

GRAŻYNA DĘBSKA^{1,2}, MONIKA KORBEL-PAWLAS², MARIA ZIĘBA²,
WIOLETTA ŁAWSKA², ALICJA LUBERDA²

Jakość życia a zachowania zdrowotne w grupie uczestników Uniwersytetu Trzeciego Wieku – badanie wstępne

Streszczenie

Wstęp. Uniwersytet Trzeciego Wieku przez swoje zadania wpisuje się w politykę nowoczesnego, wysoko rozwiniętego społeczeństwa, którego celem jest stworzenie takich warunków osobom starszym, by mogły nie tylko cieszyć się dobrym zdrowiem, ale poprawiać jakość życia poprzez właściwe zachowania zdrowotne.

Cel. Celem pracy było poznanie zależności pomiędzy oceną jakości życia a zachowaniami zdrowotnymi uczestników Uniwersytetu Trzeciego Wieku.

Material i metody. Średnia wieku grupy badanej wyniosła 65,0±6,4. Zastosowano metodę sondażu diagnostycznego z wykorzystaniem kwestionariusza do badania jakości życia WHOQOL-BREF oraz Inwentarz Zachowań Zdrowotnych IZZ.

Wyniki. Ogólna jakość życia była na poziomie 61,0±9,6 pkt. Najwyższy poziom jakości życia stwierdzono w dziedzinie fizycznej, natomiast największe deficyty występują w dziedzinie środowiskowej oraz relacjach społecznych ($p=0,004$). Zachowania zdrowotne u większości badanych były na poziomie przeciętnym (51%) lub wysokim (34%), a tylko 14% na niskim. Średni wynik zachowań zdrowotnych (IZZ) wynosił 86,8±14,3 pkt., a dla poszczególnych kategorii: 3,58, 3,66, 3,76, 3,39 (odpowiednio – nawyki żywieniowe, zachowania profilaktyczne, nastawienie psychiczne, praktyki zdrowotne). Zadowolenie z jakości swojego życia zadeklarowało 51%, a 60% zadowolenie ze swojego zdrowia. Nie stwierdzono istotnej statystycznie korelacji pomiędzy oceną jakości życia a zachowaniami zdrowotnymi.

Wnioski. Wstępny charakter badania na tym etapie może mieć aspekt praktyczny, wykorzystany do planowania tematyki wykładów dla uczestników Uniwersytetu Trzeciego Wieku, w których poprawa jakości życia będzie najważniejszym celem.

Quality of life vs. health behaviours among respondents attending the University of the Third Age (U3A) – preliminary study

Abstract

Introduction. Through its tasks, the University of the Third Age (U3A) becomes a part of policies of a modern and highly developed society, which aims at providing the elderly with adequate conditions and opportunities so they could enjoy not only good health but also improve their quality of life through proper health behaviours.

Aim. The purpose of this preliminary study was to examine the relation between quality of life evaluation and health behaviours among U3A students.

Material and methods. Mean age in the studied group was 65.0±6.4 years. A method of diagnostic survey questionnaire was applied in order to evaluate the quality of life. The WHOQOL-BREF and Health Behaviour Inventory (HBI) were used.

Results. Overall quality of life score was 61.0±9.6 points. The highest score of quality of life was noted in physical functioning whereas environmental and social functioning received the lowest number of points ($p=0.004$). Health behaviours were intermediate (51%) or good (34%) among most respondents while only 14% received low scores. The mean score of health behaviour (HBI) was 86.8±14.3 points with the following values in particular categories: 3.58 in eating habits, 3.66 in prophylactic behaviours, 3.76 in mental attitude, and 3.39 in health practices. Satisfaction with quality of personal life was declared by 51% of respondents whereas 60% of the group were satisfied with their health. No statistically significant correlation between quality of life score and health behaviours was found.

Conclusions. The preliminary character of this study may have a practical implication used for further planning of lecture subjects for students of the University of the Third Age where the improvement of quality of life is the most important purpose.

Słowa kluczowe: jakość życia, zachowania zdrowotne, człowiek starszy.

Keywords: quality of life, health behaviours, the elderly.

¹ The Andrzej Frycz Modrzewski Krakow University, Faculty of Health and Medical Science

² The Podhale State Vocational School of Higher Education Nowy Targ

INTRODUCTION

The University of the Third Age (U3A) through its tasks incorporates the policy of a modern, well developed society, which aims at creating conditions where the elderly can enjoy not only good health, but develop personally and improve quality of their lives. Health behaviours are believed to be a factor with the greatest influence on maintaining and reinforcing health of an individual as well as entire society. Health determines everyday functioning, adequate quality of life, and is responsible for the feeling of life satisfaction. This concept assumes that health is a value, which may be gained during our lifetime [1,2].

Quality of life evaluation has a special significance in gerontology because quality of life (QOL) describes activity levels in the process of aging [2]. Old age and the process of getting old require some reorientation in life; as a matter of fact they lead to new orientation, which means finding new values and objectives. These new goals may include hobbies, which have been postponed for many years, solid education, developing old and creating new social relations, doing things, for which one didn't have time in the past [3,4].

AIM

The purpose of this preliminary study was to examine the relation between quality of life evaluation and health behaviours among U3A students.

MATERIAL AND METHODS

The study aimed at recognising relations between quality of life and health behaviours in the group of U3A students. In order to find answers to this type of objective the following specific research problems were defined:

How do the elderly assess their quality of life and what types of health behaviours were present in particular domains in the studied group?

Are there any differences regarding quality of life and health behaviours between studied domains?

Does quality of life evaluation correlate with health behaviours?

The study design was based on a survey questionnaire used for the evaluation of quality of life. The following tools were applied: the World Health Organisation Quality of Life WHOQOL-BREF and the Health Behaviours Inventory (HBI). The WHOQOL-BREF, adapted by Wolowicka and Jaracz, assesses the following quality of life domains: physical health, psychological health, social relationships, and environment using the 0-100 point scale, where a higher score means better QOL [5]. The Health Behaviours Inventory (HBI), developed by Juszczynski, assesses four categories of health behaviours i.e.: normal eating habits, prophylactic behaviours, positive mental attitude, and health practices. A mean score was calculated for each category. The general index of intensity of health behaviours ranged between 24 and 120 points. Higher scores indicate greater intensity of declared health behaviours. The general index was transformed into standardised units i.e. sten scores. Sten scores between 1 and 4 are described as low, 5 and 6 stens correspond to an

average level whereas scores ranging from 7 to 10 are high values [6].

Thirty five respondents participated in the study, 65.7% were women and 34.3% were men. The youngest participant was 56 and the oldest was 80 years old, and the mean age was 65.0 ± 6.4 years. The majority of respondents graduated from high schools (57%, $n=20$), some had university education (37%, $n=13$), and the remaining group (6%, $n=2$) had vocational education. All participants attended lectures at the University of the Third Age and were informed about study objectives, and data anonymity. Returning the filled questionnaire form was equivalent to an informed consent.

The vast majority of respondents didn't work professionally (69%), a group of participants did some seasonal or casual work or worked less than part time (20%) and the respondents from remaining group had part time jobs (11%). No differences were found between men and women as far as their education and occupation were concerned ($p=0.21$ and $p=0.45$, respectively).

The mean BMI calculated for respondents was 26.1 ± 2.9 (the median was 25.53 with the minimum BMI of 20.03 and maximum BMI of 33.46). However, men presented higher values of the BMI when compared with a subgroup of female respondents ($p=0.020$) (Table 1).

TABLE 1. The Body Mass Index (BMI) calculated for respondents.

BMI	Study participants					
	women		men		Total	
	n=23	%	n=12	%	n=35	%
normal	12	52.2	3	25.0	15	42.8
overweight	10	43.5	7	58.3	17	48.6
obese	1	4.3	2	16.7	3	8.6
Total	23	100	12	100	35	100
$\chi^2(n=35, df=2)=5.91, p=0.052$ (insignificant)						
BMI	25.5 \pm 2.5		28.3 \pm 3.1		26.1 \pm 2.9	

The Mann-Whitney U test: $Z(n=35)=-2.32, p=0.020$

The majority of respondents suffered from the muscular and skeletal system diseases (51%) and cardiovascular diseases (49%). Only 20% of respondents reported not having any health problems and they were all women. Some individuals participating in our study reported respiratory diseases (23%) and mental disorders (6%). Single respondents were allergic, had diabetes, oesophagus hernia, and cancer.

Quantitative and qualitative analysis of data was made with STATISTICA software version 5.1. (StatSoft) and Microsoft Excel 2007 (Microsoft).

The following statistical methods were applied: statistical description (the arithmetic mean, the median m and standard deviation – SD, the Mann-Whitney U test, the chi-square test of independence, Friedman's ANOVA and Pearson's correlation coefficient (r_p). The level of significance was set as $p=0.05$ [7].

RESULTS

Overall Quality of Life

Overall quality of life score obtained by respondents was 61.0 ± 9.6 points (with the minimum value of 36 points and the maximum of 79 points). QOL scores in particular domains were as follows: physical health – 65 ± 15 points and ranged between 25 and 89 points, psychological health – 62 ± 13 points (min. and max. scores 33 and 88 points, respectively), environment – 57 ± 10 points ranging between 34 and 75, and the lowest scores were noted in social relationships – 56 ± 15 point (the lowest score of 25 and the highest of 100 points). Quality of life in particular domains.

TABLE 2. Data concerning respondents' answers to questions asking about physical health.

Question no.	The content	1 point	2 points	3 points	4 points	5 points
3	To what extent do you feel that physical pain prevents you from doing what you need to do?	3%	9%	20%	46%	23%
4	How much medical treatment to function in your daily life do you need?	11%	9%	40%	23%	17%
10	Do you have enough energy for everyday life?	0%	11%	26%	43%	20%
15	How well can get around?	0%	6%	17%	54%	23%
16	How satisfied are you with your sleep?	3%	9%	40%	46%	3%
17	How satisfied are you with your ability to perform your daily living activities?	0%	9%	17%	71%	3%
18	How satisfied are you with your capacity for work?	0%	11%	34%	49%	6%

Friedman's ANOVA, χ^2 ANOVA (n=35, df=6)=19.68, p=0.003

A statistically significant difference was found ($p=0.003$) when respondents' answers to questions from the domain of physical health were analysed. The highest scores were recorded for questions concerning one's ability to get around (3.9 ± 0.8 with the median of 4 points), being strong enough to live a normal life (3.7 ± 0.9 with the median of 4 points), limitations caused by physical pain (3.8 ± 1.0 with the median of 4 points) and one's satisfaction with his/her ability to live a normal life (3.7 ± 0.7 with the median of 4 points). As far as one's satisfaction with his/her ability to work and do household jobs were concerned, our respondents received medium scores i.e. 3.5 ± 0.8 with the median of 4 points. The lowest scores were found for the satisfaction with one's sleep (3.4 ± 0.8 with the median of 3 points) and limitations in living a normal life due to medical treatment (3.3 ± 1.2 points with the median of 3 points) (Table 2).

A statistically significant difference ($p<0.001$) was found when analysing respondents' answers to questions concerning the psychological health domain (Table 3).

TABLE 3. Data concerning respondents' answers to questions from the psychological health domain of QOL.

Question no	The content	1 point	2 points	3 points	4 points	5 points
5	How much do you enjoy your life?	0%	11%	46%	34%	9%
6	To what extent do you feel your life to be meaningful?	0%	17%	31%	49%	3%
7	How well are you able to concentrate?	0%	14%	66%	14%	6%
11	Are you able to accept your bodily appearance?	0%	6%	31%	46%	17%
19	How satisfied are you with yourself?	0%	3%	20%	69%	9%
26	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	0%	14%	31%	48%	6%

Friedman's ANOVA, χ^2 ANOVA (n=35, df=5)=28.50, p<0.001

The highest scores were associated with being satisfied with oneself (3.8 ± 0.6 with the median of 4 points) and ability to accept one's own physical appearance (3.7 ± 0.8 with the median of 4 points). When asked about experiencing unpleasant moods, our respondents received intermediate QOL scores (3.5 ± 0.8 with the median of 4 points). The lowest ratings of QOL concerned the ability to focus on tasks (3.1 ± 0.7 with the median of 3 points), feeling that one's life is meaningful (3.4 ± 0.8 with the median of 4 points) and enjoying life (3.4 ± 0.8 with the median of 3 points). Table 4 presents data regarding respondents' opinions about the QOL domain of social relationships.

TABLE 4. Social relationships.

Question no	The content	1 point	2 points	3 points	4 points	5 points
20	How satisfied are you with your personal relationships?	3%	11%	40%	40%	6%
21	How satisfied are you with your sex life?	14%	23%	40%	20%	3%
22	How satisfied are you with the support you get from your friends?	0%	0%	40%	54%	6%

Friedman's ANOVA, χ^2 ANOVA (n=35, df=2)=18.02, p<0.001

The analysis of answers evaluating quality of life in the domain of social relationships revealed a statistically significant difference ($p<0.001$). Our respondents got the highest scores in questions concerning social support received from friends (3.7 ± 0.6 with the median of 4 points) and satisfaction with personal relations (3.3 ± 0.9 with the median of 3 points). The worse outcomes were reported in satisfaction with sexual life (2.7 ± 1.0 with the median of 3 points). Table 5 presents outcomes of the assessment of the environmental domain of QOL.

TABLE 5. Environment.

Question no	The content	1 point	2 points	3 points	4 points	5 points
8	How safe do you feel in your daily life?	0%	3%	66%	31%	0%
9	How healthy is your physical environment?	20%	14%	46%	20%	0%
12	Have you got enough money to meet your needs?	17%	29%	31%	17%	6%
13	How available to you is the information that you need in your day-to-day life?	0%	6%	43%	49%	3%
14	To what extent do you have the opportunity for leisure activities?	0%	9%	57%	23%	11%
23	How satisfied are you with the conditions of your living place?	0%	0%	17%	60%	23%
24	How satisfied are you with your access to health services?	3%	26%	26%	46%	0%
25	How satisfied are you with your transport?	0%	11%	20%	60%	9%

Friedman's ANOVA, χ^2 ANOVA (n=35, df=7)=70.41, p<0.001

The analysis of QOL scores in the domain of environment proved a statistically significant difference (p<0.001). The highest scores obtained by our respondents answering questions about their environment concerned satisfaction with one's living conditions (4.1±0.6 points with the median of 4 points) and satisfaction with transport (3.7±0.8 points with the median of 4 points). Intermediate levels of quality of life were reported in the following items: one's access to information (3.5±0.7 points with the median of 4 points), possible ways of spending free time (3.4±0.8 points with the median of 4 points), the sense of safety (3.3±0.5 points with the median of 3 points) and one's access to health services (3.1±0.9 points with the median of 3 points). The lowest scores were found for question no 9 i.e. "How healthy is your physical environment" (2.7±1.0 points with the median of 3 points) and question no 12 asking about financial resources (2.7±1.1 points with the median of 3 points).

A statistically significant difference was also found when comparing respondents' assessment of their quality of life in particular domains (Friedman's ANOVA, χ^2 ANOVA (n=35, df=3)=13.35, p=0.004). It means that quality of life varies between these domains; therefore QOL deficits in some domains are greater than in the others. The highest quality of life was reported in the domain of physical health whereas the greatest deficits were observed in two domains: social relationships and environment.

Positive linear correlations were found between all studied domains. This situation means that any improvement in one domain of quality of life results in better QOL outcomes in all remaining domains i.e. high quality of life in one domain is associated with high QOL in another one. Statistically sig-

nificant correlation coefficients were found between physical health and psychological domain as well as psychological health and environment with Pearson's coefficient r_p equal to 0.53, which corresponded to strong correlation. As far as individual perception of one's own health and bodily appearance were concerned, the majority of respondents said they were satisfied (51%) with quality of their lives. Moreover, most U3A students were satisfied with their health status.

Health behaviours

Health behaviours presented by the majority of our respondents were average (51%) or good (34%). Poor health behaviours concerned only 14% of U3A students. The mean raw score in our study group was 86.8±14.3 points (with the median of 88 points), and the minimum and maximum score was 52 and 110 points, respectively. No statistically significant difference was found between scores of female and male respondents (p=0.27, statistically insignificant).

TABLE 6. Health behaviours presented by U3A students.

Responses	Respondents					
	women		men		Total	
	n=23	%	n=12	%	n=35	%
Poor	3	13.0	2	16.6	5	14.3
Average	12	52.2	6	50.1	18	51.4
Good	8	34.8	4	33.3	12	34.3
Responses in total	23	100	12	100	35	100
χ^2 (n=35, df=2)=0.53, p=0.77 (statistically insignificant)						
Raw scores [points]	87.4±14.6		84.8±14.1		86.8±14.3	
Mann-Whitney U test Z(n=5)=1.10, p=0.27 (statistically insignificant)						
sten	5.9±2.1		6.1±2.0		5.9±2.1	
Mann-Whitney U test Z(n=35)=0.08, p=0.94 (statistically insignificant)						

The majority of our respondents presented health behaviours which were normal (91.4%, n=32). Only one person (3%) manifested behaviours better than the average whereas health behaviours of two other individuals were below the norm (6%) (Table 6).

Health behaviours in specific health categories

TABLE 7. Healthy eating habits.

Question no	The content	Almost never	Rarely	From time to time	Often	Almost always
		1 point	2 points	3 points	4 points	5 points
1	I eat a lot of fruits and vegetables.	0%	14%	17%	43%	26%
5	I limit my intake of products like animal fats and sugar.	9%	31%	20%	20%	20%
9	I try to maintain healthy diet.	3%	9%	20%	49%	20%
13	I avoid food products containing preservatives.	3%	9%	29%	23%	37%
17	I avoid salt and salty products.	11%	23%	3%	31%	31%
21	I eat wholemeal bread.	0%	9%	31%	26%	34%

Friedman's ANOVA, χ^2 ANOVA (n=35, df=5)=19.37, p=0.002

Table 7 shows data concerning respondents' answers to questions asking about eating habits. The majority of U3A students declared they often (43%) or almost always (26%) ate fruits and vegetables.

A statistically significant difference ($p=0.002$) was observed when analysing respondents' answers to questions belonging to the category of healthy eating habits. The highest scores, indicating good eating habits, concerned the following items: eating wholemeal bread (3.9 ± 1.0 points, the median equal to 4 points), avoiding food products containing preservatives (3.8 ± 1.1 points with the median of 4 points) and eating significant amounts of vegetables and fruits (3.8 ± 1.0 points, the median equal to 4 points). When asked about using salt and eating salty products, U3A students received intermediate scores, which indicated that these eating habits were close to the norm (3.5 ± 1.4 points with the median of 4 points). The lowest scores in the domain of healthy eating habits were found for the question about limiting intake of products like animal fats and sugar (3.1 ± 1.3 points, the median equal to 3 points).

The majority of our respondents presented eating habits within the range of healthy behaviours (91%, $n=32$). Only one individual (3%) scored below the norm whereas two respondents presented behaviours better than those believed to be normal (6%). No differences were observed in QOL outcomes concerning healthy eating habits between men and women ($p=0.55$, statistically insignificant).

TABLE 8. Prophylactic behaviours.

Question no	The content	Almost never	Rarely	From time to time	Often	Almost always
		1 point	2 points	3 points	4 points	5 points
2	I avoid colds.	0%	3%	9%	43%	46%
6	I've written down phone numbers of emergency services.	23%	6%	6%	11%	54%
10	I comply with doctor's orders resulting from my medical tests.	9%	9%	11%	37%	34%
14	I have my medical check-up done regularly.	6%	23%	14%	37%	20%
18	I try to learn how other people avoid diseases.	0%	37%	31%	17%	14%
22	I try to get medical information and understand what factors are responsible for health and disease.	6%	9%	23%	31%	31%

Friedman's ANOVA, χ^2 ANOVA ($n=35$, $df=5$)=21.68, $p<0.001$

Table 8 presents data concerning respondents' opinions about prophylactic behaviours.

The analysis of scores in the abovementioned category indicated a statistically significant difference between particular questions ($p<0.001$). The highest scores in the domain of prophylactic behaviours were recorded for the question about avoiding colds (4.3 ± 0.8 points, the median equal to 4 points). Intermediate values concerned the

following behaviours associated with disease prevention: compliance with doctor's orders (3.8 ± 1.3 points, the median equal to 4 points), getting medical information (3.7 ± 1.2 points, the median equal to 4 points), and writing down phone numbers of emergency services (3.7 ± 1.7 points, the median equal to 5 points). The lowest scores in the assessment of prophylactic behaviours were found for two questions: reporting to regular medical check-ups (3.4 ± 1.2 points, the median equal to 4 points) and learning how other people avoid diseases (3.1 ± 1.1 pkt., the median equal to 3 points).

All prophylactic behaviours presented by our respondents were within the normal range. No differences between scores of men and women were found ($p=0.55$, statistically insignificant).

TABLE 9. Positive mental attitude.

Question no	The content	Almost never	Rarely	From time to time	Often	Almost always
		1 point	2 points	3 points	4 points	5 points
3	I seriously consider indications of individuals worrying about my health.	6%	17%	34%	29%	14%
7	I avoid situations, which have a depressive influence on me.	9%	6%	20%	40%	26%
11	I try to avoid emotions, stress, and tension, which are too intense.	6%	9%	29%	31%	26%
15	I have friends and regular social life.	3%	6%	3%	34%	54%
19	I avoid emotions such as anger, anxiety, and depression.	0%	29%	29%	14%	29%
23	I think positively.	0%	6%	3%	43%	49%

Friedman's ANOVA, χ^2 ANOVA ($n=35$, $df=5$)=28.83, $p<0.001$

Table 9 shows respondents' answers to questions assessing positive mental attitudes.

The analysis of outcomes in the abovementioned category of mental attitudes indicated a statistically significant difference between particular questions ($p<0.001$). The highest scores regarding normal mental attitudes were associated with positive thinking (4.3 ± 0.8 points, the median equal to 4 points) and regular family life (4.3 ± 1.0 points, the median equal to 5 points). Intermediate scores were recorded for avoiding situations which have a depressive influence (3.7 ± 1.2 points, the median equal to 4 points) and avoiding strong emotions, stressful situations, and tension (3.6 ± 1.1 points, the median equal to 4 points). Our respondents received the lowest scores for two questions: avoiding anger, anxiety, and depression (3.4 ± 1.2 points, the median equal to 3 points) and seriously considering indications given by other people (3.3 ± 1.1 points, the median equal to 3 points).

All respondents presented mental attitudes within the range of normal behaviours. No gender differences were observed as far as the analysis of outcomes of mental attitudes evaluation was concerned. ($p=0.50$ statistically insignificant).

TABLE 10. Health practices.

Question no	The content	Almost never	Rarely	From time to time	Often	Almost always
		1 point	2 points	3 points	4 points	5 points
4	I get enough rest.	3%	26%	20%	46%	6%
8	I avoid being over-worked.	11%	29%	17%	37%	6%
12	I monitor my weight.	0%	37%	20%	26%	17%
16	I get enough sleep.	6%	20%	14%	23%	37%
20	I limit smoking.	11%	14%	11%	0%	63%
24	I avoid excessive physical effort.	0%	29%	29%	31%	11%

Friedman's ANOVA, χ^2 ANOVA(n=35, df=5)=13.74, p=0.017

Table 10 shows data concerning health practices. The analysis of scores in the above mentioned category indicated a statistically significant difference between particular questions ($p=0.017$). The highest scores in the assessment of health practices concerned question no 20 i.e. limiting smoking (3.9 ± 1.5 points, the median equal to 5 points). Intermediate scores were recorded for the following health practices: getting enough sleep (3.7 ± 1.3 points, the median equal to 4 points), getting enough rest (3.3 ± 1.0 points, the median equal to 4 points), avoiding excessive physical effort (3.3 ± 1.0 points, the median equal to 3 points), and monitoring body weight (3.2 ± 1.1 points, the median equal to 3 points). When asked if they avoided being overworked, U3A students received the lowest scores (3.0 ± 1.2 points, the median equal to 3 points).

All respondents declared health practices which were within the range of normal behaviours. No differences between scores of men and women were observed ($p=0.77$, statistically insignificant).

The majority of respondents (69%, $n=24$) were under specialist medical care. A statistically significant difference was found between women and men as far as their medical specialist appointments were analysed ($p=0.037$). Fewer male respondents (none) visited medical specialists when compared with women participating in our study.

The majority of U3A students (49%, $n=17$) assessed their health status as average whereas several respondents believed it was good (37%, $n=13$). Only 9% ($n=3$) of the study group evaluated their health status as very poor and 6% said it was poor. As far as respondents' health status was concerned we didn't find any statistically significant difference between genders ($p=0.77$, statistically insignificant).

Most respondents (66%, $n=25$) reported for their medical check-up at least every 6 months. Although the number of women monitoring their health status was greater than men, this difference was statistically insignificant ($p=0.21$).

The analysis of possible correlations between the assessment of quality of life and health behaviours didn't indicate any statistically significant dependencies.

Numerous studies indicate that quality of life depends on age, type, and duration of disease. Therefore, current efforts focus not only on prolonging human life in its biological dimension, but also on improving quality of that life [8]. It means looking for quality, which brings some new elements that make human life more full, next to those associated with

survival. Referring to the definition of health developed by the WHO states, quality of life is perceived as subjective well-being resulting from the fact that one's needs are met, new possibilities to achieve full personal development appear [9,10]. This fact is associated with an acknowledged system of values, aspirations, and expectations of a person. As far as health promotion is concerned, it relates to one's activities promoting higher effectiveness of life [1,2,4,11].

Hunt and McKenna believe that quality of human life is directly linked with motivations i.e. one's ability and possibilities to meet all needs. Quality of life improves as the level of satisfaction, understood as important needs, which are met, increases regardless of one's age [1,2].

This type of attitude levels the boundaries between particular life stages as we acknowledge that we can't avoid the process of ageing; however we can slow it down through our activity and improve quality of our lives. A human being should form one's life and its quality through personal development. The University of the Third Age seems to be very beneficial since it addresses older and often lonely people who finished their professional career. It enables these individuals to participate in educational processes regarding numerous fields of science, realise personal interests, maintain physical and mental health, and last but not least, participate in a cultural life of the society [3,4,12].

Recently, people have become aware of the fact that health behaviours are an element, which significantly determines health, maintaining and reinforcing it, and therefore it also determines the improvement of quality of life, not only of an individual but also of whole populations. Individual's life style seems to play a key role in this process since health depends on it in 50%. According to the WHO, life style means a way of living, which is a resultant of personal preferences as well as behavioural patterns and living conditions determined by psychological, social and economical, and cultural factors. Quantitative and qualitative aspects of a diet, physical activity, strategies of coping with stress affect health status and determine morbidity, ageing, and mortality. Koziel et al. showed that the elderly who were active intellectually, i.e. U3A students, presented a higher level of behaviours promoting health in general, had better eating habits, undertook prophylactic activities more frequently, and manifested more positive mental attitudes when compared with a control group. These results are consistent with outcomes published in the literature regarding widely understood preventive gerontology promoting health and offered by the U3A [13-16]. The process of aging consists of numerous multidimensional changes and concerns biological, mental, and social domains. As a result quality of life decreases as we get older. For example, poorer motor function leads to some changes in self-image and some social roles may be lost because of it. Researchers suggest that complex rehabilitation improves quality of life [17].

Also our study confirms this thesis. Health behaviours presented by the majority of our respondents were average (51%) or very good (34%). Only 14% of the study group manifested poor health behaviours. The mean score of health behaviours (HBI) was 86.8 ± 14.3 points, and for particular categories i.e. eating habits, prophylactic behaviours, mental attitudes, health practices it was 3.58, 3.66, 3.76, 3.39,

respectively. The analysis of scores received by our respondents in the category of health behaviours indicated a statistically significant difference ($p=0.002$). Fifty one percent of U3A students were satisfied with quality of their lives whereas 60% were satisfied with their health status.

Overall quality of life score was 61.0 ± 9.6 points. Again, a statistically significant difference was found between QOL scores in particular domains ($p=0.004$). The highest level of quality of life concerned physical health whereas the greatest deficits were observed in environment and social relationships domains.

Although we haven't found any statistically significant differences between quality of life and health behaviours in our study group, the analysis of study material provides information about important differences in quality of life evaluation and points towards deficits in the domains of environment and social relationships. Furthermore, some differences between answers to particular questions within the same category of health behaviours were observed. The preliminary character of this study may have a practical meaning used for further planning of lecture subjects for students of the University of the Third Age where the improvement of quality of life is the most important purpose, and promotion of health behaviours would support it.

REFERENCES

1. Ambroży D. Zdrowie jako wartość w przestrzeni aksjologicznej. In: Ann UMCS Sect D. Promocja zdrowia w hierarchii wartości. 2005;40:2-7.
2. Muszałik M, Kędziora-Kornatowska K. Jakość życia przewlekle chorych pacjentów w starszym wieku. *Gerontol Pol.* 2006;14(4):185-6, 188-9.
3. Grodzki T, Kocemba J, Skalska A. Geriatria z elementami gerontologii ogólnej. Podręcznik dla lekarzy i studentów. Gdańsk: Via Medica; 2007.
4. Panek A. Aktywność wolnoczasowa seniorów jako profilaktyka, terapia, jako styl i sens życia. *Państwo i Społeczeństwo.* 2007;(3):159-68.
5. Wołowicka L, Jaracz K. Polska wersja WHOQOL-100 i WHOQOL-BREF. In: Wołowicka J (ed) Jakość życia w naukach medycznych. Poznań; 2001.
6. Juczyński Z. Narzędzia pomiaru w promocji i psychologii zdrowia. Warszawa: Pracownia testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2001. p.116-24.
7. Moczko JA, Bręborowicz GH, Tadeusiewicz R. Statystyka w badaniach medycznych. Warszawa: Springer PWN; 1998.
8. Muszałik M, Kędziora-Kornatowska K. Jakość życia przewlekle chorych pacjentów w starszym wieku. *Gerontol Pol.* 2006;14(4):185-9.
9. Farnik-Brodzińska M, Pierzchała W. Znaczenie badań jakości życia w przewlekle chorych układzie oddechowego w aspekcie holistycznego pojęcia medycyny. *Wiad Lek.* 1998;(7-8):316-20.
10. Dybńska E. Społeczno-środowiskowe uwarunkowania zachowań rekreacyjnych osób w wieku poprodukcyjnym. *Ann UMCS Sect D.* 2007;62(2):131-7.
11. Kowalik S, Ratajska A, Szmaus A. W poszukiwaniu nowego wymiaru jakości życia związanego ze stanem zdrowia. In: Jakość życia w naukach medycznych Quality of life in medical sciences. Poznań; 2001. p. 17-9.
12. Zielińska-Więczkowska H, Kędziora-Kornatowska K. Jakość życia chorych z pierwotnym nadciśnieniem tętniczym w wieku podeszłym na tle zmiennych społeczno-demograficznych (część I). *Pielęg XXI w.* 2006;4(17):117-20.
13. Kozieł D, Kaczmarczyk M, Naszydlowska E, Gałuszka R. Wpływ kształcenia w Uniwersytecie Trzeciego Wieku na zachowania zdrowotne ludzi starszych. *Studia Medyczne.* 2008;12:23-8.
14. Franek G, Cabaj M. Zachowania zdrowotne ludzi w starszym wieku. *Ann UMCS Sect D.* 2007;62(suppl.18):157, 221.
15. Borzucka D, Rektor Z. Motywy podejmowania aktywności fizycznej przez ludzi starszych. In: Promocja zdrowia w hierarchii wartości. Lublin. *Ann UMCS Sect D.* 2005;60(suppl.16):43, 193.
16. Żolnierczuk-Kieliszek D. Zachowania zdrowotne i ich związek ze zdrowiem. Lublin: Wydawnictwo Czelej; 2002.
17. Łój G. Rehabilitacja a jakość życia osób w starszym wieku. *Gerontol Pol.* 2007;4(15):153.

Informacje o Autorach

Dr n. med. GRAŻYNA DĘBSKA – adiunkt, Wydział Zdrowia i Nauk Medycznych, Krakowska Akademia im. A. Frycza Modrzewskiego; wykładowca; mgr MONIKA KORBEL-PAWLAS – instruktor; dr n. med. MARIA ZIĘBA – starszy wykładowca; dr n. med. WIOLETTA ŁAWSKA – Instytut Pielęgniarstwa, Podhalańska Państwowa Wyższa Szkoła Zawodowa; ALICJA LUBERDA – licencjat pielęgniarstwa, studentka, Podhalańska Państwowa Wyższa Szkoła Zawodowa.

Adres do korespondencji

Grażyna Dębska
 Krakowska Akademia im. Andrzeja Frycza Modrzewskiego
 Wydział Zdrowia i Nauk Medycznych
 ul. Gustawa Herlinga-Grudzińskiego 1, 30-705 Kraków
 Tel. 607 059 061
 E-mail: gdebska@afm.edu.pl