Evaluation of health behaviours of individuals aged over 60 years

Ocena zachowań zdrowotnych osób po 60 roku życia

Ewa Kupcewicz, Agnieszka Gontarz, Barbara Wilk, Małgorzata Kuśmierczyk

Olsztyńska Szkoła Wyższa im. Józefa Rusieckiego

Wprowadzenie. Badanie zachowań zdrowotnych może być wykorzystane do określenia potrzeb w zakresie edukacji zdrowotnej osób po 60 r.ż. oraz modyfikacji ich stylu życia w wyniku prowadzonych działań edukacyjnych.

Cel. Próba poznania zachowań zdrowotnych osób po 60 r.ż., a także ocena wpływu wybranych czynników socjodemograficznych na wybór tych zachowań.

Materiały i metody. Badania przeprowadzono w I kwartale 2015 r., w grupie 110 chorych po 60 r.ż., którzy korzystali z usług medycznych na terenie Uniwersyteckiego Szpitala Klinicznego w Olsztynie. Do pomiaru zmiennych zastosowano kwestionariusz własnej konstrukcji oraz Inwentarz Zachowań Zdrowotnych (IZZ) autorstwa Z. Juczyńskiego.

Wyniki. W badanej grupie ogólny wskaźnik nasilenia zachowań zdrowotnych zawierał się w przedziale od 31 do 119 punktów, a jego średnia wartość wynosiła 79,85±20,77 z medianą 79. Po przekształceniu na jednostki stenowe wyniki w granicach 1-4 stena (niskie) uzyskało 43% ogółu badanych, w granicach 7-10 stena (wysokie) dotyczyły 39%, natomiast wyniki równe wartościom 5-6 stena interpretowane były jako przeciętne i uzyskało je 18% badanych. Analiza wykazała, iż zmienne tj. wiek, wykształcenie, aktywność społeczno-zawodowa oraz sytuacja materialno-bytowa badanych miały istotny statystycznie wpływ na kształtowanie się zachowań zdrowotnych w kategorii: prawidłowych nawyków żywieniowych, zachowań zdrowotnych i stosowanych praktyk zdrowotnych. Wykształcenie i status społeczno-zawodowy badanych determinowały zachowania zdrowotne w kategorii pozytywne nastawienie psychiczne.

Wnioski. Nasilenie zachowań zdrowotnych w badanej grupie należy ocenić jako przeciętne. Osoby powyżej 71 r.ż., a także lepiej wykształcone i przebywające na emeryturze wykazywały większe nasilenie zachowań zdrowotnych w badanej grupie.

Słowa kluczowe: *zdrowie, zachowania zdrowotne, osoby starsze*

Introduction. An assessment of health behaviour may be used to evaluate the needs regarding health education of individuals aged over 60 years and to modify their lifestyle as a result of conducted educational activities.

Aim. The determination of health behaviours of individuals aged over 60 years and the evaluation of the impact of selected sociodemographic factors on selection of these behaviours.

Material & Method. The research was conducted in the 1st quarter of 2015 in the group of 110 patients aged over 60 years who used medical services of the Clinical University Hospital in Olsztyn. To determine the variables a self-constructed questionnaire and Health Behaviour Inventory (HBI) by Z. Juczyński were used.

Results. In the researched group, the general ratio of health behaviour intensity ranged from 31 to 119 points, and its mean value reached 79.85±20.77 with the median of 79. After transforming into sten units, the results within the range of 1-4 sten (low) were scored by 43% of the subjects, 7-10 sten (high) were scored by 39% whereas the results of 5-6 sten were interpreted as average and were obtained by 18% of the subjects. The analysis has shown that the variables such as age, education, socio-occupational activity and material situation of the subjects had a statistically significant impact on formation of health behaviours in the category of proper eating habits, health behaviours and health practices. Education and socio-occupational status of the subjects determined their health behaviours in the category of positive mental attitude.

Conclusion. The intensity of health behaviours in the researched group may be evaluated as average. The individuals aged over 71years as well as those with higher education and retired had a greater intensity of health behaviours in the group of subjects.

Key words: *health, health behaviours, the elderly*

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Adres do korespondencji / Address for correspondence
dr n. med. Ewa Kupcewicz
Olsztyńska Szkoła Wyższa im. Józefa Rusieckiego
ul. Bydgoska 33, 10-243 Olsztyn
tel. 69 607 67 64, e-mail: ekupcewicz@wp.pl

Introduction

Literature presents numerous definitions and classifications of health behaviours. Gniazdowski had broadly researched health behaviours and indicated they concerned various behaviours connected with the sphere of health, i.e. such behaviours which "in the light of current medical knowledge usually evoke certain (positive or negative) health effects" [1, 2]. Woynarowska claims that two criteria for division of health behaviours are useful in terms of practical use. The first criterion refers to the status of one's awareness and the intentionality of their behaviour.

According to this criterion, one may distinguish two behaviour groups: health behaviours and health-related behaviours. The second criterion points to the effects of behaviours oriented towards one's health and distinguishes two behaviour groups: positive pro-health and negative anti-health behaviours, also called auto-destructive [2, 3]. These activities result from free, individual choices and decisions or may be affected by numerous environmental factors. Also, their formation heavily depends on the state of one's awareness [3-5]. Steptoe et al. distinguished the following classes of pro-health behaviours: avoiding stimulants, transport safety, proper eating habits, positive health practices and preventive actions [6]. Some authors claim that health behaviours denote any human behaviour (activity) which constitutes an element of their daily life and which strengthens and increases their health potential. These activities result from free, individual choices and decisions. Health-related behaviours tend to be referred to as habits or reactions to a particular situation [1, 7]. As stated by Juczyński "in human activity aimed at health one may distinguish health behaviours which take on the form of a habit or intentional pro-health activities. Health habits are a consequence of the process of socialization and cultural influences. On the other hand, pro-health activities are initiated in particular situations related to promotional or preventive actions" [8].

The most important factor which determines health condition of an individual as well as of the whole population is lifestyle understood as a group of pro-health behaviours and attitudes which are influenced, modified and limited by the psycho-social environment [7]. Changes in lifestyle occur during one's lifetime and depend on numerous factors, such as age, gender, personality traits, health status, social roles as well as varied environmental factors [2, 7]. In this paper the question under investigation is: "Is there diversification with respect to evaluation and choice of health behaviours among individuals over 60 years of age? Also, to what extent do the selected sociodemographic factors determine the choice of these behaviours?".

Aim

The determination of health behaviours of individuals aged over 60 years and the evaluation of the impact of selected sociodemographic factors based on selection of these behaviours.

Material and method

The research was conducted in the first quarter of 2015 in the group of 110 patients aged over 60 years who used medical services of the Clinical University Hospital in Olsztyn. To determine the variables, a self-constructed questionnaire which included questions regarding basic sociodemographic data (i.e. gender, age, marital status, education, occupational activity and self-evaluation of material status) was used. The Health Behaviour Inventory (HBI) constructed by Z. Juczyński was aimed at evaluating health-related behaviours and comprised 24 statements referring to various types of such behaviours. The evaluation was focused on health behaviours from the past year. The subject was to indicate the frequency of performing health-related activities by evaluating each of them in the Health Behaviour Inventory on the five-level Likert scale (1 – never, 2 – rarely, 3 – from time to time, 4 – often, 5 – most of the time). While interpreting the results the general intensity of pro-health behaviours and the degree of intensity of four behaviour categories was determined , i.e. proper eating habits, preventive behaviours, health practices and positive mental attitude. The total ratio of health behaviour intensity ranged from 24 to 120 points. The higher was the score, the greater was the intensity of declared health behaviours. Internal consistency of the Health Behaviour Inventory, established on the basis of alfa Cronbach, reached 0.85 for the whole Inventory whereas for its subscales it ranged from 0.60 to 0.65 [8]. The statistical analysis was performed with the use of computer software Statistica 10 PL. To evaluate the diversification of mean values of researched characteristics in class variables grouping the patients, the Kruskal-Walis One-Way ANOVA test was used. 5% non sequitur and consequent significance level $p=0.05$ pointing to the occurrence of statistically significant differences or dependencies were assumed in the research.

Results

The research was conducted in a group of 110 subjects, including 66 women (60%) and 44 men (40%). This group was comprised of individuals aged from 60 to 89 years with the mean of 68.55±6.97 years and the median of 67. Those aged from 64 to 70 years constituted the most numerous group (50%). While analysing the distribution of women and men in particular age groups it was observed that this distribution was similar ($\chi^2=2.84$; $p<0.24$) in both groups. A high percentage of the subjects were married (63.64%; n=70), the next group were widowed individuals (18.18%; n=20) and finally 12.73% (n=14) were divorced. The most numerous group, i.e. 48.16% of the subjects (n=53; 40 women and 13 men) had secondary education while 24.55% (n=27) had vocational education. Over a half of them (n=61; 55.45%) were retired and 33.64% (n=37) were occupationally active. As for material circumstances, 40% (n=44) of the subjects evaluated it as good whereas 37.27% (n=41)

claimed that it was satisfactory. When aging, there is an increased incidence and prevalence of diseases. The most frequently reported illnesses among the subjects were: arterial hypertension 37.27% (n=41), diabetes 23.64% (n=26), ischaemic heart disease 20% (n=22) and cancer 18.18% (n=20).

The analysis included the frequency of particular behaviours reported by patients and, as a result, general intensity of pro-health behaviours was determined. As shown in Table I, the general ratio of health behaviour increase among the subjects ranged from 31 to 119 points, and its mean value reached 79.85±20.77 with the median of 79.

The statistical analysis has shown that the evaluation of intensity of four categories denoting various health behaviours in the researched group was varied. The highest ratio of intensity was observed in the category of positive mental attitude (3.61±0.79), next proper eating habits (3.24±1.03) and finally preventive behaviours (3.23±1.12) and health practices (3.22±1.02). The general ratio of health behaviour intensity after transforming into standardized units into the sten scale ranged from 1 to 10 and its mean value reached 5.51±2.73 sten and the median of 6. The scores within 1-4 sten were assumed as low and constituted quite a high percentage, i.e. 43% (n=47) of the subjects. The scores ranging from 7 to 10 sten were evaluated as high and concerned 39% (n=43) of the subjects, whereas lower scores, i.e. 5 and 6 sten were observed as average and obtained by 18% (n=20) of the subjects.

Further part of the paper aims at evaluating the degree of intensity of four behaviour categories, such as: proper eating habits, preventive behaviours, health practices and positive mental attitude. The impact of selected sociodemographic variables on the intensity of health behaviours in particular categories was determined with the use of Kruskal-Walis One-Way ANOVA test (for numerous groups of independent variables). Table II shows detailed results produced by the comparison of mean scores of behaviour intensity for four categories of health behaviours within the groups of sociodemographic factors.

Below there are detailed analyses for particular categories of health behaviours.

Table I. Descriptive statistics for general ratio of increased health behaviours
Tabela I. Statystyki opisowe dla ogólnego wskaźnika nasilenia zachowań zdrowotnych

Health Behaviour Inventory (HBI) – general ratio of increased health behaviours /Inwentarz Zachowań Zdrowotnych – ogólny wskaźnik nasilenia zachowań zdrowotnych		
Descriptive statistics /Statystyki opisowe	Point scale /Skala punktowa (24-120)	Sten scale /Skala stenowa (1-10)
N	110	110
M	79.85	5.51
SD	20.77	2.73
Me	79	6
Min	31	1
Max	119	10
Max-Min	88	9

Healthy eating habits

The analysis of statistical results has shown that the variables, i.e. age, education, occupational activity and self-evaluation of financial situation had an impact on the intensity of health behaviours acknowledged as proper eating habits which essentially include the type of consumed goods (for instance: vegetables and fruit, wholemeal bread, avoiding preserved, salty food, reducing consumption of animal fats and sugar) [8]. The age of subjects was statistically significant (p=0.02) to the intensity level of healthy eating habits. Detailed analyses were conducted in order to determine the occurrence of statistically significant differences between the groups.

The analysis showed that elderly individuals, aged 71 to 80 years had a higher level of the intensity (p=0.02) than those aged 60-70 years who often were still occupationally active. Further results indicate that education was also a statistically significant factor (p=0.0005) which determined the intensity of health behaviours. This variable impact was thoroughly analysed so as to verify which level of education had a significant influence on the diversification of results in the category of proper eating habits. In the course of this analysis it was concluded that individuals with secondary education had greater intensity (p=0.003) of the ratio of healthy eating habits than those with primary education. Moreover, this impact was statistically more significant (p=0.008) than among the individuals with vocational education.

The socio-occupational status (p=0.00001) and material situation p=0.0001) of individuals aged over 60 years determined the intensity ratio of proper eating habits. Also, the analyses helped to establish among which groups the differences were statistically significant. The retired had a significantly higher ratio of behaviour intensity than the occupationally active individuals (p=0.00001).

On the other hand, the results indicate that the subjects who evaluated their own financial condition as good had a higher ratio in contrast to those whose situation was not good (p=0.0001). Also, those who claimed to have satisfactory financial situation had a significantly higher intensity ratio of proper eating habits over those whose situation was not good (p=0.01).

Table II. Comparison of mean scores of behaviour intensity within groups of sociodemographic factors
Tabela II. Porównanie średnich wyników nasilenia zachowań zdrowotnych w grupach czynników socjodemograficznych

Sociodemographic variables /Zmienne socjodemograficzne		Categories of health behaviours /Kategorie zachowań zdrowotnych							
		Proper eating habits /Prawidłowe nawyki żywieniowe		Preventive health behaviours /Zachowania profilaktyczne		Positive mental attitude /Pozytywne nastawienie psychiczne		Health practices /Praktyki zdrowotne	
		M	SD	M	SD	M	SD	M	SD
Gender /Płeć	N	H=0.007; p=0.93		H=0.196; p=0.65		H=1.3; p=0.25		H=1.91; p=0.16	
female /kobiety	66	3.22	1.14	3.26	1.16	3.67	0.80	3.31	1.05
male /mężczyźni	44	3.28	0.87	3.19	1.07	3.53	0.77	3.09	0.99
Age (in years) /Wiek (w latach)	N	H=8.39; p=0.02		H=14.98; p=0.0006		H=5.21; p=0.07		H=10.55; p=0.005	
60-70	83	3.09	1.09	3.01	1.11	3.54	0.78	3.05	1.07
71-80	16	3.79	0.59	4.10	0.91	4.02	0.78	3.90	0.61
↑ 80	11	3.61	0.80	3.65	0.69	3.58	0.73	3.56	0.64
Marital status /Stan cywilny	N	H=1.22; p=0.74		H=1.33; p=0.72		H=2.09; p=0.55		H=1.94; p=0.58	
single /kawaler/panna	6	3.19	0.45	3.67	0.39	3.44	0.60	3.58	1.17
married /żonaty/zamężna	70	3.15	1.11	3.18	1.17	3.68	0.76	3.15	1.13
widowed /wdowiec/wdowa	20	3.39	0.84	3.37	1.11	3.41	0.76	3.42	0.74
divorced /rozwiedziony/rozwiedziona	14	3.50	1.09	3.12	1.16	3.63	1.04	3.17	0.72
Education /Wykształcenie	N	H=17.89; p=0.0005		H=13.77; p=0.003		H=22.78; p=0.00001		H=12.69; p=0.005	
primary /podstawowe	12	2.33	1.23	2.78	1.12	3.43	0.94	2.82	1.41
vocational /zasadnicze zawodowe	27	2.87	0.79	2.77	0.89	3.19	0.71	2.79	0.95
secondary /średnie	53	3.62	1.04	3.61	1.19	3.97	0.66	3.58	0.94
higher /wyższe	18	3.31	0.61	3.13	0.87	3.30	0.72	3.08	0.73
Occupational activity /Aktywność zawodowa	N	H=24.89; p=0.00001		H=33.11; p=0.00001		H=10.16; p=0.02		H=31.81; p=0.00001	
working person /osoba zawodowo pracująca	37	2.65	0.99	2.40	0.95	3.28	0.76	2.43	0.97
retired /emeryt	61	3.69	0.77	3.74	0.90	3.80	0.72	3.65	0.75
pensioner /rencista	8	2.87	1.36	3.38	1.19	3.67	1.11	3.71	1.03
homemaker /osoba prowadząca gospodarstwo domowe	4	2.63	1.26	2.92	1.13	3.71	0.53	3.00	1.05
Material status /Sytuacja materialno-bytowa	N	H=23.95; p=0.0001		H=9.73; p=0.05		H=5.57; p=0.23		H=9.33; p=0.05	
very good /bardzo dobra	7	3.02	0.69	2.93	0.91	3.50	0.82	2.88	1.23
good /dobra	44	3.67	0.79	3.50	1.04	3.71	0.80	3.58	0.73
satisfactory /dostateczna	41	3.28	1.10	3.29	1.24	3.68	0.76	3.11	1.11
not good /słaba	15	2.20	0.80	2.54	0.78	3.37	0.73	2.71	1.09
unsatisfactory /bardzo słaba	3	2.22	1.06	2.72	1.36	2.72	0.79	2.89	1.55

Preventive health behaviours

The analysis showed that formation of proper preventive behaviours, which included compliance with health recommendations, avoiding catching colds and gaining information regarding health and illness [8], was determined by such factors as: age, education, occupational activity and financial status of the subjects. The age of subjects had great impact on the intensity ratio of proper preventive behaviours (p=0.0006). This variable was thoroughly analysed so as to verify in which age group the diversification of results in the category of proper preventive behaviours was statistically significant. The results led to the conclusion that individuals aged 71-80 years had a significantly greater intensity of preventive behaviours than those aged 60-70 years (p=0.001).

Education of the subjects is another variable differentiating the intensity ratio of proper preventive behaviours on the significance level p=0.003. The results of the analysis showed that among the individuals with secondary education this intensity ratio was higher than among the people with vocational education (p=0.005).

The variable referring to socio-occupational activity of the subjects had a statistically significant impact on the ratio of behaviour intensity (p=0.00001). Also, the retired had a significantly higher ratio of behaviour intensity than the occupationally active individuals (p=0.0000001).

The results indicate that the variable regarding material situation of the individuals aged over 60 had a significant impact on the ratio of preventive behaviour intensity (p=0.05). The subjects who evaluated their own situation as good had a significantly higher level of proper preventive behaviours than those with worse financial status (p=0.04).

Positive mental attitude

Another key issue in the analysis of particular categories of health behaviours was to determine the intensity of positive mental attitude. The psychological dimension in health perspective becomes essential with respect to the influence of psycho-social factors on one's behaviour and lifestyle. The category of health behaviours which concerned positive mental attitude includes such aspects of health behaviours as psychological factors, i.e. avoiding strong emotions, stress, tension, anger and fear or situations which might be depressing [8]. The analysis of data presented in Table II shows that the intensity of positive mental attitude is significantly determined statistically by education of the subjects (p=0.003) and their occupational activity (p=0.02). The individuals with secondary education had a significantly higher ratio level of positive mental attitude than those with primary education (p=0.0002). Also, their intensity ratio was higher than among those with higher education (p=0.003). Moreover, it was also observed that the retired had a significantly higher intensity of positive mental attitude than the individuals who were occupationally active (p=0.01).

Health practices

The research results regarding health practices which include such aspects as daily habits with respect to rest and sleep, body weight control, avoiding smoking [8] indicate that they are determined by: age, education, occupational activity and material situation. The age of subjects had a great impact on the intensity ratio of health practices (p=0.005). The results led to the conclusion that the individuals aged 71-80 years had a significantly greater intensity level of health practices than those aged 60-70 years (p=0.004).

The results of the research material indicate that education of the subjects determines the intensity level of health practices (p=0.005). The individuals with secondary education had a significantly higher intensity of health practices than those with vocational education (p=0.01).

Another variable which was statistically significant (p=0.00001) in determining the intensity ratio was related to socio-occupational activity of the subjects. The retired also had a significantly higher level of intensity of health practices than the occupationally active individuals (p=0.0000003). Similar results were observed among pensioners whose intensity ratio was higher than in those who were occupationally active (p=0.01).

According to the analysis, material situation of the subjects significantly (p=0.02) determined the intensity level of health practices. It was observed that the individuals evaluating their financial situation as good had a significantly higher intensity ratio of health behaviours than those with an unsatisfactory one (p=0.02).

The analysis of data shows that there was no significant impact of variables such as gender, marital status and place of residence on health behaviours in all four categories. Additionally, age and financial situation did not affect positive mental attitude of the subjects.

Discussion

This paper aimed at presenting the issue of health behaviours in a group of individuals aged over 60 years and the impact of selected sociodemographic variables on the selection of these behaviours. In the course of research it was concluded that the general intensity ratio of health behaviours ranged from 31 to 119 points, its mean value reached 79.85 and was slightly lower than the results of the control group (81.82) [8]. Similar research in a group of 110 subjects aged over 60 years was conducted in the Chair and Clinic of Geriatrics in Bydgoszcz in 2012. The ratio of health behaviours for the whole group reached 83.2 (83.41 for women and 82.96 for men) [9]. In other research performed by Smoleń et al. in a group of 88 individuals aged 60-81years, who were students of the University of the Third Age at the Jan Grodek State Vocational Academy in Sanok, the mean value of the intensity rate was 88.39 [10]. On the other hand, in the research of Kurowska and Szomszor, the mean value of health behaviours in a group of elderly subjects with diagnosed type 2 diabetes was significantly higher than in our own research and equalled 92.92 [11]. The authors of the aforementioned research transformed raw results into standardized units in the sten scale. It was observed that scores within 1-4 sten (considered as low) constituted quite a high percentage, i.e. 43% (n=47) of the whole group of subjects. The scores ranging from 7 to 10 sten were evaluated as high and concerned 39% (n=43) of the subjects, whereas lower scores, i.e. 5 and 6 sten, were observed as average and reached 18% (n=20). Also, in the research of Smoleń et al. the distribution of the results was different, i.e. low intensity of health behaviours was observed in 17.1% of the subjects, average scores were obtained by 39.7% whereas high scores concerned 43.2% of the total of subjects [10]. In the research of Fischer, Kupcewicz et al. in a group of 229 patients on the level of basic health care, the mean ratio of behaviour intensity reached 82.02±15.8, and in the sten units 29% of the subjects obtained low scores, 41% average and 30% high scores[12].

On the basis of our own results it was concluded that variables such as age, education, socio-occupational activity and material circumstances of the subjects had a statistically significant impact on formation of health behaviours in the category of proper eating habits, health behaviours and health practices. Two independent variables connected with education and socio-occupational status of the subjects determined health behaviours in the category of positive mental attitude. Zadworna-Cieślak and Ogińska-Bulik conducted research on health behaviours in a group of 130 elderly individuals, among whom 70 were completely healthy (participants of the University of the Third Age) and 60 with cardiovascular diseases, hospitalized after a stroke or a heart attack. Their results indicated that these subjects manifested a higher than the average level of health behaviours (89.85±13.69). The choice of behaviour was related to gender and health condition. As compared to men and healthy individuals, women and people with cardiovascular diseases showed more pro-health behaviours [13].

The study of Guszkowska and Kozdroń conducted among elderly women revealed that regular physical activity significantly lowered their feeling of fear [14]. On the other hand, Scottish scientists discovered an association between human physical activity and psychological well-being. Their research, which was conducted in a group of almost 20 thousand people, had shown that even light physical activity (household chores, gardening or a short walk) greatly lowered the level of stress and fear [15]. Other research has confirmed that moderate physical activity prevents cardiovascular diseases, reduces cholesterol and stabilizes lipids, which in turn lowers the risk of developing arteriosclerosis and reduces blood pressure [16, 17]. The research results also confirm that insufficient amount of sleep may lead to obesity and hypertension [18].

In conclusion it should be stated that the research and considerations presented in the paper do not fully cover the issue of health behaviours of the elderly. However, they provide meaningful data and insights into the matter which can be implemented in practice while planning and organizing health care for elderly patients aged over 60 years. In particular, these considerations will be very useful in organizing the schedule of therapeutic groups on the level of basic health care.

Conclusion

1. The mean ratio of intensity of health behaviours in the group of subjects aged over 60 years was average, yet lower than in the control group.
2. The highest ratio of intensity of health behaviours was observed in the category of positive mental attitude whereas the lowest in the group of health practices.
3. People aged over 71 years as well as those well-educated and retired presented an increased number of health behaviours.
4. The research results suggest the necessity to undertake actions for health education of the elderly, which should be realized by various institutions as well as informal support groups.

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