ORIGINAL PAPER

PROBLEMY PIELĘGNIARSTWA 2018; 26 (3): 204–209

Health behaviours of the elderly in rural and urban environments, receiving treatment at Primary Health Care facilities

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SUBMITTED: 4.08.2018
ACCEPTED: 5.09.2018
DOI: https://doi.org/10.5114/ppiel.2018.80810

ABSTRACT

Introduction: The aging of the population receiving treatment in primary health care has resulted in the search for new solutions through health promotion and health education, to show that at every age changing one's lifestyle to include health behaviours affecting the health maintenance and strengthening is possible.

The aim of the study was to investigate the health behaviours of the elderly in urban and rural environments receiving treatment at primary health care facilities.

Material and methods: 301 respondents took part in the study: 67.4% (n = 204) females, 32.6% (n = 97) males; average age: 75.14 ±8.31 years (min = 60, max = 102); 184 patients (61.1%) from urban and 117 (38.9%) from rural environments. A diagnostic survey method with standardised research tool was used: *Health Behaviour Inventory* (HBI).

Results: The overall rate of health behaviours of urban residents was higher, compared to the rural ones, achieving average or high results. The overall rate of health behaviour HBI (rHO = 0.19; $p < 0.01$), healthy eating habits (rHO = 0.16; $p < 0.05$), preventive behaviours (rHO = 0.17; $p < 0.05$), and health practices (rHO = 0.179; $p < 0.05$) all increased with age. The analysis showed that rural residents obtained higher scores in positive mental attitude $t(194.12) = 1.72$; $p = 0.045$. Females more often obtained better results in healthy eating habits χ^2 (1) = 15.79; $p < 0.001$, positive mental attitude χ^2 (1) = 9.88; $p < 0.01$, and used health practices χ^2 (1) = 9.51; $p < 0.01$.

Health behaviours of the elderly population from urban environments were at high and average level and increased with age. Rural respondents obtained higher results only in positive mental attitude. Sex was a predictor affecting the overall rate and all categories: healthy eating habits, positive mental attitude, and use of health practices.

Key words: health behaviours, old age, village, city.

INTRODUCTION

Experts of the World Health Organisation classified elderliness as a period of old, senile age, conventionally starting from the age of 65 years [1]. This age is associated with the process of aging of the body, and it is burdened with the risk of health worsening and lower quality of life. Therefore, elderliness implies the need for a reorientation of life, which includes finding new values and goals. The goal is to search for new solutions to improve health and strengthen this potential. It is favoured by health behaviours that, also in the population of the elderly, have been recognised as a factor affecting health maintenance and strengthening.

Health behaviours are understood primarily as any activity undertaken by a healthy person (in their conviction) to prevent illness or detect the symptomatic stage. In other words, health behaviour is any action both conscious (implemented by a person alone or with professional help) and unconscious (routines, habits) [2-4]. From that point of view, health is a value that may be obtained over the course of our entire lives, which is consistent with the concepts of Marc Lalonde, who announced in his report that the lifestyle of 53% determines the maintenance of health [4, 5].

This thesis in the context of aging of the population and the process of so-called geriatrisation of primary health care is gaining importance, and above all it causes a growing demand for qualified nursing care.

This is connected with the help of nurses in identifying and creating conditions for a healthy and active life of the elderly in their place of residence.

AIM OF THE STUDY

The aim of the study was to investigate the health behaviours of the elderly in urban and rural environments, receiving treatment at primary health care facilities.

MATERIAL AND METHODS

The study included 301 respondents, of whom 67.4% (n = 204) were females and 32.6% (n = 97) were males, all from the Małopolskie voivodeship. The average age of the respondents was 75.14 ±8.31 years (min – 60, max – 102). 61.1% (n = 184 patients) came from urban environments, and 38.9% (n = 117) from rural environments. Most often these were people with elementary (32.9%) and secondary (29.9%) education, and the smallest group consisted of respondents with higher education (15.0 %). Most of them were pensioners (86.4%). Almost half of them were married, while 40% were widows and widowers. 77% of the respondents lived with their families, and 22.3% of them were single.

The respondents were informed about the research and their anonymity. Handing in the completed questionnaire meant consent to the study. The study was conducted both in a group of people from rural environments (from a non-public health care facility by a family doctor in Raba Niżna) and from urban background (in a non-public health care facility "Florencja" in Krakow and in a nurse-obstetrical care facility "Troska" in Krakow) while receiving primary health care treatment in the place of their residence. Interviews with the use of a questionnaire were carried out by primary health care nurses employed in the abovementioned institutions in the year 2017. A diagnostic survey method with standardised research tool – the *Health Behaviour Inventory* (BHI) by Z. Juszczyński – was used in the study. It investigates four categories (domains) of health behaviours such as healthy eating habits, preventive behaviours, positive mental attitude, and health practices.

The mean number of points in each category were counted. The overall score (index) of intensification of health behaviours is between 24 and 120 points. The higher the score, the greater the intensification of the declared health behaviours. The overall score was converted into units of standardised sten scales. Results of 1-4 stens are regarded as low, the results 5-6 stens as average, but the results 7-10 stens are regarded as high [6].

Quantitative and qualitative analysis of the collected research material was carried out using a computer statistical package IBM SPSS version 20.0 and Microsoft Excel. The following statistical methods were used: statistical description of data (arithmetic mean, median, and standard deviation – SD), Student's t-test (for independent samples), correlation analysis by Spearman, and chi square test of independence by Pearson (rp). The hypotheses were verified at a significance level of p = 0.05 [7].

RESULTS

The health behaviours of the majority of respondents were at high and average (45.2% vs. 41.8%) level. Only 13% of the surveyed health behaviours were low. The overall rate of health behaviours of urban residents was higher than those of rural residents (they were, respectively, 88.19 ±14.9 vs. 86.80 ±9). The analysis revealed a significant correlation between place of residence and the general rate of health behaviours BHI χ^2 (2) = 6.36; $p < 0.05$; the strength of the relationship was weak (V Cramer was 0.15). The respondents from urban environment achieved average and high results more often than did the respondents living in rural areas (Table 1).

The analysis showed a statistically significant difference between rural and urban areas in terms of a positive mental attitude t(194.12) = 1.72; p = 0.045.

Table 1. Overall rate of health behaviours BHI in terms of place of residence

Responses	Respondents					
	Urban environment		Rural environment		Altogether	
	n = 184	%	n = 117	%	n = 301	%
low	19	10.4	20	17.1	**39**	**13.0**
average	87	47.3	39	33.3	**126**	**41.8**
high	78	42.3	58	49.6	**136**	**45.2**
Altogether	**184**	**100**	**117**	**100**	**35**	**100**
χ^2(6.38, df = 2) = 0.53; p = 0.042, V Cramer = 0.15						
Raw score [pts] – BHI rate	88.19 ±14.73		88.19 ±14.73		**87.5 ±11.9**	
Sten (by Z. Juczyński) [6]	6.09 ±1.33		6.09 ±1.33		6.15 ±1.8	

Table 2. Domains of health behaviours

		Mean	Standard deviation	Standard error of mean
Healthy eating habits	Urban area	3.45	0.53	0.04
	Rural area	3.54	0.76	0.07
Preventive behaviours	Urban area	3.77	0.55	0.04
	Rural area	3.66	0.74	0.07
Positive mental attitude	Urban area	3.59	0.49	0.04
	Rural area	3.75	0.67	0.06
Health practices	Urban area	3.81	0.49	0.04
	Rural area	3.77	0.72	0.07

Table 3. Correlation between demographic varieties and health behaviours of the respondents (from urban and rural environments)

Parameter	Pearson's χ^2	df	Significance	V Cramer
BHI sten classification	4.45	2	0.108	0.12
Healthy eating habits classification	15.79	1	0.000	0.23
Preventive behaviours classification	2.32	1	0.127	0.09
Positive mental attitude classification	9.88	1	0.002	0.18
Health practices classification	9.51	1	0.002	0.18

The respondents from rural backgrounds had higher levels of positive mental attitude than respondents from urban environments (Table 2).

The analysis showed significant correlation between sex and healthy eating habits χ^2 (1) = 15.79; $p < 0.001$; the strength of the relationship was weak (V Cramer was 0.23). Females had more normal eating habits than males. Further analysis showed a significant correlation between sex and positive mental attitude χ^2 (1) = 9.88; $p < 0.01$; the strength of the relationship was weak (measure of V Cramer was 0.18). Again, females had a positive mental attitude more often than did males. Also, a significant relationship between sex and health practices χ^2 (1) = 9.51; $p < 0.01$ was proven; the strength of the relationship was weak (V Cramer was 0.18). The analysis showed that females used health practices more often than did males (Table 3).

In the group of the respondents from urban backgrounds the overall rate of health behaviours BHI (rho = 0.19; $p < 0.01$) increased with age, and the results in the remaining three domains showed the same tendency: healthy eating habits rho = 0.16; $p < 0.05$, preventive behaviours rho = 0.17; $p < 0.05$, and health practices rho = 0.179; $p < 0.05$. Further analysis showed that the male population from urban backgrounds had lower results in the overall rate of health behaviours BHI rho = –0.14; $p = 0.051$, and in the other two areas: healthy eating habits rho = –0.17; $p < 0.05$ and preventive behaviours rho = 0.74; $p < 0.05$ (Table 4) the same tendency was observed.

Table 4. Domains of health behaviours

				Overall rate BHI	Healthy eating habits	Preventive behaviours	Positive mental attitude	Health practices
rHO	Urban area	age	Correlation coefficient	**0.192****	**0.158***	**0.173***	0.090	**0.179***
			Significance	**0.009****	**0.033***	**0.019***	0.226	**0.015***
		sex	Correlation coefficient	**–0.144**	**–0.170***	**–0.174***	–0.103	–0.089
			Significance	**0.051**	**0.022***	**0.018***	0.165	0.231

** Correlation significant at the level of 0.05 (bilaterally)*

*** Correlation significant at the level of 0.01 (bilaterally)*

Table 5. Correlation between demographic varieties and health behaviours in four domains for rural population respondents

			Overall rate BHI	Healthy eating habits	Preventive behaviours	Positive mental attitude	Health practices
rHO	age	Correlation coefficient	0.161	0.151	0.062	0.177	0.079
		Significance	0.084	0.106	0.509	0.057	0.402
	sex	Correlation coefficient	**–0.187***	**–0.303****	**–0.192***	**–0.221***	0.015
		Significance	**0.044***	**0.001****	**0.038***	**0.016***	0.876

** Correlation is significant at the level of 0.05 (bilaterally)*

*** Correlation is significant at the level of 0.01 (bilaterally)*

In the group of respondents from rural areas it was shown that males obtained a lower overall score (index of health behaviour) BHI rho = –0.19; $p < 0.05$, and in the three domains: healthy eating habits rho = –0.3; $p < 0.01$, preventive behaviours rho = –0.19; $p < 0.05$, and positive mental attitude rho = –0.22; $p < 0.05$ the tendency was the same. The correlation between these domains was weak (Table 5).

DISCUSSION

A growing number of people over 60 years old in communities forces action in health promotion and health education aimed at maintaining and strengthening health. An extremely important role is played by individual lifestyle because as much as 50% of it determines health. According to the WHO lifestyle is a way of life, which is the sum of individual preferences and patterns of behaviour and living conditions that are determined psychological, socio-economic, and cultural factors [1, 3]. Research shows that at every stage of human life it is possible to change one's lifestyle, although in some objective cases the elderly are less likely to make some changes than younger people because the former have a low sense of control over their lives and low health awareness compared to the latter. In the analysed literature it is emphasised that implementation of such rules as: following healthy diet, physical activity, quitting smoking, and restrictions on alcohol consumption by the elderly prevents the development of various diseases and decrease of efficiency and improves quality of life. However, due to the nature of old age, health programs should be targeted mainly at the preservation and improvement of self-health, both physical and mental, as well as the improvement of human relationships and development of social support [8-10].

In our own study, assessing the level of health behaviours by using BHI standardised tools (*Health Behaviour Inventory*), it was shown that for most respondents the health behaviours were at high and average level, which shows the elderly in a good light. For each category of health behaviours (healthy eating habits, preventive behaviours, mental attitude, health practices) average values were, respectively: 3.49 ±0.64, 3.71 ±0.63, 3.69 ±0.58, 3.79 ±0.61. These results were at higher level of health behaviours compared to the average for adult population [6].

The overall rate of health behaviours (BHI) for urban residents was higher than for rural residents (respectively, 88.19 ±14.9 vs. 86.80 ±9.00). Place of residence was the variable that had an impact on the overall rate of health behaviours; the respondents from urban backgrounds achieved results at average and high levels, while the respondents from rural areas had higher levels of positive mental attitude. An interesting observation is that for the group of patients from urban background the overall rate of health behaviours and performance in the three domains: healthy eating habits, preventive behaviours, and health practices increased with age.

These results are consistent with broadly understood, literature-based preventive gerontology and health promoting carried out by the Universities of the Third Age [9, 11-13]. This is a good example of social support positively affecting health. The studies by Kozieł *et al.* [11] and Dębska *et al.* [12] demonstrated that older people, who are intellectually active (participants of the University of the Third Age), presented higher rates of health behaviours, had healthier eating habits, undertook preventive behaviours, and showed more positive mental attitude compared to the control group. For the majority of participants of the University of the Third Age their health behaviours were at average or high levels. However, in the study by Sygit-Kowalkowska [13] it was demonstrated that a positive mental attitude was one of the four categories of health behaviours that diversifies, belonging to a group of the University of the Third Age and the Social Welfare Centres. The members of the University of the Third Age showed a higher level of positive mental attitude.

Another variable diversifying the level of health behaviours in our study was sex. Males from rural backgrounds had a lower overall rate of health behaviours and in the three areas: healthy eating habits, preventive behaviours, and positive mental attitude the same tendency was observed. Females received higher results in terms of healthy eating habits and positive mental attitude than did males. Females also showed a greater responsibility for their health and often used health practices.

Similar findings were found in the analysed literature by Łepecka-Noodles *et al.* [14], which showed that men aged 45-55 years with higher education living in cities with population up to 100,000 were characterised by higher rates of prevention. In the same group the general indicator of health behaviours was at an average level and the dominant domain was positive mental attitude. Another interesting study was conducted by Zadworna-Cieslak *et al.* [4]. The study showed that seniors adopt more health-promoting behaviours than do young people, and optimism is a key, supportive role to this effect. In the group of younger patients the presence of a number of abnormal eating behaviours, such as frequent consumption of milk or meat, fried food, salt, and sugar was diagnosed with rare intake of vegetables, fruit, fish, and whole-grain cereal products [15].

However, in the study by Sygit-Kowalewska *et al.* [13], age was the factor that diversified the results regarding sleeping habits, recreation, and physical activity. The younger age group obtained lower scores in

these areas. In these same studies correlation between education and health behaviours was found [13]. The higher the level of education of the respondents aged 60 years (residents of Bydgoszcz and Torun) the greater the intensification of the overall rate of health behaviours and positive mental attitude. Also, in the studies by Ślusarska *et al.* [16] and Muszalik *et al.* [17], people with higher education achieved higher overall rates of health behaviours, and in the subscales positive mental attitude and healthy eating habits the same tendency was observed. One of the studies showed that positive mental attitude was lower in a group of single respondents [17].

Studies of the correlation between sex and healthy eating habits have been the subject of much research and do not always have clear results. In some of them females achieved higher scores than males in all categories of health behaviours; however, statistically significant differences were related to eating habits [15-17], while others did not confirm such a link [16]. The European Commission report of 2011 generally assessed the diet of the European male population as inferior to that of the female population [18]. The key factor of this effect may be health awareness, revealed at the disease situation and mainly occurring in the female population compared to the male population [14]. The preliminary nature of the study at this stage can have a practical aspect, used for planning health education for elderly patients receiving treatment at primary health care facilities. Educational activities should be intensified especially in order to improve eating habits in younger age group and to improve positive mental attitude in the population of males living in urban environments.

In this case, optimism can be a factor of great significance. Optimism in the study by Zadworna-Cieślak *et al.* [14] was considered a feature supporting health. These results are consistent with broadly understood literature-based preventive gerontology and health promoting and are an inseparable part of the tasks list of primary health care nurses. These include the provision of health promotion, disease prevention, provision of care, diagnostic, therapeutic, and rehabilitation services in relation to the healthy and the sick in their place of residence. It means that the elderly expect to receive support from a nurse in the creation of conditions for healthy and active life. Therefore, training nurses in motivating elderly patients to change health behaviours [19, 20] is very important. This is connected with the help of nurses in identifying and creating conditions for a healthy and active life of the elderly in their place of residence. It is included in wider geriatric prevention which is preceded by the diagnosis of needs and health problems, aimed at preventing early aging, complicated by diseases.

CONCLUSIONS

Health behaviours in the elderly population living in urban environments were satisfactory, and for most respondents they were at high and average levels and increased with age. The respondents from rural backgrounds obtained higher results in only one category of health behaviours: positive mental attitude. Female sex was a predictor of having a positive impact on the overall rate of health behaviours, and in the other three domains: healthy eating habits, positive mental attitude, and health practices the same tendency was observed.

ACKNOWLEDGEMENT

The study was supported from the Ministry of Science and Higher Education Poland research and development funds within the framework of statutory activities (research task no. WZiNM/DS/5/2017). Manager of the program: Mariola Seń, PhD.

Disclosure

The authors declare no conflict of interest.

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