

Health behaviors of people over 65 years of age and their socio-demographic factors

Zachowania zdrowotne osób powyżej 65 roku życia i ich socjo-demograficzne uwarunkowania

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Abstract

Introduction. According to the definition, health behaviors can incorporate any activities aimed at strengthening or restoring individual's health. Such an understanding of health behaviors may be fully related to aging or elderly people. **Aim of research.** Evaluation of the level of health behaviors of people over 65 and their socio-demographic factors (sex, age, place of residence, education, marital status and previous occupation). **Material and methods.** The study was conducted between July and September of 2013 among 505 participants aged 65 and older, in 5 randomly chosen Primary Care Centers (POZ) in the Lubelskie voivodeship, Poland. In order to assess the level of health behaviors and their four categories, Juczyński's Health Behavior Inventory (IZZ) was applied. **Results.** The results indicate that in the assessment of health behaviors for the studied group of people, IZZ average was 76.49 points ($SD = 15.94$). Women declared a higher level of health behaviors in comparison to men ($p < 0.001$). In addition, the overall level of health behaviors depended on the respondents' education ($p < 0.001$) and previous occupation ($p < 0.001$). **Conclusion.** For more than 43% of the participants, the level of health behaviors was assessed as "low" (1-4 sten), for over 36% as average (4-6 sten) and for above 20% as high (7-10 sten). Rated as highest were items of health behaviors related to "prophylaxis" and "health practices" whereas the items associated with "positive mental attitude" and "correct eating habits" received lower scores. The declared overall level of health behaviors was rated higher among women, people with higher education, and those who previously had an intellectual type of work. (Gerontol Pol 2015, 4, 143-58)

Key words: health behaviors, seniors, socio-demographic status

Streszczenie

Wstęp. Zgodnie z definicją zachowania zdrowotne to podejmowane czynności oraz wszelka aktywność osoby skierowana na umacnianie zdrowia lub zmierzająca do jego powrotu. Takie rozumienie pojęcia zachowań zdrowotnych w pełni odnieść można do osób w okresie starzenia się i starości. **Cel pracy.** Ocena poziomu zachowań zdrowotnych osób powyżej 65 roku życia i ich socjo-demograficznych uwarunkowań (płeć, wiek, miejsce zamieszkania, wykształcenie, stan cywilny, wykonywany w przeszłości zawód). **Material i metody.** Badania przeprowadzono od lipca do września 2013 r. wśród 505 osób w wieku powyżej 65 roku życia w losowo wybranych 5 jednostkach Podstawowej Opieki Zdrowotnej (POZ) na terenie województwa lubelskiego. W celu oceny poziomu zachowań zdrowotnych i ich czterech kategorii posłużono się

Inwentarzem Zachowań Zdrowotnych (IZZ) wg, Juczyńskiego. Wyniki. Wyniki badań wskazują, że w ocenie zachowań zdrowotnych dla badanej grupy osób powyżej 65 roku życia średnia IZZ wyniosła 76,49 pkt. ($SD = 15,94$). Kobiety deklarowały wyższy poziom zachowań zdrowotnych w porównaniu z mężczyznami ($p < 0,001$). Ponadto ogólny poziom zachowań zdrowotnych zależał od wykształcenia ($p < 0,001$) i wykonywanego w przeszłości zawodu ($p < 0,001$). **Wnioski.** W przypadku ponad 43% badanych poziom zachowań zdrowotnych oceniony został jako niski (1-4 sten), ponad 36% prezentowało przeciętny poziom zachowań zdrowotnych (5-6 sten), a ponad 20% - wysoki (7-10 sten). Najwyżej ocenione domeny zachowań zdrowotnych to „zachowania profilaktyczne” i „praktyki zdrowotne”, natomiast domeny: „pozytywne nastawienie psychiczne” i „prawidłowe nawyki żywieniowe” uzyskały niższą ocenę. Deklarowany ogólny poziom zachowań zdrowotnych uzyskał wyższą ocenę wśród kobiet, osób z wyższym wykształceniem oraz badanych, którzy w przeszłości wykonywali pracę umysłową. (*Gerontol Pol 2015, 4, 143-58*)

Słowa kluczowe: zachowania zdrowotne, ludzie starsi, status socjo-demograficzny

Introduction

Health behaviors develop since early childhood, through the process of socialization. They maintain and strengthen health but are not permanent patterns. They are shaped throughout the whole lifetime by various influences, which can be categorized into three groups: those predisposing, enabling and reinforcing health behavior changes. Researchers studying the problem of aging are in agreement that the pace and degree of aging depend on social conditions, individual characteristics, his/her health, character, customs and habits, and also lifestyle [1]. Factors influencing successful aging include certain lifestyle elements. One category of behaviors, which constitutes lifestyle and determines its quality are health behaviors [2].

The starting point in this analysis is the assumption that health behaviors are a part of all human behaviors and their “forms, their standard is strictly associated with individuals’ lifestyle and the overall structure of their existence” [3]. For many years, diverse and controversial definitions were created concerning the concept of health behaviors [4]. The primary determinant of health behaviors is that they constantly influence health [5].

Barbara Wojnarowska identified health behavior as “(...) actions (or failing to act) which directly or indirectly affect a person’s health and well-being” [6].

Gochman defined health behavior as “those personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive elements; personality characteristics, including affective and emotional states and traits; and overt behavior patterns, actions, and habits that relate to health maintenance, to health restoration, and to health improvement [7]”.

Aim of research

The aim of the study was to assess the level of health behaviors of people over 65 years of age and their socio-demographic determinants (sex, age, place of residence, education, marital status, past occupation).

Material and method

The survey was conducted between July and September of 2013. There were 505 participants over 65 years of age altogether. All of the participants were patients of 1 out of the selected 5 Primary Health Care Out Patient Clinics (POZ) located in the Lubelskie voivodeship (Poland); 3 of the clinics were located in the Lublin district (Non-public health care institution ANI-MED, Non-public health care institution UNI-MED and the Specialist Outpatient Department for Rural Occupational Diseases located in the Institute of Rural Health) and two institutions were outside of Lublin (Non-public outpatient center in Turobin and Non-public outpatient center Goraj in Goraj). The patients for this study were selected at random among persons over 65 years of age, who reported to the outpatient facilities. Only those people took part in the study who after receiving full information on the purpose and the method of conducting the study agreed to participate in it.

The research was conducted with the aid of a diagnostic survey method, using Juczyński’s Health Behavior Inventory. This tool consists of 24 claims defining various types of health related behaviors and claim nr 25 labeled as “other”, where the respondents may write down their own, previously not mentioned, statements. For each statement the respondent attributes a number depending on how the statement applies to him/her: 1- almost never, 2- rarely, 3- from time to time, 4- frequently, 5- almost always. Taking into consideration indicated by the test frequency of individual behaviors, general intensification of behaviors conducive to health and the degree of intensification of four categories of health behaviors i.e. “correct eating habits”, “prophylactic measures”, “health practices” and “positive mental attitude” was determined [8].

Among “correct eating habits”, the research tool included the type of food consumed namely the frequency of consumption of wholegrain bread, fruits, vegetables, salt, foods with preservatives, etc. “Prophylactic measu-

res” concern the compliance with medical orders and obtaining information on health and disease. “Health practices” include everyday behaviors concerning sleep, physical activity or recreation. Psychological criteria concerning the “positive mental attitude” included avoiding too strong emotions, stresses and strains that cause depressing situation.

Because of various health behaviors depending on the given life period, the respondents were asked to grade their behavior through the prism of the last year.

The obtained results were counted in order to achieve an overall indicator of health behavior intensification. Its values ranged from 24 to 120 points; the higher the outcome the higher the level of the declared health behaviors. Afterwards the results were translated into sten scores in accordance with the suggestion of the author of the tool.

Obtained results were then statistically analyzed. The values of analyzed measurable parameters were shown using mean values and standard deviations; and the unmeasurable parameters were portrayed using numbers and percentages. To test differences between immeasurable parameters between two groups, the Mann–Whitney U test was applied, and for more than two groups the Kruskal-Wallis test and the post hoc NIR test were used. The level of significance was set at $p < 0.05$ indicating the existence of statistically significant differences and dependencies. The data base and the statistical analysis of data were conducted using Statistica 9.1 (Statsoft, Poland).

Before beginning research the project was approved (nr KE-0254/242/2012) by the Bioethics Committee of the Medical University of Lublin.

Results

Total of 505 participants took part in the research. All of them were over 65; they resided in the Lubelskie voivodeship and were patients of the Primary Health Care. Most of them were women (62.38%); aged 65-75 (48.12%) and city residents (65.94%). Detailed results of the socio-demographic characteristics are presented in Table I.

Research results revealed that in the assessment of health behaviors for the studied population, average IZZ was 76.49 points (SD = 15.94). In terms of a standardized unit, among 505 respondents - 43.17% (n = 218) achieved a Sten score between 1 and 4, which is considered low, 36.43% (n = 184) obtained a Sten score of 5-6, an average value, and only 20.40% (n = 103) of the respondents reported a high level of health behaviors, a Sten score of 7 to 10. The analysis of individual categories of health behaviors revealed that the items with highest scores included: prophylactics (average 20.44 points, SD = 5.23) and health practices (average 19.06 points, SD = 4.09), while the least - a positive mental attitude (average 18.66 points, SD = 4.84) and correct eating habits (average 18.33 points, SD = 5.33). Detailed data are presented in Table II.

Table I. Respondents' socio-demographic characteristic
Tabela I. Charakterystyka socjo-demograficzna badanych

Variable	Category	n	%
Sex	Women	315	62.38
	Men	190	37.62
Age	65 - 75	243	48.12
	76 - 85	166	32.87
	> 85	96	32.87
Place of residence	City	333	65.94
	Country	172	34.06
Education	No education	69	13.66
	Primary	96	19.01
	Vocational	85	16.83
	Secondary	136	26.93
	Higher	119	23.56
Marital status	In a relationship	250	49.50
	Alone	255	50.50
Type of previous employment	Physical employee	172	34.06
	Intellectual employee	170	33.66
	Physical/Intellectual employee	63	12.48
	Other	100	19.80

Table II. Average results from the IZZ scale among people over 65 years of age

Tabela II. Średnie wyniki oceny skali IZZ w grupie osób powyżej 65 roku życia

Health behaviors	Average	Min.	Max	Standard deviation
Correct eating habits	18.33	7.00	30.00	5.33
Prophylactic measures	20.44	8.00	30.00	5.23
Positive mental attitude	18.66	6.00	30.00	4.83
Health practices	19.06	6.00	30.00	4.09
IZZ	76.49	36.00	114.00	15.94

The conducted statistical analysis revealed statistically significant differences in the intensity of the declared health behaviors between men and women ($p < 0.05$). Women declared a higher level of health behaviors compared to men ($p < 0.001$) and had higher scores in all four categories of health behaviors: “correct eating habits” ($p < 0.001$), “prophylactics” ($p = 0.005$), “positive mental attitude” ($p = 0.018$) and “health practices” ($p = 0.001$). Detailed data are presented in Table III.

Conducted analysis concerning declared health behaviors depending on the variable “age” revealed a statistically significant difference in the “health practices” category ($p < 0.001$). Respondents over 85 year of age obtained the highest scores in this category (20.38) compared to those between 65-75 (19.14) who in turn had higher results than those from the age group 76-85 (18.19). The results are presented in Table III.

Another analyzed variable was place of residence. Statistically significant differences were observed in two categories of health behaviors depending on the place of residence of the respondents: “correct eating habits” and “preventive behavior” ($p < 0.05$). People who lived in the city, revealed higher intensity of the category “correct eating habits” ($p = 0.001$) and “preventive behavior” ($p = 0.016$) compared with the respondents living in rural areas (Table III).

Interestingly, statistically significant observations were made taking into account the respondents’ education and the level of declared health habits ($p < 0.05$). The study revealed that with a higher level of education, the level of declared health behaviors also increases ($p < 0.001$) and so does the level of four health behavior categories: “correct eating habits” ($p < 0.001$), “prophylactics” ($p < 0.001$), “positive mental attitude” ($p < 0.001$), and “health practices” ($p < 0.001$). Detailed data are presented in Table III.

Analyzing health behaviors in correlation with past occupation a statistically significant dependency was observed ($p < 0.001$). The highest level of health behaviors was observed among former intellectual workers (80.65). It was significantly different from people who had physical work (72.39) and people who declared

“other” type of profession (74.96). Same dependence translated into the category of health behaviors - “correct eating habits” ($p < 0.001$). Slightly different, however also statistically significant differences ($p < 0.001$) were observed in the “health practices” category. A higher level within this category was obtained by former intellectual employees (20.34) in comparison to former physical workers (17.66) and employees who declared their work as “other” (18.81). In comparison, respondents who had an intellectual-physical work obtained higher scores (19.83) than those who only worked physically (17.66). Detailed data are presented in Table III.

Discussion

Aging of the population is a global trend. Currently in Poland over 13% of the society have already reached the age of 65 years, including 65.6% of women. The average life expectancy for women is 77.5 years, for men 68.8. The process of aging is affected by various social, demographic, cultural, economic, genetic, and health factors [9]. Fundamental meaning in maintaining health and prevention of diseases is the individual’s lifestyle. Lifestyle elements favorably affecting health in old age include proper diet and eating habits, the optimal level of physical activity, adequate sleep time, satisfying social relationships, skillful use of free time and knowledge from the field of health prophylactics [10]. Although the process of aging is inevitable, it is possible to influence longer preservation of mental and physical ability and independence. The purpose of pro-health behaviors is successful aging, longevity, and active and creative old age [9].

Obtained results in the field of general assessment of health behaviors in the group of people over 65 indicate the following point value - 76.49 (SD = 15.94). When converted into a standardized unit it was revealed that over 20% of the respondents had a high level of health behaviors (sten score 7-10), over 36% presented an average level (sten score 5-6), and the rest - 43% had low level of health behaviors (sten score 1-4). The categories that were rated as the highest included “prophylactics”

Table III. Results of the IZZ scale in correlation to various variables
Tabela III. Wyniki skali IZZ w korelacji z badanymi zmiennymi

Variable		Level of health behaviors		Correct eating habits		Prophylactic measures		Positive mental attitude		Health practices		Statistical analysis		
Sex	Men	M	71.88	16.46	19.31	17.97	18.13	17.97	18.13	18.13	18.13	18.13	Z=-3.317; p=0.001*	
	Women	SD	15.78	5.07	6.04	4.33	3.77	4.33	3.77	3.77	3.77	3.77	Z=-2.358; p=0.018*	
Age	65-75 (I)	M	79.27	19.46	21.12	19.07	19.62	19.07	19.62	19.62	19.62	19.62	19.62	19.62
		SD	15.40	5.18	4.55	5.08	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
	> 85 (III)	M	76.54	18.41	18.41	18.79	18.79	18.79	18.79	18.79	18.79	18.79	18.79	18.79
		SD	17.66	5.73	5.48	5.09	4.72	4.72	4.72	4.72	4.72	4.72	4.72	4.72
Place of residence	City	M	75.62	18.27	20.38	18.78	20.38	18.78	20.38	18.78	20.38	18.78	20.38	H=1.296; p=0.523
		SD	14.22	4.76	4.72	5.05	3.26	3.26	3.26	3.26	3.26	3.26	3.26	H=2.783; p=0.249
	Country	M	77.86	18.25	18.25	18.13	18.13	20.38	18.13	20.38	20.38	20.38	20.38	(RM: I-III, I-II, II-III)
		SD	14.10	5.27	5.42	3.64	3.26	3.26	3.26	3.26	3.26	3.26	3.26	H=23.400; p<0.001*
Education	No education (I)	M	77.64	18.93	20.93	18.58	20.93	18.58	20.93	18.58	20.93	18.58	20.93	Z=2.414; p=0.016*
		SD	15.78	5.56	4.88	4.96	4.11	4.11	4.11	4.11	4.11	4.11	4.11	Z=0.053; p=0.958
	Primary (II)	M	74.26	17.17	19.48	18.81	19.48	18.81	19.48	18.81	19.48	18.81	19.48	Z=-0.197; p=0.844
		SD	16.05	4.65	5.74	4.58	4.06	4.06	4.06	4.06	4.06	4.06	4.06	H=34.673; p<0.001*
	Vocational (III)	M	63.86	13.80	16.39	16.49	16.39	16.49	16.39	16.49	16.39	16.49	16.39	(RM: I-II, I-III, I-IV, I-V, II-V, III-V, IV, III-V)
		SD	16.64	4.84	6.54	4.36	4.68	4.36	4.68	4.36	4.68	4.36	4.68	H=21.832; p<0.001*
	Secondary (IV)	M	74.32	17.02	20.38	18.66	20.38	18.66	20.38	18.66	20.38	18.66	20.38	H=39.472; p<0.001*
		SD	14.28	4.34	4.94	4.54	3.74	3.74	3.74	3.74	3.74	3.74	3.74	(RM: I-II, I-III, I-IV, I-V, II-V, III-V, IV, III-V)
	Higher (V)	M	75.52	17.34	20.95	18.85	20.95	18.85	20.95	18.85	20.95	18.85	20.95	H=34.673; p<0.001*
		SD	13.41	4.68	4.16	5.14	3.51	3.51	3.51	3.51	3.51	3.51	3.51	(RM: I-II, I-III, I-IV, I-V, II-V, III-V, IV, III-V)
Marital status	In a relationship	M	79.75	19.79	20.98	19.38	20.98	19.38	20.98	19.38	20.98	19.38	20.98	Z=-2.017; p=0.044*
		SD	12.52	3.65	4.01	4.70	3.99	3.99	3.99	3.99	3.99	3.99	3.99	Z=0.641; p=0.522
	Alone	M	82.54	21.07	21.85	18.95	21.85	18.95	21.85	18.95	21.85	18.95	21.85	Z=0.641; p=0.522
		SD	17.52	6.15	5.45	4.97	3.86	3.86	3.86	3.86	3.86	3.86	3.86	Z=2.017; p=0.044*
Type of previous employment	Physical employee (I)	M	76.63	18.59	20.45	18.85	20.45	18.85	20.45	18.85	20.45	18.85	20.45	H=37.356; p<0.001*
		SD	14.30	4.77	4.75	4.80	3.52	3.52	3.52	3.52	3.52	3.52	3.52	H=37.356; p<0.001*
	Intellectual employee (II)	M	76.36	18.08	20.42	18.47	20.42	18.47	20.42	18.47	20.42	18.47	20.42	H=6.032; p=0.110
		SD	17.42	5.83	5.67	4.87	4.58	4.58	4.58	4.58	4.58	4.58	4.58	(RM: I-II, I-III, I-IV)
	Physical/Intellectual employee (III)	M	72.39	16.48	19.99	18.26	19.99	18.26	19.99	18.26	19.99	18.26	19.99	H=37.356; p<0.001*
		SD	16.38	4.95	5.95	4.89	4.08	4.08	4.08	4.08	4.08	4.08	4.08	H=37.356; p<0.001*
Other (IV)	M	80.65	20.31	21.04	18.95	21.04	18.95	21.04	18.95	21.04	18.95	21.04	H=6.032; p=0.110	
	SD	16.56	5.18	4.99	4.83	4.11	4.11	4.11	4.11	4.11	4.11	4.11	(RM: I-II, I-III, II-IV)	
Other (IV)	M	78.90	18.24	21.16	19.68	21.16	19.68	21.16	19.68	21.16	19.68	21.16	H=6.032; p=0.110	
	SD	10.40	4.35	3.62	4.52	3.32	3.32	3.32	3.32	3.32	3.32	3.32	(RM: I-II, I-III, II-IV)	
Other (IV)	M	74.96	18.21	19.73	18.21	19.73	18.21	19.73	18.21	19.73	18.21	19.73	H=6.032; p=0.110	
	SD	15.13	5.67	5.06	4.86	3.78	3.78	3.78	3.78	3.78	3.78	3.78	(RM: I-II, I-III, II-IV)	

M – average, SD – standard deviation. Z – Mann-Whitney U test results, H – Kruskal-Wallis test results, p – level of statistical differences, RM – intergroup differences

and “health practices”. “Positive mental attitude” and the “correct eating habits” received lower scores.

The research of Muszalik et al. [11] conducted among 110 participants over 60 years of age (76.8 on average) using the Health Behavior Inventory revealed a higher general indicator of health behaviors than our study, and amounted to 83.2 points, while the highest rated categories of health behaviors were “prophylactic measures” and “positive mental attitude” and slightly lower scores were obtained by the categories “health practices” and “correct eating habits”.

What is more, in the studies conducted by Zadworna-Cieślak and Ogańska-Bulik [12] among 130 participants aged 61-88 years (71.32 on average) the mean level of health behaviors was 89.85 points and it was also higher than that obtained in the present study.

Numerous studies indicate the influence of socio-economic and cultural status on the development of lifestyle indicators as factors determining health [13-15]. In the present study, socio-demographic factors, which in the statistical analysis had the greatest impact on the overall assessment of health behaviors and their four categories were sex and the level of education ($p < 0.005$). In the study conducted by Zadworna-Cieślak and Ogańska-Bulik [12], sex was a variable, which just as in our study, differentiated in favor of women’s overall health behaviors, and in favor of the following categories: “correct eating habits”, “prophylactics” and “health practices”. Additionally, the above researchers did not observe statistically significant differences in the category of “positive mental attitude” between women and men. Muszalik et al. [11] found that the level of education affects the assessment of health behaviors in the category of “health practices”. Higher scores were obtained by respondents with a higher and secondary education than those with primary education and vocational training ($p < 0.05$).

Another variable differentiating the overall level of health behaviors was age of the respondents. People aged over 85 were characterized by the highest level of health behaviors in the category of “health practices” ($p < 0.001$). In the already cited studies of Zadworna-Cieślak and Ogańska-Bulik [12], age did not significantly affect the level of declared health behaviors or any of the IZZ categories.

However, the studies conducted by Kozieł et al. [2] on a group of 394 respondents aged 60 and over, divided into two subgroups: study group-197 respondents from the University of the Third Age in Kielce and control group - 197 respondents who were not undertaking such an activity, revealed that among representatives of the study groups together with age increased the overall assessment of the health behaviors and the “positive men-

tal attitude” category whereas in the control group, together with age increased the rating of the “health practices” category.

The present study revealed that the place of residence differentiated two categories of health behaviors in favor of residents of the city; the “correct eating habits” and “preventive behavior. Additionally, respondents who were single obtained a higher level of health behaviors in the category of “health practices” compared to respondents remaining in relationships. Additionally, respondents who were former intellectual employees obtained higher scores in the overall level of health behaviors and in the categories of “correct eating habits” and “prophylactic measures”. Research of Muszalik et al. [11] revealed that among people over 65, respondents who were in a relationship had a higher level of health behaviors in the category of “positive mental attitude”, what is more, respondents who were professionally inactive obtained higher scores in the category of “health practices.” However, the research of Szkup et al. [16] conducted among 132 persons qualified for cardiac surgery (average age - 63.59 years) revealed that professional activity had no significant effect on the overall level of health behaviors and their four categories.

Health behaviors are a major problem both in theory and in practice of health promotion and disease prevention; especially in the prevention of those diseases the development of which is documented scientifically in terms of the cause-and-effect relationship between the presence of harmful behaviors and health [3].

The period of aging and old age is characterized by the intensification of changes in the physical state that primarily manifest themselves in burdensome ailments and multiple morbidities. According to the definition, health behaviors are undertaken actions and activities of a person aimed at strengthening or restoring health. Such an understanding of the concept of health behaviors can fully relate to people in a period of aging and old age.

Strengthening of proper and the improvement of inappropriate activities determining individual’s health has an essential influence on the increase in the quality of life despite the impossible to prevent changes in the physical functioning. Assessment of the level and quality of health behaviors allows for taking educational, care and treatment measures for aging and elder people [17].

Conclusions

1. Global assessment of health behaviors of people over 65 years of age was 76.49 points. Over 43% of the respondents had a low level of health behaviors (sten score 1-4), over 36% presented an average level (sten

- score 5-6) and the remaining 20% had high level of health behaviors (sten score 7-10).
2. The highest rated categories of health behaviors were "prophylactic measures" and "health practices", whereas the categories "positive mental attitude" and the "correct eating habits" received lower scores.
 3. The declared overall level of health behaviors was higher among women, people with higher education and former intellectual employees.
- Conflict of interest**
None

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