

UDC 316.346.32-053.9 doi: 10.15330/jpnu.3.2-3.88-98

THE QUALITY OF SENIORS' LIFE IN THEIR NATURAL ENVIRONMENT

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Abstract. The aim of the research study is to investigate the quality of life of seniors at home and their satisfaction in the domains of physical health, survival, social relations and the environment itself.

Design studio. We conducted the study on a sample of 80 respondents / seniors living at home in Vranov nad Topľou. For processing the obtained data, we used the following statistical methods - the Fisher's F-test and Student's t-test. For detecting the data from respondents we chose an anonymous standardized questionnaire WHOQOL-BREF (World Health Organization Quality of Life - BREF), which is a shortened version of the WHOQOL-100. As completion of this study is the implementation of mechanisms supporting the quality of life of seniors in a natural environment with an emphasis on preventive measures of social policy to maintain a reasonable quality of life. **Keywords:** quality of life, seniors, habitat, old age.

1. INTRODUCTION

According to Mühlpachr [11], quality of life is very subjective and very individual, noting that in addition to age, health, physical and mental performance are other factors, such as gender, family situation, standard of living, level of education, resulting socio professional status reflected to the assessment of life quality. The quality of life can be measured in various ways.

The history has been associated with efforts to find out how people live, now it is determined (monitored, described, analyzed, explained and announced) as individuals live in different places [1]. Examination can be determined by evaluation of an individual (subjective expression of feelings, attitudes, courts, evaluation etc.), by other people (an objective assessment of organizations, offices and so on.) or a combination of these methods. According to Kebza [9, p. 58] different procedures (usually questionnaires) were gradually created to express evaluation scale of some level of life quality. For example they are based on description of the level of self-servicing, or the ability to deal with normal everyday situations and so on.

Currently, governmental and non-governmental organizations participate in the examination of the quality of life. Indicators are different approaches of investigation of life quality indicators. In terms of approach to the analysis of quality of life, we can talk about the medical (clinical research), environmental and sociological approach.

According to the World Health Organization six areas with indicators are involved on the medical evaluation research approach of quality of life:

1. physical health (energy and fatigue, pain and discomfort, sleep and rest);

2. mental functions (image of their own body, emotion, self-evaluation, thinking, learning, memory and attention);

3. level of independence (mobility, activities of daily life, dependence on medicines and medical devices, work capacity);

4. social relationships (personal, social support and sexual activity);

5. environment (economic situation, freedom, physical safety, health and social care, home environment, the opportunity to obtain information and competencies, physical environment, and transport);

6. spirituality (personal beliefs).

By the clinical approach, the quality of life is assessed by the following indicators:

1. alleviating the suffering;

- 2. the achievement of independence;
- 3. the ability to cope with difficult life situations;
- 4. the ability to live in appropriate social relationships, participate in social activities;

5. life assurance by meeting the particular (especially material) needs;

6. satisfaction with their own lives (in Zikmund [2]).

When examining the quality of life it is necessary to accept the development and transformation of space and time, social context, historical and cultural roots, civilization or generation gap.

Slovakia has implemented various surveys on quality of life. One of them was a survey on subjective quality of life, entitled "Slovak quality of life index (SIQZ)". Respondents filled in a questionnaire that included questions categorized into two blocks: satisfaction with personal life and satisfaction with life in Slovakia. A ten tiered scale from "not at all satisfied" to "completely satisfied" was given for answers. Many studies are sweeping the subjective experience of life, but there are studies that seek to measure and objectify certain external characteristics of socio-economic, environmental, and political environment. One example is the Mercer Worldwide Quality of Life Research, 2005, that assesses 39 quality of life criteria, which are grouped into categories:

- political and social environment;
- economic environment;
- socio-cultural environment;
- the health sector;
- education and training;
- public services and transport;
- recreation;
- goods;
- housing;
- natural environment (Svobodová in [14, p. 122-142]).

Quality of life can be detected by means of a standardized questionnaire, which can be found in a large number. One is the quality of life questionnaire WHOQOL - BREF (The World Health Organization Quality of Life). It contains 24 questions mapping the four domains of quality of life:

- physical health domain;
- domain of survival;
- domain of social relations;
- domain of the environment.

In this questionnaire, respondents rated the quality of life in a five-point scale from "very bad" to "very good". The questionnaire is not time-consuming.

2. Methods

For processing the data obtained, we used the Fisher's F-test and Student's t test statistical methods.

Fisher's F – test is used to test hypotheses and determine how significant is the difference between the two variance. We find out whether groups of women and men are more homogeneous or heterogeneous, and whether they value the quality of life similar or different. Based on Fisher F - test we use Student t - test that detects whether there is a significant difference between the two selections in arithmetic average. After determining the null hypothesis that Fisher F -test confirmed or not, we choose the right Student t - test. If there is a statistically significant difference between the variance, we will use Student's t - test with unequal variances to detect differences between the means. If there is no statistically significant difference between the variance, we will use Student's t - test of equality of variance to detect differences between the means [13].

For detecting data from respondents we chose an anonymous standardized questionnaire WHOQOL-BREF (World Health Organization Quality of Life - BREF), which is a shortened version of the WHOQOL-100. We processed all items on the WHOQOL-BREF questionnaire into tables. Questions 1 and 2 are evaluated separately. The scale ranges from 1 to 5 and, higher score means a higher quality of life. Questions 3-26 were classified according to different domains and we found out gross score:

- physical health domain (DOM 1) questions no. 3, 4, 10, 15, 16, 17 and 18;

- domain of survival (6 items, DOM 2) questions no. 5, 6, 7, 11, 19, and 26;
- domain of social relationships (3 items, DOM 3) questions no. 20, 21 and 22;

- domain of environment (8 items, DOM 4) questions no. 8, 9, 12, 13, 14, 23, 24 and 25.

From individual domains were calculated the domain score as the arithmetic mean of the individual questions. Since WHOQOL-BREF is a shortened version of the WHOQOL-100 it was necessary to multiply each result by 4, that the results are comparable to the 60+ population norm. The spread range of the individual domains is from 4 to 20, where a higher score indicates a better quality of life.

For questions no. 3, no. 4 and no. 26 it is necessary to turn the so-called range of responses over, i.e. code re-writing – to subtract the resulting value of questions from number 6, so that a higher score equals a higher quality of life [3, p. 17-41].

In this study we investigated:

- personal satisfaction of seniors with their lives;

- the degree of satisfaction in the domains of physical health, survival, social relations, environment, and its comparison with the results of a population norms;

- overall quality of life of male seniors in comparison with female seniors.

Based on the research goals we have set the following hypotheses:

Hypothesis 1: Female seniors living in their natural habitat will evaluate their quality of life better and they will be more satisfied with their health than male seniors living in their natural habitat [7].

Hypothesis 2: Male seniors living in a natural environment will show higher values in the domains of physical health and survival than female seniors living in their natural habitat [10].

Hypothesis 3: Female seniors living in a natural environment will show higher values in the domain social relationships and environment than male seniors living in their natural habitat [5].

2.1. THE RESULTS

The research sample consisted of 80 respondents / seniors from 62-year old living at home in Vranov nad Toplou. The average age of the elderly was 72.78 years. Most respondents were aged 68 to 73 years old, representing 33.75% of respondents, followed by the category of 74-79 years old (31.25%), third category is 62 to 67 years old (28.75%) and finally, the category of over 80s (6.25%).

We evaluated the issues regarding the perception of quality of life and satisfaction with health. Subsequently we evaluated domains related to physical health (DOM1) survival (DOM2), social relationships (DOM3) and environment (DOM4).

We set the null hypothesis:

H0: There is not a statistically significant difference in the diffusion score between the groups of women and men.

We examined how do male and female seniors living in their natural habitat evaluate the quality of life.

Answer	Women		Men	
	quantity	%	quantity	%
1 - very bad	0	0,0	1	2,5
2 - bad	3	7,5	4	10,0
3 – neither bad nor good	16	40,0	13	32,5
4 - good	17	42,5	19	47,5
5 – very good	4	10,0	3	7,5
Sum	40	100	40	100

Tab. 1. Evaluation of the quality of life.

The average value in quality of life according to the questionnaire was 3.2 among female respondents and 3.18 among male respondents (range 1-5). 21 (52.5%) female respondents and 22 (55%) male respondents rated their quality of life as good or very good. 16 (40%) female respondents, and 13 (32.5%) male respondents rated their quality of life as neither good nor bad. 3 (7.5%) female seniors and 5 (12.5%) male respondents rated their quality of life as poor or very poor.

Two Sample F-test for variance				
	Men	Women		
Median	3,475	3,55		
Variance	0,76859	0,61282		
Observed	40	40		
Difference	39	39		
F	1,25418			
P(F<=f) (1)	0,24136			
F krit (1)	1,70447			

Tab.2. Calculation of F.

Two-sample t-test with equal variance			
	Men	Women	
Median	3,475	3,55	
Variance	0,76859	0,61282	
Observed	40	40	
Common variance	0,69071		
Hypothetical difference of			
mean values	0		
Difference	78		
t Stat	-0,4036		
P(T<=t) (1)	0,34381		
t krit (1)	1,66462		
P(T<=t) (2)	0,68763		
t krit (2)	1,99085		

Tab.3. Calculation of t.

Another area of investigation was seniors' satisfaction with health.

Answer	Women		Men	
	quantity	%	quantity	%
1 - Very dissatisfied	1	2,5	3	7,5
2 - dissatisfied	6	15,0	6	15,0
3 – neither satisfied nor dissatisfied	19	47,5	13	32,5
4 - satisfied	12	30,0	17	42,5
5 – very satisfied	2	5,0	1	2,5
Sum	40	100	40	100

Tab. 4. Evaluation of satisfaction with health.

The average value of satisfaction with health in the questionnaire was 3.55 among female respondents and 3,475 among male respondents (range 1-5). Not more than 19 (47.5%) female respondents rated their satisfaction with health neither satisfied nor dissatisfied; and 17 (42.5%) male respondents are satisfied with their health. The second category was "satisfied" among 12 female respondents (30%) and among 13 (32.5%) male respondents "neither satisfied nor dissatisfied". 9 (22.5%) male respondents and 7 (17.5%) female respondents are dissatisfied or very dissatisfied with their health. Only 2 (5%) female respondents and 1 (2.5%) male respondent are very satisfied with their state of health.

Two Sample F-test for variance			
	Men	Women	
Median	3,175	3,2	
Variance	0,96859	0,72821	
Observed	40	40	
Difference	39	39	
F	1,33011		
P(F<=f) (1)	0,18847		
F krit (1)	1,70447		

Tab. 5. Calculation of F.

Two-sample t-test with equal variance			
	Men	Women	
Median	3,175	3,2	
Variance	0,96859	0,72821	
Observed	40	40	
Common variance	0,8484		
Hypothetical difference of			
mean values	0		
Difference	78		
t Stat	-0,1214		
P(T<=t) (1)	0,45185		
t krit (1)	1,66462		
P(T<=t) (2)	0,9037		
t krit (2)	1,99085		

Tab.6. Calculation of t.

In calculating F and t to both questions, we found out that f <F crit. This means that the dispersions difference is statistically significant, and we can accept the null hypothesis, i.e. the two groups appear to be homogeneous. In calculating the value of t, we found out that t stat <t crit (2). It follows that the difference between means is not statistically significant.

For questions 1 and 2, we can conclude that among female and male senior citizens is not a significant difference in the diffusion of answers, this means that the null hypothesis H0 was not confirmed.

Questions (No. 3-26) have been independently evaluated and processed in individual domains. We calculated domain scores for each domain, and then we evaluated them statistically. The physical health domain (DOM1) covers physical condition, symptoms of the disease and the possibility of renewed recovery.

Question No.	Women	Men
3	2,98	3,20
4	2,88	3,45
10	2,95	2,85
15	2,40	2,95
16	3,20	3,47
17	3,05	3,60
18	3,28	3,53
Domain score	11,84	13,17
Population standard	13,71	13,71

Tab. 7. DOM1 – Physical health.

The results show that male respondents in questions number 3, 4, 15, 16, 17 and 18. Female respondents have achieved a higher average only in question number 10. The domain scores for female respondents is 11.84 what is below the lower limit of population standards [4, p. 42] and can be assessed as a slightly lower quality. The domain score of male respondents is 13.17 what can be compared to a population standard of 13.71 [4, p. 42] evaluated as an average value.

Two Sample F-test for variance			
	Men	Women	
Median	3,292143	2,960714	
Variance	0,087765	0,081012	
Observed	7	7	
Difference	6	6	
F	1,083365		
P(F<=f) (1)	0,462526		
F krit (1)	4,283866		

Tab. 8. Calculation of F – DOM1.

Two-sample t-test with equal variance			
	Men		
Median	3,29214	2,96071	
Variance	0,08777	0,08101	
Observed	7	7	
Common variance	0,08439		
Hypothetical difference			
of mean values	0		
Difference	12		
t Stat	2,13443		
P(T<=t) (1)	0,02706		
t krit (1)	1,78229		
P(T<=t) (2)	0,05413		
t krit (2)	2,17881		

Tab.9. Calculation of t - DOM1.

Domain of survival (DOM2) includes mood, cognitive function and relationship to oneself what can be referred as psychological health.

Question no.	Women	Men
5	3,53	3,55
6	3,13	2,95
7	3,35	3,63
11	3,48	4,10
19	2,98	3,38
26	3,45	3,50
Domain score	13,27	14,07
Population standard	13,95	13,95

Tab.10. DOM2 – Survival.

The results show that male respondents in questions number 5, 7, 11, 19 and 26. Female respondents have achieved a higher average value only in question number 6. The domain score of the female respondents is 13.27 and the domain score of male respondents is 14.07 what is compared with a population standard 13.95 [4, p. 42] an average value.

Two Sample F-test for variance			
	Men	Women	
Median	3,516667	2,957143	
Variance	0,138917	0,08119	
Observed	6	7	
Difference	5	6	
F	1,710997		
P(F<=f) (1)	0,265265		
F krit (1)	4,387374		

Tab. 11. *Calculation of F – DOM2.*

Two-sample t-test with equal variance		
	Men	Women
Median	3,51667	3,31667
Variance	0,13892	0,04817
Observed	6	6
Common variance	0,09354	
Hypothetical difference		
of mean values	0	
Difference	10	
t Stat	1,13263	
P(T<=t) (1)	0,1419	
t krit (1)	1,81246	
P(T<=t) (2)	0,2838	
t krit (2)	2,22814	

Tab.12. Calculation of t - DOM2.

Domain of social relations (DOM 3) covers close personal relationships, partnerships and broader social environment.

Question no.	Women	Men
20	4,10	3,60
21	3,13	2,80
22	4,03	3,83
domain score	15,00	13,63
population standard	13,96	13,96

Tab.13. DOM3 – Social relations.

The results show that female respondents have achieved a higher average value on all issues. The domain score of female respondents is 15 what is the upper limit of population standards [4, p. 42]. The domain score of respondents is 13.63, what can be in comparison to a population standard 13.96 [4, p. 42] evaluated as an average value.

Two Sample F-test for variance		
	Women	Men
Median	3,75	3,408333
Variance	0,294375	0,290208
Observed	3	3
Difference	2	2
F	1,014358	
P(F<=f) (1)	0,496436	
F krit (1)	19	

Tab.14. Calculation of F – DOM3.

Two-sample t-test with equal variance		
	Women	Men
Median	3,75	3,40833
Variance	0,29438	0,29021
Observed	3	3
Common variance	0,29229	
Hypothetical difference		
of mean values	0	
Difference	4	
t Stat	0,774	
P(T<=t) (1)	0,24107	
t krit (1)	2,13185	
P(T<=t) (2)	0,48213	
t krit (2)	2,77645	

Tab.15. Calculation of t - DOM3.

Question no.	Women	Men
8	3,73	3,68
9	3,50	3,65
12	3,63	3,88
13	3,88	4,00
14	3,95	3,78
23	3,90	3,95
24	3,83	4,20
25	4,13	4,03
domain score	15,26	15,58
population standard	13,58	13,58

Domain of Environment (DOM4) includes the living conditions as stimulus for the environment, financial situation and the quality of care for the elderly.

Tab. 16. DOM4 – Environment.

The results show that female respondents in questions number of 8, 12, 14 and 25. Male respondents have achieved a higher average value in question 9, 13, 23 and 24. The domain scores of female respondents is 15.56 and 15.53 for male respondents what is in comparison to population standard 13.58 [4, p. 42] a slightly improved quality.

Two Sample F-test for variance			
	Men	Women	
Median	3,815625	3,89375	
Variance	0,038382	0,035313	
Observed	8	8	
Difference	7	7	
F	1,086915		
P(F<=f) (1)	0,457639		
F krit (1)	3,787044		

Tab.17. Calculation of F – DOM4.

Two-sample t-test with equal variance		
	Men	Women
Median	3,81563	3,89375
Variance	0,03838	0,03531
Observed	8	8
Common variance	0,03685	
Hypothetical difference		
of mean values	0	
difference	14	
t Stat	-0,814	
P(T<=t) (1)	0,21464	
t krit (1)	1,76131	
P(T<=t) (2)	0,42928	
t krit (2)	2,14479	

Tab. 18. Calculation of t - DOM4.

In all the domains in the calculation of F, we have found out that the F <F crit. Therefore, the dispersions difference is not statistically significant, and we can accept the null hypothesis, i.e., the two groups appear to be homogeneous.

Since the variances difference is not statistically significant, in calculating we have chosen a doubleselection t t-test with equal variances. In calculating the value of t in all domains, we found out that t stat <t crit (2). It follows that the difference between means is not statistically significant. We can conclude that among male and female senior citizens is not a significant difference and this means that the null hypothesis H0 was not confirmed.

Domains/Sex	Domain score		Population
Domains/Sex	Women	Men	standard
DOM1	11,84	13,17	13,71
DOM2	13,27	14,07	13,95
DOM3	15,00	13,63	13,96
DOM4	15,26	15,58	13,58

In the overall comparison of domains, we note that the female respondents had a higher score in domains of social relationships and the male respondents in the domains of physical health, the domain of environment and survival. The results are shown in Tab. 19.

Tab.19. Quality of life based on the domains.

2.2. DISCUSSION

The aim of the research study was to assess and compare the quality of life of male and female seniors living at home. We mapped and compared the level of satisfaction in the domains of physical health, survival, social relationships and environment.

Most female and male respondents rated their personal satisfaction with their lives in a natural environment and satisfaction with their health as good or very good. Female respondents had better averages in both items. We agree with the view of Vorhalíková and Rabušic, that the quality of everyday life is not decisive presence of the disease, but the degree of specific constraints that the disease brings [16]. The most serious limitation of the elderly is considered a loss of sovereignty, which entails dependence (wholly or partially) on another person, or the need for institutional care. The importance of the home environment that has domain over institutional care is highlighted by the law on social services.

In ascertaining the value in domains of physical health and survival in comparison of gender, we found out that seniors have a higher value similarly to the ability to concentrate.

Female seniors living in a natural environment will show higher values in the domains of social relationships and environment than male seniors living in their natural habitat. The results of our study do not confirm the claim by Vagner, who states that a retired person loses her/his individual role in specific professions that had some social prestige, and she/he becomes an anonymous pensioner "only", what means she/he does not have too much prestige [15]. We can say that these relations are a kind of driving force for the elderly, because they feel needed to each other. The overall domain score in the domain of social relationships is at the elderly.

With regard to the financial security of seniors Poledníkova et al. states that money allows individuals to be independent and allow them to take care of themselves [12]. Even if seniors do not need many funds for clothing, entertainment, work and so on, cost of living is constantly increasing, and it often causes them significant problems. Jandásková adds that the improving economic situation in the society does not lead inevitably to an increase in the number of people who are happy [8].

Almost everyone has access to information needed for everyday life nowadays, as evidenced by the results.

Ones begin to deal with the quality of life usually when it comes to its reduction. Therefore in social work it is appropriate not to use only mechanisms improving the situation, but it is also needed to use preventive means of social policy to maintain a reasonable quality of life and to prevent its decline [7, p. 130].

3. CONCLUSIONS

The empirical verification of the quality of life of the elderly at home and their satisfaction in the domains of physical health, survival, social relations and the environment itself demonstrated that

there is no statistically significant difference between the sexes; and the studied group appeared to be homogeneous. The results confirm that the standard is not externally given, and therefore it is not appropriate to measure satisfaction with life on the basis of objective criteria. Quality of life is subjective and individual and it represents different indicators at different time. When examined, it is affected in addition to age, health, physical and mental performance with other factors such as the diversity of needs and possibilities of satisfying them [6, p. 67].

SUGGESTION

For further research, we propose to integrate into analysis specific parameters, not only mechanisms that already corrected the situation but also preventive means of social policy, which would be an option to maintain a reasonable quality of life.

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Received: 16.10.2016; revised: 29.11.2016.

Лахитова Лєнка, Каланін Пьотр. Якість життя літніх людей у їхньому природному середовищі. Журнал Прикарпатського університету імені Василя Стефаника, **3** (2-3) (2016), 88–98.

Метою наукового дослідження є вивчення якості життя літніх людей у домашніх умовах і задоволення у сфері їх фізичного здоров'я, виживання, соціальних відносин і самого середовища.

Подано результати дослідження на вибірці 80 респондентів / літніх людей, які проживають вдома у Вранов-над-Топльоу. Для обробки отриманих даних використано такі статистичні методи – Fкритерій Фішера і t-критерій Стьюдента. Для вивчення якості життя літніх людей у їх природному оточенні було вибрано анонімний стандартизований опитувальник WHOQOL-BREF (Всесвітня організація охорони здоров'я "Якість життя" - BREF), який представляє собою скорочений варіант ВОЗКЖ-100. Результатом даного дослідження є виявлення механізмів підтримки якості життя літніх людей у природному середовищі з акцентом на превентивні заходи соціальної політики в цій сфері.

Ключові слова: якість життя, оточення, люди похилого віку, старість.