BERNADETA CEGŁA[1], GENOWEFA FEDEROWICZ[2], MAŁGORZATA FILANOWICZ[1]

Analiza czynników ryzyka choroby niedokrwiennej serca u pacjentów po 40 roku życia

Streszczenie

Wstęp. Czynniki ryzyka są to cechy występujące u człowieka zwiększające prawdopodobieństwo wystąpienia choroby serca lub naczyń. Można je podzielić na: niezależne i zależne od chorego. Subiektywne czynniki bywają nazywane także modyfikowalnymi. Są to m.in. nadwaga, otyłość, nadciśnienie tętnicze, podwyższony poziom cholesterolu, brak aktywności ruchowej. Badanie tych czynników, analiza częstości ich występowania umożliwia podjęcie ukierunkowanych działań edukacyjnych, które mają na celu poprawę stylu życia pacjentów.

Cel. Celem było badanie:
- modyfikowalnych czynników ryzyka choroby niedokrwiennej serca (ChNS) występujących u osób po 40. roku życia hospitalizowanych na oddziale kardiologicznym,
- rodzaju czynników ryzyka dominujących u tych chorych,
- stopnia występowania tych czynników u kobiet i mężczyzn.

Materiał i metody. Grupę badaną stanowiły 103 osoby w wieku od 40 do 70 lat z rozpoznaną ChNS i grupę kontrolną - 105 osób, u których nie stwierdzono ChNS. Kryterium włączenia do grupy badanej było stwierdzenie ChNS i zalecenie przyjmowania leków nasercowych. Badania przeprowadzono w oddziale kardiologicznym Szpitala Wojewódzkiego im. Jana Pawła II w Bełchatowie. Narzędziem badawczym był kwestionariusz wywiadu własnej konstrukcji.

Wyniki. Analiza wyników wykazała, że czynnikiem ryzyka najczęściej występującym u pacjentów w badanej grupie była nadwaga/otyłość. Stwierdzono ją u 79. osób. Drugim czynnikiem stwierdzonym u 75. osób było nadciśnienie tętnicze. Trzecim był podwyższony poziom cholesterolu. Otyłość brzuszną występującą zdecydowanie częściej u kobiet niż u mężczyzn stwierdzono u 32 kobiet i u 14 mężczyzn.

Wnioski. Nadwaga/otyłość jest najczęstszym czynnikiem ryzyka wystąpienia ChNS stwierdzanym u pacjentów hospitalizowanych na Oddziale Kardiologicznym Szpitala w Bełchatowie. U kobiet z badanej grupy częściej niż u mężczyzn występuje otyłość brzuszna. Osoby po 40. roku życia bez ChNS rzadziej cierpią na nadciśnienie tętniczce niż osoby chore. Osoby bez ChNS częściej palą papierosy niż te, które już chorują na nią.

Słowa kluczowe: choroba niedokrwienna serca, czynniki ryzyka, otyłość.

Analysis of ischaemic heart disease risk factors among patients in over forty years of age

Abstract

Introduction. Risk factors are human traits increasing the likelihood of heart and vascular diseases. They can be classified into independent and dependent upon the patient. Subjective factors are also called modifiable and include overweight, obesity, arterial hypertension, increased level of cholesterol and lack of physical activity. Studying these factors and analyzing their frequency will enable undertaking targeted educational initiatives improving patients' lifestyles.

Aim. The purpose of the study was to examine:
- Modifiable risk factors for ischaemic heart disease (IHD) occurring in people over forty hospitalized in the cardiological ward,
- Types of risks prevailing in patients in question,
- The degree of their prevalence in women and men.

Material and methods. Research group comprised 103 individuals between 40 and 70 with a diagnosed IHD and 105 individuals in control group not diagnosed with the disease. The criterion for inclusion in the study group was IHD diagnosis and taking cardiac medicines. Investigations were conducted at the cardiological ward of the John Paul II District Hospital in Bełchatów. The authors used their own survey as the research tool.

Results. Results of the analysis indicated that the risk factor most frequently occurring among study group patients was overweight/obesity. It was identified among 79 individuals. The second factor determined among 75 subjects was arterial hypertension and the third one was increased level of cholesterol. Abdominal obesity occurring significantly more often among women than men was identified in 32 women and 14 men.

Conclusions. Overweight/obesity is the most common IHD risk factor identified in patients hospitalized in the cardiological ward at the District Hospital in Belchatow. Abdominal obesity occurs more often among women than men in the research group. People over forty not affected by IHD suffer from arterial hypertension less frequently than IHD patients. Individuals not affected by IHD smoke more often that those who suffer from the disease.

Key words: Ischemic Heart Diseases (IHD), risk factors, obesity.

[1] Faculty of Health Sciences, Department of Internal Nursing Nicolaus Copernicus University in Torun, Medical College named after Ludwik Rydygier in Bydgoszcz
[2] Department of Cardiology of the District Hospital named after John Paul II in Bełchatow

INTRODUCTION

Ischemic Heart Disease (IHD) is a set of symptoms resulting from chronic – reduced supply of oxygen and nutrients to heart muscle cells.

It is a heart disease of diverse aetiology and common pathophysiology mechanism of coronary insufficiency, which in principle is a disparity between demand and the amount of oxygen delivered to the myocardium [1]. The primary symptom of IHD is angina, which means the presence of characteristic pain located behind the breastbone and radiating to the neck, jaw and left shoulder girdle. It can be caused by physical or mental effort. The risk factors are of great importance to the occurrence and development of IHD. These are the features occurring in an individual and increasing the likelihood of future heart disease or vascular insufficiency. Risk factors can be determined, named and measured. These steps allow predicting the likelihood of developing the disease or its complications. Risk factors can be divided into independent from the patient (objective) and dependent on the patient (subjective) which can be subdivided to factors of the I and II levels. Sometimes subjective risk factors are also called modifiable because the patient has an impact and may reduce their severity or even eliminate them. Primary risk factors that are most relevant and are of utmost importance for the emergence of IHD are lipid disorders, obesity, elevated total cholesterol, LDL cholesterol and triglycerides, as well as reduced HDL cholesterol, hypertension, diabetes and smoking. Identifying two risk factors in a patient makes the risk of myocardial infarction fourfold higher and the presence of three factors increases the risk 10 times. However, elimination or at least reduction of the severity of their occurrence, reduces the risk significantly [1,2]. Elimination of the modifiable risk factors is among others giving up smoking, losing weight, lowering blood pressure. The most crucial factor is changing the lifestyle. It is following the principles of a healthy diet, taking up or increasing physical activity and taking steps to learn how to cope with stress. Preparing patients to other lifestyle, changes of behaviour or promoting healthy attitudes, even when the risks do not occur, is a matter of a broader education. In order for the actions to be effective, one must both know in detail the nature, structure and the reasons for the development of the risk factors, as well as the extent of their occurrence. Only then education can be conducted in a purposeful way, directed to the appropriate groups of people which will ensure the success of the action taken. The effect will be to reduce their risk of IHD and thus reduce the number of deaths from cardiac causes which still occupy an important place among the causes of mortality among Poles. Therefore, it is reasonable and desirable to conduct studies on risk factors for IHD.

AIM

The main objective was to study the modifiable risk factors for coronary heart disease occurring in people over forty years of age hospitalized in the cardiology ward at the District Hospital in Bełchatów.

Detailed targets included:

- analysing the dominant risk factors in patients over forty hospitalized in the cardiological ward,
- identifying the intensity of occurrence of particular risk factors in IHD patients and in individuals who are not suffering from this disease,
- determining whether the modifiable risk factors occur to the same degree among men and women.

MATERIALS AND METHODS

The research group comprised 103 individuals between 40 and 70 with a diagnosed IHD and 105 individuals of the control group without the diagnosed disease. The research group was chosen in a group of patients suffering from chest pain. The criterion for the inclusion in the study group was clinical evaluation of individuals' health performed by a physician, IHD diagnosis and taking cardiac medicines. The control group consisted of healthy subjects without IHD at the age of 40 to 70 years. They were recruited among friends, colleagues, residents of housing estates and surrounding communities. The study group included 51 women and 52 men. The control group consisted of 53 women and 52 men. The study designed to analyze risk factors for IHD has been performed in the cardiology ward of the District Regional Hospital named after John Paul II in Bełchatów. The study was performed with the method of a diagnostic survey which uses an interview technique. The research tool was a self-designed interview questionnaire. The same questionnaire was used for collection of data and information on socio-demographic risk factors in both study and control groups.

RESULTS

Due to these extensive studies, data on modifiable risk factors for IHD, their intensity and structure in different studied groups were obtained. Data from the study were statistically analysed.

In the first instance an assessment of the prevalence of modifiable risk factors among all patients (both men and women) with diagnosed IHD was performed. The analysis showed that the most common risk factor in patients in the study group was overweight /obesity. It was found in 79 subjects (76.7%). The second factor in the observed number of subjects in up to 75 of them (72.8%) was hypertension. The elevated level of cholesterol was the third frequent factor. It was shown in 67 (65.1%) patients. Due to the fact that there is also a number of risk factors in the same studied patients percentages, the presented tables do not add up to 100. Somewhat different structure of risk factors was presented in relation to gender. While analyzing and comparing their occurrence in groups of women and men, it was found that abdominal obesity affects far more women than men. Studies have shown its prevalence in 32 women (62.7%) and in 14 men (26.9%). The difference in the prevalence of abdominal obesity in men and women was statistically significant ($p<0.001$). Moreover, hypertension occurred more frequently in women than in men. Although the study has not found a statistically significant difference in the level,

the absolute values clearly show the superiority of this factor in women. Hypertension was found in 76.5% of women and 69.2% men. This was the single and most important risk factor in women, because it was found in the greatest number of subjects. On the other hand, in the group of men, overweight/obesity was the most important risk factor. It was found in 42 men, representing 80.8% of the male group. Smoking, which is a significant factor in the development of Ischemic Heart Disease, occurred more often in men than women. Although the study has not found a statistically significant difference in the level, the difference was clear: 25.0% men and 19.3% women smoked cigarettes. The figures are reported in Table 1.

Later in the analysis of the study results, IHD risk factors were evaluated in the control group, i.e. in patients without the diagnosed disease. It showed that the structure of risk factors is similar to that in the group with IHD. In the first place was the prevalence of obesity. It was found in 70.5%, of subjects. Subsequently, there were: elevated cholesterol in 44.8%, physical inactivity in 41.9% and hypertension in 39.0 %, respectively. In the group of men and women the sequence of individual risk factors was similar. The most important risk factor for IHD occurring in the first place, both in women and men was overweight/obesity, the second was high cholesterol and physical inactivity. Comparison of severity of each factor in groups of men and women showed no statistically significant differences. The percentages indicate however that the severity of each factor was greater in men than in women. Thus, obesity was found in 78.9% of males and in 62.5% of females. Elevated cholesterol levels occurred in 48.1% of males and in 41.5% females. The third most common risk factor was the lack of physical activity. Such a state was declared by 44.2% men and 39.6% women. Scheduling of risk factors in the ranking due to their prevalence in subjects means that the first place is occupied by the factors which occur most frequently and in the biggest group of subjects. Similarly to patients with IHD, also in the control group, more men than women smoked cigarettes. The habit was admitted by 42.3% of men and 28.3% of women. Detailed data on this issue are shown in Table 2.

The prevalence of IHD risk factors was also assessed from a different point of view. The group of men and women were analyzed separately. Within each of them the severity of risk factors in patients with and without IHD was compared.

Generally in both groups with and without IHD, the most common risk factor was overweight / obesity. It was found in 67.3% of women. In the second place there was hypertension – 54.8%, and in the third one – high cholesterol – 51.9%. The pattern of severity of individual risk factors was different in women in the subgroup of women with diagnosed IHD and women without IHD. Hypertension was reported by 76.5% of women already diagnosed with the disease and overweight or obesity was reported by (72.5%). Over 62% of them had high cholesterol and abdominal obesity. Among women who were not diagnosed with IHD the most common risk factor was also overweight/obesity – 62.3%. In the second place, however, elevated level of cholesterol was found in 41.5%; in the third place – lack of physical activity in 39.1%.

Comparison of the two subgroups of women (with and without the disease) showed that apart from tobacco smoking, all risk factors examined occurred more frequently in women with IHD. In two cases the difference was statistically significant. Abdominal obesity was present in 62.7% of women with IHD, and in the group without it – in 35.8% (p=0.006). The second factor, which showed a significant difference, was high blood pressure. It occurred in 76.5% of women with IHD, but in the group without it, only in 34.0% (p<0.001) of women. The analyzed results are shown in Table 3. A similar analysis, as discussed above, was performed with the results regarding the prevalence of risk factors in men.

TABLE 1. Prevalence of modifiable risk factors in groups of women and men with IHD.

Risk factors	Group with IHD						Value x^2	Significance level p
	Women		Men		Total			
	n	%	n	%	n	%		
Overweight/obesity	37	72.5	42	80.8	79	76.7	0.974	p>0.05
Abdominal obesity	32	62.7	14	26.9	46	44.7	13.368	p<0.001
Physical inactivity	22	43.1	23	44.2	45	43.7	0.013	p>0.05
Smoking	10	19,3	13	25.0	23	22.3	0.432	p>0.05
Elevated cholesterol	32	62.8	35	67.3	67	65.1	0.236	p>0.05
Hypertension	39	76.5	36	69.2	75	72.8	0.682	p>0.05
Diabetes	10	19.6	8	15.4	18	17.5	0.318	p>0.05

TABLE 2. Prevalence of modifiable risk factors in groups of women and men without IHD.

Risk factors	Group without IHD						Value x^2	Significance level p
	Women		Men		Total			
	n	%	n	%	n	%		
Overweight/obesity	33	62.3	41	78.9	74	70.5	3.469	p>0.05
Abdominal obesity	19	35.8	13	25.0	32	30.5	1.458	p>0.05
Physical inactivity	21	39.6	23	44.2	44	41.9	0.229	p>0.05
Smoking	15	28.3	22	42.3	37	35.2	2.256	p>0.05
Elevated cholesterol	22	41.5	25	48.1	47	44.8	0.458	p>0.05
Hypertension	18	34.0	23	44.2	41	39.0	1.163	p>0.05
Diabetes	2	3.8	5	9.6	7	6.7	0.654	p>0.05

TABLE 3. Prevalence of modifiable risk factors in women.

Risk factors	Women						Value x^2	Significance level p
	Without IHD		With IHD		Total			
	n	%	n	%	n	%		
Overweight/obesity	33	62.3	37	72.5	70	67.3	1.249	p>0.05
Abdominal obesity	19	35.8	32	62.7	51	49.0	7.528	**p=0.006**
Physical inactivity	21	39.6	22	43.1	43	41.4	0.132	p>0.05
Smoking	15	28.3	10	19.3	25	24.0	1.076	p>0.05
Elevated cholesterol	22	41.5	32	62.8	54	51.9	4.695	P=0.030
Hypertension	18	34.0	39	76.5	57	54.8	18.961	**p<0.001**
Diabetes	2	3.8	10	19.6	12	11.5	4.927	P=0.026

TABLE 4. Prevalence of modifiable IHD risk factors in men.

Risk factors	Men						Value x^2	Significance level p
	Without IHD		With IHD		Total			
	n	%	n	%	n	%		
Overweight/obesity	41	78.9	42	80.8	83	79.8	0.060	p>0.05
Abdominal obesity	13	25.0	14	26.9	27	26.0	0.080	p>0.05
Physical inactivity	23	44.2	23	44.2	46	44.2	0.000	p>0.05
Smoking	22	42.3	13	25.0	35	33.6	3.488	p>0.05
Elevated cholesterol	25	48.1	35	67.3	60	57.7	3.939	**p=0.047**
Hypertension	23	44.2	36	69.2	59	56.7	6.620	p=0.010
Diabetes	5	9.6	8	15.4	13	12.5	0.352	p>0.05

TABLE 5. Prevalence of overweight/obesity in subjects according to BMI value.

BMI value	Group without IHD			Group with IHD			Total		
	n	%	BMI x±s	n	%	BMI x±s	n	%	BMI x±s
<25	31	29.5	22.6±1.4	24	23.3	22.5±2.0	55	26.4	22.5±1.7
25-30	44	41.9	27.3±1.5	46	44.7	27.3±1.3	90	43.3	27.3±1.4
≥30	30	28.6	33.5±3.5	33	32.0	33.3±3.2	63	30.03	33.4±3.2
Total	105	100.0	27.7±4.7	103	100.0	28.1±4.7	208	100.0	27.9±4.7

Together in groups of men with IHD and without it, the most common risk factor was overweight /obesity. It was found in almost 80% of men. The increased level of cholesterol was the next most frequently occurring risk factor, which occurred in 57.7% of men. The third place was occupied by hypertension – 56.7%. The comparison of two subgroups of men (with and without the disease) showed that the risk factor, which occurred in greatest number of respondents, was overweight / obesity. In the group with IHD, it was found in 80.8% of men, in the group without the disease – in 78.9%. The next most significant risk factor in the group with IHD was hypertension – 69.2%, and the third one was high cholesterol – 67.3%. In the group without IHD high cholesterol occupied the second place as the risk factor – 48.1% and the third place was taken by arterial hypertension – 44.2%. The comparison of severity of each risk factor only in two cases – high cholesterol and hypertension showed statistically significant differences. Elevated cholesterol levels occurred in 67.3% of men with IHD and in men without the disease in 48,1% (p=0.047).

Hypertension occurred in 69.2% of men with IHD and in only 44.2% (p=0.010) of men without the disease. In the case of hypertension, the difference was significantly greater than in the case of elevated cholesterol levels. Detailed data on the prevalence of risk factors for IHD in men is shown in Table 4.

The comparison of frequency of smoking in each group showed that significantly more frequently smokers were those in whom IHD was not found. However, smoking habit was not as common in patients with diagnosed IHD. Because of the most common occurrence in almost all surveyed groups of obesity/overweight, this factor was analyzed in detail. Criterion for inclusion in the group with obesity/overweight was BMI. As shown in Table 5, only 26.4% of all subjects (including the control group) were of normal weight, for which the BMI value under 25 is accounted. In the group of patients with Ischemic Heart Disease, patients with normal body weight comprised only 23.3%. The remaining patients – 73.4% were overweight or obese. BMI at 25-30,i.e. overweight was found in 43.3% of subjects. However, a BMI equal to or greater than 30, i.e. obesity, was found in more than 30% of subjects. Detailed data are shown in Table 5.

DISCUSSION

Among the cardiac causes of death Ischemic Heart Disease [3] takes the first place. It is estimated that half of patients dying as a result of its development, could have been saved if they had been able to control effectively the main risk factors, i.e. obesity, hypertension, diabetes, and unfavorable health lifestyle [3,4]. Modification of risk factors, aiming to keep a healthy lifestyle is potentially the most accessible, but also the most difficult to achieve method of cardiopulmonary vascular system disease prevention [4]. The first step on the way for changes is research, analysis and assessment of the

risk factors. Only this can be the basis for implementing targeted actions directed at the patient's life that pose the greatest and the most prevalent threat [5]. INTER-HEART study, which was conducted in 52 countries proved that the six independent risk factors, i.e. overweight /obesity, low physical activity, lipid disorders, smoking, hypertension and diabetes are liable for IHD risk in 94% women and 90% of men [2]. Till 2002 in Poland there were no comprehensive national research programs on IHD risk factors.. Only in 2002, the nationwide survey NATPOL PLUS (Arterial Hypertension in Poland Plus) was carried out in which a group of respondents consisted of over 3,000 people [2, 6]. It showed a large increase in the incidence of major IHD risk factors in Poland. The aim of the multi-centr study of population health status WOBASZ was also to evaluate the prevalence of major risk factors [6]. Data from these studies indicate that overweight and obesity are the most common risk factors for IHD in adults. This risk factor for IHD plays an unique role, because on the one hand it depends on lifestyle (diet, physical activity, alcohol abuse), on the other- it is the cause of other metabolic risk factors [7]. However, in some patients with overweight or obesity, despite the presence of risk factors and angina, atherosclerotic lesions in coronary arteries were not found [8]. According to the study NATPOL PLUS overweight affects 19% and obesity affects 5% of persons aged 18-30 years [9]. However, according to research Pol MONICA bis, which was performed with subjects in Warsaw at the age of 20-74, obesity affected 26% of men and 24% of women [10]. Our own research has shown similar results. The main risk factor for IHD is overweight and obesity. It was found in 76.7% of subjects (men as many as 80.8% and in 72.5% of women), indicating a significant higher prevalence of risk factor than in the studies cited above. This results from the fact that in this study the group of subjects with higher weight included both patients who are overweight, i.e. body weight and BMI $\geq$ 25 and obese, i.e. with BMI $\geq$ 30. The study group consisted of people over 40 and thus older than the study by NATPOL PLUS, which undoubtedly contributed to the increase of this risk factors because the elderly have been suffering far more often than from overweight and obesity. Only slightly over 23% of patients with IHD were of normal weight. For comparison, the Central Research Institute for Labour Protection have shown the presence of obesity (BMI >30) in 20% of all respondents and 43% in the subgroup >45 years old. Very similar results as the authors of this study were obtained in studies RECENT [11] in which the presence of overweight or obesity was found in 79.3% of subjects. The EUROASPIRE studies conducted in Cracow, with the aim to compare the quality and effectiveness of secondary prevention in patients hospitalized with IHD have shown that the percentage of obese people increased over the last 10 years from 24.5 to 33.9% [12].

For the development of IHD not only the prevalence of obesity but also its nature is important. Abdominal obesity (visceral), which is typical for the deposition of fat within the abdomen is by far the greater risk of developing cardiovascular diseases (CVD) than popliteal-femoral obesity [10]. To determine whether there is, and evaluate visceral obesity a WHR indicator (Waist to Hip Ratio, the ratio of waist to hip circumference) may be used, or a simple anthropometric measurement, which is waist circumference, may be used as well. The occurrence of abdominal obesity is considered in people who have a waist circumference ≥88cm in women and ≥102cm in men. This measurement is used by the authors of the studies as a way to assess abdominal obesity. Using this index it was confirmed that abdominal obesity is found in 44.7% of patients with IHD. Studies have also shown the dependence of the factor on gender. In women visceral obesity is found almost twice as often as in men . This regularity is confirmed by many researchers and reported in various studies such as research NATPOL Plus, the program WOBASZ [13]. Research conducted by Szostak-Węgierek among young adults (18-30 years) showed that too large waist circumference, which predisposes to IHD, was found in approximately 10% of women [9]. It can be presumed that such a low prevalence of abdominal obesity stems from the fact that the study groups were younger than in our study. The study of risk factors for IHD in cross-section ofprofessional and ages groups which were undertaken by the Central Institute for Labour Protection have shown that abdominal obesity was present in 19% of men. It was found that obesity was more common in older groups, i.e. >45 years old, both in a subset of managers – 22% and a subset of manual workers 30% [7].

One of the main risk factors predisposing to the occurrence and development of IHD is also hypertension. It often coexists with other risk factors, which greatly increases the risk of heart attack or death [14]. The Framingham study found that among patients with untreated hypertension, mortality due to heart attack or heart failure reached 60% [15].

In Poland, hypertension is an enormous problem. Its detection rate amounts to only 67% and its control includes only 12.3% of patients [15]. In our study, hypertension was found in 72% of patients with IHD, which placed it second in the prevalence of major risk factors. Although the difference was not statistically significant, far more women than men suffer from hypertension. In fact, the incidence of hypertension is similar in both sexes, however, significantly increased in postmenopausal women [16]. Authors of other studies with similar age groups (mean age 65.0±9.8 years) obtained similar results. Hypertension in history was stated by 78% of patients [11]. Analysis of risk factors for CVD, in which the study groups comprised younger people indicates lower prevalence of hypertension. In her studies, Szostak-Węgierek found the presence of arterial hypertension in 23.1%, of women and in 48.8% of men [9].

Together with overweight, which is the most common major risk factor for IHD patients, elevated cholesterol levels often occur. Data from the named studies indicate that this condition applies to more than 65% of patients. A similar level was found in both women and men. The percentage of high cholesterol in the reports from various studies ranged from 20% to even 80% and more. Such large differences, as expected, are associated with different age structure of the studied groups. It depends on the characteristics of the study group and in particular the average age of subjects. For comparison, in the cited earlier studies of the Central Institute for Labour Protection, elevated levels of total cholesterol were found in 64% of subjects in the subgroup of managers and in 63% of physical workers subgroup. In a subset of people

>45 years old in the same trials, these percentages were 69% and 87%, respectively[7]. In the multicentre RECENT study, history of lipid disorder was diagnosed in 57.6% of patients [11]. Lipid abnormalities were also a very common disorder in the population of young adults in Poland. According to the NATPOL Plus study hypercholesterolemia was found in 23% of women and 25% of men aged 18-29 [9]. The existence of such a significant hypercholesterolemia also shows the percentage of people taking lipid-lowering drugs. According to the study EUROASPIRE III in 1997 – 28.7% of subjects received these drugs and in 2000 – 85,4% of them[12].

Cigarette smoking is a significant factor in the development of IHD. Although it is known that smoking is harmful for human health, a substantial proportion of the total population is still smoking. According to the study EUROASPIRE III, the percentage of people addicted to this habit have not changed significantly since 1997 and in 2000 it was 19.2% [12]. RECENT results of multicentre studies indicate that 11% of those surveyed currently smoke tobacco [11]. Significant is the occurrence of smoking cessation in women. Research shows that 60% of women born in 1951 smokes [5]. In our study, smoking cigarettes was found in 22.3% of all subjects. Women do not constitute a greater proportion of smokers than men. However, it is worth stressing that persons without IHD smoke more often compared to those who already suffer from the disease. It can be presumed that this is an act of secondary prevention, which is focused on reducing complications, disease recurrence and block of pathologic progression [17].

Modification of the recognized risk factors is the basic strategy of the proceedings, both in primary and secondary prevention [18]. Effective control of major risk factors can reduce not only morbidity, but also mortality due to coronary heart disease [4].

CONCLUSIONS

1. Overweight / obesity is the most common risk factor for the observed IHD patients hospitalized at the cardiology ward of the hospital in Belchatow.
2. In women from the study group, abdominal obesity was more common than in men with IHD.
3. People over 40 years of age without IHD are less likely to suffer from hypertension than those affected by the disease.
4. People without IHD more often smoke cigarettes than those who already suffer from the disease.

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Informacje o Autorkach

Dr n. med. Bernadeta Cegła – adiunkt, pełniąca obowiązki kierownika, Zakład Pielęgniarstwa Internistycznego, Collegium Medicum im. Ludwika Rydygiera w Bydgoszczy, Uniwersytet Mikołaja Kopernika w Toruniu; mgr piel. Genowefa Federowicz – Oddział Kardiologiczny Szpitala Wojewódzkiego im. Jana Pawła II w Bełchatowie; mgr piel. Małgorzata Filanowicz – asystent, Zakład Pielęgniarstwa Internistycznego, Collegium Medicum im. Ludwika Rydygiera w Bydgoszczy, Uniwersytet Mikołaja Kopernika w Toruniu.

Adres do korespondencji

Bernadeta Cegła
Zakład Pielęgniarstwa Internistycznego CM UMK
ul. Techników 3, 85-801 Bydgoszcz
tel. kom. 600 482 836
e-mail: bernadeta_cegla@tlen.pl