demonstrated that income showed unique and significant effects in predicting QOL. It was further demonstrated through pathway analysis that income directly predicted QOL (Zhang et al., 2008). It is a possible inference that higher income level causes a difference of QOL. Comparing distinct income level populations, namely a wealthy one in Rio de Janeiro and a poor population in Caraguatatuba, the TS of 17.13 for wealthy active elderly shows satisfactory QOL, while the TS = 11.67 of Caraguatatuba aged fits in the non-satisfactory category of QOL, according to the definition of Cader et al. (2006), who found TS = 13.25 for wealthy non-active elderly, and classified it as non-satisfactory QOL. Although included in the same category, the level of satisfaction is lower. Hence it is possible to conclude that even the non-actives and nursing home residents at that high income level area show a better QOL than the findings on this evaluation of FHP elderly from Caraguatatuba. It reinforces also the inference that the higher income is a possible cause of the observed difference among the QOL of those elderly, when comparing wealthy elderly women of Rio de Janeiro with TS = 15.57 ± 1.40 (Pereira et al., 2005); while in this assay with FHP on the elderly with low income, the mean TS = 11.67 ± 1.65.

As confirmed by this FHP research, low income comes as one of the most significant factors correlated with low QOL (Lucchetti et al., 2008); social inequalities may contribute to a poor QOL, while investigating the role of social, environmental, and economic factors in determining subjective perception of aging in older people coming from metropolitan and rural areas of Southern Italy. This conclusion of associating QOL to income confirms the results of Paskulin and Molzahn (2007) who examinated the QOL of elderly, in Canadian and Brazilian regions, concluding that the general QOL was higher in Canada with elevated per capita income, than in Brazil with a lower one. The WHOQOL-Bréf was applied to random sample of 202 elderly in Canada and 288 in Brazil, finding that the same pattern of factors (satisfaction related to health, enough money, meaning of life and leisure opportunities) contributed to the variance of QOL in both countries. Satisfaction in relationship was not significant in any of the countries. This opposes the findings of our elderly FHP Caraguatatuba study, where relationships were the main contributor to improve the QOL level.

A comparative observation with an elderly random sample community researched by Hawthorne et al. (2006b) shows that FHP elderly population of this research presents poor QOL, as the author suggests that his preliminary results may be used as reference points for interpreting QOL scores. As it was observed that in all domains the QOL was above 70%, while in this study of FHP in no facet reached 60%, and the TS remained below 50%. QOL is quite low for the FHP elderly population of this study, compared to Dutch nursing home residents (Nijs et al., 2006), that verified total QOL of 60% (in terms of TS). Comparing the latter study to our FHP, it is observed that the finding of TS = 47.9% is considerably lower. Results lead to a bad QOL by Caraguatatuba non-demented population, with the QOL found almost the same mean TS, as for

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demented level 1 population in Giani (2005) via WHOQOL-100. Findings of Scocco et al. (2006) comparing demented elderly to "healthy" subjects obtained them to be no different and in some areas (general QOL, independence and social relationship) even better (demented TS = 72; "healthy" TS = 71). Also among elderly people living in nursing homes in Turkey, using the WHOQOL-Bréf, the study indicated a mean score of 54.29. This research on FHP found a mean score for the group of 49%. Comparisons drive us to the conclusion that the QOL described by Luleci et al. (2008) is more satisfying than the one observed in this FHP study. This FHP study, where the TS of QOL found was 47.96%, lower than the 60.76 found by Prosenewicz (2006) through WHOQOL-Bréf, leads to a conclusion that the QOL in Caraguatatuba is lower that of 100% attended by FHP Rodeio Bonito whole aged population (600 elderly subjects). That is a feasible comparison, as the FHP attendance was equivalent as much as the population mean age, and according to a Saupe–Broca scale adopted at that refered assay both population QOL fits into a non-definition zone (between 41% and 69%).

Comparing to a survey conducted on wealthy elderly by Mello and Morucci (2005) utilizing WHOQOL-100, having identified a QOL TS = 14.17, with the present assay on Caraguatatuba's FHP, with a low income average, and TS = 11.67, reaffirms the conclusion that QOL of wealthy elderly, as well as QOL of other higher income level groups, overcomes the QOL of Caraguatatuba's FHP low-income elderly. This observation confirms the previous concepts of QOL being related to income, as stated by the WHO (2002) in the first QOL definitions. This conclusion is emphasized by the research based on the WHOQOL-100 for the assessment of QOL, where Rocha and Fleck (2002) developed a QOL study in Brazil with 238 elderly subjects. WHOQOL domains showed results between 50% and 72%. Comparing with this study, where the values oscillated around TS = 48%, one can observe that the QOL found by Rocha and Fleck (2002) is of wider range and of higher mean, than observed in this FHP study. Also, some of the obtained scores in this study, as compared to the elderly from Jacarepaguá, at Rio de Janeiro, through WHOQOL-100 (Varejão, 2004; Varejão et al., 2007) are quite inferior, and some quite superior to the findings of that population, varying in a wide range, opposing the existence of a smooth pattern in the facets of QOL.

Social and physical domains were relevant in Pereira et al. (2006) WHOQOL-Bréf research, and opposed to this FHP study where the increase of QOL was due to intimacy (56%) followed by sensorial functioning (51%) revealing greatest satisfaction than concerning the other themes. On the other hand, death and dying revealed through the lowest QOL the existence of a substantial preoccupation with that.

Investigating the relationship between judgments about different dimensions of QOL and the importance attributed to them, Skevington et al. (2004) applied what they stated as the WHOQOL Group's definition of QOL, which indicates that those who report the poorest QOL will be the least likely to have met their own goals, or expectations, standards and concerns. The main effects from overall analysis confirmed that those reporting the largest negative differences tended to report the poorest QOL, and also attached a high degree of importance to these dimensions in that survey with 4802 participants, in 15 countries. Each elderly population has a personal evaluation of certain domains, according to Browne et al. (Fleck et al., 2003), though the aged has questions that can be generalized and that differs from grown-up population. Having the purpose of asking elderly what they do consider important in determining their QOL, developing interviews to a large population with large range on many communities, with or without infirmities, it is found that the elderly subjects differ from adults mainly for attributing low weight to labor and high to health. The elderly constitutes a particular group, and as such, they present relevant specificity to the QOL. It is confirmed with sufficient unanimity that old adults have peculiar questions in common with themselves. Population aging demands specific studies involving the elderly. Attention towards conditions regarding QOL in elderly, as well as variations or restrictions brought by aging, are issues of scientific and social relevance (Fleck et al., 2002).

5. Conclusions

Knowing the concepts of the studied population and searching for the perception of their needs, it is possible to develop strategies to know how they perceive their aging. The proper asking of the elderly, what they do consider important in determining their QOL, makes it possible to help them in this new phase of their lives, as to transcend their aging dilemmas. Considering the aging as an existential problem for the elderly lives, the elderly subjects attributed higher weight to death and dying, and were less satisfied dealing with that theme than with any other. On the other hand, the elderly subjects expressed a feeling of well-being regarding the relationships either in familiar or in personal life. Hence it is possible the inference, that being negatively influenced by death and dying and positively influenced by intimacy, fearing death and rejoicing over relationship, those aged feel loved and loving, and oscillate, as De Beauvoir (1990) suggests, between the joy of existing and the horror of ending. The low result of QOL found in this study was expected, since this study population is of a low-income. It drives to an inference that income level causes a difference of QOL, corroborating that health is a state of complete physical, mental and social well-being, as declared by the WHO (2006).

Conflict of interest

None.

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