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Health-related quality of life in older males and females of Vilnius (results of a pilot study)

Jelena Čeremnych

Department of Gerontological Problems,
Institute of Experimental and
Clinical Medicine,
Vilnius University,
Žygimantų 9,
LT-01102 Vilnius, Lithuania
E-mail: ceren@ktl.mii.lt

The Department of Gerontology of Institute of Experimental and Clinical Medicine at Vilnius University is a partner in a multi-centre research study of the EU FRAME V project (WHOQOL-Old). The aim of the present work was to evaluate the relationships among gender and quality of life of older adults according to a standardised protocol provided by WHOQOL-Old Steering Committee.

Materials and methods. The study cohort comprised 432 older adults (60–98 years, residents of Vilnius) stratified according to gender, age and the subjective perception of health status. Participants completed a set of questionnaires: WHOQOL-100, importance questions, co-morbid condition list, socio-demographic data.

Results. The Cronbach's alpha coefficients for domains of WHOQOL-100 ranged from 0.8178 to 0.9541. Older adults of both genders ranked the 'ability to move around' and 'activities of daily living (ADL)' as most important and reported the same level of importance of being 'free of dependence on medicine / treatments' and 'ability to work'. Health was ranked by males on the third and by females on the fourth place. There were gender differences in the perceived quality of life. Older women rated their overall quality of life and health lower than men (12.27 ± 2.86 *vs.* 13.20 ± 2.65, $P < 0.001$).

Conclusions. 1. The study showed significant gender differences in satisfaction with the quality of life in older adults. Men reported a significantly higher satisfaction with it in a number of facets, overall quality of life and health score.

2. Females experience a significantly higher dissatisfaction than males in the following quality of life facets: bodily image, negative feelings, activities of daily living, dependence on medication, personal relationships, sleep, pain, energy, finances and the overall quality of life and health.

Key words: quality of life, older adults, WHOQOL-100

INTRODUCTION

Health-related quality of life (HRQ) is an increasingly important measure. It is assumed that quality of life is not synonymous with health, functional ability or welfare. Various instruments are provided to measure HRQ in chronically ill and healthy people (1–3). WHOQOL-100 is the most widely used transcultural measure for assessment of the quality of life in adults. It is developed from the collaborative work of culturally diverse centers all over the world in conjunction with the World Health Organization (WHO). This generic instrument is created according the WHO definition of quality of life: "The individual's perception of his or her position in life, within the cultural context and value system he or she lives in, and in relation to his or her goals, expectations, parameters and social relations" (4). WHOQOL-100 measures life problems weighed for the impact which the respondent feels. It assesses responders' subjective judgments and does not measure diseases or symptoms. The WHOQOL-100 covers the quality of life domains referring to physical health, psychological state, independence level, social relationships, environment, spirituality and the overall quality of life and general health as well. The WHOQOL-100 asks respondents to rate the intensity, satisfaction with or worry about, each of the 24 facets. The psychometric properties of the WHOQOL-100 were tested using data from the 15 study centers worldwide. All facets of the WHOQOL-100 demonstrated a good internal con-

sistency; the measure is sensitive to the culture in which it is applied (5, 6).

Currently the questionnaire is available in more than 40 languages. Manuals in English are available, providing information how to calculate the domain and facet scores.

The relationships among age, gender and quality of life of older adults in Lithuania have not been studied. Learning about the contributing variables affecting the quality of life of older male and female will provide a better understanding of the role of different factors and could contribute to a better quality of life in retired people.

The Department of Gerontology of Institute of Experimental and Clinical Medicine is a partner in a multi-centre research study (WHOQOL-Old) of the quality of life of older adults (7–9). This study is part of the EU FRAME V project "The measurement of quality of life of older adults and its relationship to healthy ageing". The research is funded by the European Commission and involves teams of researchers from 26 centers worldwide. The study aims to develop a questionnaire of quality of life that can be used to identify important aspects of well-being in older adults. It will give a possibility to evaluate culture-specific as well as common aspects of quality of life of older adults and a better respond to actual needs.

This study investigates differences in the importance of various aspects of health-related quality of life items and aims at evaluation of the extent of quality of life impairments of older males and females.

MATERIALS AND METHODS

The people selected to participate in the study were chosen according to the guidelines provided by Edinburgh University, the WHOQOL-Old coordinating centre. The sample was comprised of older adults stratified according to gender, age (60–69, 70–79 and 80+) and subjective perception of their own health status. Data on health status were defined subjectively by asking the participants the following question: "Do you consider yourself to be generally healthy or unhealthy?"

Inclusion criteria: participants should consent to take part in the study; fit the age requirements. Exclusion criteria: participants with terminal illnesses (*e.g.*, cancer); participants with dementia or other significant cognitive impairment.

Participants completed a set of questionnaires: WHOQOL-100, importance questions, co-morbid condition list. Socio-demographic data (age, marital status, education) were gathered as well. Questionnaires were administered to 432 randomly selected older people, all residents of Vilnius. The sample was composed of 47.5% of men and 52.5% of women, the average age 73.3 ± 9.41 (range, 60–98) years. The respondents' distribution by age: 194 individuals in the age group 60–69 years, 129 in the age group 70–79 and 122 in the age group 80+.

All participants were recruited in person; people were contacted either by letter or by phone, explaining the project aims and objectives. All patients were provided with information about the WHOQOL-Old project. The participants were informed that participation in this study was voluntary and all responses would be kept anonymous, all the information would be kept in confidence and the data would be analyzed without reference to any personal information. All participants signed an informed consent form.

***Statistical analysis*.** Internal validity was assessed by using the Cronbach coefficient alpha for all respondents taken together. The coefficient of 0.70 was a minimal standard for reliability. The data on QoL were expressed as mean and standard deviation. Because of the non-normal distribution of most of the data, the Kruskal–Wallis test was used when comparing the facet and domain scores among the groups. The P values ≤ 0.05 were considered to be statistically significant. Analyses were performed by N. Daniliuk using the Windows Statistical Package for Social Science (SPSS).

RESULTS

Health status. 51.1% of males and 48.9% of females considered themselves healthy. Although they described themselves as being healthy, 29.9% of those subjectively healthy recorded at least one medical condition on the co-morbid conditions list. 71.8% of unhealthy people reported illnesses: one or more medical conditions. The number of co-morbid conditions reported: healthy 2.81 ± 1.96, unhealthy 5.97 ± 3.09. The majority of "unhealthy" older adults reported having a long-standing illness that limited their lifestyle, impaired sight or hearing, chronic condition such as high blood pressure, arthritis, cardiovascular diseases, etc. Those healthy reported the most common conditions: impaired seeing and high blood pressure, arthritis. The number of co-morbid conditions reported: for males 3. 88 ± 2.97 (range: 0–14), for females: 4.62 ± 2.96 (range: 0–18).

Socio-demographic status. The sample distribution by sex, age, marital status and education level is presented in Table 1.

The majority of male participants were married or lived with a partner (77.9%) while only one third of the females lived with a partner (32.6%). Almost half of the females were widowed (45.1%). More

Table 1. **Sample distribution by sex, age, marital status and education level**

	Males N = 205 (47.5%)	Females N = 227 (52.5%)	Total N = 432
Age (y):			
60–69	94 (44.3)	100 (42.9)	194 (43.6)
70–79	64 (30.2)	65 (27.9)	129 (29.0)
80+	54 (25.5)	68 (29.2)	122 (27.4)
Marital status:			
single	6 (2.8)	21 (9.0)	27 (6.1)
married	157 (74.1)	75 (32.2)	232 (52.1)
partnered	8 (3.8)	1 (0.4)	9 (2.0)
separated/divorced	11 (5.2)	31 (13.3)	42 (9.4)
widowed	30 (14.2)	105 (45.1)	135 (30.3)
Education level:			
primary school	37 (17.5)	41 (17.6)	78 (17.5)
high school	40 (18.9)	48 (20.6)	88 (19.8)
trade or technical certificate	23 (10.8)	10 (4.3)	33 (7.4)
college diploma or degree	3 (1.4)	3 (1.3)	6 (1.3)
university degree	103 (48.6)	121 (51.9)	224 (50.3)
other	6 (2.8)	8 (3.4)	16 (3.5)

women than men lived without support from a partner, family or carer.

Reliability. The Cronbach's alpha coefficient was calculated for all domains and showed acceptable results. For domains of WHOQOL-100, Cronbach's alpha ranged from 0.8178 to 0.9541, indicating a good internal consistency (Table 2). All facets of the WHOQOL-100 had good facet alphas showing that the structure of the WHOQOL-100 was retained. These results show that WHOQOL-100 scores can be reliably used for evaluation of the quality of life of the sample.

Table 2. **Cronbach's alpha for each of the six WHOQOL-100 domains**

WHOQOL-100 domains	Cronbach's alpha
Physical health	0.9066
Psychological health	0.8854
Level of independence	0.9541
Social relationships	0.8178
Environment	0.9319
Spirituality	0.8498
Overall quality of life	0.8363

Item importance ranking. Analysis of the importance ranking of WHOQOL-100 items showed that males and females ranked the facets in a similar way. Ten most important facets for male and female respondents are presented in Table 3.

A comparison of importance ratings on WHOQOL-100 showed that older females and males rated similar items as more important. Older adults of both genders ranked the 'ability to move around' and 'activities of daily living (ADL)' as most important. Health was ranked by males on the third place and by females on the fourth. Both males and females reported the same level of importance for being 'free of dependence on medicine/treatments' (seventh place) and 'ability to work' (tenth place). Besides, women reported higher levels of importance for these facets than men. Males and females rated differently: freedom and independence, energy, relationships with other people, financial resources, sensory abilities, being free of pain, feeling physically safe and secure. Sexual life was pointed out as least important for both genders. Nevertheless, men reported higher levels of importance for this item.

Quality of life in WHOQOL-100 facets and domains by gender

The overall quality of life and health score was compared for males and females (Table 4).

Table 3. **Importance ranking of WHOQOL-100 items by males and females**

Rank order	Males	Females
1	Able to move around	Able to move around
2	Able to take care of ADL	Able to take care of ADL
3	Health	Sensory abilities
4	Restful sleep	Health
5	Freedom and independence	Restful sleep
6	Energy	Free of pain
7	Free of dependence on medicines/treatments	Free of dependence on medicines/treatments
8	Relationships with other people	Freedom and independence
9	Financial resources	Feeling physically safe and secure
10	Able to work	Able to work

Table 4. **Quality of life in WHOQOL-100 domains by gender**

	Males	Females	P
Overall Quality of life and general health	13.20 ± 2.65	12.27 ± 2.86	<0.001
DOM I Physical Capacity	14.08 ± 2.76	12.98 ± 2.66	<0.0001
DOM II Psychological health	13.77 ± 1.87	13.20 ± 1.96	<0.002
DOM III Level of independence	14.77 ± 3.20	14.02 ± 3.44	=0.028
DOM IV Social relationships	13.82 ± 2.23	13.65 ± 2.33	*
DOM V Environment	13.31 ± 2.25	12.91 ± 2.37	*
DOM6 VI Spiritual domain	12.97 ± 2.72	13.15 ± 2.92	*

* *Data differed not statistically significantly.*

Table 5. **Quality of life in some WHOQOL-100 facets by gender**

	Males	Females	P
Bodily image and appearance	15.83 ± 2.77	14.40 ± 3.20	<0.0001
Negative feelings	15.58 ± 3.04	14.86 ± 3.27	=0.02
Activities of daily living	15.40 ± 3.08	14.17 ± 3.47	<0.0001
Dependence on medication or treatments	15.20 ± 4.38	14.24 ± 4.39	=0.013
Personal relationships	15.21 ± 2.22	14.54 ± 2.47	<0.002
Sleep and rest	14.82 ± 3.46	13.56 ± 3.63	<0.0001
Pain and discomfort	14.02 ± 3.20	12.92 ± 3.00	<0.0001
Energy and fatigue	13.40 ± 3.10	12.46 ± 3.19	<0.003
Financial resources	12.71 ± 3.88	11.78 ± 4.21	=0.022

Older women rated their overall quality of life and health lower than men (12.27 ± 2.86 *vs.* 13.20 ± ± 2.65, $p < 0.001$). One-way analysis of variance (Kruskal–Wallis test) of the mean quality of life domains' scores showed that the results were significant for physical health ($p < 0.0001$) and psychological heath ($p < 0.002$), showing a difference between males and females. This effect was weaker for the level of independence domain ($p = 0.028$). The domains of social relationship, environment and the spiritual domain did not significantly differ between males and females.

When the facets of quality of life were examined for males and females, a comparison of the WHOQOL-100 facet scores showed that females experienced less satisfaction than males (Table 5).

DISCUSSION

In this study, we aimed at contributing to the understanding of the issues of quality of life that are of importance for older Lithuanian males and females. Our pilot study results provide evidence that females show a poorer score for overall health and quality of life compared to males. Poorer evaluation was statistically significant in ten facets: bodily image, negative feelings, activities of daily living, dependence on medication, personal relationships, sleep, pain, energy, finances and overall quality of life and health. Differences in the WHOQOL facets of memory, working capacity, social support, sexual activity, safety, environment, health and social care, new information, positive feelings, recreation activities, transportation, spirituality were not significant. Also, it should be noted that in physical, psychological and level of independence domains, the scores of females were worse than those of male. Females more often complained of pain and fatigue, scored lower than male on sleep and appearance facets, were more dependent on medication, experienced more negative feelings, dissatisfaction with impaired personal relationships. Both males and females scored financial resources the lowest (females significantly lower than males, $P = 0.022$).

Our data are in agreement with data on quality of life in older adults in other countries.

The finding that subjectively healthy respondents indicated one or more illnesses on the co-morbid condition list may be explained by acceptance of the ill health status as a "normal sign" of ageing (psychosocial adaptation), a little impact of health conditions on the ability to perform different activities, individual coping modes and so on.

Gender differences were found in the importance items as well. The most important facets were: mobility, activities of daily living, health, restful sleep, freedom and independence, sensory abilities. The facets of body image, ability to participate in community, chances to learn new skills, and sexual activity were least important both for males and females. Overall health and quality of life were equally important for the whole sample. Participants were asked to record any health conditions that they feel affect their quality of life. According to our findings, impaired vision, arthritis, hypertension, cardiovascular diseases were reported more often as having an impact on an individuals' quality of life. This finding is of interest, as it may help to indicate the relative impact of different diseases on quality of life. Some of the items were rated by females as more important than by males: sensory abilities, being free of pain, feeling physically safe and secure; while items more important for men included

freedom and independence, energy, relationships with other people, financial resources. Other gender differences were found in ranking freedom and independence, energy, relationships with other people, financial resources, and sensory abilities, being free of pain, feeling physically safe and secure. Gender differences in importance ratings have been detected in adult population earlier (10). Our results are consistent with previous studies, which have also shown a significantly lower quality of life among females.

Women and men experience their health differently. Women are more likely than men to report physical and emotional symptoms. Older adults' perception of quality of life showed a stronger association with subjective perception of health status and the intensity of depressive symptoms (11).

Gender differences in the scores of quality of life domains have been shown in different studies. In Prague, men evaluated their life in many aspects more positively than women (12). Usually women tend to have worse scores. According to Herdman (13), gender-related differences lie mostly in physical and emotional domains. The way in which gender impacts on assessment of quality of life is still under discussion. An analysis of the importance of facets by gender showed that areas of importance correspond closely to those items with which they were most dissatisfied.

Further research is needed to identify the role of different variables in the differing evaluation of QoL in males and females. Quality of life may be reduced due to physical, mental impairments.

Rocha (14) suggests that the poor women's quality of life can be mediated by depressive symptoms. As Becker (15) has described, chronic pain and depression are common among older patients, resulting in a significantly reduced health-related quality of life, but the results are not well understood. Elderly women report more quality of life impairments than men. It may be explained by higher rates of morbidity and more a precise way of answering the questions and reporting (16). In a prospective longitudinal cohort study comparing HRQOL in males and females, the patients provided important data on differences in the health-related evaluation of quality of life between genders. Older males seem to be more optimistic about their quality of life and more satisfied with their quality of life than women (17). It may be explained by social comparison theory: due to social stereotypes males may view themselves more favorably. Skevengton (5) found that presence of positive feelings is one of the most important features of quality of life in British people (older people were included). The hierarchical multiple regression performed using facets from the WHOQOL-100 as independent variables and overall quality of life as the dependent variable has shown that psychological health and level of independence play the basic roles in subjective evaluation of quality of life in British respondents.

Lithuanian elderly population is growing; the number of women among them is increasing. The gender differences in quality of life impairments remain unclear, and further study is necessary to validate these data. A lot of contributory factors have an impact on quality of life, including aspects related to health, financial resources and individual circumstances (family ties, social network and others). Our data indicate than in the Vilnius older adult sample there are gender differences in perceived quality of life, and the satisfaction with the overall quality of life domain is higher in men than in women. Men reported a significantly higher satisfaction with a number of facets and the overall quality of life and health score. Men have a better QoL in the physical, psychological and level of independence domains than female. The most important and the least important facets are similar, however, there are differences in the importance rating of a number of facets. The study demonstrates a high level of QoL impairment associated with gender. In particular, the study highlights the importance of controlling both the different aspects and severity.

Our findings enhance the importance of evaluation of QoL of retired people. It is well known that older women present a risk group due to their loneliness and health condition. Cultural influence and traditions of different generations are not sufficiently explored and measured as the aspects of the quality of life either.

CONCLUSIONS

1. The study revealed significant gender-related differences in satisfaction with the quality of life in older adults. Men reported a significantly higher satisfaction with a number of facets and in the overall quality of life and health score.

2. Females experience a significantly higher dissatisfaction than males with the quality of life facets such a bodily image, negative feelings, activities of daily living, dependence on medication, personal relationships, sleep, pain, energy, finances and overall quality of life and health.

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Jelena Čeremnych

VYRESNIO AMŽIAUS VYRŲ IR MOTERŲ SU SVEIKATA SIEJAMOS GYVENIMO KOKYBĖS TYRIMAS (PILOTINIS TYRIMAS)

S a n t r a u k a

Įvadas. Straipsnyje pateikta tarptautinio tyrimo WHOQOL-Old, kurį vykdo VU EKMI Gerontologijos skyrius, pilotinės studijos medžiaga. Šio tyrimo tikslas – panaudojant standartizuotą tarptautinį WHOQOL-Old tyrimo protokolą įvertinti vyresnio amžiaus vyrų ir moterų gyvenimo kokybę.

Tyrimo objektas ir metodai. Tyrime dalyvavo 432 asmenys (60–93 metų amžiaus), gyvenantys Vilniaus mieste. Naudoti klausimynai: WHOQOL-100, svarbių gyvenimo kokybės aspektų, geriatrinis ligų, sociodemografinis.

Rezultatai. WHOQOL-100 Kronbacho alfa koeficientai – nuo 0,8178 iki 0,9541. Nustatyti svarbiausi gyvenimo kokybės aspektai: mobilumas ir kasdienio gyvenimo veikla, būti nepriklausomam nuo medicininių preparatų ir medicininės priežiūros, sugebėjimas dirbti. Vyrų nuomone, sveikata – trečioje vietoje pagal svarbumą, moterų – ketvirtoje. Moterys įvertino savo sveikatos ir gyvenimo kokybę blogiau negu vyrai (12,27 ± 2,86; 13,20 ± 2,65; $P < 0,001$).

Išvados. 1. Nustatyti statistiškai reikšmingi vyresnio amžiaus vyrų ir moterų pasitenkinimo savo gyvenimo kokybe skirtumai. Vyrai išreiškė didesnį pasitenkinimą sveikata ir gyvenimo kokybe.

2. Palyginus su vyrais moterų nepasitenkinimas gyvenimo kokybe buvo didesnis (išvaizda, neigiami pojūčiai, kasdienio gyvenimo veikla, priklausomybė nuo medicininių preparatų, asmeniniai ryšiai, miegas, skausmas, energija, finansiniai resursai, bendroji gyvenimo ir sveikatos kokybė).

Raktažodžiai: Gyvenimo kokybė, vyresnio amžiaus žmonės, WHOQOL-100