

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part b item 1223 (26.01.2017).  
1223 Journal of Education, Health and Sport eissn 2391-8306 7

© The Authors 2018;

This article is published with open access at Licensee Open Journal Systems of Kazimierz Wielki University in Bydgoszcz, Poland

Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 05.01.2018. Revised: 10.01.2018. Accepted: 16.02.2018.

## **Health behaviour of patients with unstable angina pectoris**

**Monika Bieliak<sup>1</sup>, Robert Luczyk<sup>2</sup>, Mariusz Wysokiński<sup>1</sup>, Wiesław Fidecki<sup>1</sup>**

<sup>1</sup> Department of the Basics of Nursing and Medical Didactics, Faculty of the Development of Nursing, Medical University of Lublin

<sup>2</sup> Department of Internal Medicine and Department of Internal Medicine in Nursing, Faculty of Nursing and Health Sciences, Medical University of Lublin

## **Abstract**

**Introduction.** The illnesses of the cardiovascular system are the biggest cause of death in Poland [9,10]. Unstable angina pectoris is the most frequently occurring manifestation of the acute coronary syndrome (ACS). It aggravates the severity of the course of ischaemic heart disease (IHD) and hence constitutes a direct threat to the life and health of the patient. Therefore, it seems well-based to encourage pro-healthy behaviour among patients with this disease [2,3,15].

**The aim of the study.** The aim of the study was to evaluate health behaviour of patients with unstable angina pectoris.

**Material and method.** The study was conducted from November of 2016 to February of 2017 in three hospitals in Lublin among 194 patients with unstable angina pectoris. In the study the diagnostic survey method alongside with polling technique was utilised. The research reference consisted of Inventory of The Health Behaviour (Inwentarz Zachowań Zdrowotnych, IZZ) and the authorial methodology.

**Results.** Patients with unstable angina pectoris described their health behaviour as ‘average’. The patients’ age, gender, level of education and place of residence influenced their health behaviour. The highest ratings were in the 61-70 years old category. A higher level of health behaviour was presented by women. The lowest ratings of health behaviour were given by patients with primary education. The ratings of health behaviour were higher among the inhabitants of urban areas.

**Keywords:** health behaviour, ischaemic heart disease, unstable angina pectoris

## **Introduction**

The illnesses of the cardiovascular system are the biggest cause of death in Poland, simultaneously they pose the main reason for hospitalisation and the loss of ability to work. The data of the World Health Organisation indicates that it is a very serious health problem, as the number of people suffering from the ischaemic heart disease is rising continuously, hence the number of people who will die from cardiovascular causes is soaring [9,10].

Unstable angina pectoris is the most frequently occurring manifestation of the acute coronary syndrome (ACS). It aggravates the severity of the course of ischaemic heart disease (IHD) and hence constitutes a direct threat to the life and health of the patient [2,3,15].

A number of risk factors which cause a great increase in cardiovascular diseases morbidity are widely known. The higher the risk, the quicker the preventative actions should be undertaken, both before the disease occurring, and during the course of the disease. We can divide the risk factors into modifiable risk factors and unmodifiable risk factors. Each factor causes more rapid and radical development of the disease and its worse course [5].

Undertaking of the desirable health behaviour is crucial both for healthy and ill people, not only for the patients with cardiovascular diseases, but for all patients. Health behaviour is influenced by numerous factors, most important of which are ubiquitous risk factors. The majority of cardiological risk factors belong to the health behaviour associated with patients' lifestyle [7,8,13].

## **The aim of the study**

The aim of the study was to evaluate the health behaviour of patients with unstable angina pectoris.

## **Material and method**

The study was conducted from November of 2016 to February 2017 in three hospitals in Lublin: Independent Public Clinical Hospital no. 4 in Lublin, Military Clinical Hospital with Polyclinic no. 1 in Lublin and Regional Specialist Hospital in Lublin. The study was conducted on 194 patients suffering from unstable angina pectoris at the age of between 49 and 94 years old. The mean age was  $60.93 \pm 8.11$  years old. The research subjects were mostly at the age of between 56 and 60 years old (38.14%, n=74), 22.68% (n=44) were at the age of up to 55 years old, 27.83% (n=54) at the age of between 61 and 70 and 11.34% (n=22) at the age over 70. Women constituted 59.28% (n=115), and men constituted 40.72% (n=79). The majority of research

subjects had secondary education (58.25%, n=113), 24.23%, (n=47) had primary education and 17.52% (n=34) had higher education. In the research group 29.90% were unemployed, 12.89% did mental work, 22.16% did physical work, 19.07% were retired, 5.67% claimed annuities, and 10.31% were farmers. The majority of the research subjects lived in rural areas (72.68%, n=141), and 27.32% (n=53) lived in urban areas.

In the study the diagnostic survey method alongside with polling technique was utilised. The used research reference consisted of Inventory of The Health Behaviour (Inwentarz Zachowań Zdrowotnych, IZZ) by Zygfryd Juczyński and the authorial methodology. The aforementioned tools facilitated collecting sociodemographic data of the research sample, and its spectrum of health behaviour. The criteria for the participation were the following: a patient diagnosed with unstable angina pectoris, the health state of the patient allowing conducting a survey, expression of an agreement to take part in the survey by the patient.

The attained results of the study were subjected to statistical analysis. The values of the analysed measurable parameters were presented using their mean, median and standard deviation, and the unmeasurable ones using their count and proportion. For the measurable qualities, the normality of the distribution was analysed using Mann-Whitney U-test. In order to compare two independent groups Kruskal-Willis test was used, and for analysing the link between the rating of the quality of life and age Spearman correlation was used. The statistical significance was set as  $p<0.05$ . The database and statistical study was constructed using STATISTICA 13.0 (StatSoft, Poland) software.

Before the study was conducted, the positive approval of the Bioethics Committee at the Medical University in Lublin had been obtained (No. KE-0254/314/2016).

## **The results of the study and discussion**

### **Physical activity of the research sample**

The study showed that the most common rating of the patients' physical activity was "average" (n=123; 63.40%), whereas 22.16% (n=43) of patients rated their physical activity as "very good" and 14.44% (n=28) as "bad".

The statistical analysis revealed that the patients aged 55 and younger more commonly rated their physical activity as „very good" (34.09%) compared to the patients aged 56-60 (24.32%) and 61-70 or older (13.16%). The proven differences were statistically significant (p=0,007). The conducted study demonstrated that men rated their physical activity (27.85%) as „very good" marginally more often than women (18.26%). The research subjects living in urban areas rated their physical activity slightly more often as „very good" (30.19%), compared to the inhabitants of rural areas (19.15%). The observed differences proved not statistically significant (p=0.16 and p=0.18 respectively). The statistical analysis demonstrated that the research subjects with higher education rated their physical activity as "very good" (44.12%) more often than people with secondary education (19.47%) or primary education (12.77%). The stated differences were statistically significant (p=0.0006). Furthermore, 11.34% of research subjects did sports regularly, 45.88% from time to time, 17.53% did not do any sports but intended to do some in the future, and 25.25% admitted that sport was not for them.

### **Nutrition of the study sample**

74.23% (n=144) of the research samples admitted they knew what the term "food pyramid" was, and 25.77% (n=50) did not have this knowledge.

The statistical analysis demonstrated that a higher proportion of patients aged 55 and younger knew the term "food pyramid" (81.82%) in contrast to the patients aged 56-60 (79.73%), and 61-70 and older (64.47%). The conducted study concluded that the proportion of women knowing the term "food pyramid" (84.35%) was substantially higher than the proportion of men familiar with this term (59.49%). The patients with higher education more often declared the knowledge of this term (85.29%) in comparison to those with secondary education (80.53%) or with primary education (51.06%). It can be inferred from the study that people living in urban areas knew this term more often (84.91%) compared to the people living in rural areas (70.21%). The observed differences were statistically significant (p=0.04; p=0.0001; p=0.0001; p=0.04 respectively).

The study demonstrated that the patients most often consumed meat (73.20%), cereal products (68.04%), vegetables (64.95%), fruit (59.79%), milk and dairy (54.12%), and more rarely sweets (32.99%).

Most of the subjects had breakfast every day (76.80%, n=149), while 9.28% (n=18) declared they had breakfast a few times a week, 11.86% (n=23) occasionally, and 2.06% (n=4) did not have breakfast at all.

61.86% (n=120) of the patients declared they had 4-5 meals a day, 27.84% (n=54) had 3 or less meals a day, and 10.30% (n=20) had more than 5.

The statistical analysis showed that the patients aged 50-56 slightly more often declared 4-5 meals a day (70.27%) compared to the patients aged 55 and younger (47.73%) and 61-70 and older (61.84%). The observed differences were not statistically significant ( $p=0.18$ ). The study pointed out that women declared 4-5 meals a day more frequently (64.35%, n=74) than men (58.23%, n=46). The observed differences were statistically significant ( $p=0.02$ ). The statistical analysis revealed that the patients with higher education marginally more often declared 4-5 meals a day (67.65%) compared to those with secondary education (58.41%) or primary education (65.96%). The inhabitants of rural areas declared slightly more often 4-5 meals a day (63.83%) as compared to the inhabitants of urban areas (56.60%). The observed differences were not statistically significant in both cases ( $p=0.15$ ,  $p=0.28$  respectively).

### **Alcohol consumption**

The majority of the research subjects consumed alcohol occasionally (46.91%, n=91) or did not do it at all (35.05%, n=68), whereas 14.95% (n=29) declared consuming alcohol a few times a month and 3.09% (n=6) a few times a week.

The statistical analysis showed that the patients aged 56-60 slightly more frequently declared alcohol consumption either a few times a month or a week (24.32%) compared to those aged 55 and younger (22.73%) and 61-70 and older (9.21%). The inhabitants of urban areas consumed alcohol a few times a week or a month slightly more often (24.53%) than the inhabitants of rural areas (15.60%). The observed differences in both cases were not statistically significant ( $p=0.09$ ,  $p = 0.19$  respectively). On the other hand, the study showed that men consumed alcohol a few times a week or a month more often (27.85%) than women (11.30%). The statistical analysis revealed that the research subjects with primary education consumed alcohol a few times a week or month more frequently (21.28%) than those with

higher education (14.71%) or secondary education (17.70%). The observed differences in both cases were statistically significant ( $p=0.002$ ,  $p = 0.03$  respectively).

### **Smoking tobacco**

In most cases the research subjects did not smoke tobacco (72.68%,  $n=141$ ), while 14.95% ( $n=29$ ) smoked habitually, and 12.37% ( $n=24$ ) occasionally.

The statistical analysis revealed that the patients aged 55 and younger more often smoked tobacco habitually or occasionally (38.64%) compared to the patients aged 56-60 (31.08%) and aged 61-70 and older (17.11%). The study showed that men smoked slightly more often (31.65%) than women (24.25%). The patients with primary education (25.53%) or secondary education (31.86%) smoked a bit more often than those with higher education (14.71%). The inhabitants of urban areas smoked habitually or occasionally slightly more often (28.30%) than the inhabitants of rural areas (26.95%). The observed differences in all cases were not statistically significant ( $p= 0.3$ ;  $p=0.26$ ;  $p=0.14$ ;  $p=0.85$  respectively).

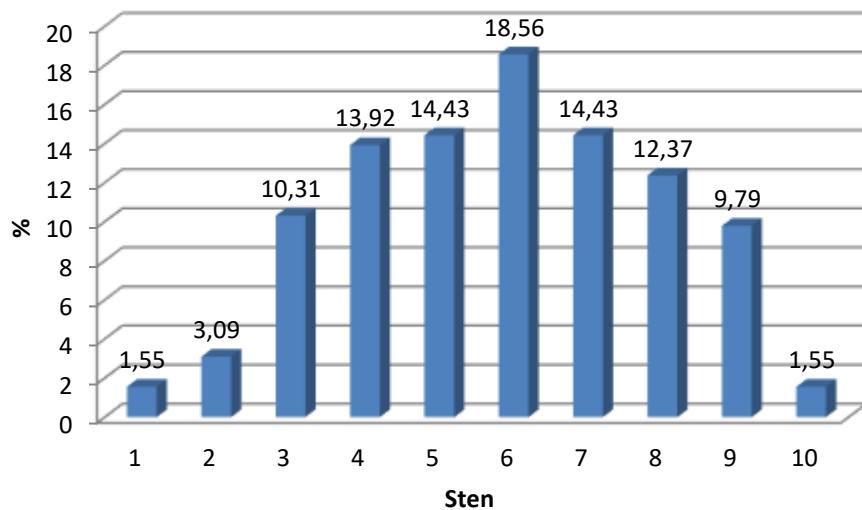
### **The attendance of preventative medical examinations**

The majority of the research subjects claimed they attended preventative medical examinations (65.46%,  $n=127$ ), 3.09% ( $n=6$ ) have never heard of such examinations, 24.23% ( $n=47$ ) did not attend those, but intended to attend those in the future, and 7.22% ( $n=14$ ) did not attend those and did not intend to attend those in the future.

The statistical analysis showed that the patients aged 61-70 and older attended examinations slightly more often (71.05%) compared to the patients aged 56-60 (59.46%) and aged 55 and younger (65.91%). The observed differences were not statistically important ( $p=0.07$ ). The conducted study demonstrated that women attended examinations more often (73.91%) than men (53.16%). Also, the patients with primary education attended examinations more often (74.47%) than those with higher education (64.71%) or secondary education (61.95%). The observed differences in both cases were statistically significant ( $p=0.004$ ,  $p=0.02$  respectively). The study revealed that the inhabitants of rural areas attended examinations slightly more often (67.38%) than those from urban areas (60.38%). The observed differences were not statistically significant ( $p=0.18$ ).

## The rating of the health behaviour in the research sample

Inventory of The Health Behaviour (Inwentarz Zachowań Zdrowotnych, IZZ) was used for the rating of the health behaviour of the patients. The mean index was  $84.36 \pm 14.77$  ( $Me=85.00$ ). Figure 1 represents the frequency of the consecutive IZZ indices, converted into the sten (standard ten) form. The most frequent results occurred within sten 6 (18.56%), (fig. 1).



**Fig. 1 The distribution of the research subjects with regard to IZZ index**

It was found that 28.87% ( $n=56$ ) of the research subjects declared a low level of health behaviour (1-4 sten), 32.90% ( $n=64$ ) an average level (5-6 sten) and 38.14% ( $n=74$ ) a high level (7-10 sten).

The study showed that the highest level of health behaviour was demonstrated in the categories of positive mental attitude, preventative actions and health practices, and a lower level in the healthy eating habits category.

The study demonstrated that the patients aged 61-70 and older declared higher levels of health behaviour than the patients aged 55 and younger and those aged 56-60 in preventative actions category ( $p=0.01$ ), positive mental attitude category ( $p=0.05$ ), health practices category ( $p=0.003$ ) and in the overall IZZ index ( $p=0.01$ ), whereas the healthy eating habits were slightly higher rated by the patients aged 55 and younger ( $p=0.08$ ), (tab. 1).

**Tab. 1. The IZZ rating of the health behaviour broken down by age**

Health behaviour	55 and younger			56-60			61-70 and older			Statistical analysis
	Mean	Median	Std.dev	Mean	Median	Std.dev	Mean	Median	Std.dev	
<i>Healthy eating habits</i>	3.45	3.50	0.67	3.15	3.17	0.80	3.36	3.50	0.93	H=5.12; p=0.08
<i>Preventative actions</i>	3.69	3.83	0.83	3.32	3.42	0.86	3.71	3.92	0.79	H=9.10; p=0.01*
<i>Positive mental attitude</i>	3.71	3.83	0.63	3.56	3.58	0.64	3.82	3.92	0.69	H=6.01; p=0.05*
<i>Health practices</i>	3.40	3.50	0.57	3.35	3.17	0.71	3.71	3.75	0.70	H=11.86; p=0.003*
<b>IZZ</b>	85.50	87.00	12.28	80.32	78.50	15.21	87.63	86.00	14.90	H=8.77; p=0.01*

The statistical analysis showed that women declared better health behaviour than men. Significant differences were observed in healthy eating habits category (p=0.001), preventative actions category (p=0.003), health practices (p=0.02) and in the overall IZZ index (p=0.002), whereas in positive mental attitude category differences were insignificant (p>0.05), (tab.2).

**Tab. 2. The IZZ rating of the health behaviour broken down by gender**

Health behaviour	Female			Male			Statistical analysis	
	Mean	Median	Std.dev	Mean	Median	Std.dev		
	Z	P						
<i>Healthy eating habits</i>	3.47	3.50	0.79	3.06	3.17	0.84	-3.24	0.001*
<i>Preventative actions</i>	3.71	3.83	0.79	3.33	3.50	0.88	-3.00	0.003*
<i>Positive mental attitude</i>	3.73	3.83	0.66	3.65	3.67	0.66	-1.01	0.31
<i>Health practices</i>	3.60	3.67	0.67	3.37	3.17	0.71	-2.33	0.02*
<b>IZZ</b>	87.04	87.00	14.21	80.46	79.00	14.78	-3.07	0.002*

The study showed that the inhabitants of urban areas had better health behaviour in comparison to the inhabitants of rural areas, with the exception of the rating of the health practices. Statistically significant differences were observed only in the ratings of healthy eating habits ( $p=0.03$ ), (tab. 3).

**Tab. 3. The IZZ rating of the health behaviour broken down by place of residence**

Zachowania zdrowotne	Rural areas			Urban areas			Statistical analysis	
	Mean	Median	Std.dev	Mean	Median	Std.dev		
<i>Healthy eating habits</i>	3.21	3.33	0.84	3.53	3.50	0.77	-2.24	0.03*
<i>Preventative actions</i>	3.48	3.50	0.87	3.76	4.00	0.75	-1.94	0.05
<i>Positive mental attitude</i>	3.68	3.83	0.67	3.73	3.83	0.66	-0.52	0.60
<i>Health practices</i>	3.51	3.50	0.69	3.48	3.67	0.71	-0.20	0.85
<b>IZZ</b>	83.35	83.00	15.13	87.04	89.00	13.54	-1.72	0.09

The study showed that the patients who declared their physical activity as “very good” rated their health behaviour higher than those who described their physical activity as “average” or “bad”. The statistical analysis demonstrated substantial differences between those groups with regard to ratings of the healthy eating habits ( $p=0.0009$ ), positive mental attitude ( $p=0.04$ ) and close to being significant differences in the IZZ rating ( $p=0.06$ ). However, none of the differences in the ratings of preventative actions ( $p=0.045$ ) and health practices ( $p=0.93$ ) were statistically significant (tab.4).

**Tab. 4. The IZZ rating broken down by the self-assessed physical activity rating**

Health behaviour	Very good			Average			Bad			Statistical analysis
	Mean	Median	Std.dev	Mean	Median	Std.dev	Mean	Median	Std.dev	
<i>Healthy eating habits</i>	3.59	3.67	0.75	3.30	3.33	0.82	2.84	2.83	0.84	H=13.99; p=0.0009*
<i>Preventative actions</i>	3.66	3.83	0.90	3.55	3.50	0.81	3.42	3.58	0.94	H=1.58; p=0.45
<i>Positive mental attitude</i>	3.84	4.00	0.59	3.71	3.83	0.67	3.41	3.58	0.67	H=6.58; p=0.04*
<i>Health practices</i>	3.47	3.67	0.73	3.52	3.50	0.68	3.50	3.50	0.71	H=0.14; p=0.93
<b>IZZ</b>	87.35	88.00	14.96	84.53	85.00	14.50	79.04	75.50	14.73	H=5.79; p=0.06

The study showed that the patients who knew the term “food pyramid” had considerably statistically better health behaviour than the patients who did not know the term. Significant differences between the subsequent groups in IZZ ratings, as well as all other sub-scales apart from health practices category ( $p=0.001$ ) were observed.

The study shows that the research subjects who had breakfast every day rated their health behaviour higher than those who had breakfast a few times a week or occasionally, or never. The statistical analysis demonstrated significant differences between subsequent groups with regard to the ratings of healthy eating habits ( $p=0.03$ ) and health practices ( $p=0.004$ ) and overall IZZ score ( $p=0.02$ ), whereas differences in the ratings of preventative actions and positive mental attitude were not statistically significant ( $p>0.05$ ).

The conducted research revealed that the patients who had 4-5 meals a day demonstrated better health behaviour than those who had 3 or less meals a day, as well as those who had 5 or more meals a day. Statistically significant differences were observed between subsequent groups with regard to the ratings of health practices ( $p=0.01$ ), close to being significant with regard to the ratings of healthy eating habits ( $p=0.06$ ) and in the overall IZZ score ( $p=0.06$ ).

The study states that the patients who did not consume alcohol demonstrated better health behaviour than the patients who consumed alcohol occasionally, a few times a month or a week, with an exception of the overall IZZ score. The statistical analysis revealed statistically significant differences between subsequent groups with regard to the rating of the preventative actions category ( $p=0.0002$ ) and the health practices category ( $p=0.0005$ ) and the overall IZZ

score ( $p=0.002$ ), whereas the differences regarding all other subscales turned out to be statistically insignificant ( $p>0.05$ ), (tab. 5).

**Tab. 5. The IZZ rating broken down by the alcohol consumption**

Health behaviour	A few times a week/month			Occasionally			No consumption			Statistical analysis
	Mean	Median	Std.dev	Mean	Median	Std.dev	Mean	Median	Std.dev	
<b>Healthy eating habits</b>	3.08	3.17	0.90	3.44	3.50	0.84	3.28	3.33	0.79	$H=4.82$ ; $p=0.09$
<b>Preventative actions</b>	3.05	3.00	0.87	3.80	4.00	0.84	3.57	3.67	0.76	$H=17.52$ ; $p=0.0002^*$
<b>Positive mental attitude</b>	3.48	3.50	0.69	3.74	3.83	0.69	3.75	3.83	0.62	$H=4.71$ ; $p=0.09$
<b>Health practices</b>	3.22	3.17	0.75	3.75	3.75	0.67	3.43	3.50	0.64	$H=15.13$ ; $p=0.0005^*$
<b>IZZ</b>	76.97	74.00	15.79	88.40	88.50	15.02	84.19	84.00	13.11	$H=12.22$ ; $p=0.002^*$

The statistical analysis showed significant differences between the ratings of health behaviour of the research subjects who smoked tobacco, compared to the non-smokers ( $p=0.03$ ). Health behaviour was better among the non-smokers, (tab. 6).

**Tab. 6. The IZZ rating broken down by tobacco consumption**

Health behaviour	Habitually/ occasionally			No consumption			Statistical analysis	
	Mean	Median	Std.dev	Mean	Median	Std.dev	Z	p
<b>Healthy eating habits</b>	2.95	2.83	0.86	3.43	3.50	0.79	-3.49	0.0005^*
<b>Preventative actions</b>	3.33	3.50	0.87	3.64	3.83	0.82	-2.22	0.03^*
<b>Positive mental attitude</b>	3.42	3.50	0.67	3.80	3.83	0.63	-3.44	0.0006^*
<b>Health practices</b>	3.08	3.00	0.67	3.67	3.67	0.63	-5.18	0.0000002^*
<b>IZZ</b>	76.72	74.00	14.18	87.23	87.00	13.99	-4.38	0.00001^*

The statistical analysis demonstrated that the research subjects who attended preventative medical examination had better health behaviour ratings than those who just intended to attend those in the future, those who had not heard about them and those who did not intend to attend such examinations at all. Significant differences were observed between the subsequent groups with regard to the overall IZZ rating, as well as with regard to the consequent IZZ sub-scales ( $p=0.04$ ), (tab. 7).

**Tab. 7. The IZZ rating broken down by the attendance of the preventative medical examination**

Health behaviour	Attended			Intended in the future/not heard about such			Did not attend and intend to go in the future			Statistical analysis
	Mean	Median	Std.dev	Mean	Median	Std.dev	Mean	Median	Std.dev	
<i>Healthy eating habits</i>	3.37	3.50	0.83	3.25	3.33	0.81	2.81	2.67	0.84	$H=6.55$ ; $p=0.04^*$
<i>Preventative actions</i>	3.75	4.00	0.78	3.27	3.33	0.77	2.88	2.92	1.04	$H=20.57$ ; $p<0.0001^*$
<i>Positive mental attitude</i>	3.80	3.83	0.61	3.58	3.50	0.69	3.19	3.08	0.78	$H=10.94$ ; $p=0.004^*$
<i>Health practices</i>	3.62	3.67	0.67	3.33	3.17	0.72	3.11	3.17	0.58	$H=10.47$ ; $p=0.005^*$
<b>IZZ</b>	87.30	87.00	13.96	80.60	81.00	14.47	71.93	70.00	14.34	$H=17.23$ ; $p=0.0002^*$

## Discussion

The progress of civilisation, especially the one that started in the second half of the 20<sup>th</sup> century, despite so many advantages and benefits it brought, it also had a detrimental effect on people's lifestyle. There has been a rise in the frequency of negative health behaviours such as: incorrect diet, lack of physical exercise, too high alcohol and tobacco consumption, the deficit of ways of coping with stress, alongside with very frequent excess weight problems, high arterial blood pressure, high levels of blood glucose and lipid parameters [6]. All these anti-health behaviours caused the increased prevalence of anomalies in people's health, and in consequence lead to the occurrence of numerous diseases, including cardiovascular diseases [6]. The illnesses of the cardiovascular system are the most common cause of death in Poland. One of the top cardiological causes of death is ischaemic heart disease. It is correlated not only with the ageing of the population, but also with the intense prevalence of the aforementioned risk factors [6].

Ischaemic heart disease is a clinical symptom complex whose direct cause is abnormalities between the demand of the heart muscle and the ability to provide it with oxygen and other substances which are essential to sustaining its proper functions [4]. The course of the disease can be chronic as well as acute – when the coronary artery vasoconstriction is quite rapid and sudden. Unstable angina pectoris is the most frequently occurring manifestation of the acute coronary syndrome [1].

Sustaining a healthy lifestyle is crucial both for the healthy individuals and for the ill ones, especially for those suffering from cardiovascular diseases. This issue is particularly interesting for many researchers, and in order to describe this, they use a vast spectrum of research tools. In this research the health behaviour ratings among the patients with unstable angina pectoris were obtained using the Inventory of The Health Behaviour (IZZ) scale and the authorial methodology. The results of the study indicated the prevalence of ‘average’ health behaviours. In the research sample many risk factors like alcohol and tobacco consumption, lack of physical exercise and inappropriate diet, were observed. The studies by Mejer (and others) among 86 patients with recent Acute Coronary Syndrome experience and among the control group confirm the result of this study. Both the patients who had ACS history and people considered as healthy do not observe the recommendations related to the healthy lifestyle. The authors indicate the necessity of altering the current lifestyle within the primary and secondary prevention framework [11]. The results correlate with the study by Pogorzelska (and others) conducted on a research sample of patients who suffered from ACS 6 months prior to the study – the ratings of the patients before and after the ACS indicate the occurrence of all the risk factors before the IHD, whereas 6 months after the ACS they indicate significant improvement in some of the behaviour categories (controlling blood pressure, hyperlipidaemia and diabetes and smoking tobacco). The authors pointed to an insufficient level of care [12]. Similar results were obtained by Kózek (and others) among 50 people with myocardial infarction and among 50 healthy people, and they indicate that the majority of each group declared an unhealthy lifestyle [9].

The original research showed that women declared better health behaviour than men, and that statistically significant differences with regard to healthy eating habits, preventative actions, health practices and the overall IZZ score were observed. No differences between the ratings of positive mental attitude were found. These results show the differences in biology, ageing processes and behaviours between genders. Similar observations were made by Szkup (and others), according to whom women declared the observance of healthy eating habits,

preventative practices and health practices more often than men. Positive mental attitude was similar for both groups [14].

The original research showed that people aged 61-70 and older declared better health behaviour than people aged 56-60, 55 and younger in preventative actions, positive mental attitude, health practices categories and in the overall IZZ score. The differences were statistically significant. On the other hand, healthy eating habits ratings were just slightly higher among the patients aged 55 and younger. However surprising this result might seem, it may come from older research subjects having greater knowledge and health awareness, acquired throughout their longer lives.

The study reveals that the inhabitants of urban areas rated their health behaviour better than those from rural areas, with an exception of health practices category. Only in healthy eating habits category were the differences statistically significant. This result might suggest that people living in urban areas pay more attention to meals they have.

The statistical analysis did not demonstrate substantial differences in health behaviour ratings with regard to education. However, the collected information from the patients suggests that the patients with primary education demonstrated the lowest ability to control their health, with regard to self-assessed physical activity, awareness of the “food pyramid” term, having their own developed ways of coping with stress, the number of hours devoted to their sleep, alcohol and tobacco consumption. Patients with primary education had lower ratings compared to those with secondary and higher education.

## **Conclusions**

1. Patients suffering from unstable angina pectoris demonstrated an average level of health behaviour.
2. The health behaviour of the patients with unstable angina pectoris was affected by: age, gender, education and place of residence.
3. The health behaviour ratings of the patients with unstable angina pectoris were the best among the patients aged 61-70.
4. Women demonstrated higher levels of health behaviour than men.
5. Patients with primary education had the worst health behaviour ratings.
6. The health behaviour of the patients with unstable angina pectoris ratings were better for the inhabitants of urban areas.

7. Better health behaviour was demonstrated by the subjects who rated their physical activity as “very good”, were aware of the food pyramid, had breakfast every day, had 4-5 meals a day, did not consume alcohol and tobacco and attended preventative medical examinations.

## Bibliography

1. Daniluk J., Jurkowska G. (red.): *Zarys chorób wewnętrznych. Dla studentów pielęgniarskiego*. Wydawnictwo Czelej, Lublin 2005.
2. Dąbrowska B. (red.): *Choroby układu krążenia. Schematy postępowania*. Medycyna Praktyczna, Kraków 1997.
3. Fauci A. S., Braunwald E., Kasper D. L. i inni (red.): *Interna Harrisona*. Wydawnictwo Czelej, Lublin 2009.
4. Gąsior M., Hawranka M., Poloński L. (red.): *Podręcznik kardiologii. Lekarze i studenci dla studentów i lekarzy*. Medycyna Praktyczna, Kraków 2008.
5. Hudzik B., Szkodziński J.: *Profilaktyka wtórna choroby wieńcowej*. Choroby Serca i Naczyń 2008; 5(4): 186-189.
6. Kaszuba D., Nowicka A. (red.): *Pielęgniarstwo kardiologiczne. Podręcznik dla studiów medycznych*. Wydawnictwo Lekarskie PZWL, Warszawa 2011.
7. Kłosiewicz-Latoszek L., Cybulska B.: *Wpływ zdrowego stylu życia na zmniejszenie ryzyka zgonów sercowo- naczyniowych*. Choroby Serca i Naczyń 2012; 9(5): 273- 281.
8. Kłosiewicz-Latoszek L., Szostak- Węgierek D.: *Co dziś wiemy o czynnikach ryzyka choroby niedokrwiennej serca?* Medycyna i Pasje 2009: 1(2): 24-30.
9. Kózka M., Majda A., Wróbel K.: *Styl życia i ryzyko występowania ostrych zespołów wieńcowych*. Problemy Higieny i Epidemiologii 2013; 94(4): 740- 746.
10. Łuczyk R., Juśko A., Łuczyk M., Krzyżanowska E., Plottke A.: *Akceptacja choroby w grupie pacjentów z niestabilną dusznicą bolesną*. Journal of Education, Health and Sport 2016; 6(7): 453-470.
11. Mejer A., Irzmański R., Pawlicki L., Kowalski J.: *Ocena stylu życia chorych po świeżo przebytym ostrym zespołe wieńcowym oraz zakwalifikowanych do rehabilitacji kardiologicznej i zdrowych*. Polski Merkuriusz Lekarski 2013; XXXV, (205): 39-42.
12. Pogorzelska H., Wołkanin- Bartnik J.: *Mądry Polak po szkodzie?- Znajomość i stosowanie zasad prewencji wtórnej przez pacjentów po 60. Roku życia po przebyciu ostrego zespołu wieńcowego*. Czynniki Ryzyka 2009: (4): 24-32.
13. Szczepaniak-Chicheł L., Bręborowicz P., Grabicki M., i inni: *Występowanie czynników ryzyka choroby niedokrwiennej serca w populacji chorych z ostrym zespołem wieńcowym*. Clinical and Experimental Medical Letters 2005; 46(3), 51-53.

14. Szkup M., Starczewska M., Skotnicka I., Jurczak A., Grochans E.: *Ocena zachowań zdrowotnych pacjentów zakwalifikowanych do zabiegu kardiochirurgicznego*. Family Medicine & Primary Care Review 2014; 16(2): 169- 171.
15. Widomska-Czekajska T., Górajek-Jóźwik J. (red.): *Encyklopedia dla pielęgniarek i położnych*. Wydawnictwo Lekarskie PZWL, Warszawa 2010.