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*Life style and the risk of development of circulatory
system diseases*

Circulatory system diseases (c.s.d.) belong to the group of civilisation diseases. Many years' epidemiologic tests conducted in many countries led to defining the group of risk factors enhancing development of circulatory system diseases. The term risk factor describes some features or conditions that increase risk of particular disease development.

The risk factors of circulatory system diseases are: stress, overuse of alcohol, smoking cigarettes, bad eating habits, sitting life style (1, 2). It has been proved that the more risk factors are present in a patient, the higher is the likelihood of circulatory system diseases (2, 4). Concurrently, the presence of two risk factors in a patient increases the probability of myocardial infarction fivefold, and three risk factors increase it eightfold (3). Stress connected with modern life style often causes intake of high calorie products, with causes overuse of calories compared to nutritional needs. Calorie overconsumption, animal fat rich diet, sitting life style result in the development of android obesity, hypercholesterolemia, that enhance atheromatosis (8). The most dangerous consequences of atheromatosis are: angina pectoris, hypertension, myocardial infarction, brain insult, type II diabetes.

The aim of the work was to evaluate life style and its correlation with development of circulatory system diseases.

MATERIAL AND METHODS

We interviewed 86 patients (41% females and 59% males) 30 to 70 years of age, hospitalised in cardiology department of Ministry of Internal Affairs Hospital in Lublin. 26% of them were admitted to hospital because of heart ischaemic disease, 24% – because of hypertension, 20% – because of arteriosclerosis, 14% – because of arrhythmia,

12% – because of myocardial infarction. We interviewed the patients with a questionnaire and analysed medical and nursery documents. Participation in the project was voluntary and anonymous.

RESULTS

30% of interviewed patients take condiments (alcohol, cigarettes) in stress situation, 14% of them take tranquilizers, and only 10% of patients do any physical activity (Tab. 1).

The manner of nourishment depends on customs and cooking tradition, but not sanitary conditions. In 66% of patients in ordinary diet prevail animal fats, and 52% patients prefer meat dishes. Vegetables and fruits make only 11% in a diet and fish only 3% of a

Tab.1

Stress coping methods	Number of patients	%
Use of condiments (alcohol, cigarettes)	39	30
Loneliness	28	21
Tranquilizers	19	14
Tears	11	9
Physical activity	10	8
Hobbies	9	7
Conversation	8	5
Prayer	6	4
Relaxing methods	2	2
Total	132	100

Tab. 2

Body Mass Index(BMI)	Number of patients	%
BMI > 40 – severe obesity	5	6
40 > BMI > 30 – obesity	18	20
30 > BMI > 25 – overweight	33	38
25 > BMI > 19 – normal body weight	28	33
BMI < 19 – underweight	2	3
Total	86	100

Tab. 3. Influence of smoking and drinking on the prevalence of circulatory diseases

Circulatory system disease	Number of cases	Number of smokers	%	Number of non-smokers	%	Alcohol overusing patients	%	Alcohol non-overusing patients	%
Coronary ischaemic disease	22	18	82	4	18	10	45	12	55
Hypertension	21	17	81	4	19	13	62	8	38
Arteriosclerosis	16	14	82	3	18	9	53	8	47
Arrhythmia	12	8	67	4	33	6	50	6	50
Myocardial infarction	11	9	90	1	10	6	60	4	40
Others	4	2	50	2	50	2	50	2	50
Total	86	68	79	18	21	46	53	40	47

diet. Using Body Mass Index (BMI) we consider that 64% of patients are overweight or obese (Tab. 2). The most frequent risk factor of circulatory system diseases development was smoking cigarettes (79% of interviewed patients). 90% of patients with myocardial infarction and over 80% of those suffering from coronary ischaemic disease, hypertension

Tab. 4. The reasons for appearance of circulatory diseases according to respondents

The reasons for appearance of circulatory system diseases	Number of answers	%
Stress	35	22
Difficult work conditions	31	21
Difficult socio-economic conditions	30	19
Problems in private lifes	16	10
Overweight and obesity	12	8
Smoking tobacco	11	7
Overuse of alcohol	10	6
Congenital (genetic) factor	6	4
Unknown	5	3
Total	156	100

and arteriosclerosis, were smokers. Another risk factor was the use of alcohol. 53% of interviewed patients admitted to frequent use of alcohol. Overuse of alcohol in over 60% of cases was connected with hypertension and myocardial infarction (Tab. 3).

Our study shows that 72% of the interviewed people related their circulatory system diseases to widely understood difficulties of everyday life and stress. Even though 60% of patients were overweight and obese only 8% considered it a disease risk factor. It is worth to underline that only 7% of smokers considered their habit a reason for circulatory system diseases. Similarly only 6% of interviewed people considered overuse of alcohol a risk factor of c.s.d. (Tab. 4).

DISCUSSION

The life-style of modern society and the population under study in particular still contains many health-impairing factors. The main risk factors of c.s.d. connected with life style are: stress, overuse of alcohol, smoking cigarettes, bad eating habits, and lack of physical activity. Circulatory system diseases seriously threaten the health of societies. In POL-MONIKA study basing on European Arteriosclerosis Association criteria, it was shown that the general risk of ischaemic heart disease is high and reaches 44.4% in men (average) and 41.8% in women (7). The intensifying life-pace, every-day problems and stress experiences connected with it have an important influence on cardiovascular diseases development, both in experts' and in studied patients' opinion (13). Stress provoked 30% of the studied group to turn to such addictive substances as tobacco and alcohol. The use of tobacco is an important risk factor of coronary ischaemic diseases (12). Impairing vascular endothelium and having deleterious effect on lipid profile, tobacco smoke enhances arteriosclerosis development (8). The current studies have shown that 79% of patients were smokers, but only 7% perceived smoking as the cause of disease. POL-MONIKA program has shown that as much as 50% of men and 44.4% of women smoke. Cessation of smoking can lower the risk of heart attack after just a year by 50-70% (12). Unhealthy diet comprising animal fats mainly, lack of physical activity, led to overweight or obesity in 64% of patients. 61% of patients consume everyday animal fats, and 52% prefer meat dishes. Vegetables and fruits constitute only 11%, and fish – only 3% of consumed products. Obesity is a common problem in economically developed countries (5). POL-MONICA studies have shown that there is a raising tendency in the percentage of obese people in the Polish population in the years 1984-1993. Some 65% of the studied group were overweight or obese – both men and women. The obtained data also show the overuse of saturated fatty acids, cholesterol, sugar and salt (6). 53% of respondents declared overuse of alcohol, but only 6% considered the possibility of its influence on disease development. Alcohol, tobacco smoking and inappropriate diet resulting in overweight or obesity are well-known risk factors of cardiovascular system dis-

eases development (9, 10, 14). The majority of the respondents did not realise how risky to health status their life-style was. Eventually appearance of disease and contact with a doctor let them know what had caused their health problem. According to Rywik only 27% of women and 18% of men with high risk of cardiovascular diseases development was conscious of existing dangers (7). Growth morbidity and decrease in age of patient made c.s.d. one of the greatest epidemiologic problems in Poland (11). The results obtained significantly indicate how important is health education referring to the danger of widely understood unhealthy life style. Propagation of following healthy model with emphasizing real profit resulting from living healthy life is the only righteous way to improve it.

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SUMMARY

Circulatory system diseases (c.s.d.) belong to the group of civilisation diseases. The risk factors of circulatory system diseases are: stress, overuse of alcohol, smoking cigarettes, bad eating habits, sitting life style. Calorie overconsumption, animal fat rich diet, sitting life style result in the development of android obesity, hypercholesterolemia, that enhance atheromatosis. The most dangerous consequences of atheromatosis are: angina pectoris, hypertension, myocardial infarction, brain insult, type II diabetes. The aim of the work was to evaluate life style and its correlation with development of circulatory system diseases. The results obtained significantly indicate how important is health education about the danger of widely understood unhealthy life style. Propagation of staying healthy model with emphasizing real profit resulting from leading healthy life style is the only righteous way to improve it.

Styl życia a ryzyko rozwoju chorób układu krążenia

Celem pracy była próba oceny wpływu stylu życia na rozwój chorób układu krążenia. Badaniami objęto 86 pacjentów (41% kobiet i 59% mężczyzn) w wieku 30 do 70 lat, hospitalizowanych w Oddziale Kardiologii Samodzielnego Publicznego ZOZ-u Zarządu Służby Zdrowia MSWiA w Lublinie. U 27% badanych przyczyną hospitalizacji była choroba wieńcowa serca, u 25% nadciśnienie tętnicze, u 20% miażdżycza naczyń, u 15% zaburzenia rytmu serca, a u 13% zawał mięśnia sercowego. Metodą badawczą była ankieta oraz analiza dokumentacji lekarskiej i pielęgniarskiej. Udział w badaniu był dobrowolny i anonimowy.

Przeprowadzone badania wykazały, że 72% badanych wystąpienie chorób układu krążenia wiąże z trudnymi warunkami życia codziennego i stresem. 30% ankietowanych w sytuacjach stresowych radzi sobie sięgając po używki, 14% zażywa leki uspokajające, a tylko 10% badanych relaksuje się przez aktywność fizyczną.

O sposobie odżywiania badanych decydują przyzwyczajenia i tradycje kulinarne, a nie czynniki zdrowotne. U 61% pacjentów w codziennej diecie przeważają tłuszcze zwierzęce. Pomimo że u 65% ankietowanych obserwowano nadwagę lub otyłość, tylko 8% uważało ją za czynnik chorobotwórczy. Najbardziej rozpowszechnionym czynnikiem ryzyka wystąpienia chorób układu krążenia było palenie tytoniu, co dotyczyło aż 79% badanych.

Podkreślić należy że tylko 7% palących uważa swój nałóg za przyczynę chorób układu krążenia. Kolejnym czynnikiem ryzyka jest spożywanie alkoholu. 53% badanych deklaruje częste spożywanie alkoholu, jednak tylko 6% respondentów uważa tę używkę za czynnik wywołujący choroby układu krążenia.

Uzyskane wyniki badań wskazują na to, że styl życia większości badanych pacjentów zawiera elementy uznane za czynniki ryzyka występowania chorób układu krążenia. Niedostateczna świadomość badanych co do zagrożenia, jakie stwarza prowadzenie niezdrowego trybu życia, wskazuje na konieczność prowadzenia szeroko pojętej działalności edukacyjnej w zakresie szkodliwości palenia tytoniu, nadużywania alkoholu, zwalczania nadwagi i odpowiedniego odżywiania.