ARTYKUŁ ORYGINALNY / ORIGINAL PAPER
Otrzymano/Submitted: 25.05.2011 • Poprawiono/Corrected: 07.06.2011 • Zaakceptowano/Accepted: 07.06.2011

The role of early-childhood and childhood development factors in development of chosen circulatory system illnesses in older age

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Abstract

Introduction. The meaning of development factors of early – child on later period in chosen disease of circulatory system. It is assumed that certain development factors of early – childhood might affect on appearing heart diseases in early period of life they favor appearing inborn heart disadvantages, at later period of heart diseases, in which pathogenesis psychosocial factors play main role. ***The aim of the study.*** The aim of the work was to try grasping the occurrence of irregularities in early childhood development, which at the mature age might have effect on chosen diseases circulatory system development. ***Material and methods.*** The examined material consist of 130 people, who were divided in two groups in dependence of clinical diagnosis: 1. group of 34 man with average age of 47,6 with recognized with rheumatological disorders (r.d). and 2. group of 96 man with recognized ischaemic heart disease on different development levels. The age of examined 47-67 years, average 53,8. All were hospitalized a had their examinations in hospital conditions. Anamnesis of rheumatological disease was not shorter than 5 year. In case of ischaemic disease, acute incidents were hospitalized. At all examined they disease anamnesis was supplemented by examined questionnaire in the form of survey under the angle of grasping irregularity in early – childhood development. Survey had 20 general and detailed questions. ***Results.*** Results were statistically analyzed by the Chi Square test. Examined differences significant differ from each other in following parameters: frequency of defective early childhood development occurrence; frequency of early – childhood diseases occurrence; adaptation for living collective; educational problems; frequency of family problems occurrence; frequency of environmental bound problems. *Geriatria 2011; 5: 105-109.*

Keywords: childhood, psycho-social, environmental factors, coronary heart disease

Introduction

Some early childhood development factors may affect manifestation of some heart diseases. In the early childhood period it concerns appearance of the inborn heart defects and in the latter period – symptoms of ischemic heart disease. Finding those factors, as well as ischaemic heart disease risk factors in later periods, may have crucial meaning for primary prevention. In those periods, even from early childhood, creating habits and awareness of healthy life style becomes very important. They have significant influence not only on the process of biologic development of persons, but also creation of pro-health and educational behavior. Psycho-social factors belong to the most important in that group. They play a very important role even in early childhood. Those factors may determine later behavior, which evaluate into specific pattern of behavior. Implementation of not optimal pattern of behavior helps development of risk factors of ischemic myocardial.

Those factors may create also some patterns concerning style of life, dietetic habits, addictions and emotional reactions in difficult moments in life even in the early childhood. It is assumed that part of the risk factors of development of arterial hypertension of grown up person is established during its fetal life. Accelerated increase of mass of the body in early childhood signifi-

cantly aggravates the risk of developing inclinations to obesity in mature life period. In literature, with respect to later development of some ischaemic heart diseases, opinions may be found stressing the crucial role of behaviour patterns created in early childhood period, which were determined by such environmental factors as smoking, early alcohol and sexual initiation, overuse of drugs. Less attention is paid to cognitive and personal factors, which create emotional patterns in early childhood, patterns of behavior predestining to ischemic heart diseases.

The aim of the work was a trial to find out abnormalities in early childhood and childhood periods, which may influence creation patterns of behavior predestining to development of chosen ischemic heart diseases.

Comparison of the results obtained by the author by using the questionnaire with the results obtained by the control group consisting of persons in similar age not having symptoms of ischemic heart diseases (rheumatoid trouble).

Experimental procedures

The subjects consisted of 130 persons divided into two groups – examined and control.

The examined group consisted of 63 persons aged between 47-67, with an average age of 53,8, with diagnosed ischemic heart disease - (CAD), within them 96 persons after infarct, 33 persons with clinically proved (CAD). All of the subjects were hospitalized because of the acute ischaemic incident**,** and they were researched 1- 12 months after the incident.

Characteristics of the examined material are presented in table 1.

The examined group consists of 34 persons in similar age suffering from rheumatoid illnesses diagnosed as low back pain being in a course of arthrosis vertebral column without arterial hypertension and (CAD) symptoms.

In all cases the anamnesis was supplemented by a questionnaire including questions, general and detailed, concerning past such as:

- early childhood development, in case of backwardness given reasons were required, data concerning birth and natal weight,
- social background,
- place of living,
- frequency of suffering of early childhood illnesses,
- traumatizing factors (stressful situations) during childhood,
- adoption to social life (kindergarten, school)
- frequency of family conflicts,
- difficulties with behavior,
- difficulties in learning.

Also the attention was given to the existence of environmental factors, which may influence certain habits up to 14 years of age such as alcohol initiation, smoking, use of drugs, early sexual initiation. For the statistical examination the Chi Square test was used.

Results

The results of the examinations are presented in tables 1 and 2.

Discussion of results

Lasting many years prospective examinations of population enable to obtain lots of information concerning the relation between crucial risk factors of ischaemic heart diseases and other illnesses of cardiovascular system. These dependencies are of different character and are significant for etiology of ischemic heart diseases. Except well known risk factors such as concentration of cholesterol in serum, arterial hyper-

Table 1. Environmental Factors frequency of occurrence in respondent statements (%)

Group	Type of factor			
	Tobacco smoking	Alcohol consumption	Taking drugs	Early sexual initiation
Examined	15,6	20,8	10,5	5,0
Control	17,6	26,4	8,8	7,2
Statystical Analysis	NS	NS	NS	NS

NS – non significant

Alcohol consumption was 20.8% in the examined group and 26.4% in the control group respectively, taking drugs 10.5% versus 8.8% (p = NS) respectively and finally early sexual initiation 5.0% versus 7.2% (p = NS)

Table 2. Results questionnaire examination and statistical analysis

Character of the change	Prevalence	Group		Statistical significante
		Examination	Control	
		Percentage occurrence		
Development childhood	Delayed	2,0	-	NS
	Normal	98,0	100,0	
Disease of the childhood	Frequency of prevalence	90,0	94,0	NS
		10,0	6,0	
Place of living	City	37,5	41,0	NS
	Village	62,5	59,0	
Traumatize factors on the childhood	Was	29,7	6,7	P < 0.001
	Was not	70,3	93,3	
Adaptacion	Normal	90,0	93,3	NS
	Difficulty	10,0	6,7	
Difficulty on the study	was	16,7	27,8	P < 0,001
	Was not	83,3	72,2	
Difficulty on the education	was	3,3	21,0	P < 0,001
	Was not	96,7	79,0	
Education	professional	9,1	40,0	P < 0,001
	High school	72,8	56,7	
	university	18,1	3,3	
Family conflicts	Was	33,3	13,4	P < 0,001
	Was not	66,7	86,6	

NS - non significant

tension, and addition to smoking significant meaning is given to psycho-social and environmental factors influencing human body from the early childhood, which are responsible for comfort of certain stages of human life, and quality of life in case of ischemic heart diseases occurrence. Examinations of Pathobiological Determinants Atherosclerosis in Youth Study (PDAY) concerning natural course of arteriosclerosis aorte and coronary artery and maturing period revealed the presence of infiltration lipids and atheromatous plaque in the examined among persons who died between 15-34 years of age [1]. Those examinations prove necessity for wide scope search of their risk factors. That knowledge would enable reduction of mortality caused by acute ischemic incidents and diseases of cardiovascular system.

The results of own investigations reveal some differences between the examined factors in the research and control group (table 1).

It was found out that with respect to the patients with coronary artery disease without infarct and also after infarct greater frequency of traumatic situations during childhood was characteristic, as well as occurrence of difficulties in learning, difficulties in behavior, but those difficulties did not impart the ability of obtaining high and university education in future. However, in later periods, those factors may cause symptoms of depression, anger and hostility, which belong to psychological risk factors of circulatory system diseases among children and grownups (table 2). The role of those factors increase with the age of person and therefore there is necessity to modify the pathogenic behaviors.

The habits and conciousness of healthy life style should be formed from early childhood [2-4]. Many authors stress that physical activity is one of the important forms of pro-health behavior [5] as it is not only modifying the biologic development of a person, but also formulating prohealth habits and education patterns. The research group consisted mainly of people having university education.

People with vocational and college education dominated in the control group. The differences concerning education were statistically significant. Among traumatizing factors respondents mentioned family conflicts, difficult situations at school, conflicts with equal age persons, and also difficulties in learning. In analyzing the influence of environmental factors the attention was paid to unhealthy behaviors. The answers given in the questionnaire concerned 60-th and 80-th

years of XX-th century when the examined persons were before 14 years of age. For example the smoking addition was a resultant of influence compilation of family, equal age persons and media, prevalence of smoking addition among young people with tendency to lower the age of initiation and dependence. The first trials of smoking are undertaken even before 10 years of age. Similar dependences and frequency of occurrence concerned drinking alcohol and drinking habits. Borzucha - Sitkiewicz [6] found out that 82% of pupils of secondary schools used alcohol. According to Cieślik [7] alcohol consumption among teenagers up to 14 years of age increased by 100% in the last twelve months. Drug consumption did not exceed 10%. Cited already earlier research performed by Borzucha-Sitkiewicz [6] show that it is higher and amounts to 17% in that age group. It may be the resultant of some personal or adaptation and/or learning difficulties.

Early sexual initiation was equal to 10% in research and control groups. Analysis of the results revealed that, differences concerning psycho-social factors were statistically significant between the two groups, while not statistically significant with respect to environmental factors. Other examination concerning relations between early childhood developments and ischemic heart diseases were performed by Stein, Osmond i Barker [8-10]. They studied 517 men and women who were 38-60 years old (47), who were born between 1934-1954 in a mission hospital in Mysore (India) and who still lived near to the hospital. They related the prevalence of coronary heart disease, defined by standard criteria, to their bad size. According to their findings 25 (9%) men and 27 (11%) woman had coronary disease low birth weight, short birth length and small head circumference of birth were associated with a raised prevalence of the diseases.

My own research draw attention to the less observable risk factors of ischemic heart disease and other illnesses of cardiovascular system. Their early detection among young persons enables undertaking modification activities and therefore delay and decrease morbidity and mortality from ischemic heart diseases [11].

It was found out that many children acquire unhealthy lifestyle and bad habits from home, and it happens in many parts of Poland and neighboring countries. The risk factors, especially early smoking, in later age significantly increases morbidity and mortality, not only from coronary diseases, but also from many other [12-14]. This findings are confirmed by Stamler et al.[15] for 5 large cohorts of young adult and middle-aged men and women.

Conclusions

1. The examined groups significantly differs with respect to most researched psycho-social factors existing among persons before 14 year of age.
2. The differences concerning environmental factors included in the questionnaire which concern the period before 14 years of age are not statistically significant.

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Konflikt interesów / Conflict of interest
Brak/None

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