The influence of health-related lifestyle behaviours on health self-assessment among women over 45 years old living in Krakow

Małgorzata Dziedzic[A,D], Dorota Matuszyk[E,F], Małgorzata Dziubak[C,E], Magdalena Humaj-Grysztar[B]

Department of Rudiments of Nursing, Institute of Nursing and Midwifery, Faculty of Health Sciences, Jagiellonian University Medical College, Cracow, Poland

Authors' contribution:
A. Study design/planning • B. Data collection/entry • C. Data analysis/statistics • D. Data interpretation • E. Preparation of manuscript • F. Literature analysis/search • G. Funds collection

ABSTRACT

Introduction: In light of available knowledge about health determinants, it is known that a person's lifestyle associated with health significantly affects their condition and thus is the main determinant of human health that can be actively controlled. Health self-assessment and quality of life are closely linked with lifestyle.

Aim of the study: The aim of the study was to assess health-related lifestyle behaviours and their influence on health self-assessment among women over 45 years old living in Krakow.

Material and methods: The study was based on the diagnostic survey method with the Healthy Lifestyle Scale made by Corbin et al. as a research tool. To investigate participants' health self-assessment the Polish adaptation of the Nottingham Health Profile (NHP) made by Hunt, McEwan, and McKenna was used.

Results: Healthy lifestyle was associated with higher energy level in comparison to lifestyle classified as unhealthy ($p = 0.0095$), better pain control ($p = 0.0220$), better control of emotional reactions ($p = 0.0011$), and less social isolation ($p = 0.0298$).

Conclusions: The results of the conducted research indicate that behaviours associated with a healthy lifestyle are important determinants of health self-assessment. Women with a healthy lifestyle had significantly better health self-assessment in its almost every domain.

Key words: lifestyle, health behaviours, self-assessment of health.

INTRODUCTION

Lifestyle is commonly believed to be one of the most important factors influencing the health condition. The role of lifestyle is gaining in popularity both in the economic sphere connected with consumption and also in the sphere of health involving the medical system. This trend is followed by changes in the disease structure and development of knowledge connected with chronic diseases, also known as diseases of modern civilisation. Expanding globalisation in our social and economic life brings numerous advantages, but also threats connected with the need to keep up with these changes and the fast pace of life, which impedes the biological adaptation of the human organism. Development of civilisation, industrialisation, urbanisation, and changes in people's everyday routines bring about a rapid increase in the number of factors that cause diseases of modern civilisation and general deterioration of health condition. Lifestyle is the factor that has the biggest impact on human health [1-3]. Human health and its correlation with the surrounding environment can be perceived as a dynamic process, which requires constant adaptation to its developing challenges while, at the same time, maintaining biological balance of the organism. Healthy routines in people's lifestyle ranked very high among the multiple factors that influence human health. In light of the available knowledge about health determinants, it is known that a person's lifestyle associated with health significantly affects their condition and thus is the main determinant of human health that can be actively controlled [4]. Therefore, everyday decisions and behaviours of individuals clearly seem to be the main determinants of their health condition and, consequently, the quality

of their life. Health-related lifestyle behaviours may have both a positive and a negative influence on people who display them. If people's everyday routines include pro-health behaviours, their lifestyle can be defined as a healthy one, which protects, maintains, and expands the health potential. Such a lifestyle is a precious and desirable value, especially because it leads to health, which is also highly desired [5, 6].

The modern definition of health has a multidimensional and multifaceted character. A holistic and simultaneously idealistic approach to health resulted from the definition that was created by the World Health Organization in 1948, and it still retains its popularity. The idea of health created in this definition involves a huge change in its perception because health is not merely perceived as the absence of disease or infirmity but also as physical, mental, and social functioning of the organism, which seems a far more constructive approach. A holistic attitude to health assumes that health depends on several interconnected factors. These components include physical, mental, and social health. Such a holistic attitude is also characterised by a positive outlook and a subjective perception of health.

The factors that determine pro-health behaviours in people's lifestyle and have a significant impact on maintaining health and life expectancy include proper nutrition, physical activity, proper quality and length of sleep, avoiding stress and coping with stress, safe behaviours in everyday life (traffic and work safety), safe sexual behaviours, being a non-smoker, limiting alcohol consumption, limiting intake of psychoactive substances and medicines that are not prescribed by a doctor, health self-control and self-examination, and personal hygiene. Pro-health behaviours in people's lifestyle are also determined by intermediary variables such as gender, age, current health condition, financial status, education, profession, level of culture, level of health culture, value system, family stability and social support, individual and character features, or pursuing explicit aims [5-7]. It should be emphasised that the frequency of pro-health behaviours is responsible for their beneficial or destructive impact on health.

In the case of women aged 45 years or over, who enter a transitional period between reproduction and the beginning of the aging process, climacteric hormonal changes bring about numerous negative metabolic and atrophic changes in tissues, which may lead to numerous diseases and declining quality of life.

Neurovegetative and psychoemotional symptoms have a particularly severe impact on everyday functioning [8, 9].

The postmenopausal period is also connected with a higher incidence of cancer, attacking especially reproductive organs or breasts. The menopausal period and aging involve also changes in family and social life. During this period grown up children leave home, which changes the woman's role of a wife and mother. It is frequently accompanied by a decrease in self-esteem and fear of diseases or oncoming old age. Because of these and other negative emotions inherently connected with climacterium and aging, the quality of life and subjective health assessment decrease significantly [8-12].

Health perception, closely linked with one's lifestyle, is the main determinant of quality of life. While examining a subjective health-assessment three domains of functioning should be taken into consideration: physical, mental, and social. The first domain includes: the assessment of disease symptoms, mobility limitations, the range of everyday routines, and general level of energy. The mental aspect of the research involves respondents' cognitive and emotional functioning. The social domain of the subjective health-assessment refers to the range of professional, family, and social roles as well as relationships with other people [13-16]. These indicators show the level of adaptation to a new life situation determined by its earlier and current stages. Health self-assessment is an important element of quality of life and is considered to be an important standard for assessing health condition.

The postmenopausal and later period can be experienced as positive (mild) aging thanks to health-related behaviours that influence the health condition and its self-assessment.

The aim of the study was to assess the role of health-related behaviours in the lifestyle of women over 45 years old living in Krakow and the influence of these behaviours on health self-assessment in these women.

MATERIAL AND METHODS

The study was based on a diagnostic survey method with the application of standardised tools. The Healthy Lifestyle Scale designed by Corbin *et al.* was used to collect the data for assessing healthy lifestyle in women. This scale allows the assessment of the role of particular behaviours classified as healthy or unhealthy from the perspective of their effects on health [17]. Particular behaviours examined in the questionnaire were classified into 11 categories of lifestyle behaviours. The ones with the most important role included: physical activity, nutrition, stress control, and refraining from unhealthy habits. The aforementioned categories were examined according to 0-4 score scales. Obtaining scores of 3 or 4 meant that a given category was classified as a positive one in the respondent's lifestyle. The study applied also a Polish adaptation of the Nottingham Health Profile (NHP) designed by British researchers Hunt, McEwan, and McKenn in 1987. Its Polish version was developed by

Wrześniewski [18]. The scale consists of 38 statements belonging to six dimensions (domains) defining the subjective health condition. They refer to sense of vitality, pain, emotional reactions, sleep disorders, social isolation/alienation, and mobility limitations. According to a special key, the questions are linked to particular domains. The results are calculated taking into consideration the number of positive responses for a particular domain, and the values of particular numbers are summed. The total score in each domain may reach 100. Then the total score is subtracted from 100, and the result is divided by 100, which consequently gives a number ranging from 0 to 1, where 0 means the most unfavourable health condition and 1 means general well-being.

The questionnaire was sent by post to randomly selected respondents. A total of 453 correctly completed questionnaires were qualified for an analysis. The study was conducted after receiving a positive opinion of the Bioethics Committee No. KBET/28/B/2014 on 27 February 2014.

A statistical analysis was conducted with the application of Statistica 10 PL software (developed by StatSoft). Descriptive statistics were calculated including: the mean, standard deviation, median, or minimum and maximum value. Chi-square test was applied for quality variables in order to detect the incidence of any differences.

Particular examined elements were interpreted separately, and then the influence of particular lifestyle behaviours on health self-assessment was analysed.

RESULTS

In an analysis of respondents' lifestyle, the percentage of examined women who decided to adopt positive behaviours in particular categories included in the examined lifestyle was assessed. The first analysed area of lifestyle, which turned out to be physical activity, recommended by the WHO was undertaken by 30.2% ($n = 137$) of respondents. The study assumed that physical activity can be considered beneficial if woman participate regularly in at least three out of four recommended activities:
- exercise increasing the heart rate at least three days a week for 20 minutes;
- stretching exercise at least three times a week;
- exercise improving muscle strength at least three times a week;
- physical activity such as brisk walking, climbing the stairs, gardening, or housework 30 minutes a day on most days.

As many as 35.5% of examined women declared that they follow proper nutritional recommendations, which allows the qualification of their eating habits as healthy. It meant that they ate at least three regular meals a day choosing food products according to the rules of the food pyramid, limiting at the same time the amount of fat in their diet and taking care of the proper calorific value of their diet corresponding to their organisms' needs.

Almost a half of the women 49.4% ($n = 224$) claimed that they can control stress thanks to skilful recognition of stressful situations, and finding time to relax, for enjoyable activities, and for activities that help to release tension.

As many as 60.9% ($n = 276$) of respondents reported that they refrain from harmful habits such as tobacco addiction, alcohol abuse, or overusing medicines including those available without prescription. 41.5% ($n = 188$) of women declared they knew how to administer first aid, including the Heimlich manoeuvre, because they had been trained how to do it. Healthy habits such as a proper amount of sleep or brushing their teeth were reported in 49.2% ($n = 223$) of respondents, whereas 64.9% ($n = 294$) declared that they followed their doctor's advice. The rules of safe sex were confirmed to be applied by 61.6% of the examined women. They declared that they refrained from having unprotected sex or that they had one permanent sexual partner and took precautions protecting them against sexually transmitted diseases. As many as 82.1% ($n = 372$) of respondents reported that they follow safety regulation such as fastening their seatbelts while driving, sticking to the speed limit, or having and controlling smoke detectors in their flats. 87.6% ($n = 397$) of respondents declared that they care about the natural environment through proper waste segregation, saving energy, and not littering (Figure 1).

In six out of all examined lifestyle categories the level of positive behaviours reached over 50% and in two of them (developing safe habits and environment protection) healthy behaviours turned out to be dominant. Unfortunately, physical activity and proper nutrition, which have an enormous impact on human health, turned out to be on quite a low level among the examined women.

Results allowing qualification of their lifestyle as good were obtained by 9.5% of the 453 examined women. The results comprise the general participation of positive behaviours in all examined categories of lifestyle.

Analysis of health self-assessment in women

The most frequent problems reported by women included sleep disorders, reaching the score of 0.70, and vitality disorders, reaching the score of 0.74. The group was not affected by social isolation – the general assessment of this domain reached 0.90, which was the highest score in health assessment in particular
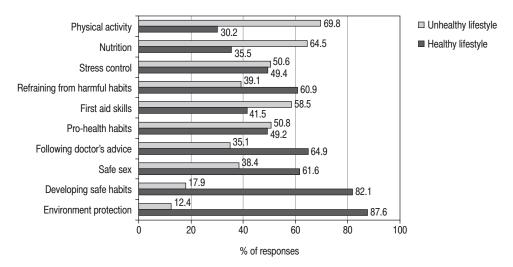
Figure 1. Distribution of participation of healthy and unhealthy behaviours in particular categories of examined lifestyles
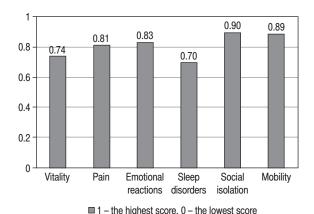

Figure 2. The scores of Nottingham Health Profile for the whole examined group of women

domains. Also, mobility was assessed very well, reaching 0.89. Women assessed their emotional reactions as very high, at 0.83, and pain experience was not very common – the score in this domain reached 0.80 (Figure 2).

Correlation between women's health self-assessment and lifestyle

An analysis of the correlation between lifestyle and health self-assessment proved that in women leading a healthy lifestyle their health self-assessment was higher in four out of six examined domains. Vitality was higher in women leading a healthy lifestyle, reaching the level of 0.85 ±0.29, as compared to those who do not lead a healthy lifestyle – 0.73 ±0.32 ($p = 0.0095$).

Healthy lifestyle allows for better pain control – its level was assessed at 0.89 ±0.20, whereas in the group leading an unhealthy lifestyle the value was 0.80 ±0.26 ($p = 0.0220$).

Negative emotional reactions are also more common in women who do not lead a healthy lifestyle 0.82 ±0.22, whereas in the case of women leading a healthy lifestyle the values reached 0.92 ±0.18 ($p = 0.0011$).

The women with a healthy lifestyle very rarely experienced social isolation, indicated by the assessment reaching the value of 0.97 ±0.16, which is higher than in the group of women not leading a healthy lifestyle – 0.89 ±0.22 ($p = 0.0298$) (Table 1).

No statistically significant differences were found between these two groups of women as far as their assessment of sleep disorders and mobility was concerned.

Correlation between women's health self-assessment and their behaviours connected with unhealthy habits

Depending on the type of undertaken behaviours in the examined lifestyle, the health assessment was found to vary a lot. The study presents only statistically significant differences.

Physical activity is an essential aspect of healthy lifestyle, and it has an impact on the subjective level of vitality in the examined categories of health self-assessment. Women who maintain proper physical activity are characterised by higher levels of vitality – 0.80 ±0.31, as compared to those who do not undertake the recommended amount of physical activity – 0.71 ±0.32 ($p = 0.0042$).

Another key determinant of a healthy lifestyle, proper nutrition, was found to have an impact on the assessment of emotional reactions. Women who did not adhere to the rules of proper nutrition were more likely to experience negative emotional reactions (0.82 ±0.22), as compared to those who followed a healthy diet (0.86 ±0.22, $p = 0.0310$).

Vitality was higher in women who possessed the skills to control stress, in comparison with the respondents who did not have such skills. The average value of the level of subjective vitality reached 0.77 ±0.33 in women who were able to control stress, whereas in those who failed to deal with stress it was 0.71 ±0.31. The level of statistical significance was $p = 0.0069$. Also, a statistically significant correlation ($p = 0.0009$) was observed in the assessment of emotional reactions between the women who could control stress and those who could not cope with stressful situations. The average value of the assessment of emotional reactions reached 0.87 ±0.19 in the group that could control stress and 0.79 ±0.24 in the one that could not.

Refraining from harmful habits differentiates in a statistically significant way three domains of women's health self-assessment: assessment of experienced pain, emotional reactions, and sleep disorders.

In the group of women who refrained from harmful habits lower assessment of pain was observed with the average value of 0.83 ±0.25, whereas in the case of women who did not refrain from harmful habits the average value was 0.79 ±0.87 ($p = 0.0470$). Negative emotional reactions were more common in the group of respondents who did not refrain from harmful habits, with the average assessment value

of 0.80 ±0.86, whereas in the case of women who refrained from harmful habits the value was 0.85 ±0.21 ($p = 0.0074$). Sleep disorders were less frequent in the group of women who refrained from harmful habits, with the average assessment value of 0.73 ±0.32, as compared to the group of women who did not refrain from harmful habits, with the value of 0.66 ±0.84 ($p = 0.0254$) (Table 2).

Women who declared that they knew how to administer first aid were found to have statistically significantly better health self-assessment ($p \le 0.0001$) in the domain related to pain, sleep disorders, and physical activity, compared to the group of women who did not know first aid rules. The average self-assessment of pain in the group of respondents not knowing first aid rules was 0.77 ±0.28, whereas in the group of women possessing such knowledge it was 0.87 ±0.20. At the same time the average self-assessment of sleep disorders in the group of women without first aid skills was 0.65 ±0.34, which turned out to be much lower than the assessment of the other group, at 0.78 ±0.30. Moreover, statistically significant differences ($p < 0.0001$) were observed between the groups as far as mobility assessment is concerned, and the results obtained by the group with first aid skills, reaching 0.93 ±0.13, were better than the results of the other group – 0.85 ±0.19.

Table 1. Correlation between women's health self-assessment and their lifestyle

Domains of health self-assessment	Healthy lifestyle $n = 43$		Unhealthy lifestyle $n = 410$		p
	X ±SD	Me (min-max)	X ±SD	Me (min-max)	
Vitality	0.85 ±0.29	1 (0-1)	0.73 ±0.32	0.76 (0-1)	**0.0095**
Pain	0.89 ±0.20	1 (0.06-1)	0.80 ±0.26	0.90 (0-1)	**0.0220**
Emotional reactions	0.92 ±0.18	1 (0.02-1)	0.82 ±0.22	0.90 (0-1)	**0.0011**
Sleep disorders	0.75 ±0.30	1 (0-1)	0.69 ±0.33	0.87 (0-1)	0.2133
Social isolation	0.97 ±0.16	0.87 (0-1)	0.89 ±0.22	1 (0-1)	**0.0298**
Mobility	0.93 ±0.13	1 (0.46-1)	0.88 ±0.17	1 (0.21-1)	0.0672

Differences between groups – Mann-Whitney U test

N – number of women, X – arithmetic mean, SD – score values of standard deviation, Me – median, min – minimum, max – maximum, p – significance level

Table 2. Correlation between women's health self-assessment and their behaviours connected with unhealthy habits

Domains of health self-assessment	Refraining from unhealthy habits $n = 276$		Not refraining from unhealthy habits $n = 177$		p
	X ±SD	Me (min-max)	X ±SD	Me (min-max)	
Vitality	0.76 ±0.31	1 (0-1)	0.71 ±0.76	0.63 (0-1)	0.3115
Pain	0.83 ±0.25	0.94 (0-1)	0.79 ±0.87	0.89 (0-1)	**0.0470**
Emotional reactions	0.85 ±0.21	0.96 (0-1)	0.80 ±0.86	0.86 (0-1)	**0.0074**
Sleep disorders	0.73 ±0.32	0.87 (0-1)	0.66 ±0.84	0.87 (0-1)	**0.0254**
Social isolation	0.90 ±0.21	1 (0-1)	0.89 ±1.00	1 (0-1)	0.4325
Mobility	0.90 ±0.16	1 (0.21-1)	0.86 ±1.00	1 (0.21-1)	0.0751

Differences between groups – Mann-Whitney U test

N – number of women, X – arithmetic mean, SD – score values of standard deviation, Me – median, min – minimum, max – maximum, p – significance level

A higher level of emotional vitality was observed in women with pro-health habits, with an average score of 0.78 ±0.31, whereas in the group without such habits the obtained result was 0.70 ±0.33 (p = 0.0126). Possessing pro-health habits is positively correlated with self-assessment of pain. The average score in this area was 0.84 ±0.23 for women having pro-health habits and 0.78 ±0.27 (p = 0.0391) for those not having them. The average value of self-assessment of emotional reactions was 0.87 ±0.18 in the group with pro-health habits, whereas the value of 0.79 ±0.25 obtained by respondents without pro-health habits indicated a significant increase in negative emotions in this group. The differences were statistically significant, p = 0.0012. In the self-assessment of sleep disorders higher intensity was reported in the group of women not having pro-health habits (0.63 ±0.36), as compared to the group of women who declared possessing such habits (0.77 ±0.28). The differences were observed on the level of statistical significance p = 0.0010 (Table 3).

Analysing the level of vitality in the self-assessment of examined women, its higher intensity was observed in respondents who followed their doctors' advice, reaching an average score of 0.77 ±0.31, whereas in the group not following their doctor's advice the average level was 0.68 ±0.33 (p = 0.0021). Women who did not follow the doctor's advice were also more likely to experience negative emotional reactions (0.77 ±0.27), as compared to the average score of 0.86 ±0.18 (p = 0.0047) obtained by those who followed the doctor's advice.

Statistically significant differences were also found in the level of perceived social isolation, to the disadvantage of women who did not follow the doctor's advice, scoring 0.84 ±0.26, in comparison to those who followed doctor's advice, with a score of 0.93 ±0.18 (p = 0.0011) (Table 4).

The average level of vitality reached 0.78 ±0.29 in women who had safe sex and 0.68 ±0.35 (p = 0.0139) in those who did not follow such rules. Pain experience was less common in women who obeyed the recommended rules of safe sex 0.84 ±0.23 than in those who did not obey them 0.77 ±0.28 (p = 0.0026). Following the rules of safe sex resulted in a lower level of negative emotional reactions in health self-assessment (0.85 ±0.21) in comparison with the group with the opposite attitude (0.80 ±0.24, p = 0.0164). Also, sleep disorders affected the first group less (0.73 ±0.31) than in the case of women who did not care about safety while having sex 0.66 ±0.35 (p = 0.0345).

Moreover, the assessment of mobility in health self-assessment was better in the case of women with safe sexual behaviours (0.91 ±0.15) than in the other group (0.85 ±0.19, p = 0.0011).

Table 3. Correlation between women's health self-assessment and their pro-health habits

Domains of health self-assessment	Having pro-health habits n = 223		Not having pro-health habits n = 230		p
	X ±SD	Me (min-max)	X ±SD	Me (min-max)	
Vitality	0.78 ±0.31	1 (0-1)	0.70 ±0.33	0.63 (0-1)	**0.0126**
Pain	0.84 ±0.23	0.94 (0-1)	0.78 ±0.27	0.87 (0-1)	**0.0391**
Emotional reactions	0.87 ±0.18	0.93 (0.09-1)	0.79 ±0.25	0.86 (0-1)	**0.0012**
Sleep disorders	0.77 ±0.28	0.87 (0-1)	0.63 ±0.36	0.78 (0-1)	**0.0010**
Social isolation	0.91 ±0.19	1 (0-1)	0.88 ±0.23	1 (0-1)	0.3337
Mobility	0.89 ±0.17	1 (0.21-1)	0.88 ±0.17	1 (0.21-1)	0.6630

Differences between groups – Mann-Whitney U test

N – number of women, X – arithmetic mean, SD – score values of standard deviation, Me – median, min – minimum, max – maximum, p – significance level

Table 4. Correlation between women's health self-assessment and their attitude to the doctor's advice

Domains of health self-assessment	Following doctor's advice n = 294		Not following doctor's advice n = 159		p
	X ±SD	Me (min-max)	X ±SD	Me (min-max)	
Vitality	0.77 ±0.31	1 (0-1)	0.68 ±0.33	0.61 (0-1)	**0.0021**
Pain	0.82 ±0.26	1 (0-10)	0.80 ±0.25	0.89 (0-1)	0.2472
Emotional reactions	0.86 ±0.18	0.93 (0.16-1)	0.77 ±0.27	0.86 (0-1)	**0.0047**
Sleep disorders	0.72 ±0.31	0.87 (0-1)	0.66 ±0.36	0.87 (0-1)	0.2062
Social isolation	0.93 ±0.18	1 (0-1)	0.84 ±0.26	1 (0-1)	**0.0011**
Mobility	0.89 ±0.17	1 (0.21-1)	0.89 ±0.17	1 (0.21-1)	0.7728

Differences between groups – Mann-Whitney U test

N – number of women, X – arithmetic mean, SD – score values of standard deviation, Me – median, min – minimum, max – maximum, p – significance level

Table 5. Correlation between women's health self-assessment and the type of habits that they develop

Domains of health self-assessment	Developing healthy habits n = 372		Not developing healthy habits n = 81		p
	X ±SD	Me (min-max)	X ±SD	Me (min-max)	
Vitality	0.76 ±0.31	1 (0-10)	0.64 ±0.34	0.61 (0-1)	**0.0051**
Pain	0.82 ±0.25	0.91 (0-10)	0.76 ±0.27	0.83 (0-1)	0.0562
Emotional reactions	0.84 ±0.22	0.93 (0-1)	0.78 ±0.23	0.83 (0.16-1)	**0.0119**
Sleep disorders	0.71 ±0.32	0.87 (0-1)	0.64 ±0.37	0.84 (0-10)	0.1393
Social isolation	0.91 ±0.21	1 (0-10)	0.86 ±0.24	1 (0-10)	0.1297
Mobility	0.90 ±0.16	1 (0.21-1)	0.84 ±0.19	0.89 (0.21-1)	**0.0061**

Differences between groups – Mann-Whitney U test

N – number of women, X – arithmetic mean, SD – score values of standard deviation, Me – median, min – minimum, max – maximum, p – significance level

Analysing the influence of accepting safe pro-health habits by women in their health self-assessment, statistically significantly higher vitality was observed in this group (0.76 ±0.31, $p = 0.0051$) than in respondents who did not engage in such behaviours 0.64 ±0.34. Women who had safe pro-health habits were less likely to experience negative emotions (0.84 ±0.22) than those who did not report such habits (0.78 ±0.23, $p = 0.0119$). A difference, advantageous to women with safe habits, was also observed in the average level of mobility, reaching 0.90 ±0.16, in comparison with the group without safe habits in their behaviour, which scored 0.84 ±0.19. The level of significance was assumed at $p = 0.0061$ (Table 5).

Including environmental protection in women's lifestyle had an influence on the level of social isolation in women's health self-assessment. The women who took care of the natural environment reported lower levels of perceived social isolation 0.91 ±0.19 than women who did not care about the environment 0.79 ±0.31 ($p = 0.0040$).

DISCUSSION

With an increasing average life expectancy, the post-menopausal period and old age become more important in a woman's life. Hormonal changes that appear in a woman's organism during the menopausal period have a negative impact on their quality of life, which is followed by lower vitality, a decrease in physical and social activity, and even withdrawal from social and community life [19, 20].

Menopause initiates natural involution processes in a woman's organism, which result from changes in hormonal balance. Women experience a variety of somatic and psychological changes, manifesting themselves with varying intensity, which has a significant impact on their health and well-being. Increasing life expectancy and aging society result in an increase in the number of women in this difficult (as far as health is concerned) period of life [21].

The postmenopausal period comprises about 1/3 of a woman's whole life. Demographic data show a growing number of women aged 50 years and more in the whole population of women. Therefore, it is becoming more and more important to look for and recognise factors that have a beneficial influence on women's health condition in this difficult period, which could be expressed in good health self-assessment. In light of reports on the confirmed influence of behavioural factors in human lifestyle on human health, it is also essential to find out to what extent women in menopausal, post-menopausal, and later periods (frequently defined as the geriopausal period) take care of their health.

The factors that determine the physiological aging period include genetic predispositions, intercurrent diseases, especially chronic ones, lifestyle, and environmental factors [22-24]. In the group of aforementioned determinants of aging and health condition, the one which is the easiest to modify is lifestyle.

The findings of the authors' own study show that the results of women's self-assessment in the whole group of respondents were varied for particular dimensions. The lowest scores, and thus the worst assessments, were reported in sleep disorders, and the best ones were in the sphere of social isolation and mobility limitations. These findings coincide with the those obtained by Wróblewska in her study based on the data provided by Pentor Opinion and Market Polling Institute and conducted in 2005 in a group, representative for Poland, of 4017 people, in which, in a group of women (aged over 18 years), the assessment of sleep disorders and vitality were also the lowest in all examined domains [25].

The findings of the authors' own studies show that pro-health behaviours in lifestyle are important moderators of health self-assessment. Women who led a healthy lifestyle reported statistically significantly better self-assessment in almost all examined domains.

Physical activity is believed to have a crucial influence on health. It helps to decrease the intensity of

symptoms connected with the climacteric syndrome and keep the appropriate body weight, and it also considerably reduces the risk of developing numerous chronic diseases. The authors' own research proved that 30.2% of women managed to satisfy the WHO recommendations as far as the amount of physical activity in a healthy lifestyle is concerned. These women were characterised by higher vitality in their health self-assessment than the women who did not take on such activities. A strong beneficial impact of physical activity on this health factor was also observed in the findings of the study conducted by Knapik *et al.* in a group of elderly women [26]. The key role of physical activity in health self-assessment is also indicated by the findings of the study conducted in the group of elderly men and women by Knapik *et al.* [27].

Higher self-assessment, which allows respondents to enjoy life more and involves a general improvement in one's well-being could also be observed in the findings of the study conducted in a group of women aged between 43 and 62 years in Kujawsko-Pomorskie region by Wiśniewska *et al.* [28]. Physical activity may improve the quality of life in women going through menopause and the beginning of old age by delaying involution processes in their organisms and modifying the incidence and course of chronic diseases, which are quite frequent in this period of life. It is considered to be the most important element of a healthy lifestyle. It affects either directly or indirectly other components of lifestyle. It is believed that women who take care of their fitness are also more likely to follow nutritional recommendations as far as their choice of food products is concerned, and they usually do not smoke or drink too much alcohol. Physically active women care about having proper weight, the ability to deal with stress, and avoiding stimulants and drugs. Additionally, physical activity improves concentration, perception, thinking processes, emotional states, and general well-being [29, 30]. It should be pointed out that there is a positive correlation between avoiding harmful habits, having pro-health habits, following doctor's advice, having safe sexual behaviours, and respondents' health self-assessment. The authors' own research proved that following the doctor's advice, including screening tests as an element of pro-health behaviour, has a positive impact on health self-assessment, including such essential aspects as, for example, perceived vitality. A similar correlation was found in the study conducted by Nowak M. in a group of women and dealing with health self-assessment and undergoing medical check-up tests [31].

The demographic process of aging society calls for intensive introduction of promotional-preventive programs aimed at increasing individual pro-health skills, which help improve and maintain a good quality of life in women in the menopausal and later period of life. An important role is played here by medical staff.

CONCLUSIONS

Healthy lifestyle as an overall model of behaviour is not very common among women living in Krakow. Women who lead a healthy life tend to show in their health self-assessment a higher level of vitality and a smaller range of negative emotional reactions, pain, and social isolation.

In all examined women a higher participation of pro-health behaviours in their lifestyle was accompanied by a higher level of vitality and effective control over negative emotions in their health self-assessment.

A lifestyle including refraining from harmful habits, possessing pro-health habits, and the ability to administer first aid correlated in women's health self-assessment with dealing with pain and sleep disorders in a more efficient way.

Disclosure

References
1. Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Background document to WHO – Strategy paper for Europe. 2nd ed. Institute for Framitidessudier, Stockholm 2007.
2. Nowak-Starz G, Markowska M, Król H, et al. Medyczne koncepcje struktury zdrowia, jego ochrony i promocji. In: Turowski K (ed.). Zdrowie i dobrostan. Wydawnictwo Naukowe NeuroCentrum, Lublin 2013; 149-162.
3. Wysocki MJ, Miller M. Paradygmat Lalonde'a, Światowa Organizacja Zdrowia i nowe zdrowie publiczne. Prz Epidemiol 2003; 57: 505-512.
4. Dolińska-Zygmunt G. Behawioralne wyznaczniki zdrowia – zachowania zdrowotne. In: Dolińska-Zygmunt G (ed.). Podstawy psychologii zdrowia. Wyd. Uniwersytetu Wrocławskiego, Wrocław 2001; 33-70.
5. Gronowska-Senger A. Żywienie, styl życia a zdrowie Polaków. Żyw Czł 2007; 34: 602-606.
6. Elmadfa I, Meyer A, Nowak V, et al. European Nutrition and Health Report 2009. Forum Nutr 2009; 62: 1-405.
7. Hodaň B. O problematyce stylu życia i jego optymalizacji. Wychow Fiz Zdr 2002; 11: 3-7.
8. Słomko Z (ed.). Ginekologia. Vol. I-II. 2nd ed. PZWL, Warszawa 2008.
9. Bielawska-Batorowicz E. Stress, symptoms and opinions on menopause in relation to depressed mood in women aged 45-55 years. An analysis within the framework of modified psychosocial model of menopausal depression. Prz Menopauz 2006; 2: 68-74.
10. Zdziebło K. Współczesne zjawiska demograficzne a problemy zdrowotne starzejącego się społeczeństwa. Stud Med 2008; 9: 63-69.
11. Romani WA, Gallicchio L, Flaws JA. The association between physical activity and hot flash severity, frequency, and duration in mid-life women. Am J Hum Biol 2009; 21: 127-129.
12. Södergren M, Wang WC, Salmon J, et al. Predicting healthy lifestyle patterns among retirement age older adults in the WELL study: a latent class analysis of sex differences. Maturitas 2014; 77: 41-46.
13. Bowling A. Measuring disease. A review of quality of life measurement scales. Open University Press, Buckingham, 2001.

14. Czarnecka M, Cierpiałkowska L. Naukowe a subiektywne koncepcje zdrowia i choroby wśród studentów i ich determinanty. Now Lek 2007; 76: 161-165.

15. Stachowiak G, Zając A, Pertyński T. Zespół metaboliczny u kobiet w okresie menopauzalnym. Prz Menopauz 2009; 1: 6-10.

16. Urbańska B, Kurowska K. Poczucie koherencji a zachowania zdrowotne. Pielęg Chir Angiol 2010; 3: 90-95.

17. Corbin ChB, Welk GJ, Corbin WR., Welk KA. Fitness i wellness. Kondycja, sprawność, zdrowie. Wyd. Zysk i S-ka, Poznań 2007.

18. Wrześniewski K. Badanie subiektywnego stanu zdrowia za pomocą polskiej adaptacji the Nottingham Health Profile. In: Karski JB, Kirschner H, Leowski J (eds.). Współczesne potrzeby i możliwości pomiaru zdrowia. Ignis, Warszawa 1997; 37-41.

19. Skrzypulec V, Drosdzol A, Ferensowicz J, et al. Ocena wybranych aspektów życia psychicznego i seksualnego kobiet w okresie okołomenopauzalnym. Gin Prakt 2003; 11: 23-34.

20. Zdziebło K. Współczesne zjawiska demograficzne a problemy zdrowotne starzejącego się społeczeństwa. Stud Med 2008; 9: 63-69.

21. Prognoza ludności na lata 2003-2030. https://stat.gov.pl/obszary-tematyczne/ludnosc/prognoza-ludnosci/prognoza-ludnosci-na-lata-2003-2030,1,2.html dostęp 12.12.2018.

22. Radziewicz-Winnicki I. Znaczenie idei Active Healthy Ageing dla systemu opieki zdrowotnej. In: Samoliński B, Raciborski F (eds.). Zdrowe starzenie się: Biała Księga. Wydawnictwo Naukowe Scholar, Warszawa 2013; 96-105.

23. Skrzypulec V, Drosdzol A, Ferensowicz J, et. al. Ocena wybranych aspektów życia psychicznego i seksualnego kobiet w okresie okołomenopauzalnym. Gin Prakt 2003; 11: 23-34.

24. Pasek T, Pasek J, Witiuk-Misztalska A, et. al. Leczenie ruchem (kinezyterapia) pacjentów w podeszłym wieku. Gerontol Pol 2011; 19: 68-76.

25. Piotrowicz M, Cianciara D. Salutogeneza – nowe podejście do zdrowia i choroby. Przegl Epidemiol 2011; 65: 521-527.

26. Knapik A, Plinta R, Saulicz E. Aktywność fizyczna a zdrowie kobiet w starszym wieku. J Orthop Trauma Surg Relat Res 2011; 6: 27-33.

27. Knapik A, Rottermund J, Myśliwiec A, et al. Aktywność fizyczna a samoocena zdrowia osób w starszym wieku. Przegląd Med. Uniwersytetu Rzeszowskiego i Narodowego Instytutu Leków 2011; 9: 195-204.

28. Wiśniewska A, Napierała M, Pezala M, et al. Wpływ aktywności fizycznej na psychomotorykę kobiet w okresie menopauzy. J Health Sci 2014; 4: 257-272.

29. Kostka T. Aktywność fizyczna u osób w podeszłym wieku. In: Podolec P (ed.). Podręcznik Polskiego Forum Profilaktyki. Vol. 2. Medycyna Praktyczna, Kraków 2010; 455-460.

30. Dąbrowska J, Naworska B, Dąbrowska-Galas M, et al. Rola wysiłku fizycznego w okresie menopauzy. Prz Menopauz 2012; 6: 445-448.

31. Nowak M. Samoocena stanu zdrowia i sprawności fizycznej kobiet a ich udział w kontrolnych badaniach lekarskich. Nowa Med 1999; 6: 45-48.