Challenges of the current medicine

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Medicine can only cure curable disease, and then not always

Chinese proverbs

Dear Colleagues

Monograph ***Challenges of the current medicine,*** is a collection of works by authors from different centers. This issue presents numerous of the therapeutic and nursing problems in an interdisciplinary patient care and improving the quality of life. It contains articles on health workers combating violence, abuse, occupational hazards, role of medical staff in health promotion, health education, the ethical issues, and social medicine.

Anton Chekhov, Russian playwright and master of the modern short story, 1860-1904,wrote - *Medicine is my lawful wife and literature my mistress; when I get tired of one, I spend the night with the other*, and James Bryce quotes, British politician, diplomat, and historian, 1838-1922 - *Medicine, the only profession that labors incessantly to destroy the reason for its existence.*

Where lies the truth? What should be the modern medicine? Do therapeutic team is well prepared to perform its role? We strongly believe that on these and other questions you will find in this monograph, articles will clearly demonstrate that the dignity of the patient's care to ensure the comfort of his bio-psycho-social, regardless of their age are, next to the treatment process, the prime objective of the actions of all members of the therapeutic team.

We believe that the liberation of in a reader conviction, expressed in word's Kȍbler-Ross Elisabeth - *We have to ask ourselves whether medicine is to remain a humanitarian and respected profession or a new but depersonalized science at the service of prolonging life rather than diminishing human suffering.*

Prof. Elżbieta Krajewska-Kułak MD, PhD,
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Reviews

Challenges of the current medicine

edited by Elżbieta Krajewska-Kułak, Wojciech Kułak, Cecylia Łukaszuk, Jolanta Lewko, Emilia Rozwadowska

Monograph "Challenges of the Current Medicine" is a collective work, which was created with the participation of the staff from various academic centers in Poland.

The monograph is presented neonatal and obstetric problems, developmental age, old age, medical problems of palliative care, social issues, rehabilitation, workplace hazards, risk behavior and health education. Information contained in this publication adequately reflect the diversity and complexity of the problems.

Considering a comprehensive approach to problems and innovative nature of these studies, I am convinced that this publication will enrich and complement the medical literature in this area.

Prof. Irena Wrońska PhD,
Department of Nursing Development
Faculty of Nursing and Health Sciences
Medical University of Lublin

‘What kind of faces does the modern medicine have?’, student asks his master.

And the master says: ‘Well, we can divide it lengthwise – taking the measure of time – from creation, through birth, particular human development periods, and old age, to the death. Or differently, in a classical, commonly accepted way – from prophylaxis, through treatment, to rehabilitation of the various kinds, e.g. hippo-therapy, with the joy of touching a living animal… But also inwards, from the joyful problems of health care, health education, and healthy lifestyle promotion, through the genetically conditioned, degenerative, inflammatory or cancerous diseases, where people have a tough fight at the time for a patient’s life, to the palliative care…

Someone can show you a joyful child - how to take care of it, how to examine, protect and treat it - with the coming of more and more dangerous diseases, right to the autopsical room with different pictures of death, including violence and aggression.

Well, these are the diverse faces of the medicine, more and more extensive – with the importunate questions: what else doctor, nurse, medical analyst, rehab medicine specialist, pharmacist should know?

This is exactly the multidimensionality of modern medicine. How diverse its faces are!

Indeed, it is important for you – says the master – to understand the medicine in a holistic way Bagatelle? Nothing of that kind! However, how to embrace it, when there is so much of it! And here comes the warning: the one, who embraces a lot, squeezes weakly! And you are supposed to embrace the wholeness of the knowledge about health and diseases, and the ways of prevention and treatment!

Phew! And this book helps us to seize the non-seized! Hail to the editors for undertaking this task!

Prof. Jerzy T. Marcinkowski

President of the College Managers of Hygiene, Epidemiology and Public Health of the Medical Universities
Chair of Social Medicine, Poznan University of Medical Sciences

PROBLEMS OF OBSTETRICS AND PERINATOLOGY

Zych Barbara [1], Siebierańska Agnieszka [1], Lewandowska Anna [2], Barnaś Edyta [1], Kulesza-Brończyk Bożena [3]

Biophysical well-being of newborn infants on the basis of the way of feeding and weight gain evaluation

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Introduction

Proper feeding of an infant has essential influence on its psychosomatic development [1-3]. Body mass deficiency noticed between prenatal period and early babyhood (up to two years old), which is connected with malnutrition, may encourage disorders of the development of the central nervous system, maturation of the immunological system, disorders of cognitive and emotional functions and growing [4].

The development of the infant's organism is very dynamic and despite a lot of endogenic and exogenous factors, feeding is the most important in this period. Sole breast-feeding for the first six months and continuing this kind of feeding until the end of the first year or longer is currently recommended as the best way of feeding by the World Health Organization (WHO) and Committee on Nutrition ESPGHAN [2,5].

Human milk is balanced and the most suitable food for a newborn and an infant. For infant outcomes, Breast-feeding is associated with a reduction in the risk of alimentary tract infections, respiratory tract infections, allergic diseases, malabsorption syndrome and obesity. Breast-feeding plays a key role in prevention of children's malocclusion. For maternal outcomes, lactation is associated with a reduced risk of breast cancer, ovarian cancer and osteoporosis. Breast-feeding apart from satisfying physiological needs, creates a unique bond between mother and child [2,3,5].

Materials and methods

Body mass, which is one of anthropometric measurements, was used to evaluate the state of nutrition of children fed naturally and artificially. On the basis of this measurement infants were divided into three groups: infants with low birth weight (LBW), infants with normal birth weight (NBW) and infants with high birth weight (HBW); (LBW – less than 2500g, NBW – 2500–4000g, HBW – 4001 and more). The body mass was referred to WHO centile charts. The author's questionnaire containing perinatal history including the way of feeding the baby was also used to evaluate the way of feeding. The research did not include infants with body eight below 2500g, whose score was lower than 7 on the Apgar scale, infants who were hospitalized for a long time and infants with congenital defects. The study included 101 infants, 52 boys and 49 girls.

Correlations and differences between the way of feeding and sex of the baby were evaluated on the basis of STATISTICA program. Statistical significance was $p<0.05$.

Results

In the examined group of infants at the time of conducting the observation in hospital 6.0% of infants were only breast-fed. Mixed feeding concerned 94.0% of infants in the examined group. Among them 4.0% of infants were artificially fed and 90.0% were mixed-fed with the predominance of artificial feeding. That is why this group was included in the group of artificially fed infants.Every fifth breast-fed infant was given this kind of feeding during the first two hours after birth, the other infants were later given this kind of feeding (79.0%).

Table 1. The sex and birth weight of an infant vs. the way of feeding

Feeding of an infant in hospital	Sex of the child				p	Birth weight of the child						p
	Female N=49		Male N=52			Below 2500g N=10		2500-4000g N=62		Above 4001g N=29		
	N	%	N	%		N	%	N	%	N	%	
Only breast-feeding	5	10.2	1	1.9	0.181	1	10.0	3	4.8	2	6.9	x
NAN 1	13	26.5	15	28.8	0.795	2	20.0	19	30.6	7	24.1	0.688
Bebilon Nenatal	8	16.3	10	19.2	0.703	1	10.0	13	21.0	4	13.8	0.560
NAN AR	-	-	2	3.8	0.502	-	-	1	1.6	1	3.4	x
Bebilon 1	10	20.4	11	21.2	0.926	2	20.0	13	21.0	6	20.7	0.997
Bebiko 1	10	20.4	9	17.3	0.690	2	20.0	10	16.1	7	24.1	0.657
Other/	-	-	-	-	x	-	-	-	-	-	-	x
Do not remember	3	6.1	3	5.8	0.729	2	20.0	3	4.8	1	3.4	x
Feeding of an infant at home	Sex of the child				p	Birth weight of the child						p
	Female N=49		Male N=52			Below 2500g N=10		2500-4000g N=62		Above 4001g N=29		
	N	%	N	%		N	%	N	%	N	%	
Only breast-feeding	20	40.8	27	51.9	0.263	7	70.0	26	41.9	14	48.3	0.250
NAN 1	13	26.5	7	13.5	0.100	2	20.0	12	19.4	6	20.7	0.989
Bebilon Nenatal	-	-	-	-	x	-	-	-	-	-	-	x
NAN AR	2	4.1	1	1.9	0.958	-	-	2	3.2	1	3.4	x
Bebilon 1	10	20.4	9	17.3	0.690	-	-	16	25.8	3	10.3	0.059
Bebiko 1	14	28.6	14	26.9	0.853	1	10.0	17	27.4	10	34.5	0.328
Other	-	-	-	-	x	-	-	-	-	-	-	x

According to mothers, higher IQ was among most common benefits for children resulting from breastfeeding (82.1%). The bond between parents and the child (70.2%), better psychomotor development (68.3%), lower risk of metabolic diseases (67.3%), lower risk of cerebrospinal meningitis (57.4%), were chosen in over a half of cases. Lower risk of respiratory tract infections (38.6%), urinary system (35.6%), increasing of weight gain (33.6%) and less frequent doctor's appointments were chosen by a bit fewer

surveyed women. A reduction in the risk of developing haematopoietic system cancer and lymphatic system cancer in ontogenesis (13.8%), decay prevention (11.8%) and less common frequency of food intolerance (6.9%) were chosen least often. Two surveyed mothers (1.9%) admitted to having no knowledge about the benefits of breast-feeding the child. Table no. 2 shows the analysis of benefits resulting from breast-feeding in relation to preferred way of feeding the child.

Table 2. Benefits for the child resulting from breast-feeding vs. preferred way of feeding the child

Benefits for the child resulting from breast-feeding	The way of feeding in hospital				p	The way of feeding at home				p
	Natural N=6		Artificial N=95			Natural N=47		Artificial N=53		
	N	%	N	%		N	%	N	%	
Lower risk of respiratory system infection	3	50.0	36	37.9	0.874	21	44.7	18	34.0	0.273
Lower risk of urinary system infection	2	33.3	35	36.8	0.792	16	34.0	20	37.7	0.701
Lower risk of cerebrospinal meningitis	4	66.7	55	57.9	0.997	30	63.8	28	52.8	0.266
Lower risk of metabolic illnesses	4	66.7	64	67.4	0.679	31	66.0	37	69.8	0.680
Lower risk of developing cancer (leukaemia. lymphomas)	1	16.7	13	13.7	0.686	11	23.4	3	5.7	**0.011**
Higher IQ	4	66.7	80	84.2	0.581	40	85.1	43	81.1	0.597
Better psychosomatic development	3	50.0	66	69.5	0.588	36	76.6	33	62.3	0.122
Bond with mother and father	2	33.3	70	73.7	0.098	29	61.7	42	79.2	0.054
Increasing of weight gain	2	33.3	33	34.7	0.710	18	38.3	16	30.2	0.393
Lower frequency of appointments	3	50.0	25	26.3	0.431	14	29.8	14	26.4	0.708
Lower frequency of occurring food intolerance	6	100.0	1	1.1	**0.000**	6	12.8	1	1.9	0.083
Decay prevention	6	100.0	6	6.3	**0.000**	6	12.8	6	11.3	0.824
Other	-	-	-	-	x	-	-	-	-	x
Do not know	-	-	2	2.1	0.249	-	-	2	3.8	0.529

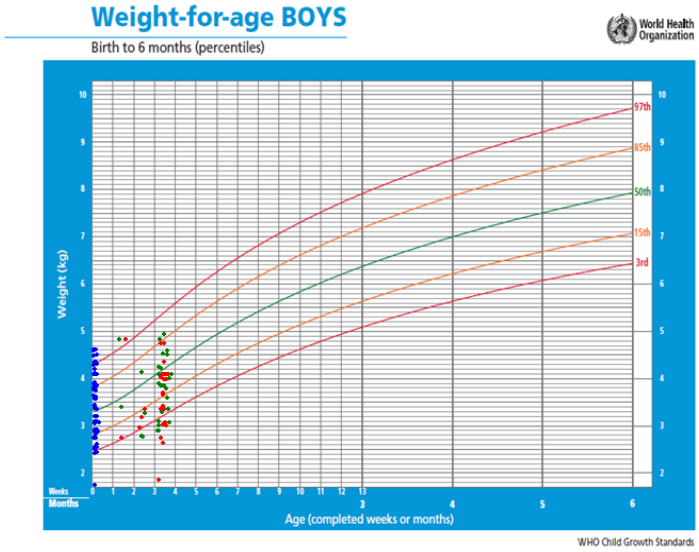
Disorders concerning digestive system such as watery faeces (1.1%) and increased spitting of chime (1.1%) were noticed in hospital among infants fed artificially. In domestic conditions occurring of watery faeces (2.1%) and one case of increased spitting after formula feeding were most frequently noticed and reported by mothers disorders concerning digestive system.

Table 3. Occurring of functional disorders of digestive system vs. the way of feeding an infant

Occurring of functional disorders of digestive system	Hospital feeding				p	Home feeding				p
	Natural N=6		Artificial N=95			Natural N=47		Artificial N=53		
	N	%	N	%		N	%	N	%	
Anxiety and irritation combined with increased tension around the tummy	-	-	-	-	x	-	-	-	-	x
Loud rumbling in stomach accompanied by a lot of intestine wind	-	-	-	-	x	-	-	-	-	x
Watery faeces	-	-	1	1.1	0.061	1	2.1	-	-	0.952
Anxiety. irritation. sleep disorders	-	-	-	-	x	-	-	-	-	x
Constipation	-	-	-	-	x	-	-	-	-	x
Increased spitting of Chyme	-	-	1	1.1	0.061	-	-	1	1.9	0.952
Other	-	-	-	-	x	-	-	-	-	x
Did not occur	6	100.0	93	97.9	0.249	46	97.9	52	98.1	0.529

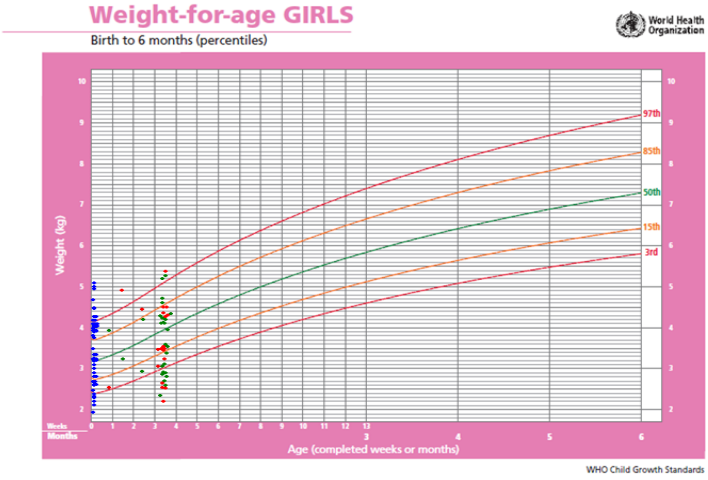
A test for the index of structure – the level of probability p

The choice of the way of feeding infants in relation to weight gain during the first check-up is a bit higher among infants fed artificially in comparison with infants fed naturally (body mass up to 4000g: 58.5% vs. 63.8%; body mass 4001g and higher: 41.5% vs. 36.2%; p=0.585). The highest density of body mass in male infants (fig. 1) and female infants (fig 2) occurs between 15 and 85 centile in the range of 'narrow standard'. A bit lower density of examined feature was in the range of 'wide standard' between 3 and 97 centile. During the first check-up infants fed only naturally in comparison with children fed artificially had a bit lower rate of weight gain (fig. 1, fig. 2).



the birth weight of infants
the weight of breastfed infants – the first control visit
the weight of infants fed artificially – the first control visit

Figure 1. The body mass of male infants during labour and check-up vs. the way of feeding



the birth weight of infants
the weight of breastfed infants – the first control visit
the weight of infants fed artificially – the first control visit

Figure 2. The body mass of female infants during labour and check-up vs. the way of feeding

Discussion

Breastfeeding is the best way of feeding recommended by international organizations in the initial period of child's development [6]. Breastfeeding predisposes children to independent regulation of food intake and control of energy intake. Lower content of protein and calories taken from mother's milk in comparison with formula milk may influence biochemical composition of the body in the later ontogenesis of the child. Lower supply of protein decreases the release of insulin. As a result, less fat is stored and the risk of obesity is reduced. This situation is very often connected with slower rate of growth of children fed naturally during the first year of their life compared to their peers who were fed artificially [7, 8].

Although breastfeeding has a lot of positive health effects, the research has shown that every 17^{th} infant was breast-fed just after labour while every 20^{th} one was breast-fed during the first two hours after labour. High activity and effectiveness of sucking are characteristic for this period.

In hospital conditions formula feeding was the most common way of feeding the child regardless of the child's sex and birth weight. In turn, the child's stay at home encouraged breastfeeding. The recognized and recommended model of optimum growth and development of the child was the cause of making such a decision.

Among breastfed children such illnesses as respiratory system infections, urinary system infections, digestive system infections, otitis, cerebrospinal meningitis and bacteriaemia occur less often [2, 3]. During injections breastfeeding has an analgesic effect. Moreover, as a long-term effect it decreases the risk of overweight, obesity, type 1 and 2 diabetes, haematopoietic system and lymphatic system illnesses. Adults who were breastfed in childhood are characterized by lower risk of occurring hypercholesterolaemia and hypertension [2, 3]. Among breastfed children the IQ is 3.2 points higher compared to children fed artificially according to cognitive tests [8].

The test results support the theses connected with beneficial influence of breastfeeding on the development of the child. The benefits for the child resulting from breastfeeding depending on the way of feeding have also been analysed. Our research has shown a positive correlation between decreasing of food intolerance and prevention of decay in relation to the way of feeding them in hospital. In turn, the way of feeding infants at home was connected with the mother's belief concerning decreasing the risk of haematopoietic system cancer (leukaemia) and lymphatic system cancer (lymphomas) in the later period.

The position of Committee on Nutrition ESPGHAN supports the beneficial influence of breastfeeding on immune system and immune response of breastfeeding in antineoplastic prevention [8].

Passive immunity acquired by an infant during breastfeeding encourages lower rise and reproduction of pathogenic bacteria and viruses. It influences the homeostasis of the digestive system and protects the body against digestive system infections by keeping *Lactobacillus bifidus* bacteria in intestines [8, 9].

If breastfeeding is impossible for health reasons or any other objective reasons, the infant is given some kind of formula milk, which conforms to the child's age and needs [10].

In the research, functional disorders of digestive system were more often noticed among infants fed artificially. Such infants suffered from watery faeces and increased spitting of chime.

As a conclusion, the composition of milk given to children undoubtedly influences their health state and further functioning. However, there are such cases when infants fed only naturally are staying in unfavorable conditions for their ontogenesis. They reach a lower rate of growth during the first year in comparison with their peers who were fed artificially [8].

Eckhardt et al. [11] compared infants fed naturally and artificially for four months. The research has shown that up to six months of age rises in the body mass and length were lower among breastfed children although their body mass was comparable to their peers who were fed artificially.

These observations support the results of the research. The obtained measures of infants fed naturally and artificially were comparable in both groups.

In turn, observations made by Łoś-Rycharska et al. [12] have shown that average monthly rises in body mass reached in different quarters of their life are statistically higher among girls who were breastfed during the first quarter of their life. However, statistically higher rise in boys' body mass was noticed in 1st, 3rd and 6th quarter of their life. The results of Łoś-Rycharska's team may point to different influence of rise in body mass of boys and girls depending on the way of feeding.

Sacha et al. [6] in the research from 2008 demonstrate that the way of feeding infants has a significant influence on the weight gain of infants ($p<0.001$) and later childhood ($p<0.005$). Children whose weight was about 75 centile reached a higher body mass and had a lower risk of underweight ($p<0.05$) in comparison with their peers, whose body mass was about 25 centile.

The above research results let us conclude that naturally fed children grow faster than their peers who were fed artificially. The average weight gain of naturally fed children in the second half of their life is lower. This does not seem to have anything in common with malnutrition but natural regulation of food intake by breastfed children. Within this group of children adverse effects of slower weight gain is thought to be most optimum and reducing the occurring of some civilization-related diseases to a large extent.

Conclusions

1. Body weight of breastfed infants and artificially fed infants during the first month of their life is characterized by similar growth rate.
2. The highest density of the examined somatic feature of male and female infants occurs in the centile system which includes the range of 'narrow standard' (15-85 centile). The vast part of examined population of breastfed infants was marked by placing within the range of 'wide standard' with placing below 15 centile.

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Zych Barbara[1], Lekowska Justyna [1], Lewandowska Anna [2], Kulesza-Brończyk Bożena [3], Witalis Janusz [4]

Ways of navel care during the first days of newborn baby's life and the national neonathology suprevisor's recommendations

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Introduction

Umbilical stump consists of two arteries and one vain, Wharton's jelly and covering epithelium. Wharton's jelly has the mucilage properties and the ability to keep water; it has hyaluronic acid and chondroitine sulfuric acid, thanks to which the umbilical stump takes part in transferring processes and the storage of substances coming from foetus' blood or amniotic liquid. [1, 2]. Umbilical stump is the oxygen and nutritious ingredient's carrier during the foetal life, which are necessary in proper child's development [2]. After the birth, when the umbilical stump stops pulsating, it is tightened by clasps and cut off.

Over the ages, bandaging of the umbilical stump did not cause any doubts, there were some differences connected with its nursing. The cut off umbilical stump was secured by linen strands, natural fibres, tape or ribbon band, and the stump was dressed with herbal powder, balsam, or it was singed [3].

In the modern times, to advance the umbilical stump drying up it was covered by lime, gypsum or dermatol. *Peau de Cerfe's* and *Bare's* observations brought the information, that smashing the umbilical stump by the clasps for 24 up to 36 hours speeds up the stump's mummification, and thanks to vesselsgluing' it is prevented from bleeding [3]. That way of bandaging the umbilical stump was functioning for many years in Polish hospitals, and obstetric practice showed, that smashing the umbilical stump is the best method of its bandaging, proved by the usage of plastic clamps [3]. Furthermore, the procedure of umbilical stump disinfection in the Polish hospitals was based on the use of 70% ethyl alcohol solution, not so long ago, which was recommended after leaving the hospital by the newborn baby, until the stump fall off. At the beginning of 2011 there were new recommendations of the National Supervisor in the Neonatology Discipline concerning navel's nursing. Currently, it is recommended to use so-called dry nursing of a stump, and if it is necessary, to use antiseptic on the base of octenidine, with no alcohol [4, 5]. Each change of the recommendations concerning the newborn baby nursing, brings huge doubts and raises many questions among parents and medical staff, especially in the situation, when the change is connected with the practice being worked out for many years. That is why the idea of that research arose.

There are dynamic changes in modern medicine involving the new way of baby's navel nursing. The need of constant bringing the knowledge up to the date is high; it is vital to accept and apply new recommendations in practice by the medical staff, and the information delivered to parents earnestly.

Materials and methods

The survey was conducted among the mothers of babies born around the turn of 2010-2011. Since November 2010, the questionnaire was published by the internet portal (www.ankietka.pl) on the six social portals for parents: www.mamopedia.pl, www.osesek.pl, www.maluchy.pl, www.erodzina.com, www.familie.pl, www.ebobas.pl. Before the survey, the respondents were asked for careful reading the questions, and next, for honest answering on the ways of navel nursing, and the disinfection remedies used. The participation was voluntary and anonymous, and the selection of the respondents was random. Finally, there were 100 of the proper filled questionnaires from the whole Poland, and the material was statistically analysed.

Results

The respondents were divided into three age groups (I group: up to 25, II group: from 26 to 34, III group: 35 and more). The most numerous was the first group(53%). In the other age groups, there were respectively: 42%– II group and 5% - III group. The respondents declared having higher education (40%). Less numerous group (31%) was constituted by the people with medium education and licentiate graduation (25%). Occupational education and primary education concerned 4% of respondents (each at 2%). Majority of the examined group lived in small cities and towns (44%). It was similar to the group of mothers living in the big cities (41%), whereas the least numerous group was living in the country (15%). Among the examined women, 78% have only one child, two children – 17%, whereas the slight percentage of women (5%) have three or more children.

Umbilical stump should fall off during first two weeks of baby's life, an average 7-10 days of life. However, sometimes the process may last slightly longer (2). Over half of the respondents (57%) considered, that stump should fall off up to the second week of baby's life. According to 22% of the examined, it was between third and fourth week of baby's life, and 15% declared the first week. For 6% of mothers the stump should fall-off after 2-3 days of baby's life.

After the birth, the most frequently used antiseptic in navel nursing was salicylic spirit (33%), slightly fewer respondents (23%) marked antiseptic based on octenidine. In the group of women who pointed on the usage of moistened sterilizing swab were 12 respondents, the same as in the group where women did not remember what remedy did they use (11%). Gentianin solution was pointed by 10%, when 4% of cases used boiled water or hydrogen peroxide (3%). In other cases of navel nursing (4%), there was lack of usage of any (Figure 1).

Among examined women, the most often recommended disinfection remedy was salicylic spirit (44%). The next ones were: octenidine products (18%), sterilizing swabs (14%), boiled water (9%), gentianin solution (6%) and hydrogen peroxide (2%). Seven women, as the answer on the question connected with the other recommended remedy in navel nursing, did not point any antiseptic remedy (3%). Only 4% of mothers did not receive any information about that subject (Figure 2).

Newborn baby navel nursing consisting in rinsing up the navel and the stump with disinfecting remedy, and next drying was marked by 64% of the examined. Every fourth mother (24%) pointed bathing umbilical stump without any antiseptic remedy, leaving it to dry. For 12% a sufficient nursing procedure was to sprinkle the protruding part of stump with antiseptic remedy.

The majority of surveyed women (31%) considered, that navel care should be done once a day, while in the group of 27% of mothers, as often as it is possible. 24% of respondents marked care procedures twice a day, and 15% pointed on the other circumstances of navel nursing (every swaddling-cloth change– 13%, contamination – 1%, navel state – 1%). In the examined group of women, 3% could not define the frequency of navel nursing procedures.

The vast majority of the respondents (81%) said that umbilical stump should be protected from the air intake, while 9% did not agree with that statement, claiming that the stump should be secured by swab or plaster. For every twelfth woman (8%) covering the stump with the diaper was enough good navel protection against infection. Among the ways of caring for the umbilical stump was the coverage with swabs (2%).

Among the symptoms of navel infection, the respondents most often mentioned: purulent discharge (78%), unpleasant smell (73%), redness (68%), swelling (65%), exudation (47%), fever (37%), anxiety, baby's annoyance (29%) and local skin warming up (26%). Only 9% did not know any of the suggested symptoms of navel infection (Figure 3).

The best antiseptic remedy that reduces the risk of navel infection is the 70% salicylic spirit for 56% of theexamined. Less popular were: disinfecting swabs moistened with antiseptic remedy (17%) and remedies based on octenidine (13%). 6% of the respondents marked using boiled water as the preventive action. Care based on gentianin solution and dry navel was, in the opinion of 3% of the respondents, a sufficient way of limiting infection risk.

If the symptoms suggesting the navel infection were observed, the majority (81%) of the surveyed women suggested to consult with their attending physician immediately. The consultation with the physician, childbirth assistant (10%), problem solved individually (7%) and phone contact with the hospital, where the birth took place, (2%) were peripheral ways of managing with the doubts connected with navel infection.

To a large degree, this problem did not concern the examined women (68%). The group of mothers, who were touched by the problem of 'healing' the navels, was 15% of the examined (Figure 4).

Mothers who observed improper navel healing, nearly half of the cases (49.98%) finished with the medical consultation, and in 21.42% of cases with antibiotic therapy. In every seventh case (14.28%) the intervention consisted in the purifying and disinfection of the nave, and in one of the cases in surgery intervention (Figure 5).

The greatest source of knowledge about the navel nursing, were the childbirth assistants and nurses (79%). The second source of information was the Internet (34%). Less important, according to the respondents, was the information from the Childbirth Courses (24%), from magazines for parents (20%), from family (19%) and from books (18%), while pediatricians (13%) and physicians from Health Care Surgery shared the information rarely (3%) (Figure 6).

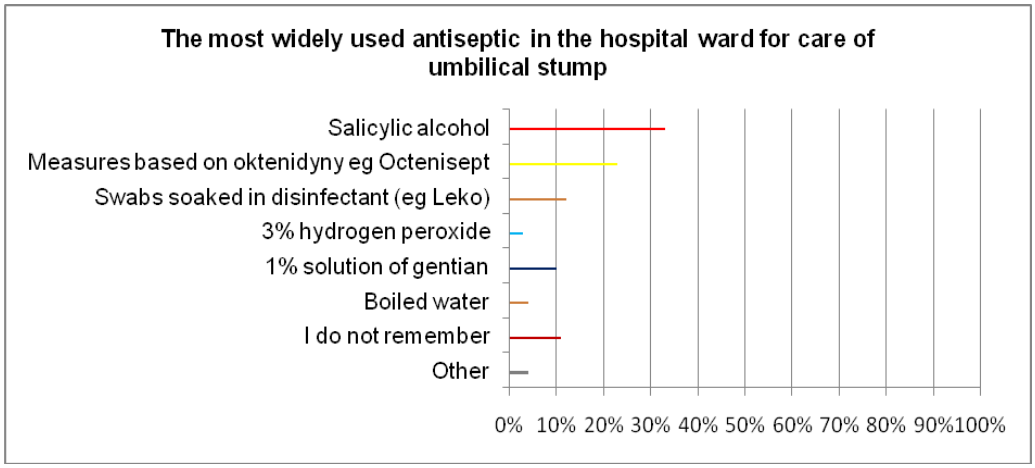

Figure 1. Antiseptics most commonly used for care of the navel in a hospital department, according to respondents.

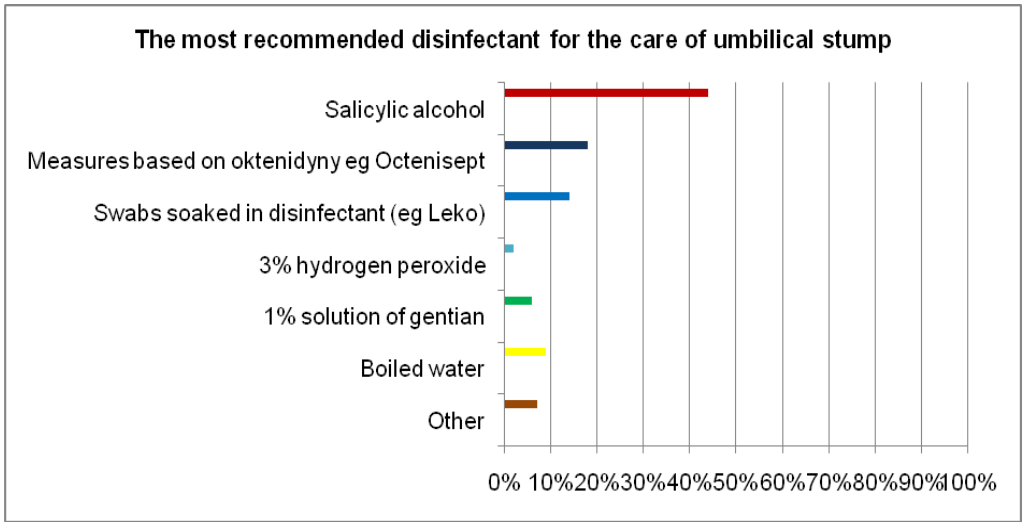

Figure 2. Antiseptics most frequently recommended for umbilical stump care

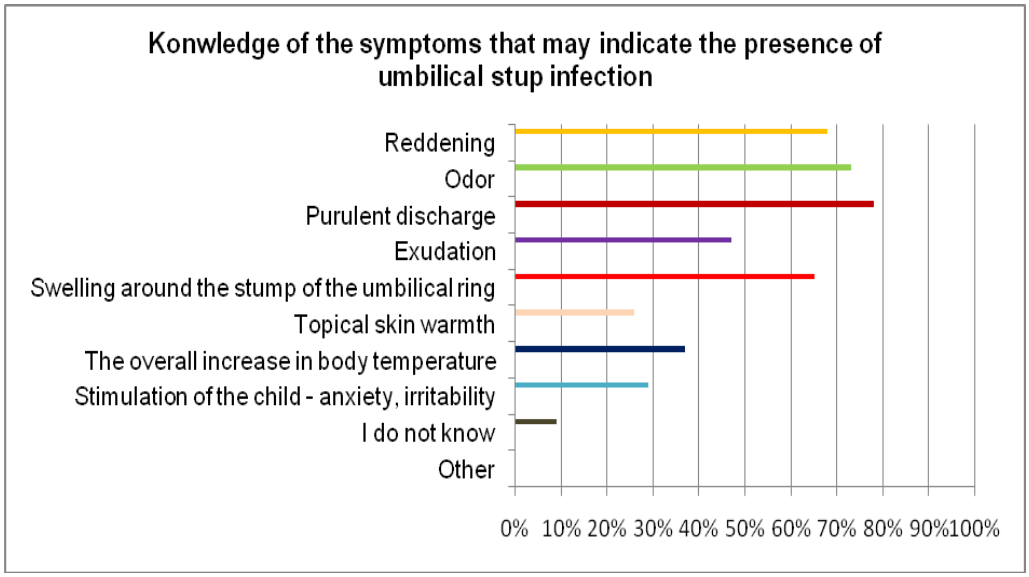

Figure 3.Symtoms of the umbilical stump infection in the opinion of the respondents

Note: The sum of answers exceeds 100% because respondents had the opportunity to choose more than one answer

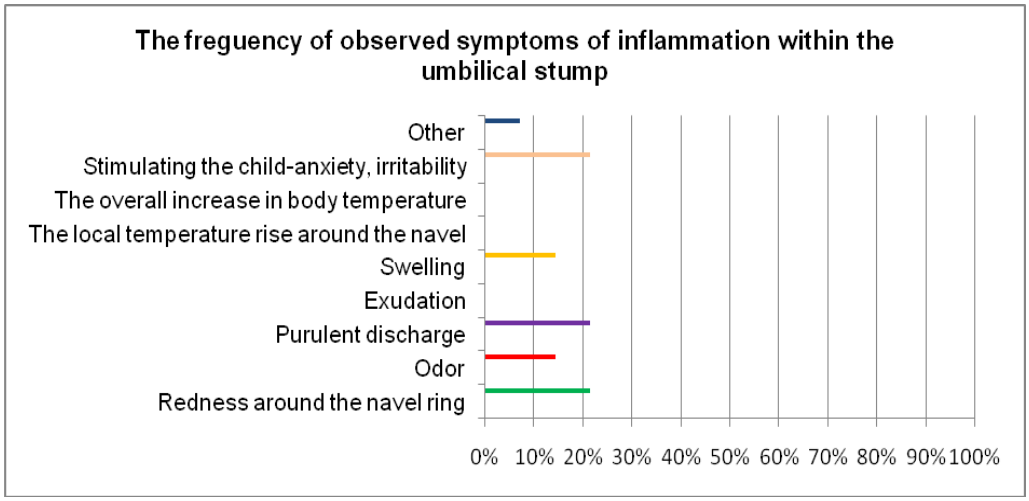

Figure 4. The symptoms of the umbilical stumps observed by respondents.

Note: The sum of answers exceeds 100% because respondents had the opportunity to choose more than one answer

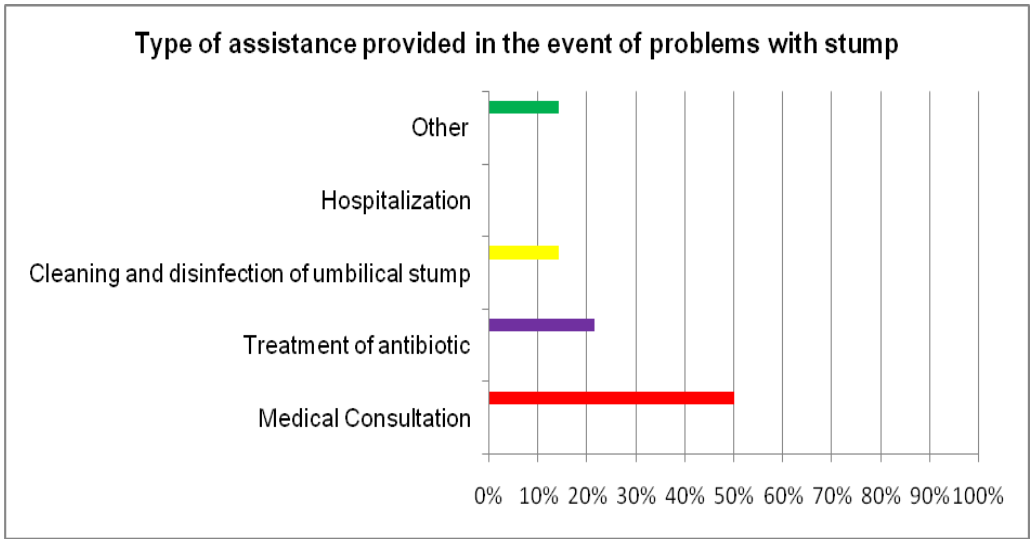

Figure 5. Type of assistance provided in case of problems with a stump

Note: The sum of answers exceeds 100% because respondents had the opportunity to choose more than one answer

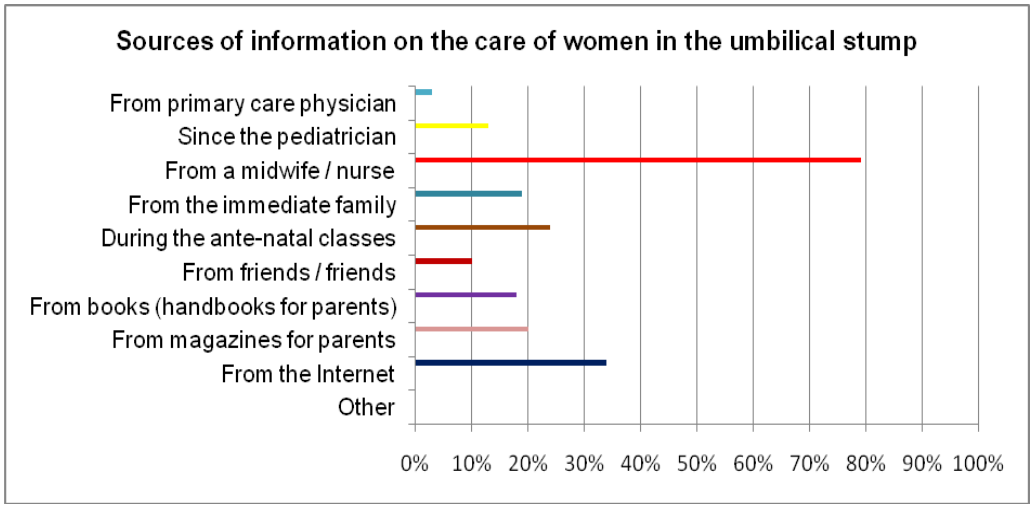

Figure 6. Sources of the information about taking care of the umbilical stump, of the surveyed women

Note: The sum of answers exceeds 100% because respondents had the opportunity to choose more than one answer

Discussion

Umbilical stump nursing used many various substances in the past decades, which were supposed to reduce the risk of its infection. Vegetable extracts were part of those substances (oil of olives, coconut oil) colostrum, and lately also antibiotics in the form of powder, solution and spray [6].

After the birth, at the place where skin and umbilical stump meet, starts the leukocyte infiltration process and tissue digestion, which is characterized by drying and mummifying of the stump. Around the navel there may gather little amounts of turbid slimy excretion. Moreover, the risk of additional infection may cause umbilical vessels until the complete stump fall-off [2,7].

Not so long ago, the newborn baby's umbilical stump was disinfected by 70% ethyl alcohol solution, in regard to clinical spinal infection limitation. Such practice was recommended after the disch until the fall-off of the stump, which helped to avoid the navel infection [6-8].

In Poland, ethyl alcohol (salicylic spirit) was the most often used and recommended antiseptic remedy in navel nursing. Previous reports has found that the alcohol efficacy in destroying bacterial flora is temporary and lower, in comparison with other antiseptics [9, 10]. Through many years alcohol was used in navel nursing, but it did not dry off the umbilical stump and was damaging and drying the baby's skin, what resulted in longer time of stump healing [5 - 8].

From the nursing care point of view, it is the situation extremely important, because newborn baby's skin is 20-30% thinner than the adult's. Baby's skin has low developed horny layer. That situation predisposes to the growth of the permeability of external substances into the deeper skin layers and blood system, and even may cause neuro- intoxication action [5]. An additional risk appears when the baby's skin is exposed to alcohol solution under the clothes or in case of skin damage. Among the most frequently observed reactions are: long time of healing the wound, gangrenous dermatitis and infection. Hypoglicemia, hypothermia, metabolic acidosis, renal failures are some of the consequences of alcohol intoxication in navel nursing [11-13].

The most appropriate disinfecting remedy in clinical conditions seems to be octenidine (0.1%% aqueous solution with 2% phenoxyethanol aqueous solution), registered in Poland as the medicine called Octenisept. Octenidine in low concentration works faster and stronger than chlorhesidine, impacting Gram-positive bacteria (*Staphylococcus epidermidis, Staphylococcus aureus, MRSA strains, Streptococcus pyogenes*, other beta-hemolytic *Strepococcus, Enterococcus faecalis*), Gram-nagative bacteria (*Pseudomonas aeruginosa*, *Enterobacter spp, Klebsiella spp, Proteus mirabilis, Serratia marcescens, Escherichia coli*), viruses and funguses [7].

Octenidine usage is safe and well-tolerated by the newborn baby's skin; the product does not cause any damage to the skin, nor the allergy and does not lead to MRSA strain's selection. What is more, it seems to be a remedy, which does not show mutagenicity, embryotoxicity, cancerigenic and teratogenic activity [5, 7, 8].

In our study, octenidine was used by every second respondent (23%) and 18% recommended it.

After the baby's disch it is suggested to use dry care, except for wrong hygienic conditions and the suspicion of infection of the navel. Dry care of the navel means washing the stump with water and soap when it gets dirty by faeces or urine, and precise drying with no covering it with the diaper to let the air get to the stump [5].

According to the majority of the respondents (81%), dry care is an optimal way of navel nursing.

According to AAP recommendations (*American Academy of Pediatrics*) 'there is no one navel nursing method, which would limit colonization and reduce infection around the umbilical stump'. That is why there should be other activities reducing the risk of navel infection except uncovered navel, like careful washing hands [2, 6].

WHO recommendations (*World Health Organization*) since 90's of the XX century, tried to focus the medical personnel attention on proper navel hygiene. Currently, antiseptic liquids seem to reduce the number of proper non- pathogenic bacterial flora around the navel, and extend the healing process and the fall of the stump, that is why there are no reasons to routine usage, except for some 'specific' situations [2, 7].

In the nursing care the navel infection is the serious problem. It is concerned with about 0.2-0.9% of newborns, in case of whom it develops because of wrong navel nursing and infections brought on hands. Among babies born in the right time, the navel infection may cause Gram-positive coccus bacteria or mixed bacterial flora caused by Gram-positive, Gram- negative and anaerobic bacteria, that develops after 5-9 days of baby's life [2, 7]. Among the most often observed symptoms of navel infections were swelling, redness around navel skin, and unpleasant smell. Those symptoms may cause sepsis and further symptoms like fever, sleepiness and troubles with breast feeding [8].

Pus excretion, unpleasant smell, redness, swelling, excretion around the navel and higher temperature, anxiety and annoyance become the reason for consulting a physician.

Facing the directives of the National Supervisor in the Noenatology Discipline, which recommend dry navel nursing and getting the mother's opinion about umbilical stump nursing by the medical staff, should constantly heighten their qualifications by bringing the knowledge about prophylaxis, education and health promotion up to the date [14]. Those assumptions are confirmed by the research, focusing on the mother's knowledge, delivered by nurses and childbirth assistants (79%). The results show, that the group of professionals taking care of mother and child plays important role in informing about navel nursing.

Nowadays, health care has an interdisciplinary character, and training various specialists, who take part in different treating and nursing processes, will let them achieve aims in the range of navel care ways recommended by the National Consultant of Neonatology.

Conclusions

1. Despite new directives (2011) of National Supervisor in Neonatology Discipline, in the range of the optimal way of the navel nursing among newborn babies in the Polish wards, is still large diversity of antiseptic remedies. The most frequently recommended and used disinfecting remedy was salicylic spirit.
2. 70% spirit solution is commonly used by mothers in the navel nursing, because of fast drying-off, while overdone spirit hygienic procedures seem groundless in case of every fourth newborn baby, according to recent studies.
3. The surveyed mother's knowledge about the navel nursing is insufficient, according to directives of the National Supervisor. In the examined group of women, there is slight knowledge connected with the optimal navel care way, and

at the same time they show high knowledge about navel protection and its fall off time.

4. The knowledge about symptoms and procedures connected with the navel infection declared by the women is insufficient.

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Emotions experienced by pregnant women in relation to the mode of delivery

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Introduction

Pregnancy represents an extraordinary period that every woman experiences differently. While pregnancy can be a period of joyful expectation for one woman, it may be an experience of constant emotional tension due to various reasons for another. The psychology of pregnant woman changes as radically as her physiology [1].

Determining the prenatal stress level has become an important issue, and the research of the long-term consequences of strong emotions experienced by pregnant women has been conducted [2]. Stress can negatively affect childbirth, number of complications, development of fetal brain and behavior of the neonate, and can lead to mental disorders during puerperium [3].

Emotions experienced by the pregnant woman are sometimes reflected by irrational choices. Due to the anxiety associated with delivery, many women would like to choose the route of childbirth which is safer in their opinion, i.e. the cesarean section [4- 8]. However, such women are rarely aware of the risks associated with this procedure [4, 5, 9].

The percentage of pregnancies ending with cesarean section has increased rapidly during the last decade, both in Poland and the Western Europe as well as in the South and North America [5- 7, 9- 11]. Therefore, one should analyze the reasons of this tendency and prevent its further development. Women's anxiety is an important reason of increasing frequency of cesarean sections on demand [12].

Studies by J. M. Green, K. Kafetsios, H. E. Statham and C. M. Snowdon, conducted in Cambridge in 1990s', have resulted in the development of the prenatal stress scale known as the Cambridge Worry Scale [2, 13]. The authors identified the most powerful stressors of pregnant women and classified them into several groups: socio-medical, socio-economic, health-related, and personal [2]. Pregnant women participating in this aforementioned study, reported the highest levels of stress related to the socio-medical factors. The concerns connected with their babies health and the risk of miscarriage, proved to be the strongest stressor of the examined women [2, 13]. They were followed by the other strong stress factors that included the delivery itself, financial problems, care of the neonate, gynecological examination, and hospital stay [2, 13]. Personal factors, i.e. the factors associated with the environmental relationships, were the least important for examined women [2, 13].

Risk associated with vaginal delivery

Although, sometimes it is difficult and painful, vaginal delivery is still the safest route of completing pregnancy for a healthy woman and her neonate. The same holds true for most women suffering from various chronic conditions; their life is rarely endangered by the delivery itself.

According to the Polish Gynecological Society recommendations, cesarean section should be performed solely in case of a real health risk of the pregnant woman and/or her child [10].

The results of a Dutch study, comparing vaginal deliveries that took place at hospital or at home, confirm that non-medicalized childbirth is as safe as hospital vaginal delivery [15]. De Jonge et al. analyzed nearly 530,000 deliveries and did not observe significant differences in the perinatal mortality rates of neonates born at home and at hospital, amounting to 0.04% and 0.03%, respectively [15]. Maternal mortality rate during vaginal delivery is estimated as 0.62 per 1000 births [4].

Vaginal delivery is rarely associated with complications. The most frequent unexpected abnormalities that can be associated with vaginal delivery include: abnormal presentation of fetal head, risks related to delivery in pelvic presentation, delivery of multiple fetuses, dystocia, inhibition of labor, intrauterine hypoxia, early fetal brain injuries, fetal-pelvic disproportion, and perinatal injuries of the neonate [6, 18, 19, 20, 21].

Additionally, vaginal deliveries can be problematic in women whose previous pregnancies were completed by cesarean section. Most patients are aware of an old saying: "once cut – always cut" meaning that once a cesarean section is performed, it will be performed for all subsequent pregnancies [26]. Although it has been revealed that vaginal deliveries are still possible for women with a history of previous cesarean sections, they are considered to be associated with a higher risk of complications [6, 21, 23, 24].

Some women, for whom the childbirth had unexpected and traumatic outcome, may experience various types of mental disorders. One of the most severe is the post-traumatic stress disorder, reported to affect 1.5- 5.6% of the delivering women [1, 25]. Those disorders have multifactorial etiology and are, to the large extent, associated with psychobiological predisposing factors [25].

Alternative to traditional delivery

Medicalized childbirth, with no possibility of independent choices and a lack of respect for their dignity, scares women. What they need is the feeling of warmth, acceptance, and a friendly atmosphere, as well as the assurance that the delivery will go on in accordance with their expectations. Such possibilities are offered by a family delivery, in a properly prepared delivery room, decorated to resemble home, as well as by midwifes, whose attitude strengthens the feeling of safety and uniqueness of every delivering woman [26].

Each woman has the right to delivery accompanied by the person she has selected. Family delivery, most commonly in the presence of the baby's father, is determined by the principles of the patient rights and human rights [4]. The decision regarding family delivery should be made as a free choice by both partners, because it markedly influences their relationship and future family [26, 27, 28]. According to professor Fijałkowski, an authentic bond between partners is one of the most important prerequisites for family delivery. The relationship between partners is strengthened by the shared experience of pregnancy and childbirth [26]. Father of the baby should be

properly prepared in order to be helpful, cooperating with delivering woman and the personnel present in the delivery room [27].

The question of family deliveries has been addressed by the World Health Organization which published recommendations for the future parents, concerning factors that should be considered during the selection of a hospital where the delivery will take place.

Delivery in the presence of a close person has a positive effect on the psychology of delivering woman. Above all, the woman expects that her partner will offer her a psychological support and a sense of safety [28]. Moreover, a woman may need her partner for the other, more physical activities, such as help during changing of the position, holding her hand, support in respect to physiological needs, and massage [28, 29]. Due to the shared delivery, partners enhance their relationship and strengthen the feeling of solidarity and friendship [26, 28]. Moreover, the presence of the father during the delivery is reflected by his stronger bond with the child and encourages the development of his paternal attitude [26, 28].

Family delivery should be preceded by the participation in childbirth classes [22, 25] as they offer professional education preparing the future parents for their parental role and the delivery itself. The most eminent school of childbirth classes, developed by Professor Fijałkowski, underwent numerous transformations resulting in the theory of the so-called childbirth ecology, according to which, a woman is protected from pain by cooperating with the "forces of nature" (normal physiological activities of her body related to the process of birth).

According to Read's theory of the vicious cycle, anxiety causes muscular spasm, which enhances pain. Non-pharmacological methods of alleviating pain are focused primarily on relaxing the delivering woman [30]. Earlier education of the patient is very useful, as the awareness of the ongoing process helps in staying calm and, above all, reduces the anxiety [23, 26, 30]. Unfortunately, the efficiency of natural methods has not been verified in randomized clinical trials; nevertheless, observational studies of delivering women suggest that those methods prove to be effective in many cases [30].

The non-pharmacological methods of alleviating pain are primarily chosen by women who have previously participated in childbirth classes [26, 30]. Amongst many available methods, women usually select diaphragmatic breathing, walking and changing position, massage, and the alleviating effect of warm water. Other techniques, such as polarity or acupressure, are not very popular, probably as a result of not discussing their effects during childbirth classes.

Cesarean section on a demand

Cesarean section should be treated by the doctors, as well as by the pregnant women, as a surgery performed in the case of a threat to maternal or neonatal health or life [4]. However, there is a growing evidence of cesarean sections performed due to non-medical indications, such as personal beliefs of the doctor or explicit demand of a pregnant woman, among others [4, 5, 6]. Woman's autonomy is frequently emphasized and cesarean section is promoted in the context of the "free choice of delivering woman" [4, 7].

Cesarean section on a demand has virtually become a worldwide tendency; although, its prevalence is specified by region. In United States and Australia the percentage of pregnancies completed by cesarean section amounts to 24.4% and 25%, respectively, while in the European countries it is: 22% in Germany, 28% in England, and 32% in Italy [7]. The overall percentage of cesarean sections performed in Latin

America goes between 55% and 85%, reaching 51.8% in Mexico, 75% in Chile, and up to 80% in private clinics in Brazil. According to various authors, the fraction of cesarean sections performed in state-owned hospitals in Poland, varies between 20% and 30% [5, 7, 11]. In 2006, this number was the highest in Podlasie province where this procedure was chosen by 36% of delivering women [11].

According to the World Health Organization estimates, this tendency will continue and the rate of cesarean sections will increase by 1-2% every 2-3 years [8].

The demand for completing the pregnancy surgically is usually determined by several factors that frequently interact with each other: income, social status, educational level, social support, and lifestyle [5].

Although, women's decision to demand cesarean section is related to various reasons, probably the fear of prolonged vaginal delivery is its most important determinant. Women are afraid of pain, and believe that the available modalities of preventing pain, associated with labor, are inefficient [8]. Stories told by other women with regards to the exertion and physical suffering associated with vaginal delivery usually increase the experienced anxiety [5]. Other concerns include the worry over health and life of the neonate. In pregnant women's opinion, cesarean section is the optimal method of avoiding potential injuries and complications associated with the vaginal delivery [5, 8]. This group includes mothers whose babies are disabled due to perinatal injury, or women who experienced neonatal death during their previous deliveries [7]. Traumatic memories associated with the previous deliveries constitute an important reason of deciding upon cesarean section [5, 8]. Women are afraid of injuring vaginal and perineal tissues, resultant descensus or prolapse of reproductive organs, urinary, fecal, and gas incontinence, and alimitations of the sex life quality after delivery [5, 8].

An important aspect of modern woman's life is the right to decide for herself. Women expect to be treated as an individual, and put their fears, phobias, and para-health welfare on par with the medical considerations [5]. Cesarean section has been promoted by the mass media, but also by doctors, as a free choice of delivery route and modern women want to use this privilege [4, 5, 7]. Frequently, they decide on this solution following a discussion with the medical personnel, who is, after all, considered to be competent. Additionally, cesarean section often enables the pregnant woman to select the exact date of childbirth [5, 8]. Unfortunately, the patients are misinformed by the mass media that the cesarean section is completely safe both for the mother and her neonate [9]. Women are aware of the potential complications of vaginal delivery, but are unaware of the possible negative consequences of cesarean section, which makes it easier for them to make a decision [5].

The key solution, in terms of reducing the trend towards performing cesarean section on a demand, is conducting population-based studies of women directed at identifying the reasons for this decision [5, 9]. Following their elucidation, proper education of pregnant women combined with prenatal psychoprophylaxis aimed at reducing fear might result in decreasing the number of pregnancies completed by the abdominal route [5].

During the recent years, the concerns related to indications for performing abdominal surgery, such as a cesarean section on a demand, were accompanied by a heated debate [10]. According to the recommendations of Polish Gynecological Society, performing cesarean section based solely on patient's request constitutes medical error [10]. The results of injury and mortality rate studies, clearly indicate that cesarean

section is a high-risk procedure associated with frequent complications, including maternal and/or neonatal death [4, 5, 9, 11].

The aim of study

The aim of this study was to analyze the levels of prenatal stress and the ability to control negative emotions of pregnant women. Detailed objectives included: 1) identification of the strongest stressors affecting pregnant women, along with the analysis of their trimester-specific intensity levels, 2) analysis of the relationship between emotional level of pregnant women and their obstetrical histories, 3) analysis of the influence of participation in childbirth classes on the level of prenatal stress and other negative emotions, and 4) analysis of the influence of the level of experienced stress and emotional control on the decision of delivery mode, and understanding the reasons behind the selection of various routes of delivery.

Materials and methods

This study was conducted in the form of a questionnaire diagnostic survey. The questionnaire included 22 questions, developed by the authors, as well as two standardized scales: Cambridge Worry Scale (CWS) and the Courtauld Emotional Control Scale (CECS, Polish adaptation by Juczyński).

CWS describes the level of stress associated with various situations related to delivery and postnatal period [3, 13]. The scale refers to 16 potential stress factors affecting pregnant women. The respondent scores the level of anxiety associated with each factor in 6-grade scale from 0 to 5, where 0 corresponds to the lack of anxiety, and 5 to the highest level of anxiety. CECS determines the subjective levels of anger, depression, and anxiety control of the responder [33]. The responder scores each statement from 1 to 4, where 1 corresponds to "nearly never", and 4 to "nearly always". The results points were summed up in various CECS subscales. The higher the score, the higher the level of a negative emotion control [33]. Higher score of negative emotion control corresponds to lower self-esteem as well as to a higher frequency of experiencing anger and anxiety [33]. Control of emotional expression is reflected by higher intensity of experienced emotions or by prolonged emotional tension [33].

The survey was conducted in 2009 and included a group of 217 women coming from various environments. The gestational stage of the responders ranged between 5th and 9th month; moreover, the participants differed in terms of their obstetrical history and experiences related to previous deliveries.

Results

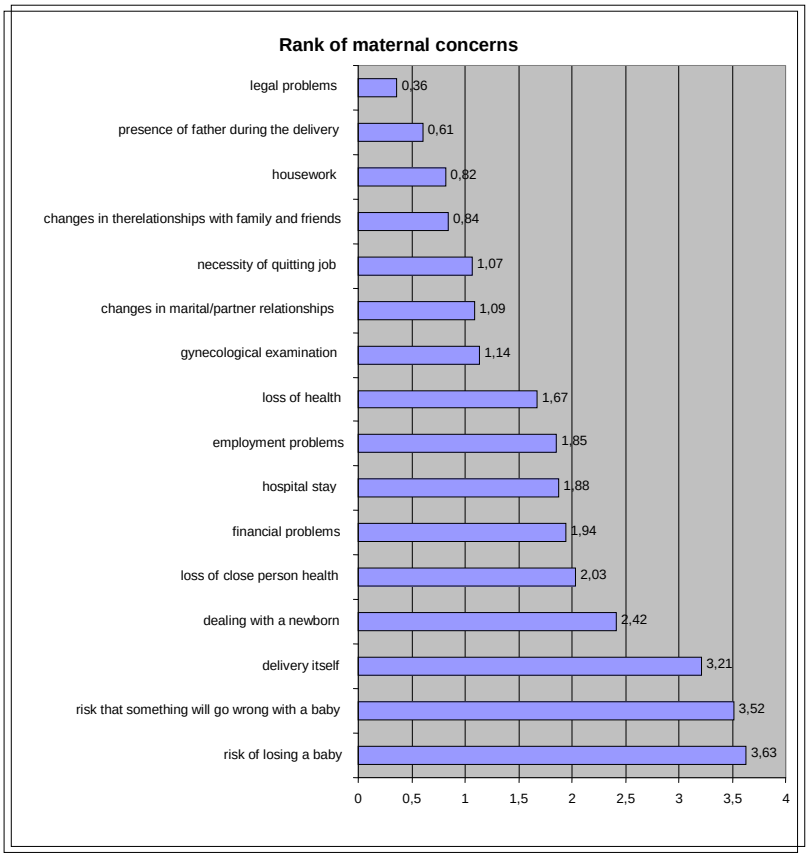

Figure1. The rank of maternal concerns based on CWS

The rank of maternal concerns reflects factors that are associated with the highest level of maternal stress. The strongest fears of surveyed women were associated with a health and life of their babies. The fear of delivery itself ranked third. The lowest levels of stress were associated with legal problems and the presence of a partner during delivery.

Table 1. Relationship between experienced emotions and obstetrical history

	n	%	Stress level	SD	Anger control	SD	Depression control	SD	Anxiety control	SD
Number of previous pregnancies										
One	158	72.8	28.78	13.46	13.37	4.02	14.39	4.26	15.41	4.56
Two	44	20.2	26.57	13.55	13.30	4.41	14.77	4.69	16.89	5.02
Three	14	6.4	26.86	10.94	14.14	6.00	16.29	5.69	16.93	6.13
More	1	0.4	13.00	0.00	23.00	0.00	14.00	0.00	20.00	0.00
Number of previous deliveries										
None	169	77.9	28.99	13.67	13.21	4.03	14.23	4.28	15.31	4.63
One	38	17.5	24.49	10.01	13.95	4.41	15.97	4.72	17.97	4.77

Two	9	4.1	28.56	17.01	14.89	5.49	15.78	5.65	16.44	5.77
More	1	0.4	13.00	0.00	23.00	0.00	14.00	0.00	20.00	0.00
Experiences related to the previous deliveries										
Solely positive	15	6.9	23.33	10.48	14.07	2.71	15.73	4.09	16.80	3.47
Mixed	29	13.3	24.97	12.55	14.10	4.70	15.21	4.49	17.90	4.96
Solely negative	4	1.8	29.75	7.59	16.75	9.60	20.50	7.72	20.50	8.38
None	169	77.9	29.07	13.67	13.21	4.04	14.24	4.29	15.28	4.63

The relationship between the level of stress, emotion control and obstetrical history (number of previous pregnancies and deliveries, and emotions related to the previous deliveries) is presented in Table 1. Noticeably, higher number of previous pregnancies and deliveries is associated with marked tendency towards reduced level of stress. Also, positive experiences related to previous deliveries were reflected by lower levels of prenatal stress, while negative experiences were associated with extremely high levels of experienced stress. Additionally, high level of stress resulted from the lack of experiences related to previous deliveries.

Control of emotions increased together with the number of previous pregnancies and deliveries. Additionally, there was an evident relationship between experiences related to previous deliveries and experiencing anger, depression, and anxiety.

Table 2. Relationship between the level of stress, emotion control and participation in childbirth classes

Participation in childbirth classes	n	%	Stress level	SD	Control of anger	SD	Control of depression	SD	Control of anxiety	SD
Yes	112	51.6	25.97	12.3	13.0	3.7	13.95	4.24	14.91	4.19
No	103	48.4	27.25	14.0	13.9	4.6	15.26	4.57	16.81	5.19

The participants of childbirth classes were characterized by significantly lower stress levels as compared to pregnant women, who did not attend such courses (25.97 and 27.25, respectively). Also, the level of controlling all studied emotions by childbirth classes' graduates was lower than in case of other women.

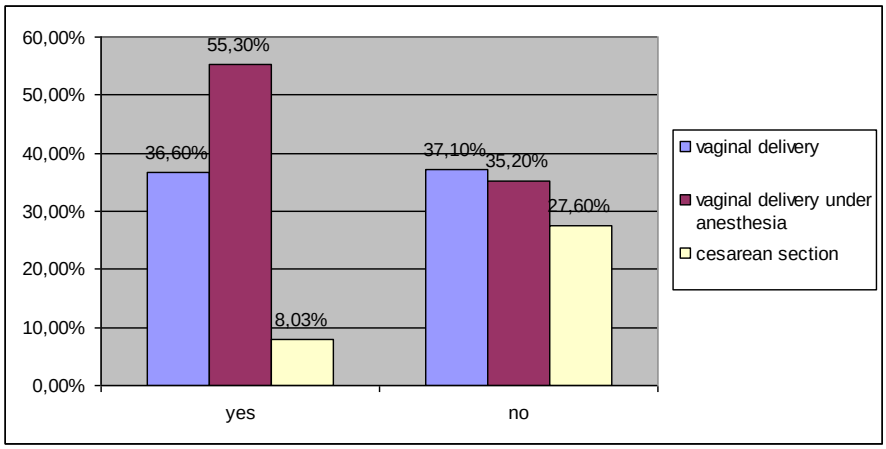

Figure 2. Relationship between participation in childbirth classes and the selection of delivery mode

Childbirth classes' graduates would prefer delivery under anesthesia (55.3%) or vaginal delivery (36.6%). Only a small percentage of this group would decide upon cesarean section (n=9, 8.03%). Pregnant women, who did not participate in childbirth classes, presented a relatively similar distribution of opinions with regards to preferable delivery modes. Thirty nine of them (37.1%) would select natural delivery, while the percentage preferring delivery under anesthesia and cesarean section amounted to 35.2% (n=37) and 27.6% (n=29), respectively.

Table 3. Relationship between experienced emotions and the preferred mode of delivery

	n	%	Stress level	SD	Control of anger	SD	Control of depression	SD	Control of anxiety	SD
Vaginal delivery	80	26.8	27.27	13.29	13.24	4.27	14.31	4.14	15.55	4.68
Vaginal delivery under anesthesia	99	45.6	27.99	13.46	12.96	3.54	14.07	4.12	15.05	4.14
Cesarean section	38	17.5	32.21	12.67	14.45	5.43	15.76	5.58	17.16	6.17

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Distribution of preferred delivery modes in relation to emotions experienced by pregnant women is presented in Table 3. It is clear that women who preferred cesarean section were characterized by the highest levels of prenatal stress and emotional control.

Discussion

The discussion whether cesarean section should be performed at the request of the patient has been continuing for years. Proponents of this approach point to the

woman's freedom of choice and the right to decide about her own body [5, 7]. In contrast, its opponents consider cesarean section as a life-saving procedure for the mother and her fetus, and emphasize that pregnancy is not a disease and therefore should not be in the scope of doctor's interest [5, 7]. Understanding the true reasons of women's decision for completing pregnancy with cesarean section, would enable the implementation of activities that could effectively inhibit the increasing tendency in the rates of cesarean sections [5].

Stress and emotions have vital importance to pregnant woman's mood, modulate her activities, and influence her health. Consequently, studying emotional factors seems reasonable in the context of prenatal psycho-prophylaxis. The level of prenatal stress and the score of emotional control, enable objective assessment of pregnant woman's mood, and are strongly correlated with her behavior, feelings and decisions.

CWS was developed in Cambridge, in 90's, and was based on the examination of more than 1200 pregnant women [2]. Prenatal stress experienced by pregnant women from Podlachia province, proved to be significantly higher than that reported by English women, surveyed nearly 20 years earlier [2]. All scores of overall stress level of our patients, were similar or higher by up to one point than those reported by CWS's authors [2]. This discrepancy could be the result of time span between the two studies (two decades), as well as of different environmental conditions the participants were exposed to (country, socioeconomic conditions, and the quality and availability of healthcare).

Except for this study, CWS was also studied by the authors of another Polish research, assessing the intensity of labor pain and the level of prenatal stress in the context of "symbolic-magical" thinking [14]. This study was conducted at the beginning of the 21st century and included 100 women with low-risk pregnancies from Upper Silesia region [14]. The overall level of prenatal stress of Upper Silesian pregnant women was lower than that of our patients from Podlachia [14]. Perhaps, that difference resulted from the characteristics of our participants: this group was not stratified with regard to pregnancy-related risk, and also women with a history of many previous hospitalizations were included.

According to Statham et al., a large-scale study with CWS questionnaire could enable the identification of the reasons of experiencing markedly higher levels of stress by some pregnant women [13]. The fact that the history of previous pregnancies modulates the level of presently experienced anxiety, is quite an obvious relationship revealed by CWS. Women who experienced complications during their previous pregnancies show the highest levels of prenatal stress, while the history of uncomplicated pregnancy is associated with the low stress level [13].

Participation in childbirth classes is the most efficient form of practical preparation for the parental role [14]. Pregnant women who were actively involved in such courses, are well prepared for childbirth and know the methods of alleviating labor pain, resulting in a lower level of pain and a shorter duration of the first phase of delivery [17]. The education of these pregnant women, regarding the rules of prenatal psycho-prophylaxis, facilitates the process of childbirth [14] and subsequently influences the delivering women to possess higher level of satisfaction, related to delivery [14].

The results of our study have complemented the abovementioned evidence. They confirm that participation in childbirth classes can reduce the level of experienced prenatal stress and, consequently, the level of anxiety associated with the delivery. The overall stress level of pregnant women, who were not involved in this form of delivery preparation, was 1.5 point higher than that in case of childbirth classes' graduates.

Therefore, reduction of the anxiety level, resulting from participation in prenatal courses, allows to break up the so-called "vicious circle" and facilitates the delivery.

Women who experience strong anxiety associated with the delivery and related issues (pain, complications, and sexual factors) decide upon elective cesarean section more eagerly than other women [8]. However, surgical delivery, irrespective of its etiology, is also related to anxiety of the pregnant women and may potentially double the risk of postnatal depression [8]. Our study revealed that pregnant women who decided on the cesarean , experienced markedly higher prenatal stress; the overall score was 5 points higher, comparing to women, who preferred vaginal delivery. Additionally, women preferring cesarean section show higher levels of negative emotion control, which suggests lower self-esteem, more frequent episodes of anxiety and anger, and a predisposition to prolonged emotional tension [34]. Such women are candidates for prenatal psycho-prophylaxis.

Thirty eight women participating in this study (17.5%) would choose cesarean section on demand. This fraction is lower than that reported by Sienkiewicz two years ago (21.2 %) [34]. This decreasing trend is contrary to the increasing demand for cesarean sections observed, both, in Poland and worldwide [5- 7, 9 - 11].

Conclusions

1. The age of pregnant women is closely related with her emotional status.
2. The strongest stressors of pregnant women are related to the health of their unborn baby and the delivery itself.
3. Both primi-paras and multi-paras experience extremely high levels of prenatal stress. The level of stress of women who have had negative experiences associated with previous pregnancies is even higher.
4. Participation in childbirth classes has a positive influence on emotions of pregnant women.
5. Pregnant women, who decide to undergo cesarean section, experience the highest levels of prenatal stress and are characterized by the highest level of negative emotion control.
6. There is a direct correlation between the level of prenatal stress and the level of emotional control – the higher experienced stress, the higher emotional control.

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MEDICAL ISSUES OF DEVELOPMENTAL AGE

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Enuresis in adolescence - cases studies

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Introduction

Enuresis is a normal reflex act of micturition during sleep and is thus different from the overflow incontinence at night that might be presenting symptom of chronic retention of urine. Nocturnal enuresis is very common among children, to the extent that many families and caregivers, may dismiss it as a developmental stage rather than a disease [1]. There are two types of enuresis nocturnal. Primary type characterise patients who have never been dry at night for at least 6 months. Secondary – the patients who were dry for at least 6 months while sleeping. Urinary tract disorders are rarely the sole cause of enuresis. It is obligatory to: exclude an urinary infection, impair a renal function, neurological diseases, bladder outflow obstruction, sexual abuse [2, 3]

Although this problem is most often associated with children, some studies show that it may as well occur in later periods of life. Enuresis nocturnal often lasts through the adolescence until the adulthood.

According to Levine, Shadpour and Shiehmortez conducted (1943) the research on the army recruits and found that 1.2 % of them were still bed-wetting at the age of 18. The additional prevalence researches were conducted between 1944 and 1954 on the recruits. The estimated prevalence of Primary Nocturnal Enuresis was from 0.19 % to 2.5 %. In another study, 3.8 % of 398 students had primary enuresis nocturnal. In the group of 1034 teenagers it was recognised that 0.7% of men and 0.6 % of women at the age of 17 (among the total of 736 of respondents) had primary enuresis nocturnal [1].

Night bed-wetting recognised in childhood is represented by 15 % of children at the age of 5, and 2 % at the age of 16. At the age of 16 men and women with nocturnal enuresis are in equal proportions [4]. After the third decade, very few individuals still have nocturnal enuresis [5]. There are recognised three groups of patients with enuresis:

1) Patients bed-wetting only during the night – when the problem go on up to the age of 25.
2) Patients with the enuresis syndrome: with a daily frequency, sudden character, urinary incontinence and wetting – symptoms may stay until the end of life
3) Patients with repeated wetting, who experience relapses of wetting after the period of remission. Symptoms may be present until the end of life [2].

The available treatment methods include bladder control improvement: bladder drill, medicines – tricyclic antidepressants, anticholinergic, as well as desmopressin and operation procedures [6, 5].

Below, the definitions and the classifications of enuresis are presented [7] (Table 1).

Table 1. Definitions and classifications of enuresis [7].

	DSM-IV	ICD-10	ICCS
	American Psychiatric Association	World Health Organization (WHO)	International Child Continence Society
Age	Chronological age of ≥ 5 or mental equivalente developmental level	≥ 5 years of age	≥ 5 years of age
Frequency (wet nights)	≥ 2/week	≥ 1/month	≥ 1 night/month can be accepted in young children, but not in older children and adolescents
Duration	≥ 3 months	≥ 3 months	≥ 6 months
Place where the wetting takes place	In bed, voluntary or involuntary	In bed, involuntary	During sleep, involuntary
Excluding situations	Diabetes mellitus Epilepsy On diuretic therapy Anatomical or neurological diseases of the urinary tract	Anatomical or neurological diseases of the urinary tract	Anatomical or neurological diseases the urinary tract
Other characteristics			Normal voiding

In the prospective study showed an association between childhood enuresis and adult urinary incontinence. Adult women with detrusor instability commonly report childhood enuresis. It is possible that the reason is constitutional incontinence or failure to learn to achieve normal bladder control at the time of "potty training" [8]. Chang using methylophenidate (MPH) in treatment of enuresis risoria indicated that MPH can be a viable option for the primary treatment of enuresis risoria, and it may be related to increasing urethral closure pressure [9].

The aim of the study is a presentation of two adolescent patients' histories with enuresis.

Case I

The patient K.L. at the age of 17 was applied for psychiatric treatment because of: repetitive (every year) sleeping disorders with inability to sleep during winter season, attention disorders, exaggerated reactions to stressors ("she screams, cannot calm down when things occur different from her expectations"), primary enuresis nocturnal, difficulties in making friends with peers, periodic irritability. The family reported that

her biggest and every day problem was stubbornness and inability to change mind even after many explanations given to her by family members, especially when discussing appropriateness or adequacy of her behaviour.
She was under psychiatric care since the age of 5, with a diagnosis of having emotional disorders of an organic background and fear. During later medical care, the diagnosis was changed to "suspicion of schizophrenia". The following medication was applied: Thioridasin, Desipramine, Piracetam. At the age of 17 (2 months before current application) she was diagnosed as ADHD – with attention deficit predominance. Methylphenidate oros was added to the treatment with a dose of 18mg.

Development interview

The patient was born as a result of the fourth pregnancy, which was supported, but it was the third birth (the first pregnancy resulted in miscarriage in the first trimester) – by caesarean section conducted 3 weeks before the term because the delivery started earlier. The birth weight was 3200 g, length - 56 cm, APGAR 8. Patient was fed with breast up to 7th month – on demand. During infancy she was tearful. In the neurological examination in this period the maintained Moro reflex was recognized. She was oversensitive to sounds – she was afraid of a vacuum cleaner. She started walking after 13 months, and she begun to talk when she was 2 years old. She was playing only by her rules and never showed her works. Expecting everyone to understand what she had in mind, she never explained her rules of the game. Toilet training was conducted at the age of 2 and 5, yet she wetted herself during day and night and it lasted up to the end of primary school. When she was 12 she was bed-wetting only during night. In the nephrological and urological examination no somatic cause was found.
When she was 3 years old, she started to attend to kindergarten which was changed twice. She had difficulties with entering into appropriate relations with peers.
Specific learning disabilities (dyslexia, dyscalculia) were recognized during primary school. She continued education in gymnasium where she focused especially on history which she studied with great precision.

Family interview

Mother, age – 55. An unemployed teacher, looking after the house. She was bed-wetting until 15 years old and she was treated because of attention and depressive disorders.
Father, age – 62. A construction engineer, working intensively, periodically going for a few days delegations. Committed to his passions. He was bed-wetting up to the age of 7. Currently it happens after he drinks alcohol.
Sister, age – 28. Married with 3 children, and higher education. Currently she is pregnant. She was bed-wetting up to the age of 18, even though she was treated nephrologically with Vasopressine. Brother, age – 24. Married with 2 children. He was not bed-wetting. In mothers' family, there are two of her cousins children. They are being treated for schizophrenia.
The research conduction and opinions about functioning. When she was five years old this psychological opinion was written: "the girl seems to be alienated, as if the part of stimuli didn't get through to her. Probably infantile behaviours are caused by up-bringing mistakes. The medical certificate stated the following: "Emotional disorders with an organic background. States of fear. At the examination room, girl was shy at first. She doesn't maintain an eye contact and she's focused only on playing. She doesn't pay attention to what happens around her. However, after some time she relaxes and maintains an eye, verbal and emotional contact with the researcher. Vocabulary is adequate to the age, but she is low manually functional. Abstract thinking is poorly developed. The child shows fear of some toys." When she was eight, the EEG

examination was conducted and the following values occurred: rhythm of the alpha base with the frequency - 9c/s and voltage – 60uV, profuse, regular, reactive. Beta rhythm was recognised in frontal areas. Symmetrical groups of theta waves with the frequency – 4-6 c/s were recognised in temporal areas. Hv had no influence. Results: the entry fit the age norm.

At the age of nine she went through psychological and pedagogical examination after which she was diagnosed with dyslexia. Also, during the same year, she was given a certificate about the need for a special education for the reason of F.95 (Tic disorders) and F.07 (Personality and behavioural disorders due to brain disease, damage and dysfunction). Medical certificate drawn up by Clinic for People with Autism stated the following: On the basis of the interview with mother and the observations of the girl in spontaneous and task situations, as well as the analysis of the documentation data, the childhood autism diagnosis was rejected.

When she was ten years old, referring to the psychologist opinion, she was under care due to her difficulties in interpersonal relationships, irritability, occurrence of many autistic traits (the lack of eye contact, hiding from the outside world, high level of anxiety, oversensitivity to sound stimuli). Tics and night anxiety occured temporarily. Also at the age of ten the certificate suggesting the need for special education was drawn up because of F.92 (Mixed disorders of conduct and emotions) and F.81 (Specific developmental disorders of scholastic skills).

At the age of 11, referring to the opinion of the school, it was stated as follows: increased difficulties with learning maths, English language and information science. To pass the particular parts of learning material many approaches need to be taken and in most cases, in individual way. Writes illegibly. Loses the school accessories. She is lost in thoughts and turns off during lessons. Being at school, she stands aside from group. She doesn't have closer contacts with any peer. Later on, the certificate about the need of individual lessons was issued because of obsessive-compulsive disorders, enuresis nocturnal and autistic traits. 12 years old – certificate about the need for individual education because of behavioural and emotional disorders, neurotic disorders and specific disorders of learning abilities. 13 years old – certificate suggesting the need for special education because of behaviour disorders. At the same age the opinion from school was issued and stated as following: "on the first year of gymnasium the girl was lost and little self-dependent. She was losing her things, avoided peers and was lonely on the school breaks. She was rarely focused during lessons. She was drawing and not making notes. In comparison with others she was significantly cultured.
14 years old – certificate about the need of individual education because of behaviour and emotional disorders as well as compulsive disorders. 15 years old – referring to schools' opinion, in the end of II year of gymnasium – she was a mature girl, well balanced. She didn't miss classes and she was always well prepared for lessons. She was a shy person with a lot of complexes. She was afraid of being laughed at and of her friends' dissatisfaction.

Neuropsychological examination at the time resulted in the following diagnosis: IQ 91, massive attention disorders – worse attention set-shifting, decreased persistence, increased susceptibility to distraction, fatigueness; visual-spatial processes disorders in the range of analysing and synthesising of the complex visual material, as well as visual memory disorders.

The psycho-pedagogical statement said: "the mental development fits the norm criteria for this age. Dyslexia and developmental deficits of perceptive and motor functions were recognized.

At this time, the certificate was issued emphasizing the need for individual education due to behaviour and emotional disorders, as well as compulsive disorders. 17 years old – EEG – the entry for wakefulness was properly organised spatially with a dominant alpha rhythm - 10,5 Hz and the amplitude - up to 40uV in the occipital discharges. Alpha rhythm was normally responsive. Low-voltage beta waves were in frontal leads. HV and PS showed no significant influence on the record. The record was considered as normal.

Psycho-pedagogical opinion – intellectual development was placed at the average level of intelligence. Deficits in perception functions as well as decreased level of motor functions resulted in difficulties in writing. Dyslexia was diagnosed.

Also at this age the medical certificate was issued. Attention Deficit Hyperactivity Disorder with attention deficits predominance.

After conducting additional, neurological and paediatric consultation the somatic background of enuresis nocturnal was excluded. The traits of the Asperger's syndrome, the ADHD with the attention deficits predominance, primal enuresis nocturnal, as well as depression and anxiety disorders were recognised.

The following steps were recommended:

1) Pharmacotherapy : Ditropan – 5mg – twice a day, Methylphenidate – 36 mg per day, Melatonin – 6mg per day, Clomipramine SR 75 mg (which was discontinued due to the bad tolerance and it was changed to Fluvoxamine – 50mg/day)
2) Participation in the group therapy for the youth with the Asperger's syndrome (social-skills training) and individual therapy.

The patient's functioning improved significantly. She is reluctant to take medicines which she does irregularly. She still wets at night. She associates her better mood only with the work in the group therapy. She believes, that she is going to wet until she is eighteen. She is convinced that later, the problem will cease to exist, exactly like it happened to her mother.

It is expected that in the later treatment the dose of Methylphenidate will be increased up to 54 mg per day and the participation in the group therapy is going to be continued.

Case II

The patient L.K., aged 16, was applied for psychiatric treatment because of: enuresis nocturnal, learning difficulties, high distractibility while learning, disturbance during lessons, irritability, as well as sudden reactions towards the household members when someone acted against his ideas. Earlier, he was treated by nephrologist. He was given desmopresin, which he used only when he spent the night out (due to the bad tolerance for this medicine).

Developmental interview.

The patient came in the second birth, which was supported. Mother felt intensified contractions at 17 HBD. The birth was vaginally delivered one week before the planned birth date. Although the umbilical cord wrap, the baby had 10 APGAR points. He weighed 4000 g and was 60 cm long. The baby was directed to ultrasound because of suspected intraventricular haemorrhage. He was under neurological care and no deviation had occurred in the results of the examinations. He was breastfed for 15 months. In the 12 month he started to walk, and started speaking when he was two. At the age of three he started to attend kindergarten, but after two weeks stopped, because he did not want to stay there. He vomited and didn't eat anything in the kindergarten.

He started the reception class at school and he didn't have any problems with learning. Yet, teachers complained about him for being too active physically during lessons. In the primary school he was usually described as "capable, but lazy". At the age of eight, he started to wet without a connection to any particular situation. He was examined by the nephrologist who hadn't recognised any somatic cause. The patient had worse marks in gymnasium, because "there was too much learning material. He always left learning until the last moment.".

Family interview.

Mother, age – 47. A teacher with higher education. She's not employed at the moment because she helps her husband with managing the company. She is not ill. Father, age – 49. He manages his own business and works many hours a day. He is healthy. Sister, age – 21. She stopped studying. Although being always gifted, recently she was disorganised. She moved out from home. She is healthy.

Examination results

10 years old – after the psychological examination it was stated as the following: the ability to anticipate and make plans, as well as the ability to recognise phenomena as a logical consequence of events is highly developed. The boy is able to clearly justify his contribution and motives in simple problematic situations related to contacts, norms and social opinions. He is capable of critically evaluate his own, as well as the others behaviour, or one which is a result of peer relationships. The patient is a sensitive child not exactly knowing how to deal with the states of tension and frustration. Some unobtrusive tics were observed and can be understood as a symptom of a personality with neurotic traits.

At the age of 11, referring to a psycho-pedagogical opinion – he was diagnosed with dyslexia. When he was 12 years old, another psycho – pedagogical opinion was issued. The patient was again diagnosed with dyslexia and ADHD.

At the age of 14 – the psycho – pedagogical opinion was issued in which the following was stated: Visual, auditory and kinaesthetic motor analyser deficits are the objective cause of reported difficulties in proper writing. Dyslexia is diagnosed. Secondary enuresis nocturnal and hyperkinetic disorders (ADHD with mixed subtype) were recognised. Clomipramine was added to the treatment, but was discontinued because of occurrence of unwanted effects. Later methylphenidate was used in a dose of 54 mg per day. The relief from enuresis nocturnal symptoms was obtained, and there was the significant improvement of cognitive functions. Enuresis nocturnal happens rarely after a strong excitement at school. For the reason of increased impulsive behaviours the chlorprothixen was added to treatment of 15 mg daily.

Conclusions

The patients represent a subtype of the enuresis nocturnal, which (despite the genetic component described in one family) can be associated with low control of impulses and disharmonious development (poor attention). While describing their enuresis-associated ailments, the patients don't associate them with any particular event. However, it is presumed that it is connected with ADHD symptoms and the lack of training in the field of cognitive deficits, resulting in the increase of the anxiety disorders, which manifested in reduction of the bladder capacity. The described patients did not go through training, the nephrological treatment was not enough for improvement. After using metylophenidate there was remission in enuresis symptoms.

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Overweight and obesity among the youth

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Introduction

Obesity is considered to be one of the chronic, non-infectious diseases; that is, a disease associated with the progress of civilization, which poses a threat to the health of mankind [1]. Obesity is a chronic metabolic disease, resulting from upsetting the balance between energy absorption and release, manifesting itself in an increase of the body-fat tissue. As the process intensifies and with time, pathological changes and dysfunctions related to all systems, and organs begin to appear [2]. There has been a significant growth of overweight and obesity reaching epidemic proportions over the last decades. It is connected with the progress of civilization and the lifestyle changes, the socioeconomic status of the family, less exercise and an excessive energy supply in fat and carbohydrate-rich products, in particular, [3]. A prevalence rate due to overweight and obesity increases alarmingly in societies where high-energy food products are readily available and where high technology, omnipresent mechanization and automation limit human physical activity [4]. A problem of overweight and obesity among children and youth acquires great significance because it can "survive" until adulthood. It has been proven that in relation to a peer of normal body weight, an obese child aged 10-13 is from 6 to seven times more threaten with the risk of respiratory and endocrinological system diseases, fatty liver, orthopaedic abnormalities and mental disorders, and at the older age, a cardiovascular condition and type two diabetes [1]. Excessive body weight is undoubtedly a social problem, and the World Health Organization (WHO) in 1997 declared obesity a worldwide epidemic concerning children and adults and recognized it as one of the greatest health threats to mankind. Population research demonstrates that a high incidence of overweight and obesity in the developed countries doubled within one generation's lifespan and is characterized by a fast upward trend. A further increase of the number of obese people in the world and the related health threats is predicted [5].

The two aims of this study were (1) to assess the incidence of overweight and obesity among youth, and (2) to assess behavioral patterns predisposed to overweight and obesity.

Materials and methods

The research was conducted among 100 randomly selected secondary school pupils at the age of 15-19 in Subcarpathian voivodeship. There were 53% of girls and 47% of boys in a given group, living in the city (33%) and in the country (67%).

The method of a diagnostic survey was used, while a questionnaire served as a research technique. A self-formulated questionnaire form relating to the modern lifestyle of young people and its influence on overweight and obesity was a research tool.
A questionnaire was anonymous. A BMI was calculated for every respondent based on the obtained data.

Results

53% of girls and 47% of boys participated in the survey. The most numerous group consisted of 18-year-olds (61%), next pupils at the age of 16 (18%) and 17 (15%), then the youth at the age of 19 (5%) and 15 (1%). In the surveyed group, there were 6% of obese persons, 37% overweight, 16% underweight, and 41% of pupils were within the norm. The survey revealed that 66% of the overweight and 75% of the obese respondents live in the city, while only 25% of the obese and 33% of the overweight pupils live in the country. It results from the research that 23% of the pupils have one obese parent, 2% both parents, 2% siblings, and 75% of the respondents have no cases of obesity in the family. In the examined group, the most frequent health problems are: bronchial asthma, allergy (5%), hypothyroidism (2%) and ovary diseases (2%). The straight majority of the respondents (93%) do not take any medication, 4% take steroids and 3% contraceptives. More than a half of the pupils (68%) knows what a healthy lifestyle means, 29% partly knows, while 3% do not know. Only 14% of the respondents follow the healthy lifestyle rules, 12% do not follow them, while 74% follow them only partly. The analysis of the research material shows that 34% of the pupils have 3 or fewer meals a day, 46% eat four meals, 14% 5 meals, and 6% have 6 or more meals a day. A little more than half of the respondents (55%) eats regularly, while the rest of the respondents (45%) are not concerned with the regularity of their meals. As many as 85% eat between main meals, and 15% feel no need to do so. The most popular snacks are: sweets (40%), fruit and vegetables (32%), crisps (6%) and sandwiches (5%). Methods of preparing meals preferred by the respondents are as follows: cooking (66%), stewing (16%), baking (65%), frying (55%) and grilling (43%).As many as 41% of the pupils are often irritated, cannot cope with stress and problems, whereas over a half (59%) can deal with such situations. A little less than half of the respondents (49%) have not noticed any changes in their eating habits due to stress. However, 51% of the respondents have observed some changes, 21% of them eat more, 30% eat less than usual. The most common ailments that afflict the young people are: nervousness (39%), irritation (19%), headaches (14%), fatigue (55%) and dejection (17%). Less than half of the respondents (41%) sleep seven hours, 34% of the pupils sleep on 8 or more hours, 15% sleep six hours, and 10% sleep five hours or less. As many as 78% confirmed that overweight and obesity increases the risk of diabetes, hypertension, coronary disease, sleep on apnea, depression and cancer incidence; 2% do not agree with the statement, and 20% claimed not to know anything about the relation. 63% know that a regular well-balanced diet, daily exercise, a lack of addictions and the ability to cope with stress influence overweight and obesity, 12% of the pupils deny it, and 25% do not know anything about the connection. It is satisfactory that 79% of the pupils declare not to smoke, and 21% smoke between 2 and 25 cigarettes a day. 61% drink alcohol, 5% of them drink every day, 23% once a week, 17% once a month and 16% occasionally. 39% of the respondents do not drink alcohol. The majority of the respondents (49%) do not pay attention to the energy value of the selected food products, only 14% care for a well-balanced diet. Among the respondents, a straight majority (76%) willingly and actively

participate in the physical education lessons. Overweight and obese persons have a negative attitude to the lessons. Among them, girls accounted for 18% and boys 6%. The majority of the studied adolescents (53%) appear indifferent to overweight or obese people, 24% fully accept obese people, while 23% of the respondents show rejection and aversion to the obese. According to the respondents, the reaction of society to an obese person is different. The obese youths are often the subject of teasing and nicknames; their peers interact with them unwillingly. 77% of the respondents agree with such a reaction, while only 9% of the respondents met with full approval.

Discussion

The speed of the growth of the obesity epidemic among children and youth seems to point to the changes related to the lifestyle and health behavior patterns of young people connected most of all with their diet and exercise. The growing external influences (socioeconomic and cultural factors, advertising), modify the healthy habits acquired earlier. The research carried out in many countries all over the world in the last decade demonstrated that simultaneously with the greater access to high-density energy food teenagers veer towards a sedentary lifestyle and less exercise. Behavior patterns and exercise in the etiology of obesity account for a set of external factors, behavioral, and thus possible to modify. Therefore, their right modification can prove a real help for teenagers who are obese or at risk of obesity [6]. Overweight and obesity is alarmingly on the increase in societies where high-energy foods are easily available and were omnipresent mechanization and automation reduce the need, or even the possibility, to make any physical effort. The epidemiological research reveals that 50% of people from the western civilization societies show overweight or obesity. Over one billion of the inhabitants of our planet are overweight and 300 million are obese. According to the International Obesity Task Force (IOTF) report 155 million school-age children in the world demonstrate overweight or obesity. 30-45 million among them are obese children and young people aged 5-17, and 22 million obese children under the age of 5 [7]. 14-22% of children in Europe have the body weight of over the 85th percentile of BMI (NHES criteria), 9-13% of children have a BMI 95th percentile – obesity. The obese children in the USA account for 26-31% of the population. It has been estimated that in the last 25 years number cases of overweight among 6- to 11-year-olds were doubled, and among 12- to 17-year-olds tripled. In Poland in 2005 overweight and obese youth aged 13-15 accounted for 13% of the population, 2% more than 10 years earlier and an upward trend was expected [8]. The incidence of obesity among children and youth fluctuates between 2.5 and 12% in different regions of Poland. In primary schools in Poland 4.8% of boys and 4.3% of girls are overweight, and 3.1% of boys and 2% of girls are obese [9]. In secondary school 4.3% of boys and 5.8% of girls suffer from overweight, and 3.5% of boys and 4.1% of girls are obese. In higher secondary school, overweight boys account for 8.5% of the population and girls for 8.1%, while 6.3% of boys and 5.6% of girls are obese [10].

The Polish research carried out by Małecka-Tendera et al proved that among children aged 7-9 overweight and obesity afflict 15% of boys and 15.8% of girls, 3.6-3.7% of whom are obese [5]. Mazur et al found out that among children from the Subcarpathian region at the average age of 10.4, 10.5% of girls and 8% of boys were overweight, and 11% girls and 7% boys were obese [3]. The self-formulated study reveals that there were 6% of the obese persons in the studied group, 37% were overweight, 16% were underweight, 41% of the respondents were within the norm. The

research demonstrated that 66% of the overweight and 75% of the obese respondents live in the city, and only 25% of the obese and 33% of the overweight pupils live in the country.

The study conducted at the Mother and Child Institute in 2005 showed that the percentage of pupils aged 13-15 with excessive body weight (overweight and obese) was greater in the city than in the country (14.4% and 12.6% respectively), whereas the percentage of obese persons in the city, and in the country was identical and amounted to 4.5%. There were more obese boys in the country than in the city, while in the city, there were more obese girls than in the country [6].

According to several authors, food factors cause obesity among children from 20 to 40% [11]. The results of the research on eating behavior patterns of young people at puberty conducted in the last decade in Poland reveal repeated abnormalities in their diet. The diet of 13-15-year-old pupils in the last decade of the 20th century was characterized by a deficiency in the consumption of fruit, brown bread and milk and by an increase in the consumption of sweet fizzy drinks and sweets, especially among 15-year-olds. A balanced diet does not only mean providing the body with all the necessary foods, but it also indicates the regularity of meals - their right number and spread over the day. The youth at puberty should optimally have 4-5 meals a day, and the absolute minimum for this age group consists of three main meals a day with special emphasis on breakfast.

According to Oblacińska, a meal that was most frequently skipped by obese young people studied in 2005 was breakfast [6]. The self-formulated research reveals that 34% of the pupils eat 3 or fewer meals a day, 46% have four meals, and only 14% 5 meals a day. A bit over a half of the respondents (55%) eat regularly.

The researches around the world shows that children and youth eat less fruit and vegetables a day and less frequently than it is recommended by experts and international and national institutions [12, 13].

Wojtyła et al's research (2011) reveals that 94.78% of the respondents eat fruit a few times a week, 63.13% of whom every day. There are a bit too few vegetables in young people's diet (53.91% of the respondents eat them every day, and 37.18% a few times a week) [14]. The self-formulated research proves that only 25% of the respondents eat fruit and vegetables every day, 39% three times a week, 31% every seven days, and 5% have no fruit and vegetables in their diet. 42% of the young people eat sweets every day, 30% three times a week, and 25% every seven days. Wojtyła's research (2011) reveals that the majority of lower secondary school pupils eat between meals. The usual snacks are: fruit (75%), sweets (65%), yoghourts (53%) and cookies (50%). Part of them (23%) eat at night, although only 8% admit that they do it every night or almost every night [14]. In the self-formulated research, the most popular snacks are: sweets (40%), fruit and vegetables (32%), crisps (6%), and sandwiches (5%).

Exercise and the related moderate physical activity has a positive effect on one's condition. Participating in various forms of exercise contributes not only to young person's normal physical development, enhances physical attractiveness, but also positively influences their social and emotional development. Physical activity may be a source of pleasure, or a good way of spending one's free time with people of the same age, and regular physical exercise is of key importance in keeping normal body weight, and at the same time it lowers the risk of obesity and related diseases. Researchers investigating obesity among children and youth suggest the relationship between overweight and exercise. Epidemiological data indicate a decrease in physical activity at puberty. The spontaneous urge to move resulting from an inner need characterizing

younger children decreases. The research conducted in 2002 among Polish 13- and 15-year-olds revealed that the recommended level of exercise was reached by about 40% of boys and only 25% of girls. Because the spontaneous physical activity is reduced at puberty, the possibility to take part in the organized forms of physical activity such as, on the one hand, physical education lessons, and on the other hand, after-school physical activities, becomes essential [15].

Oblacińska et al. (2007) showed that the majority (78%) of the examined teenagers viewed themselves as physically active or very active, the rest (22%) considered themselves inactive or not so active [15]. The similar results were obtained in the self-formulated research in which 21% of the pupils considered their physical condition as very good, 63% as well and 16% considered their condition to be bad. The greatest number of the respondents – 65% devote up to one hour a day for exercise, 21% exercise two hours and 14% spend actively over two hours a day.

Obesity is a significant health problem of the modern world and according to many authors, it is also one of the most frequent developmental disorders of children and youth [15]. That is why prevention strategies both primary and secondary are of such great importance. American experts in 1998 recommended three years as the right age to begin the prevention, diagnosis and possible treatment for obesity among children. At present, due to the unsatisfactory results of most preventive programmers, it is considered that the prevention of child overweight should start as early as a mother's pregnancy, especially around the time of childbirth, and particularly in the families where there are cases of obesity and type two diabetes risk factors. There is a great need for family education programmers who would make parents aware of the complications resulting from obesity and encourage them to make a common effort to follow the right diet and to exercise [16].

Conclusions

1. Overweight afflicts 9% and obesity 4% of the surveyed pupils. 78% of the young people have the right body weight.
2. Over half of the pupils (55%) eats regularly, whereas 85% eat between meals; 40% of the snacks are sweets and only 32% fruit and vegetables.
3. Only 25% of the pupils eat raw fruit and vegetables daily while 42% of the respondents eat sweets.
4. 78% of the respondents think that obesity influences the increase of the incidence of diabetes, hypertension, coronary disease, sleep apnea, depression and cancer.

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The family problems connected with nurturing ill children, suffering from phenylketonuria

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Introduction

According to the "Global Report on Birth Defects: The Hidden Toll of Dying and Disabled Children" published by the United States organisation March of Dimes in 2006, birth defects and errors of metabolism are the most important challenge faced by paediatrics and perinatology today. The most frequent errors of metabolism are: phenylketonuria (PKU), cystic fibrosis (mucoviscidosis), and congenital hypothyroidism. Typical phenylketonuria is a rare metabolic disease usually caused by phenylalanine hydroxylase (PAH) deficiency, which is an enzyme produced in the liver. This defect leads to an increase of phenylalanine (Phe) concentration in blood as well as in other tissues. If not treated, the disease results in mental retardation, microcephaly, delayed speech development, convulsions, eczema, conduct disorder, and other. In the USA, the incidence of phenylketonuria among newborn babies is about 1:15000, whereas in Poland, it amounts to 1:17000, which means that every year around 60 babies are born with phenylketonuria, and every 46th healthy person is a carrier of a mutated PAH gene.

Since there is effective treatment that prevents appearance of symptoms and after-effects of the disease, in all the states in the USA, there are performed screening tests among newborn babies for phenylketonuria. A screening program is also obligatory and commonly applied in Poland. Every newborn baby, no matter where it is born, is screened for phenylketonuria. In order not to lose the benefits of screening tests, it is particularly important to continue preventive treatment among women suffering from phenylketonuria and who are in procreative age. In this period, a pregnant woman suffers from high blood phenylalanine concentration, which causes numerous embryopathies and fetopathies [1, 2].

Nowadays, treatment of phenylketonuria consists in keeping metabolism under strict control through diet poor in phenylalanine and thus one has to use special medicinal food products. The effectiveness of screening programs for phenylketonuria in newborn babies is high. Babies in which the disease was detected in the early stage and for which the treatment began immediately, managed to gain metabolic control of disease, stayed healthy and developed normally, as well as the expected life span of these babies is believed to be the same as of the population in general. Occasionally, it may be difficult to gain metabolic control of phenylketonuria, which results in deterioration of mental efficiency and conduct disorder in a baby. What is more, women

who suffer from phenylketonuria have to maintain strict metabolic control of the disease before a planned pregnancy or during the pregnancy period in order to prevent fetal injury. At present, there are conducted numerous researches on phenylketonuria treatment methods other than diet. Researches on phenylketonuria constantly broaden our knowledge about this disease and thanks to that people are enabled to make conscious decisions on screening tests and treatment [2, 3].

The aim of the study is to present the problems faced every day by the parents of children suffering from phenylketonuria.

Materials and methods

The study involved 100 families of children suffering from phenylketonuria. The evaluated families lived in the city (70%) and in the village (30%). The study group comprised mothers aged between 20 -30 years (64%) and fathers aged between 31- 40 years (44%). We applied a diagnostic survey conducted by use of an anonymous questionnaire method. The questionnaire included 33 multiple-choice questions and free response questions aimed at parents.

Results

More than half of the examined children (63%) are under 10 years old, while children between 11 and 18 years-old stand for 37% of the examined group. In the surveyed group, male children stand for 54% and female children stand for 46%. 82% of the surveyed parents have other children except for the child suffering from phenylketonuria, while 18% of the parents have only the sick child. Another part of the research was aimed at establishing the relation of siblings to the sick brother or sister and, according to the analysis, only 41% of the siblings have very good or good relations with the sick sibling.

As the conducted research shows, 64% of the women surveyed gave birth to a child when they were between 20 and 30 years old and only 36% gave birth to a child before they were 40 years old. As far as education is concerned, 48% stands for women with secondary education, 34% stands for those with higher education, 14% for those with vocational education, and only 4% for those with primary education. As far as fathers are concerned, 44% stands for those with higher education, 16% for those with secondary education, 30% for those with vocational education, and only 10% for those with primary education. The vast majority of the examined (70%) live in a city, while 30% stands for families from rural areas. According to the data analysis, half of the examined parents have a job, whereas the other half does not work. In the majority of families, it is a mother who looks after the sick child (65%). 93% of the parents surveyed learnt about their child's disease at Cracow's children's hospital, a small percentage of the examined (5%) at Mother and Child Institute in Warsaw and even less (2%) from a family doctor.

Parents of the children suffering from phenylketonuria get in contact with a specialist clinic every six months (39%), every three months (27%), every month (4%), every two weeks (9%), every week (8%), depending on the results (13%).

The majority of the children are independent (70%) and only 30% need parents' help. Most frequently, parents learn more about the disease from other parents who have a sick child (76%), but also from courses (54%), family doctor (36%), media (12%), and only 10% from a home nurse.

More than half of the families (79%) describe their financial situation as the average, 11% as well, whereas 10% as bad. Their sources of income are: job (76% of the examined), pension (9%), benefit from the state (15%). 98% of the parents claim that they have good contact with the sick child and there are no nursing and care problems. As many as 26% of the surveyed indicated that a sick child in a family is an additional financial burden, 23% indicated also an additional physical burden, 15% claim that they adjusted their family life for taking care of the sick child, 14% gave up their free time, 10% adjusted their working hours and 11% resigned from their job.

Only 5% of the children are perceived as sick by other children, 46% of the children suffering from phenylketonuria attend public schools, 49% attend special schools, and only 5% have not undertaken education at all.

As far as the parents are concerned, 47% claim that their children do not have problems, 15% have difficulty in learning, 13% have memory troubles, 7% find it difficult to get in contact with peers, and 18% are not independent. When informed about their newborn baby's disease, 20% of the parents were devastated, 15% still cannot reconcile themselves to that, 38% admit that it was hard at the beginning but the situation has been back to normal with time, and 27% despite that was glad to have a baby. 63% of the parents surveyed do not know if, in the future, their child is to be independent, 28% claim that their child will be independent, and only 9% of the families think that their child will not become independent.

After birth of a child with phenylketonuria, in 79% of the families there were no changes in family relations, in 18% the family members tightened up family ties, and only in 3% family relations got worse.

As far as the parents are concerned, only 2% blame themselves for the child's disease, and the majority (98%) do not think it is their fault.

Diagnoses were made at different intervals after birth. The disease was diagnosed in 66% of the babies within a month, in 25% after two months and only in 9% within the first week.

The majority of the parents were informed about this fact by a doctor (87%) and in other cases by a nurse (6%) or by a psychologist (7%). 68% of the surveyed do not notice any of symptoms of the disease in their children. In 11% of the cases the symptoms are noticeable and related to irrevocable damages, and in 21% the symptoms disappear after stabilization of the level of phenylalanine in the body. 66% of the parents check the level of phenylalanine in their children's blood once a month, 5% less frequently i.e. every three months, and 2% even more rarely i.e. every six months. 7% of the parents go for checkups every two weeks, 13% every week, and 7% depending on the previous results. All the parents know what is the normal level of phenylalanine.

According to the parents, the most difficult problem is maintenance of diet in sick children (77%), then when a child does not accept their disease (19%), and loss of appetite (4%).

Discussion

Phenylketonuria is a congenital metabolic disease which is inherited in an autosomal recessive pattern. Genetic mutation causes partial or complete loss of phenylalanine hydroxylase activity, a liver enzyme that catalyses the conversion of amino acid phenylalanine to tyrosine. As a result, phenylalanine and its metabolites accumulate in blood and in body fluids, which leads to irrevocable damage of the central nervous system giving symptoms such as mental retardation and various neurological

disorders. If the disease is diagnosed early enough, and a restrictive treatment based on a diet poor in phenylalanine introduced within the first days of life of the newborn baby, normal baby development, including mental development, is possible [1, 2].

What justifies screening tests among newborn babies for phenylketonuria is the fact that only early treatment (already in the clinically asymptomatic period) may prevent irrevocable consequences of the disease that result from central nervous system damage [4].

Guidelines of American National Institutes of Health that concern phenylketonuria diagnosis, and treatment are based on long-term observations conducted in the USA and in the chosen European countries such as Great Britain, Germany, or France. A few years after the implementation of the Guthrie test (early 1960s), the test started to be applied in Poland (1965).

Initially, the test was conducted thanks to voluntary cooperation between neonatal units and Mother and Child Institute in Warsaw and then, gradually; the whole population of newborn babies in Poland was tested. At present, testing has been decentralized and the tests are conducted in eight medical institutions. In the past, the screening test used to be conducted as the American one i.e. with the Guthrie test, however, since last year, in every Polish diagnostic centre, the test has been conducted with the benefit of a quantitative colorimetric method. The guidelines of National Institutes of Health do not indicate the exact age of a child suitable for collecting a blood sample for the screening test. In Poland, for many years blood samples used to be collected on the fourth day of life. However, after the implementation of a more precise quantitative method, blood samples have been collected on the third day of life, i.e. after 48 hours of life. According to the experts at National Institutes of Health, precise evaluation of screening test's efficiency in the USA is difficult due to the too low number of current data. Freedom of organization of the tests and freedom of participation in them, as well as different age of tested children and different screening and confirmatory tests methods, in particular, states in the USA make it difficult for the authors of the guidelines to draw the final conclusions. Contrary to the situation in the USA, obligatory screening tests in Poland, uniform methods applied both in screening and confirmatory tests, uniform principles in the beginning and continuation of treatment with the aid of a diet poor in phenylalanine, as well as the way of controlling it, make the evaluation of the screening tests program efficiency and treatment results easier. Computer control of all stages of screening, starting from blood sample's collection and ending at final diagnosis, using triple labels with a bar code and standard blotting papers are the basis for security system as well as prevent “loss” of results and enable experts to establish the precise diagnosis [3-6].

Phenylketonuria treatment is complex. It requires regular collecting of blood samples, writing down the information on food consumed, following a strict diet as well as regular and frequent appointments in clinics for patients with phenylketonuria. As far as beginning of treatment is concerned, the recommended optimum age in Poland is the same as the tendencies in the whole world show, which means that the starting date is scheduled for 7-10 day of life (contrary to the previous period when it was believed that the first three months of life are not a threat for the sick person) [3].

According to the comparative study (Cebalska and Pietrzyk, 2001) on children whose treatment was started within the first, second or third month, the best results are achieved in children for which a diet poor in phenylalanine was introduced in the earliest period.

The guidelines of National Institutes of Health that concern the frequency of control of phenylalanine concentration in blood during nutritional treatment are basically similar to those of Mother and Child Institute in Warsaw, except for guidelines concerning control in babies who are 6-12 months old. National Institutes of Health recommend testing once a week; however, in Poland at this age phenylalanine concentration in blood is controlled every two weeks. In the guidelines of National Institutes of Health, the uniform guidelines concerning optimum concentration of phenylalanine in blood during the process of treatment are not indicated. There are quoted data from various countries and medical centres, starting from those stricter and ending at those less strict recommendations. However, it seems that the general tendency is correct, i.e. maintenance of phenylalanine concentration close to that found in healthy people. The optimum range of phenylalanine concentration recommended in Poland is 2-6mg% within first two years of life with a gradual liberalization of the diet regime in older children; however, phenylalanine concentration cannot exceed 12mg%. In efficiency evaluation, it is absolutely important to consider not only IQ, but also attention and concentration, sight and motor coordination, and speed of data processing.

According to the personal research analysis, 66% of the parents surveyed check the level of phenylalanine in their children's blood once a month, 5% less frequently i.e. every three months, and 2% even more rarely i.e. every six months. 7% of the parents go for checkups every two weeks, 13% every week, and 7% depending on the previous results. All the parents know what is the normal level of phenylalanine.

What is also worth underlining, there is a guideline of National Institutes of Health on necessity of multidisciplinary complex care for sick children and their parents [3].

According to the personal research, parents of the children suffering from phenylketonuria get in contact with the clinic every six months (39%), every three months (27%), every month (4%), every two weeks (9%), every week (8%), depending on results (13%). Treatment and nursing care for patients with phenylketonuria will have to be continued for the rest of their life, and they should be well-planned and supervised by a group of various experts from different fields. In this case, the greatest emphasis should be put on implementation of treatment after screening tests. From a medical perspective, a condition necessary for the patients with phenylketonuria for their optimum development is continuity of treatment from the infancy period until reaching maturity and later as well. It is needed to create guidelines that will be binding for all clinics in Poland so that patients with phenylketonuria, and their parents could obtain the same recommendations everywhere. Since screening tests for phenylketonuria are obligatory, the society should take the responsibility for complex, long lasting monitoring and treatment of the patients. Control of treatment results should include periodic evaluation of intellectual, neurological, neuropsychological, and behavioral development. Maintenance of adequate metabolic control of the disease throughout the life is possible only thanks to unlimited access to medicinal food products.

From a medical perspective, special medicinal food and low in protein products are essential for life and should be treated as such. Such food and medicinal products should be reimbursed by special insurance institutions that pay for health services [3].

Although a diet is a mainstay of treatment, according to the personal research analysis, maintenance of diet is the most difficult problem for parents of the sick children (77%). Sternal and Grzywna (2007) received similar results: in the group examined the vast majority of parents, i.e. 77 people (84.6%) had difficulty in maintaining a diet poor in phenylalanine, whereas only 14 (15.4%) had no difficulties.

The most frequent problem that happened to 65 parents (84.4%) was a limited availability of various products low in protein on the Polish market. Another problem, almost as frequent as the previous one, concerned difficulty in preparing meals due to a small variety of allowed products and happened to 57 parents (74.0%). In 54 families (70.1%) a high cost of food caused problems in diet maintenance. The least difficult problem, because it happened to the smallest group of parents (32.5%), was weighing and measuring the content of phenylalanine [7].

In their research, Sternal and Grzywna (2007) brought into focus a very important problem of children's independence. According to the data, the children's independence is quite low. More than half of the children (61.3%) in each age group could choose in the picture the allowed food products [7].

Similar results were received in the personal research where, in parents' opinion, 70% of the children are independent.

In the literature, there are described other situations that are problematic as far as nutritional treatment is concerned, such as: illness of a child (higher temperature), diarrhea (which increases demand for protein that has to be covered with a higher dose). In this situation, it is required to consult the doctor in order to decide on the next steps. Other problematic situations are: vomiting (that results from overfeeding or forcing to eat, or high phenylalanine concentration in blood) Forcing to eat may cause gagging during every meal; Loss of appetite: it may be caused by infectious disease, fever, the too high amount of sweets, too strict diet, which make the phenylalanine concentration too low; Hunger: it is thought that hunger in babies is caused by low concentration of a medicinal mixture, whereas in older children by not meeting the demands for energy; Bad eating habits such as aversion to solid meals or eating single-handedly. It may be caused by: child's mental retardation, too late introduction of solid meals, feeding all allowed products to a child at all cost, lack of teaching on adequate eating habits [8].

A very common source of problems in families with a child suffering from phenylketonuria is lacked of specialist knowledge. According to the personal research, most frequently, the parents learn more about the disease from other parents who have a sick child (76%), but also from courses (54%), media (12%), family doctor (36%), and only 10% from a home nurse.

According to Sternal and Grzywna's research (2007), the best way to learn more about your child's disease is to become a member of a Circle or Association for Helping Children with Phenylketonuria. It is confirmed by 76 parents who stand for 83.5% of the examined group. Another valuable source of information is guides for parents and brochures (47.2%), whereas information support from health service employees is a source of knowledge only for 24.2% of the parents [7].

Conclusions

1. Following a diet is the most difficult aspect for the parents surveyed as far as child care is concerned (77%).
2. The sources of knowledge on the disease are meetings with other families with a sick child (76%).
3. The parents' knowledge on phenylketonuria is best and best thanks to which all of them know the level of phenylalanine in their children (100%).
4. Regardless of the severity of the disease, 98% of the parents accept the disease and do not blame any of the parties for that.

5. Family influences a sick child's development to a great extent and, if well-educated, it can take care of normal child's development (98%) and does not have nursing and care problems.

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MEDICAL PROBLEMS OLD AGE

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Assessment of selected elements influencing the appraisal of the quality of life in patients after transient ischemic attack – preliminary study

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Introduction

Brain stroke, transient ischemic attacks of the central nervous system, subarachnoid hemorrhage, venous brain stroke and hypertensive encephalopathy illustrate the diseases of the central nervous system [1].

Transient ischemic attack –TIA, or focal brain ischemia, is defined as "an episode of focal activity loss of a limited area of the brain, including the retina, caused by ischemia, usually of one vascular region of the central nervous system, lasting no longer than 24 hours" [1, 2]. The results of clinical observation show that "approximately 78-85percent of episodes of transient ischemic attack of the brain last from a few to several minutes, seldom exceeding one hour"[1]. Epidemiological analyses have shown that TIA "occurs with a frequency of 69 (women) to 105 (men) incidents/100,000 of the population/year, and the average age of the most frequent occurrence of transient ischemic attacks of the brain is 72 years of age" [1]. Clinical presentation most often shows symptoms within the carotid artery region.

Incidents of TIA of the internal carotid arterial region are characterized by the occurrence of: amaurosis fugax, visual-corticospinal complex, paraesthesia occurring in different topographic patterns, face-shoulder complex, dysphonic symptoms, amblyopic paresis and lateral hemiparesis, as well as dysfunction of the cerebral cortex excluding such aphasias as: alexia, agraphia, acalculia" [1].

Furthermore, incidents of transient ischemic attacks of the brain of the vertibro-basilar region are characterized by "simultaneous occurrence of several clinical symptoms including systemic and non-systemic vertigo, ataxia of the extremities and (or) the body, double vision, paresis of the extremities with different clinical presentation (mono-, para-, tri-, tetra pareza), as well as damage to the brain stem. "[1].

Etiopathogenesis of transient ischemic attacks of the brain has not been fully discovered. Important is that the "factors which play a role in the occurrence of ischemic stroke also concern transient ischemic attacks" [2]. Clinical observation shows "that approximately half (50 percent) of cases of TIA are caused by embolic or thrombotic complications of arteriosclerosis of large and medium blood vessels, 25 percent by changes in the small inner-brain vessels, and 20percent by blockages in the heart" [2].

Other factors causing transient ischemic attacks include: "arterial damage (including carotid, aortic arch, intracranial arteries), genetic arterial anomalies, vascular infections (such as antiphospholipid complex and other vasculopathies with immunological basis), infections, cholesterol blockages, migraines, hematological disorders, tumor forming processes and complications connected with their treatment, use of estrogen solutions, pregnancy and childbirth, and post-surgical complications" [2].

In the pathomechanism of the emergence of transient ischemic attacks of the brain it is stressed that they are caused by "hemodynamic disorders consisting of temporary decrease of flow to the brain in a region supplied by a vessel partially obstructed by an embolic or thrombotic blockage, or connected to overall circulatory disorders. Susceptibility to disorders of cerebral blood flow increases with age and is in turn connected to the inefficiency of the auto-regulatory mechanisms caused by arterio-sclerotic changes, reduction of the number of capillaries, unstable vascular pressure and its orthostatic reduction or provoked iatrogenically by medications with primary or secondary hypotensive effects"[2].

Therefore, as indicated by many researchers "age is an important risk factor in the transient ischemic attacks of the brain" [1].

Disease, especially in cases when it occurs suddenly, substantially influences a person's normal functioning. It creates a difficult, crisis situation and disturbs normal functioning of a person in all spheres of life: biological (experiencing of the symptoms of the disease), psychological (anxiety, worry for the future), as well as social (limited social interaction) [3]. Illness is classified as a difficult condition "when it includes factors which endanger, interfere with or prevent activity in reaching aims, or those which deprive the individual of that which at a given moment is essential to him/her" [4].

The sudden appearance of a disease also causes many negative emotional reactions. These reactions and their intensity are connected with the stage of disease progression, as well as the level of the acceptance of the altered health condition.

The reactions in the emotional sphere to the disease in patients with transient ischemic attack of the brain result from the patients finding themselves suddenly ill and from the types of clinical symptoms, as well as their intensity, which accompany the disease. The occurring clinical symptoms which the patient has never experienced, the need to be hospitalized, conducted therapies, sudden prevention of the realization of life plans become a source of stress. A person with such an altered health condition, to adjust to the sudden changes in life, activates a number of adaptive mechanisms. The term coping with "refers to the efforts undertaken aimed at managing specific – internal or external needs, which are deemed by the individual as burdensome or exceeding his/her possibilities"[5].

Taylor describes three categories of adaptive mechanisms of dealing with an illness:

- "searching for meaning and positive sense of events, including reinterpreting the assessment of our own life and perspective of actual experiences,
- efforts aimed at gaining control over the situation and the feeling of our own influence on things,
- regaining of a positive self-assessment and feeling of self-worth"[6].

Syrek, however, lists four phases (stadia) of a person's reaction to a difficult life event, with the transient cerebral ischemic attack being such an event:

- the shock phase accompanied by: despair, denial, rebellion, not accepting the illness,
- apathy, indifference, depression caused by exhaustion,
- opposition to loss and an attempt to overcome loss through the mobilization of all of the body's abilities in order to regain social membership,
- acceptance, adaptation, inclusion of newly acquired social roles" [7].

In the last several years a significant increase in the interest of the assessment of the quality of life of healthy and ill people has been observed. This is a result of the influence of different factors on the assessment of life situation and the shaping of our contentment in functioning in various spheres of life.

Quality of life has been defined in various ways and most researchers dealing with this problem admit that a precise definition of this term does not exist.

Understood as well-being it reflects the individual feelings of a person and it concerns those who are healthy as well as those who are ill. [8, 9].

According to Engquist, quality of life is "an area in which an individual lives, feeling safe and having a sense of dignity, and where he utilizes his intellectual and physical abilities to reach established goals" [10].

The World Health Organization defines quality of life *(QL)* as "the perception by given individuals of their position in life, in the context of cultural norms and configurations in which they live and in relation to their life goals, expectations and standards" [10].

The occurrence of an illness the quality of life is closely connected with the psychosomatic experiences felt by the individual as a result of the altered health state, his/her social function and the level of disease acceptance.

Shipper defines health related quality of life as "the functional effects of the disease and its treatment as perceived by the patient" [11].

The aim of this work was the assessment of the level of illness acceptance, coping with the experienced stress and the occurring level of fatigue as main elements which influence the level of life of patients who have suffered a transient ischemic attack.

Materials and methods

A diagnostic poll was used in this work as well as the authors' own questionnaire, whose integral parts were the Acceptance of Illness Scale - AIS, Questionnaire Coping Orientations to Problems Experienced – COPE, assessing the strategies initiated in stressful situations, Quality of Life Uniscale za Schoffski, and FSS - Fatigue Severity Scale to assess the level of perceived fatigue. The Acceptance of Illness Scale (AIS) which consisted of eight questions describing the consequences of the disease, was used in order to gauge illness acceptance. Every statement contained a five-level scale. The patient, after determining his state of health, marked the appropriate number. Choosing 1 meant that he has adapted badly to the illness and 5 meant full acceptance of the disease. The total of all points fluctuated between 8 and 40. A total from 8 to 18 points meant a lack of illness acceptance, from 9 to 29 points meant an average illness acceptance and from 30 to 40 indicated a very good level of illness acceptance [12]. J. Carver's COPE questionnaire was used to gauge the strategies of coping with stress. This questionnaire "consists of 60 items. It contains 15 dimensions –

types of strategies of coping with stress. There are 4 statements for every strategy scale. An indicator of preferred strategy for coping with stress of a given person is the highest arithmetic average" [12]. The FSS (Fatigue Severity Scale) scale was used to assess the level of fatigue accompanying the patients during their hospital stay. It has been introduced by Krupp et al. It is a point scale which facilitates the assessment of the influence of fatigue on activity, motivation, work and family life. The Quality of Life Uniscale za Schoffski, classified as a linear-analog scale, allows for self assessment of the quality of life level of the patients studied.

The research included 64 randomly chosen patients diagnosed with TIA and hospitalized at the Neurological Clinic with a stroke sub-ward of the University of Bialystok Hospital and at the Neurological Ward of the Regional Hospital in Łomża, after obtaining permission (no. R-I-002/388/2010) from the Bioethics Committee of the Medical University of Bialystok. The research was conducted from March of 2011 until February of 2012. The participating patients were informed about the aims of the conducted research, the volunteer nature of the project and their anonymity, as well as having received instructions relating to filling in the questionnaire form.

Results

In the research group consisting of 64 patients with diagnosed TIA the percentage of men was higher at 81.2 percent (52) then women at 18.8 percent (12). Respondents aged from 52 to 75 years of age took part in the study with the average age for men being 63.4 and for women 58.4. While analyzing the socio-demographic data, a difference in the marital status in the group of women and men was discovered. Among the women studied there was a majority of widows and divorcees, while in the group of men a vast majority was still married. The participants, in most cases, resided in cities with populations above 10,000 people (68 percent) and the rest were residents of small towns and rural areas. The level of education of the study varied. In the group of women most possessed a high school education, and only 2 respondents declared having higher education. In the group of men, 17 (32.7 percent) had a college education, 21 (40.4 percent) a high school education and 14 (26.9 percent) a secondary school education.
Since age is an important risk factor in connection the occurrence of TIA, this variable has been carefully analyzed, also taking into account the gender of the participants.
The average age of women taking part in the study was 66.5 years of age. The largest groups consisted of women in the 66-70 age category (7 respondents) and in the 61-65 age category (4 participants). In the men's study group the average age was 65 and the largest age categories consisted of patients between 66-70 years of age, 21 people (40.4 percent) and between 61-65 years of age, 16 participants (30.7 percent). There were 9 men in the 56-60 years of age (17.5 percent) and 6 participants (11.5 percent) in the 71-75 age group.

To assess the level of fatigue and its influence on the functioning of the respondents the FFS (*Fatigue Severity Scale)* containing 10 questions describing the symptom of fatigue and its effect on normal function, was used. The study consisted of formulating an answer to every question choosing a number on a scale of one to seven. The higher the point value the higher the level of perceived fatigue of the respondent. It is accepted that:

- overall result below 2 points – lack of substantial influence of the level of fatigue on the functioning of a patient,

- from 2-4 points – insignificant influence of the level of fatigue on the functioning of a patient,
- from 4-6 points – significant influence on the perceived fatigue on the functioning of the patient,
- above 6 points – level of fatigue determines the disposition and behavior of the patient.

The most numerous groups from among the participants were made up of people who had made an assessment that the level of perceived fatigue accompanying their hospital stay insignificantly influences their disposition, 41 percent, and a group of patients who declared that they significantly feel fatigue, 39 percent. Only 2 percent of respondents gauged that the level of perceived fatigue determined their functioning and decidedly influenced their disposition. These people assessed the level of their fatigue with the maximum number of points on the FFS scale. Furthermore, 18 percent of participants assessed the level of their fatigue between 1-2 points which indicates that fatigue does not have a significant effect on the functioning and disposition of this group of patients. The data gathered is presented in figure 1.

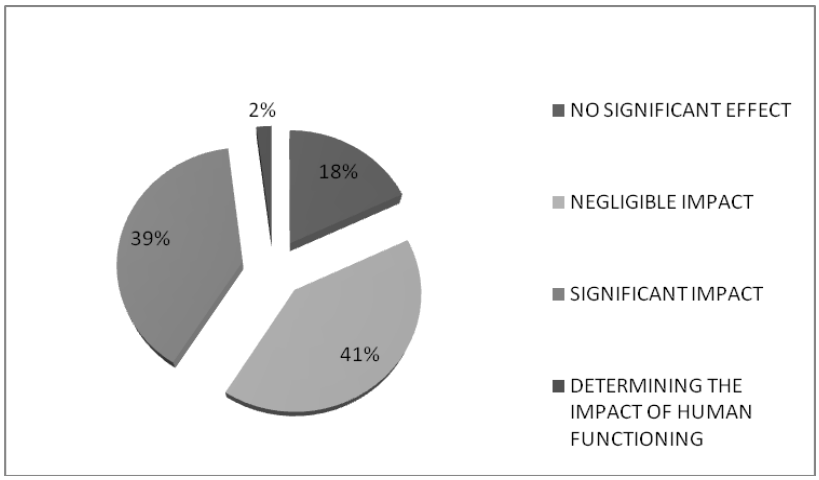

Figure 1. Influence of perceived level of fatigue on functioning

The range of the AIS *(Acceptance of Illness Scale)* is from 8 to 40 points. Within the research group, 31 people (48.5 percent) scored between 19-29 points, showing values which certify an average level of acceptance of the altered health status. Values in the range above 30 points, describing a good level of illness acceptance, were scored by 45.3 percent of respondents (29 patients), and lack of illness acceptance has been diagnosed in 4 patients. The patients who do not accept the situation connected with the occurrence of transient cerebral ischemia obtained an average of 15 points on the AIS scale. Data concerning the level of illness acceptance is illustrated by figure 2.

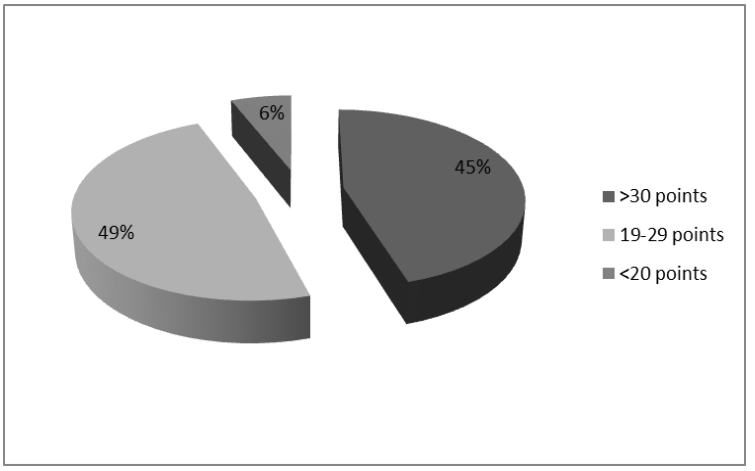

Figure 2. Assessment of disease acceptance

The average result in the study group of 64 patients diagnosed with TIA was 27.5 points. It has not been possible to ascertain within the level of statistical relevance the connection between the assessment of health status acceptance and such variables as age, education, place of residence or gender. In the group of women the average results in relation to the AIS has been 28.6 points while in the group of men it was 27.2 points. These results remain within the same range, however, the women's group was smaller than the group of male respondents.

Acute illness which arises suddenly creates a very difficult situation and significantly influences every sphere of functioning of a person, causing negative consequences which are felt by the patient as a result of the occurrence of clinical symptoms and the inability to achieve current life goals. In the research conducted an attempt to assess ways of coping with stress being experienced has been made. The respondents were polled using the COPE *(Coping Orientations to Problems Experienced)* questionnaire which describes 15 strategies of managing in stressful situations. It has been ascertained that some individuals utilize several strategies while coping with stress.

During analysis the following data was obtained:

- 7 people (10.1 percent) managed stress using only one strategy,
- 3 people (4.6 percent) utilized two strategies,
- 5 people (7.8 percent) used three strategies,
- 2 people (3.1 percent) activated four strategies,
- 16 people employed five strategies,
- 18 respondents utilized six strategies,
- 11 people coped with stress by making use of seven strategies,
- 2 patients employed eight strategies.

None of the participants of the study who faced illness as a difficult situation used more than eight strategies. Analysis of the COPE questionnaire has revealed that the strategy used by 92 percent (59 people) of the patients was acceptance, while a return to religious faith was utilized by 85.9-percent (55 people). The strategy of returning to a religious

faith was treated as a guidepost to positive revaluing and development. Patients also clearly verbalized that, faced with the feeling of powerlessness and the experience of bitterness and anger, they often used the strategy of focusing on their emotions and their discharge from the hospital. This type of strategy was employed by 64 percent of respondents (41 people). In the case of 35 participants (54 percent) an important strategy became the search for emotional support, and 19 patients (29.6 percent) also needed to receive instrumental support. Since the occurrence of an illness causes the analysis of behaviors connected with health some of the patients also utilized a strategy of planning. This consisted of 38 people who after analyzing their situations planned to alter their lifestyles completely. This, however, was not always in a healthy direction. Other types of strategies, such as actively coping, were employed by 18 respondents, while positive revaluation and development were used by 21 patients, and diverting attention was used by 14 people. Respondents did not make use of four strategies: sense of humor, using alcohol or other mood-altering substances, suspension of activity, and avoiding competitive activity. Suspension of activity is a strategy that signifies the helplessness of the patient who abandons making any effort to reach his or her goals, but this strategy was not utilized by any respondent. Furthermore, it has been observed that women more often than men employ the strategies of focusing on their emotions, looking for emotional support, and returning to a religious faith. The types of strategies used are illustrated by figure 3.

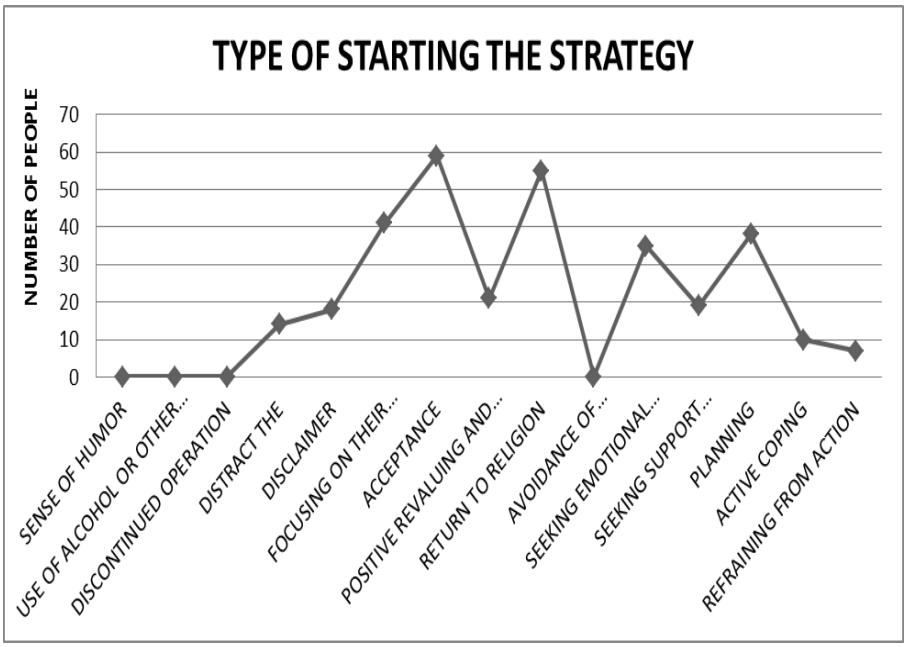

Figure 3. Actuated type of coping strategies in stressful situations

Numerous researchers who deal with the assessment of the quality of life claim that from the clinical aspect the assessment of the quality of life made by the patient is significant, and is connected with the gauging of contentment in all spheres of

functioning, which is significantly influenced by the level of illness acceptance, emotions which the patient experiences and the aspect of how he/she currently values his/her own life. Hence, this study made use of a simple linear-analog tool – The Quality of Life Uniscale which allowed the respondents to assess the actual level of their quality of life. The vast majority of participants assessed the level of their quality of life early after the occurrence of the transient cerebral ischemia within the range of 6-8 points. 17 respondents assessed their quality of life, which had been changed by the sudden onset of the illness, as very low, scoring from 4 to 5 points. Detailed analysis is presented in figure 4.

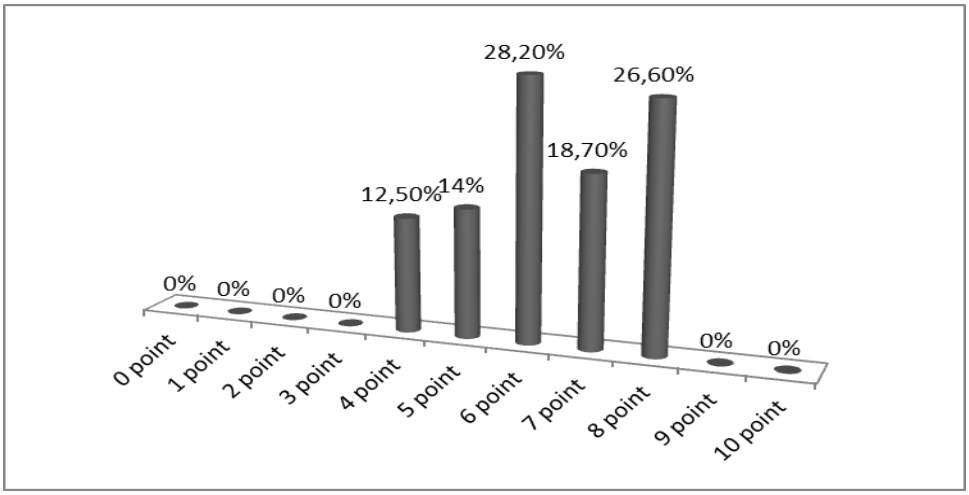

Figure 4. Rating the quality of life made by the respondents

Discussion

Numerous scientific studies confirm the enormous influence of an illness on the occurrence of dynamic changes in all spheres of life of a person, including suffering, physical as well as psychological. Suffering is defined as "a negative emotional unpleasant response, initiated in the higher nerve centers by pain and other conditions which are psychologically similar, along with the accompanying stress, anxiety, depression and frustration" [13]. The disease and the circumstances connected with it additionally cause emotional experiences having various content and significant intensity. Patients differ from each other in relation to their behavior connected with the illness. Based on research conducted with a group of patients who have suffered a heart attack Gwozdecka has clearly shown that strategies employed to conquer the disease were connected to the emotional state of the patient. The author defines coping as "varying individual tendencies to use strategies characteristic of the person in stressful situations" 14].

The emotional content of the patient currently occurring is dependent on the diagnostic assessment but most often it is fear, anxiety, and concern, if the dominant element of the situation connected with the illness is danger, anger and irritation at the obstacles and limitations caused by the disease. Depression and apathy usually occur

when the patient experiences the feeling of helplessness, and sadness, sorrow, and despair accompany those situations where the patient decides that he/she has suffered an irretrievable loss.

While initiating the research it has been accepted, in accordance with the Lazarus and Folkman theory, that an illness is a source of stress and at the same time an unpleasant emotional experience which is accompanied by biochemical, physiological, cognitive and behavioral changes [14]. This situation forces the individual to modify the factor causing the stress or to adapt to the results caused by it. Effective adaptation to stressful situations manifests itself in adaptive mechanisms. Many researchers, including Lazarus and Folkman, stress that, in relation to patients, the assessment of the effectiveness of coping in highly stressful situations connected to the sudden onset of an acute illness is essential.

The COPE questionnaire used in our study allowed the identification of strategies employed by the participants in situations where they had to struggle with problems resulting from the onset of the illness. The respondents, in order to cope with a difficult situation such as the illness, utilized various strategies. The fact worth highlighting is that the participants, in adapting to the altered life condition, in most cases made use of more than one strategy. Only in 7 cases patients employed only one strategy and in 3 cases they used two coping strategies. However, 16 people utilized five strategies, 18 people six strategies and 11 people seven strategies. The number of strategies employed by the participants illustrates a very high level of psychological discomfort. Respondents could not cope with the situation which was taking place. Additional questions included on the form of the questionnaire regarding emotions which accompanied the illness and hospitalization showed that every third participant reported being in a bad mood, 27percent of the respondents reported a lack of belief in themselves and in their abilities, 22percent felt helpless and "internally shattered" which was caused by anxiety for the future. However, the fact that 61.8percent of the respondents assessed their feeling of having a sense of living on as very low and stating that their life will not return to the same level as before becoming sick is very alarming.

The respondents in stressful situations most often employed two strategies: acceptance 92 percent (59 people) and return to their religious faith 85,9percent (55 people). The participants treated the emergence of the illness as a challenge which needed to be overcome.

As stated by Osinska, as well as many other researchers of this subject matter, "an illness may become a disaster, an acceptable fact or a creative factor of development for an individual" [14]. A majority of the patients taking part in the study actively participated in the therapeutic, rehabilitation and care processes. Other strategies used were: focusing on emotions and their discharge which was employed by 64percent (41 people) of the respondents, seeking emotional support used by 54 percent (35 people) of the participants and looking for instrumental support utilized by 29.6 percent (19 people) of the patients with diagnosed TIA. Many studies conducted indicate that family, friends and people who are important in the patient life build a support system. All of these people form a defined social structure and significantly influence the patient's attitude toward life and the acceptance of his/her illness. A lack of support and understanding from loved ones in many cases can cause the patient to feel hopelessness, frustration and low social worth. Lack of support can lead to a lack of desire to fight and conquer the difficulties resulting from the illness, which hampers effective therapy.

The role of emotional support in the care of a patient with TIA has significant meaning at every stage of the progression of the disease. Some of the participants of the research (38 people) utilized the planning strategy. Other strategies which were often made use of were: active coping employed by 18 respondents, positive revaluation and development utilized by 21 patients and diverting attention used by 14 people.

From the research point of view interesting is the fact that patients with transient cranial ischemia early after the occurrence of the incident did not utilize four other strategies: sense of humor, using alcohol or other mood altering substances, suspension of activity and avoiding competitive activity. It should be considered if maybe not employing of these strategies was caused by the type of a difficult situation in which they found themselves.

The situation occurring has shown the necessity of expanding of the conducted research and detailed assessment of the emotional problems occurring in patients with diagnosed transient cerebral ischemia early after the onset of the illness. This is very significant since the level of acceptance assessed using the AIS scale illustrated that 48.5percent of respondents have gained point values which indicate an average level of acceptance, and 45percent values which indicate a good level of acceptance to the altered health situation. Only 4percent of patients did not accept their illness at all. However, these people did feel significant psychological discomfort caused by the sudden onset of the illness and assessed it as a significant obstacle in the realization of life goals. The analysis of the gathered research data permitted for the formulation of a research hypothesis. The number and types of strategies employed by the patients in the early period after the occurrence of the transient ischemic attack of the brain facilitates better coping with the occurring health situation which manifests itself in the assessment of illness acceptance. This aspect, which became apparent during the study, requires detailed analysis and the expansion of conducted research.

According to Aaronson fatigue is "the awareness of a reduced physical or psychological ability causing an imbalance in abilities, use and/or finding of resources needed for efficient activity" [15].

Studies and clinical observations carried out by Underwood in 2006 on a group of patients a significant time after having suffered a brain stroke have shown a greater feeling of fatigue and pain. Researchers have explained that this phenomenon of occurring fatigue can be the result of the intensiveness of administered physical therapy, as well as the experiencing of negative emotions [15].

While conducting our own research it has been observed that most patients feel fatigue at both insignificant and significant levels, which does affect mood. However, there is a lack of detailed research in literature which would address the assessment of the level of fatigue in patients after TIA or brain stroke.

Numerous studies dealing with the assessment of the quality of life indicate that "the assessment of the quality of life becomes especially meaningful when it is formed through a subjective description of contentment, physical, psychological and social functioning of the individual" [16]. When facing an illness many factors influence the assessment of the quality of life, for example: "disease symptoms, their intensity, prognosis and the expected course of the illness as well as the meaning which the person assigns to life experiences" [16]. Therefore the assessment of the level of the quality of life in relation to the state of health which has been altered by the illness concerns the assessment of physical, psycho-social, and spiritual well-being and results precisely from

those experiences which a person is currently going through and in how he/she values his/her own life [10].

The people taking part in the study evaluated their subjective perception of their quality of life using a linear-analog scale. The results obtained showed that a majority of patients, 73percent, assessed their current quality of life within the range of 6-8 points. Only 26.5percent of patients taking part in the study assessed their quality of life within the 4-5 point range. The analysis of the results obtained also points out that despite the enormity of the problems connected to their health condition the respondents, within that initial period of the illness, still assess highly their quality of life. It may be that it is also the result of the number and types of strategies employed and the level of acceptance of their health condition. In Poland there are few studies being conducted which are related to the assessment of the quality of life and most of those deal with patients with diagnosed brain stroke. There is, however, a lack of reports connected to the assessment of the quality of life of patients with TIA which take into consideration various forms of therapies conducted. Jaracz and Kozubski clearly indicate that the quality of life of patients who have suffered a brain stroke clearly deteriorates in the functional area as well as psychological well-being [17]. The authors performing the research, also through the use of several standardized questionnaires, in order to conduct a more detailed analysis of the factors affecting the assessment of the quality of life claim that the main factors which lower the quality of life are the loss of physical fitness, depression and the lack of social support. The authors stress that the factors which alter the assessment of the quality of life are the measurable effects of rehabilitative activity and actual level of physical dysfunction [17].

The psychological domain is shaped by the level of social support received by the patient at every stage of disease progression [17]. As it is seen, the authors' own research points to the same areas of assessing of the level of quality of life of patients shortly after experiencing the incident of a transient ischemic attack. The research material obtained while conducting the study has shown the importance of the problem and the need for the modification of the research process before initiation of main research.

Conclusions

The research material collected during the study allowed for the proposal of the following conclusions:

1. Despite the occurrence of a number of negatively tinged emotional reactions the respondents highly assess the level of their quality of life.
2. The participants activate a number of coping strategies to manage stressful situations, which allow them to adapt to a new life condition caused by the sudden occurrence of the transient ischemic attack. These are strategies of cognitive development allowing them to take an active part in therapy and rehabilitation.
3. The participants experience unpleasant emotional sensations of anxiety, restlessness, apathy, and the feeling of helplessness which become factors, along with the activated coping strategies, which shape the assessment of the quality of life in all domains subject to assessment.
4. The extreme results obtained in the study are a basis for modifying the research procedure and for its continuation.

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Diagnostic procedure in case of irritable bowel syndrome

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Introduction

Irritable bowel syndrome (IBS) is one of the most often diagnosed functional gastrointestinal disorders [1]. In 1973 it was estimated that a half of the USA residents had symptoms characteristic to that disease [2]. More recent studies [3] have proven that approximately 11% of Americans have IBS. Several other works confirm the occurrence of the disease in case of approximately 10 – 15% of the population [4].

The newest data from Great Britain, France and Australia prove that symptoms of irritable bowel syndrome occur in case of 10 – 20% of the whole population of those countries, twice as often among women than men [5]. India is an exception, because most of the patients are male. The diarrhea type constitutes 40% of the cases of irritable bowel syndrome, the constipation type – 35% and the mixed type – 25% [6, 7].

Complaints connected with IBS are the cause of 2.4 – 3.5 million visits to the doctor every year. They constitute 12% of all visits to the general practitioners and 28% of gastroenterologist consultations [6].

In a study financed by the AGA, direct annual costs connected with IBS in the USA amounted to 1.7 billion dollars [8]. Müller-Lissner and Pirk [9] analyzed the costs related to the disease in Germany and found that the greatest expenditure was for medications, then for doctor consultations and diagnostic tests. Investigations by Leong and colleagues [10] determined the direct costs of treatment of irritable bowel syndrome and indirect costs incurred at a workplace. Average total expenditure per patient with IBS in 1998 amounted to over 4.5 thousand dollars. It was equally high in England in the subsequent year, and according to French studies, in 2007 it amounted to 756 euros per patient [11].

The aim of this work is to discuss the principles of diagnosing irritable bowel syndrome and the diagnostic criteria, with particular consideration of the role of a nurse in the process.

Symptoms of irritable bowel syndrome

Complaints related to IBS usually have their onset at a young age and gradually intensify through many years. The onset of IBS after the age of 50 is very unusual [12]. Depending on the dominant symptoms, we differentiate between diarrhea-predominant IBS, constipation-predominant IBS and mixed type IBS, with alternating episodes of diarrhea and constipation [2].

Abdominal pain has changeable intensity and location. The ailments can appear in any region of the abdomen, usually in the underbelly or the middle abdomen. They are

typically intensified in the morning and after waking up, 30-90 minutes after a meal and in the period of increased stress. What is characteristic of IBS, is the pain which does not occur at night. It is an important feature of IBS, although patients with depression may also have the symptoms during the night [13]. A typical symptom is a changed pattern of bowel movements: diarrhea, constipation or alternating episodes of both disorders. In most patients cases, flatulence and discomfort in the abdominal area occur, which decrease after breaking wind or defecating [4, 15].

Studies conducted by Ringel and colleagues [16] evaluated the frequency and intensity of flatulence and spasmodic abdominal pain in case of 337 patients with IBS. It was found that the analyzed symptoms were more often observed among women and in the group with constipation-predominant -, predominant IBS.

In case of patients with IBS, disorders of the upper part of the gastrointestinal tract (gastroesophageal reflux, dyspepsia) and of other systems (dysuria, sexual dysfunctions, headaches, fibromyalgia, chronic fatigue syndrome) often coexist [17].

Factors which increase the symptoms of the disease include: the use of certain medications, changes in diet or even fear of a serious disease (e.g. cancerophobia). In case of women, IBS is more intense during menstruation [18].

Diagnostic criteria of irritable bowel syndrome

An attempt of classifying functional diseases was made many years ago. A team of scientists created the first divisions and guidelines, which were later systematically supplemented and corrected and, in the end, became a point of departure for Rome III Criteria [19].

The first diagnostic criteria were proposed by Manning and colleagues in 1978 [19]. During the study, they evaluated complaints of 109 patients reporting pain in the abdomen and/or defecation disorders. After a year, the ailments reported by patients with diagnosed IBS (32 persons) were compared with the symptoms occurring in a group of patients with a diagnosis of organic disease (33 people). After the analysis, Manning established 6 symptoms, characteristic of the diagnosis of IBS [19].

On the basis of Manning's criteria, in 1992, the so-called Rome I Criteria were developed [20]. A time limit was introduced for the duration of ailments, reported by a patient – 3 months as a minimum. It was decided that the presence of pain or discomfort in the abdomen, connected with defecation, was necessary to make a diagnosis. It was suggested that the criteria should be applied after exclusion of the so-called "red flag symptoms", developed in 1984 so as to differentiate between IBS and organic disorders [1, 21].

Table 1. Symptoms suggesting an organic disease [1]

	Red Flag Symptoms
1	Loss of weight
2	Nocturnal symptoms
3	Gastrointestinal bleeding
4	Antibiotic treatment in history High temperature, persistent diarrhea causing dehydration
5	Intestinal neoplasms in family history
6	Irregularities found in a physical examination

Following verification, in 1999 the commonly accepted Rome II Criteria were published. They simplified the definition of IBS, introducing a strict time criterion of disorders duration in weeks without symptoms [13].

In 2000, works on further modification of Rome Criteria began. At a meeting of the American Gastroenterological Association, a Committee representing 18 countries presented diagnostic criteria for IBS in accordance with Rome III Classification [1, 22].

Rome III Criteria: recurrent abdominal pain or discomfort experienced for at least 3 days a month, over the last 3 months, accompanied by two or more of the following symptoms:

- pain is relieved by a bowel movement
- onset of pain is related to a change in frequency of stool
- onset of pain is related to a change in the appearance of stool.

The criteria should apply for the previous 3 months of the occurrence of the symptoms, at least 6 months before the diagnosis.

The new criteria shortened the required duration of ailments reported by the patient (from 12 months to 6 months) and established a frequency threshold for symptoms occurrence (at least 3 days a month over the last 3 months) [22]. A new division into particular IBS types and a change of nomenclature were introduced. Due to inconsistency of the symptoms, the expressions "IBS with constipation" or "IBS with diarrhea" are preferred rather than "constipation-predominant" or "diarrhea-predominant" type of IBS. Four main subtypes were distinguished: IBS with constipation (IBS-C), IBS with diarrhea (IBS-D), mixed IBS (IBS-M) and unsubtyped IBS (IBS-U) [23]. The use of Bristol Stool Form Scale was recommended to establish the subtypes of irritable bowel syndrome [22].

Table 2. Bristol Stool Form Scale [17]

Item no.	Description of stool
1.	Separate hard lumps, like nuts (hard to pass)
2.	Sausage-shaped, but lumpy
3.	Like a sausage but with cracks on its surface
4.	Like a sausage or snake, smooth and soft
5.	Soft blobs with clear cut edges (passed easily)
6.	Fluffy pieces with ragged edges, a mushy stool
7.	Watery, no solid pieces. Entirely liquid

Diagnostic tests

For patients with ailments typical for IBS without any "red flag symptoms", not many additional tests are necessary [18]. The selection of supplementary tests depends on the age of the patient, duration, kind and intensity of the ailments, psycho-social factors and family medical history for gastrointestinal and neoplastic diseases.

The American Gastroenterological Association recommends a blood count test and a fecal occult blood test as the basic ways of screening [24]. Besides, in most cases of patients with IBS, the following should be tested in order to exclude the organic basis of the disease: OB, liver enzymes concentration, ferritin, folic acid and vitamin B_{12} concentrations and thyroid hormones level. A general urine test is necessary to exclude

renal diseases. In the IBS type with diarrhea, a serological test to exclude celiac disease, bacteriological and parasitological stool tests and a biopsy of intestinal mucosa are recommended, and when there is a suspicion of lactose intolerance, also a hydrogen breath test. Patients over the age of 45-50 or with a family history of colorectal cancer should have a sigmoidoscopy, a lower gastrointestinal series or, preferably, a colonoscopy done [13, 25, 26].

Currently, it is thought that in case of patients meeting Rome III Criteria without red flag symptoms, the number of examinations necessary for making a positive diagnosis should be minimized.

The role of a nurse in diagnostics of irritable bowel syndrome

In order to make a diagnosis, it is necessary to collect medical history allowing to determine characteristic symptoms by applying the Rome III Criteria. The probability of diagnosing the syndrome increases with the number of criteria found. The nurse's role includes:

- Evaluation of bowel movement frequency (normal frequency of bowel movement is below 3 acts of defecating a day or over 3 a week)
- Evaluation of bowel movement character with the use of Bristol Scale
- Participation in Rome III Criteria evaluation
- Participation in differentiation between the types of IBS
- Evaluation of pain (location, character, intensity, frequency of occurrence) with the use of VAS scale
- Recognizing the factors which lead to intensification of symptoms of the disease
- Evaluation of patient's diet, stress intensity and observance of doctor's orders
- Evaluation of "red flag symptoms" suggesting an organic disease.

Excluding an organic cause of ailments can be done on the basis of a limited number of additional examinations. Extending the scope of examinations should be individually considered. Recommendations of the British Society of Gastroenterology differentiate between the scope of examinations depending on the clinical situation.

- Participation in diagnostic tests:
  - taking blood samples for laboratory tests (blood count, OB, assessment of thyroid hormones level, assessment of acute-phase proteins (CRP), in IBS with diarrhea – assessment of concentrations of vitamin B_{12}, ferritin, calcium, and albumins in serum and the presence of antiendomysial antibodies)
  - taking stool samples for bacteriological and parasitological analyses
- Participation in image examinations – USG, X-ray of large intestine
- Participation in a biopsy of large intestine mucosa
- Participation in fibrosigmoidoscopy, colonoscopy (in case of patients over the age of 45, with persistent diarrhea or with a family history of colorectal cancer)
- Participation in establishing a good relationship with the patient, creating an atmosphere of trust

Conclusion

The diagnosis of IBS is made on the basis of thoroughly collected medical history and a physical examination. Analysis of symptoms, in accordance with Rome III

Criteria, play an important role in diagnosing IBS. Sometimes, there is a need to extend the diagnostic procedure by additional laboratory tests and image examinations depending on the occurring symptoms and genetic load.

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MEDICAL PROBLEMS OF PALLIATIVE CARE

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Special therapeutic groups for terminally ill children

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Introduction

More and more attention is paid to the care of chronically ill children. Much of the funds allocated for the health care, are spent on fighting with chronic diseases. This includes early diagnostics and therapy, as well as further diagnostics, treatment, and rehabilitation [1]. Young patients need special therapeutic team, as their diseases make it difficult or even impossible to function in the environment, typical for their peers. The situation of the chronically ill child, and the role of his pedagogue, is well-developed and understood. However, in case of terminally ill child, the role of pedagogue, being a part of the therapeutic team, is underestimated, and, sometimes, even ignored. Indeed, the education of the terminally ill children is a great challenge to the general perception of the education in Poland. Generally, the experiences and reports show that education is regarded as a transfer of knowledge, necessary to get a job in an adult life, rather than the acquisition of life-enhancing skills. The latter, provides a teaching that is a pleasant and profitable experience, lasting a whole life – however, it is brief. We can look for the solutions in the other school systems that emphasize gaining skills. In Regina, Saskatchewan, Canada, the 'Best Practices' web site gives the advice on creating and developing the versatile classrooms that would be activating, stimulating and student-centered.[2].

Not always, the medical actions give the desired and curative results, but the fact that a child is still alive, engages the therapeutic team in the fundamental task of improving the quality of his life. Taking care of the sick, and watching people suffering or dying, go beyond strictly medical model. The terminally or seriously ill children are as much the human beings, as the healthy children. They also have needs and desires. They want to be a pupil, son or daughter, friend or colleague. This requires the psychological, spiritual and educational mentoring. "A child's life should not consist only of such experiences as illness, suffering, treatment, and hospital stays. Children learn, play, have their own interests, dreams, aspirations, and friendships. They have a right to grow" [3] This is related to all the children, even those, who are in a terminal stage of illness. Nearly fifty years ago, J. Doroszewska [4] emphasised that ill children of any age, need happiness and care. " The outer and inner life of a child, lies in our hands: friendly, efficient, eager, clever – or the opposite - strange, indifferent, hard, clumsy, mindless" [4]. Taking care of the seriously ill child involves stimulation, games, contacts and activities typical for a child's age and level of development. It is the pedagogue's responsibility to provide everyone with a help, adequate to their needs. The coming of a child's death is a difficult situation for everyone, that is why, they should be provided with a collaborative, interdisciplinary care, which plays several, complex roles, including treatment, nursing, and education.

Not only is working with a dying child focused on that child, but also on his parents and siblings, as well as on the activities appropriate to the child's age.

Working with a terminally ill child

A child, suffering from the incurable disease, comes closer and closer to death. Although, as E. Kübler-Ross [5] wrote, "dying is an integral part of our life, as natural and predictable as birth," the death of a child is difficult to accept and understand. Many people think that preparing for the child's death is impossible, and it will always be something unacceptable. Therapy for the terminally ill children has many common elements to working with chronically ill children, whose life is not directly in danger [6]. The education is one of them. Every child, even the one whose life is coming to an end, has a right to education. A seriously ill child is still a part of a school class. The Polish Constitution, article 70, guarantees everyone an equal right to get the education. A sick child is still subject to an education obligation, determined by the School Education Act of 1991 [7]. In case of poor health, the compulsory education can be realized by means of individual courses at home, as it is difficult or impossible for such a child to attend the school. Individual tuition is granted at the request of a parent or a legal guardian, on the basis of relevant medical records and medical certificate submission. The tuition is assessed by a commission, including psychologist and pedagogue, taking into consideration the child's ability to follow a particular program [8]. The Charter of Rights of the Terminally Ill Child [9], Section 2, is also relevant: "The sick child retains the right to study at home in a degree related to his status." Working with a child, a pedagogue should be aware of the need to constantly adjust the material and methods to the psycho-physical and functional abilities of the child. J. Doroszewska [4] reminds us of the need to be attentive and flexible in times of child's indisposition, as well as to have fun, talk, and simply 'be'. For many terminally ill children, it is important to know that they have someone, who reminds them of the healthy children world, someone who demands, explains, supports, spends time with them. As one child said: " when they spend their time on teaching me, I feel fully like a person' [10]. The seriously ill child cannot be deprived of educational opportunities. He should have as normal life as it is possible, despite the inevitable end. Thus, the pedagogue's role in the team is also determined by the decisions of education law [11]. Another element that the critically and terminally ill children have in common, is care that they are supposed to be provided with, which is one of the pedagogue's responsibilities, listed on 'Charter of Teacher'[12]. This duty is irrespective of the child's health.

The pedagogue working with terminally ill child, is obliged to protect him. This is one way of satisfying various needs of their wards, especially the need of mental and physical safety, a sense of belonging to someone and being loved, the need of activity, learning, self-fulfillment [13]. Working with children requires having good listening skills and empathy [4]. The pedagogue should meet children's needs. His work is difficult, but it is something meaningful and unique, as time and quality of life is in his hands. This kind of activity has to be characterized by kindness, respect for others and concern for their welfare. The pedagogue should be caring, patient and well organized, with the aim of bringing joy to the child [14]. He should present opportunities, but also help the children in shaping and expressing themselves, simultaneously, dealing with the adversities of the environment and their own weaknesses [15]. "No profession is more important than the teacher" - wrote J. W. David [16].

Another important element is supporting the dying child. Sometimes the illness makes verbal communication impossible, but it is extremely important to support the child

simply by being with him or playing other roles, adequate to his wishes. Loving words and gestures can be a mainstay for a dying child [17]. Epictetus [18] wrote, "we have two ears and one mouth, so that we could listen more and talk less." Working with the terminally ill children, we must not forget about their self-awareness; they have to have a sense of "being the author, a part of something, feeling that they can have an influence on what is happening" [19].

Working with parents

Death of a child disturbs the natural process of coming to adulthood. Parents expect that their children will be with them during their last trip and rally round their graves. However, in this case, life changes the roles [20]. Wolterstorff [21] adds, "A child's death cannot be compared with anything ... Nothing is so unnatural and nothing undermines the will to live as much as the need to come to terms with the loss of the potential of that life." This particularly relates to Catholic Poland; we might ask whether the other death rituals, including, for example, cremation or the re-incarnation idea, might mitigate this problem. The pedagogue should be also interested in the situation of the child's parents and healthy siblings, as they are the ones, who often have to deal with taking care of the sick child constantly. Another pedagogue's duty, going beyond the medical services, is helping to mobilize the parents and arouse in them a will to continue living. He should show to the parents that they have to look after and take care of the rest of their children, too. He also helps parents to find the strategies that would be the most effective, for them and for the rest of the family, in dealing with the situation. Another aspect is helping parents to understand the problems connected with the child development, resulting from treatment [6, 22]. It is important to help them to "prepare" for the impending death of the child. Very often, adults avoid talking about death, because they are not prepared for it. The dying children wait for a contact with the others, to make sense of what they experience, and there is no time for initiating and developing this process. This aspect is explained by M. Bluebond-Tanger [23], who presents five stages of a dying child learning. If the children are not being informed continuously, they have to go through it alone:

Stage one - 'I am seriously ill' - observed in the initial stage of a disease, after a diagnosis, and during the first stay in the clinic.

Stage two - 'I am seriously ill, but I'll recover' . This arises from the first remission of the disease, when the child is feeling much better and wants to know everything about the treatment methods and names of the drugs.

Stage three - 'I'm still sick, but I'll recover' - this stage starts with the pain recurrence, and accompanies a phase of the disease relapses and remissions.

Stage four - 'I'm still sick, and I'll never recover'. This stage comes after long-lasting remissions, as the disease progress leads to more severe relapses. However, each cycle involves increasing number of short remissions, which lead to the negative attitude towards the effectiveness of the therapy, and growing sense of life threat.

Stage five - 'I'm dying' – this feeling grows with the symptoms severity and limitations connected with the disease. It is intensified by the use of more specialized treatment. The child loses strength and feels pain. Questions about the therapy effectiveness are changed into certainty of impending death.

However, M. Jantos [24] suggests that in case of a child who does not seek the information or refuses to discuss about his suffering and the imminent death, we should not try to explain to him the facts about his situation.

E. Kübler-Ross [25] says that when somebody deals with death of a child, you cannot protect him from suffering; the grief is not possible to heal. There are no words of comfort for parents who lose a child. You cannot simply deny the sad reality. However, you can help them by offering your presence and readiness to listen. The pedagogue's role, related to the parents of a child, who passed away, is difficult, as no parent is ready for it. Witnessing the beloved child's death is something that changes parent's view on the world, the purpose and meaning of life [26]. A help to the parents should be subtle and delicate, expressed in no hurry. Words of consolation to a mother, after the tragic death of a five-year-old daughter, can be found in a K. Eulenberger work, [27] "your life will never be the same again. You cannot continue with the past; it will leave you without any sense of your life (...) you must learn to live with her death. It cannot take away your daughter's life, or her love from you. You must accept it, but do not let it destroy your life, or reduce it to a senseless anger which burns out your love. The death is not omnipotent, nor can it erase the past. Hold on to what you remember and live together with your daughter right now. It does not mean that the tears will disappear once and for all, but they will appear more rarely; the fear for life will not die immediately, but it will diminish; optimism won't return quickly to your life, but it will be a more frequent guest. I cannot give you anything but hope that it will not always be as gloomy around you as it has been over the last days."

M.Ogryzko-Wiewiórowska says[28] that the acceptance of death does not mean pessimism and continuous discussion about the role of death in human life. However, it means being aware of its potential in everyday life, an openness to its presence. And it is manifested in actions that protect us from the extremes, which destroy our emotions, when death appears.

Working with siblings

Another issue that the pedagogue has to deal with is a work with siblings. The relationship between brother and sister is unique. You cannot compare it to the relationship between colleagues and friends. Siblings spend much time with the dying child, and have many things in common. They are able to meet his needs and provide support in difficult times. Therefore, an incurable disease of one of them is reflected in functioning of the healthy sibling. In the process of therapy and the work with chronically ill children, we often focus on the 'individual', who is a part of the siblings group, requiring help, or even psychotherapy [20]. Siblings can strongly experience their brother's or sister's illness. Studies on this issue refer to the "forgotten children" [29] or the "forgotten disabled patients" [20]. The authors dealing with this issue, indicate that the ill child has an impact on all aspects of the psychosocial functioning of the healthy siblings: in the fields of family, personality, social interaction and school activities. Moreover, it can generate psychosomatic symptoms [29].

The pedagogue should pay attention to the siblings and to any changes that occur in them[20]. It is important to recognize the children, who are vulnerable to psycho-social problems [29] and provide them with a support. Healthy children should not feel guilty for laughing, enjoying themselves, visiting friends. In the places, where you can hear laughter, joy, it's easier to endure the hardships of everyday life - wrote E. Kübler-Ross [25]. The siblings should be allowed, or even encouraged, to help to take care of the ill child, as it gives them a sense of meaning and belonging.

Dealing with problems in the family, can help us learn how to deal with the other life problems. The death of a sibling is undoubtedly something serious, that is why learning from such an experience and getting over it, is more likely, if the sibling shows

a readiness to accompany and support the dying child. Children who help their parents to take care of a dying brother or sister, help themselves to prepare for the impending death, as well as for the changes involved in the loss of sibling, playmate or a friend.

Sometimes, the world of adults tries, by all means, to protect children from the unpleasant experiences. Isolating and masking the disagreeable events, distorts the image of the child's world and does not prepare him for the future life [30]. Moreover, this process gives us an illusory belief that with silence or hiding something from children, we are able to protect them from the experience of loss. Paradoxically, according M. Keirse [31], the more the adults try to reduce the child's grief, the more he resists.

Children and young people cope with difficult situations more easily, when they receive an adequate support from the adults; the support itself and the way it is provided is significant. We have to remember that the experience of grief is different for every person and dealing with it becomes an important, survival issue. According to M. Keirse [31], during the period of mourning, the behavior can be compared to a fingerprint; the fingerprint is recognizable, yet different for each person. The family faces the need of creating a new story, which would encompass the experience of the loved person loss, as well as the changes and challenges arising from it. The needs of children being in mourning include:

1. Above all, the children need a reassurance that their family life will go on.
2. Children need to 'feel' what happens.
3. They need to be given an opportunity to express their thoughts and feelings.
4. A child needs to be allowed to remain a child [31].

Hennzel D. C. [32] suggests that children should be encouraged to take part in our rituals in order to bring them into the real world, social and spiritual, which soon will be their world.

S. Tucholska [33] emphasizes that the period of mourning is a time, when in our psychosocial functioning occur disturbances, which intensify the need of support. The reported remembrances of mourning show that the first year after the loss is the hardest. Mourners must go through the various, important events and situations (holidays, birthdays, etc.) without the deceased. Providing the support to the bereaved increases their chance of returning to the society.

Colleagues, friends and class peers

The third area of educational work is related to the peers from the sick child class. This involves strong taboos. In modern times, children's health, beauty and strength are promoted, and only occasionally, they are presented with the problems of the diseases. This 'protects' them from something, what is, actually, natural and inevitable. Children are often unaware of some aspects of a colleague or friend illness, such as the nature and progress of the illness, symptoms, therapy, and, what is the most important, how to help in case of the symptoms attacks. Not understanding it, the friends run away from the sick child, and fail to see the problems or just ignore them [34].

In supporting a suffering child, it is important is to develop the awareness and understanding among all pupils, to give bigger chances of contact. Such a process, however, should not only reach out to peers, but also to the peers' parents. It should include the information about the disease and its causes, and the knowledge on how to soothe the symptoms. The awareness of a friend or colleague can be a factor, helping to develop a sense of solidarity and responsibility [34].

Sick children need the presence of peers. Sometimes this contact is difficult or even impossible, because of the nature of the disease and a kind of treatment. In such

cases, one can use the telephone or the Internet. We should give the ill child a signal that, despite the disease, the friends are still present. This process requires a commitment of a class teacher, above all. Such contact can help in saying good-bye and accepting the colleague or friend passing away [35]. After the death of a child, it is important to continue the meetings with peers and share memories about the deceased child. Peers may also participate in such rituals as funerals or visits to the grave.

Conclusions

As pedagogues, we confirm ourselves in a sense of our profession, when we exceed the framework of pragmatics and help people, who are believed to be terminally ill, to restore a sense of fitness, and the joy of life - J. Aleksandrowicz [36]. Currently, the pedagogue is outside of the therapeutic team. However, his place would be ensured by the status of the child as a pupil or a student – which, in spite of illness, should be provided with compulsory education during school ages. It is not always possible to realize the curriculum, but the pedagogue's role and tasks also involve different areas of contact with the child - talking, playing, support. It is impossible to formulate detailed guidelines for working with children seriously ill and dying – profiling the child, and the educational needs will help the teacher to fulfill his role. In addition, the teacher involves in the activities the child's parents and siblings, and also the class-peers. He supports, explains and encourages. The professionals of different specializations, working as a team, represent the optimum care system for the child. This interdisciplinary team must include a pedagogue. The education of the terminally ill child is a challenge to the Polish education:

1. Aims – Education in Poland is, generally, seen as the transfer of knowledge needed to get a job. This view is reflected in the debate over lowering the primary school age: earlier schooling is described as 'stealing childhood'. School is seen as a 'business' not as a community process, which enhances the life of an individual, no matter how long or short it might be. (see also U3A)
2. The inflexibility of the curriculum.
3. Teaching methods – knowledge-based learning presented by "one size fits all," , 'talk, chalk and test' methods have no place in the education of the terminally ill children. The needs of the ill/dying/disabled child require the 'versatile classroom', described by the teachers of Regina (above). 'One size fits all' or 'talk, chalk and test' methods are definitely inappropriate, when we face such varied needs. However, the various pupils' needs have to be satisfied in all classrooms.
4. In Poland, the integration is quite limited, but we can see its benefits. The ill/dying or disabled child should be integrated into his 'usual' environment.

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The image of cancer disease and the styles of coping with the disease according to the opinions of women after mastectomy surgery

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Introduction

The experience of cancer disease means serious and unfavourable change in the situation of a person. The given disease entails numerous complaints, involves invasive diagnostic and treatment procedures, and constitutes a considerable obstacle in one's realisation of various plans resulting in one's necessity to resign from some aims of life or at least to alter them. In the literature on the problem of managing of the patient suffering from cancer disease the disease itself is very often called "difficult situation." [1-3]

The specifically difficult situation of patients suffering from cancer disease includes the facts that aetiology of the disease is not fully identified, prognosis is uncertain, the widespread social myth claims the disease to be incurable, and social patterns of thinking about it are negative, treating the mere fact of falling ill and the high possibility of death as one [4]. The disease is considerably limiting in one's functioning, both, in everyday life and on the long-term basis. In the first case, it limits satisfying essential biological and psychological needs (the need of love, sense of security, recognition, activity). In the second case, it impedes the hierarchy of aims, which the patient was striving before the disease, and the possibility of their fulfilment [5, 6].

At every stage, cancer disease results in input of many new pieces of information, often contradictory with what was already acknowledged. Therefore, the processes of verification and research are initiated, and this part of cognitive representation of the world and of oneself that refers to the disease itself becomes the central and predominant one in one's structure of knowledge. The subjective image of the disease comes into being, which is also called the image of one's own disease or the concept of cancer disease [7].

In the process of developing the subjective image of one's own disease, there can be two fundamental phases distinguished. The first one embraces the period from the moment of falling ill, and the opinions shaped in this period, assuming individual experience, combined into the image of cancer disease. The image in question is general, little systematized, constituting rather secondary position in the system of one's knowledge on the world. The moment of falling ill is the start of the second phase, which is characterised by the process of inflow of the enormous amount of new information, and by the fact that the image of the disease becomes centralised in the structure of one's knowledge. The information on cancer disease that is gained during this phase, can be divided into four groups:

- the one resulting from self-observation of one's own physical and psychological condition, of the course of the disease, and of the form of its experiencing;
- the one coming from the doctor and medical staff;
- the one coming from other patients and members of one's family;
- the one coming from medical or more popular literature and from media.[8]

The content of the subjective image of cancer disease encompasses categories referring to the following items: description and origins of the disease; its course and determinants; speculations about its possible consequences; self-assessment of one's health condition. [9]

Depending on a particular subjective image of disease, given patient attributes different meanings to it. It is the image that determines whether it will be treated as difficulty or convenience, whether it will be connected with one's own activity, or it will be left beyond one's ability to react, whether it will mobilise a patient to increase her own initiative or will be regarded as subject to changing fortunes.

Distorted subjective image of disease, i.e. image incompatible with medical knowledge, results from several reasons. First, it comes from unsatisfactory level of one's medical knowledge; second, it is overwhelmed by popular opinions on diseases and determinants of health that are extracted from unscientific resources; third, it is developed in specific emotional condition experienced by a patient, and it constitutes the outcome of defense mechanisms. [1]

The other important element pertaining to the patient suffering from cancer disease is the problem of coping with it and its consequences during its course. The mechanisms of coping can be defined as explicit and implicit behavior caused by changes happening to the body and to the environment. [10, 14] Lazarus and S. Folkman describe processes of coping as „constantly changing cognitive and behavioral efforts aimed at managing specific external and/or internal demands appraised as taxing or exceeding the recourses of the person." [11]

In consequence, two fundamental categories of coping with it can be distinguished: problem-focused (instrumental) and emotion-focused (regulating emotions). Problem focused coping refers to the problem itself and comprises behavior aimed at surmounting difficulties (e.g. scrupulous ingestion of medications, doing rehabilitation exercises), whereas emotion-focused coping (also called palliative coping) helps to overcome emotions resulting from stress (e.g. intentional concentration on something else, relaxing exercises, redirecting frustration to other people).[1, 12]

There were several attempts to systematize different styles of coping, with no final success. Nonetheless, there can be two approaches distinguished, referring to the issue of classification of coping. First (ref. to engagement) – focuses on the phenomenon of coping itself and on one's knowledge about and activeness in solving difficulties and overcoming negative emotions. Second (ref. to disengagement) – concentrates on applied methods of coping, most of them being cognitive and behavioral strategies. [10]

As it comes to the particular phenomenon of coping with disease, the classification based on one's reaction to the information on a stressful event is exceptionally useful. It became the basis for distinguishing two cognitive styles of coping:

- seeking – characteristic for patients (so-called called "monitors") looking for information on risks. Acquisition of the information on risks helps those patients to decrease their anxiety and fear;
- avoiding – characteristic for patients (so-called called "blunters") avoiding information on risks. Patients of this group tolerate anxiety very well, whereas any information on future unfavourable circumstances increases fear. [11, 13]

Based on the survey carried out among patients suffering from breast cancer, S. Greer together with her associates [10] distinguished four styles of coping with disease: denial, fight, stoical acceptance, helplessness and hopelessness.

Among other strategies of coping with cancer disease it is worth mentioning of task-oriented coping. The strategy in question aims at improving one's health condition and is concentrated on health-giving activities. Thus, in so-called task-oriented situation, it is the task-oriented behavior that is a typical form of activity, based on transformation of particular initial situation (which initiates behavior) into final situation, more expected, but so far existing as a project.

The task-oriented situation of a particular patient consists of two elements: disease in progress (negative element) and potential health (positive element). This situational dichotomy supports behavior aimed at elimination of disease, or at least at slowing it, and at regaining health. To undertake such a behavior it is necessary to have possibly the most accurate image of disease (correct perception of one's own health situation) and to transform it into the task to attain.

Materials and methods

There were 298 women after the mastectomy surgery from the Kujawsko-Pomorskie Province taking part in the research. 22 of them returned their questionnaires incomplete or filled it incorrectly – and were finally excluded from the research. As a result, 276 women at the age of 30-72 were analysed. Due to a computer error, dwelling place of one of the patients tested has not been identified, and as statistical counting was fully advanced, it was impossible to exclude this person from further analysis. Following this, a variable of "dwelling place" refers to only 275 women. The tests were done between November 2008 and December 2010. They constitute a part of more extensive research on the subject of one's managing during cancer disease. Within the tests, there was a diagnostic poll applied as a scientific method, and a questionnaire form as a tool. The aim of the research, presented hereafter, was to find the subjective image of cancer disease conveyed by women after the mastectomy surgery, as well as to find their strategies of coping with the disease. Apart from that, the research was to bring an answer to the question on how the socio-demographic factors can make the image of cancer disease and coping with it more diverse.

Results

In accordance with the assumptions presented above, the image of one's own disease constitutes for patients managing a truly essential cognitive pattern. It can be examined on formal as well as on the material basis. Formal aspect of the image can be

characterised in terms of complexity, abstractness – concreteness, incompleteness, activeness – passiveness.

The subject of the presented hereafter tests consists of material elements of the image of one's own disease concerning opinions on description of the disease, on its origins, and speculations about its the possible course. From this perspective, we can say about different levels of accuracy of the image of one's own disease. As it comes to the notion of accuracy of opinions, it includes an implicit assessment of correctness of believes, with the use of the criterion of clinical appraisal rendered by the oncologist.

Therefore, assuming tests carried out and based on the clinician's appraisal, there were two categories distinguished that made the tested women diverse, as it comes to their accuracy on the image of one's own disease. The accurate image was characteristic of patients whose knowledge on the origins, description, and consequences of the disease corresponded to medical diagnosis and knowledge. The inaccurate image was characteristic of those patients whose knowledge on their disease was incorrect or none. Due to incomplete data, in case of five women it was difficult to deduce on the level of their accuracy referring to the image of their disease. Consequently, they were excluded from the following analysis.

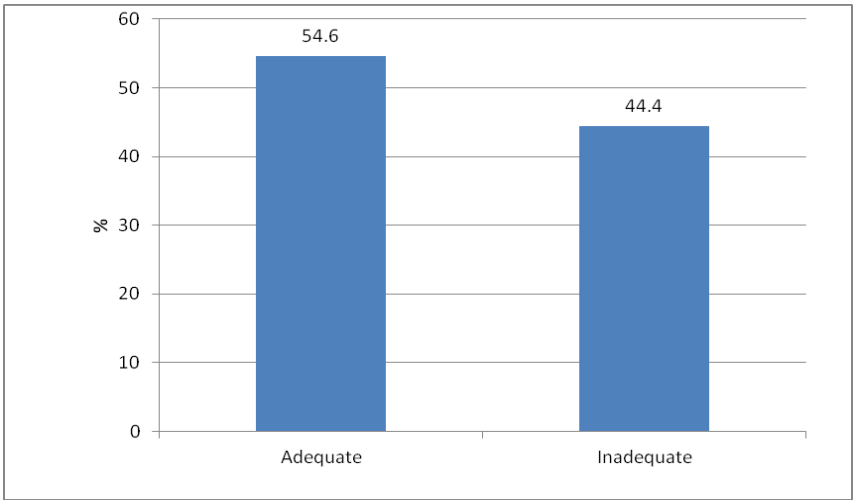

Figure 1. Diagram on accuracy of the image of cancer disease in case of women after mastectomy surgery (N=272)

More than half of respondents (54,6%) were accurately acquainted with the facts on their disease. The remainder of the women polled did not know all the details on the description of their disease, on its origins and course, or their knowledge was incorrect.

It should also be reminded that in the literature [8, 14] it is stressed that in the process of creation of the image of one's own disease the previously gathered, whether accidentally or intentionally acquired, pieces of information play an important role. 59,2% of our respondents sought actively for the information on the symptoms, course of cancer disease, or its treatment procedure; whereas 33.8% evidently avoided doing it.

Only 19 women (7.0%) self-assessed their own knowledge on cancer disease as satisfactory enough, thinking of searching for additional information as unnecessary. In the majority of cases they were professionally connected with health service.

There were the following sources of knowledge pointed out by the respondents: journals, periodicals (23.9%); doctor (21%); academic literature (16.9%); academic literature for the general public (11.8%); or people with similar experience (5.1%).

Table 1. Age and accuracy of the image of one's own disease

			Age groups				In total
			30-40	41-50	51-60	>60	
Image of the disease	1 Accurate	Number	16	43	55	39	153
		% of Image of the disease	10.5%	28.1%	35.9%	25.5%	100.0%
		% of Age groups	84.2%	55.1%	57.9%	47.0%	55.6%
		% of In total	5.8%	15.6%	20.0%	14.2%	55.6%
	2 Inaccurate	Number	3	35	40	44	122
		% of Image of the disease	2.5%	28.7%	32.8%	36.1%	100.0%
		% of Age groups	15.8%	44.9%	42.1%	53.0%	44.4%
		% of In total	1.1%	12.7%	14.5%	16.0%	44.4%
In total		Number	19	78	95	83	275
		% of Image of the disease	6.9%	28.4%	34.5%	30.2%	100.0%
		% of Age groups	100.0%	100.0%	100.0%	100.0%	100.0%
		% of In total	6.9%	28.4%	34.5%	30.2%	100.0%

The worked out results show that there is a connection between accuracy of the image of the disease and the age of respondents•. The accurate image of cancer disease was characteristic of younger women at the age of 30-40. It can be noticed that the elder patients group was, the less corresponding to medical literature the subjective image of the disease was.

There is also strong connection between the subjective image of the disease and the respondents' level of education♥.

• Symmetric measures, Cramer's V Vc=0,181 , the coefficient of contingency C=0,178 , p=0,029

♥Symmetric measures, Cramer's V Vc=0,181 , the coefficient of contingency C=0,178 , p=0,029

Table 2. Level of education and accuracy of the image of one's own disease

			Level of education				In total
			primary	vocational secondary	secondary	higher	
Image of the disease	1 Accurate	Number	3	18	97	35	153
		% of Image of the disease	2.0%	11.8%	63.4%	22.9%	100.0%
		% of Level of education	12.0%	30.0%	66.0%	81.4%	55.6%
		% of In total	1.1%	6.5%	35.3%	12.7%	55.6%
	2 Inaccurate	Number	22	42	50	8	122
		% of Image of the disease	18.0%	34.4%	41.0%	6.6%	100.0%
		% of Level of education	88.0%	70.0%	34.0%	18.6%	44.4%
		% of In total	8.0%	15.3%	18.2%	2.9%	44.4%
In total		Number	25	60	147	43	275
		% of Image of the disease	9.1%	21.8%	53.5%	15.6%	100.0%
		% of Level of education	100.0%	100.0%	100.0%	100.0%	100.0%
		% of In total	9.1%	21.8%	53.5%	15.6%	100.0%

Well educated women had more accurate image of their disease. The above presented conclusions seems to be logical, as higher level of education is naturally associated with high accumulation of knowledge and with developed ability for finding and processing it.

Similar and statistically essential connections were noticed when analysing the variable of "dwelling place".[•]

Table 3. Dwelling place and accuracy of the image of one's own decease

			Dwelling place			In total
			village	little town	city	
Image of the disease	1 Accurate	Number	14	51	88	153
		% of Image of the disease	9.2%	33.3%	57.5%	100.0%
		% of Dwelling place	38.9%	51.0%	63.8%	55.8%
		% of In total	5.1%	18.6%	32.1%	55.8%
	2 Inaccurate	Number	22	49	50	121
		% of Image of the disease	18.2%	40.5%	41.3%	100.0%
		% of Dwelling place	61.1%	40.0%	36.2%	44.2%
		% of In total	8.0%	17.9%	18.2%	44.2%

[•] Symmetric measures, Cramer's V Vc=0,178 , the coefficient of contingency C=0,175 , p=0,013

In total	Number	36	100	138	274
	% of Image of the disease	13.1%	36.5%	50.4%	100.0%
	% of Dwelling place	100.0%	100.0%	100.0%	100.0%
	% of In total	13.1%	36.5%	50.4%	100.0%

The accurate image of one's own disease was more characteristic for women coming from cities.

With the help of typologies concerning patients' coping with cancer disease and conceived by S. Greer and others, and on the basis of the tests that were carried out, it was possible for the author of this article to distinguish the following styles or strategies of one's coping with cancer disease:

- **task-oriented** –characteristic for women undertaking treatment, rehabilitation and health-giving programs in order to improve their health condition, and believing in their own physical and psychological recourses for fighting with the disease;
- **avoidance-oriented** – characteristic for women dealing with the disease with the help of avoidance mechanisms such as denial, minimisation, distortion, or avoidance of the subject;
- **pessimistic** – characteristic for women expressing the absolute passiveness towards fighting with the disease and lack of belief and hope for recovery, giving in to illness.

The styles of the respondents' coping with cancer disease are presented in the Figure 2.

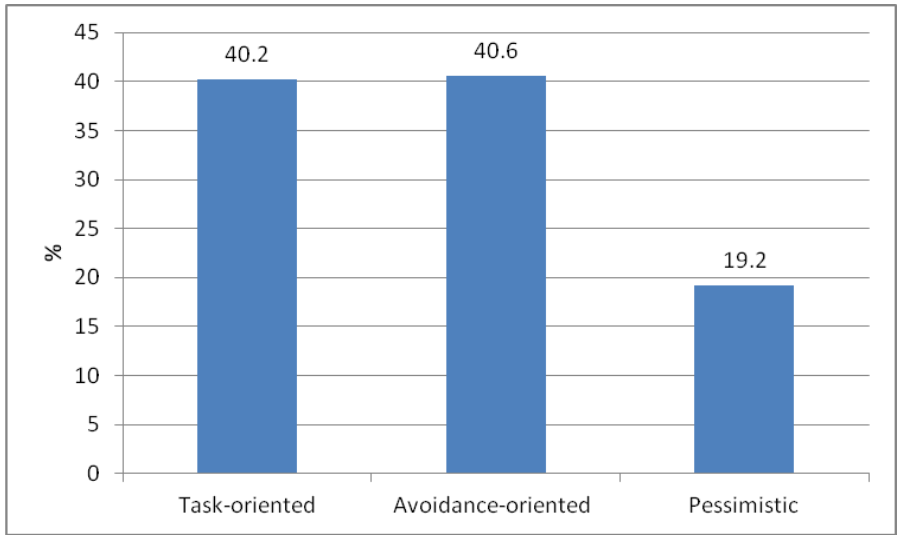

Figure 2. Graphic depiction of the styles of coping with cancer disease (N=276)

The most common styles of coping with cancer disease among the respondents after the mastectomy surgery were task-oriented (40.2%) and avoidance-oriented strategies (40.6%). Therefore it can be said that the women polled undertook equally

often the efforts in order to fight with the disease and to recover, as well as they distracted their attention from the problem, distorted the information on the subject, minimised the problem, or avoided any topics connected with the course of the disease, its treatment, or prognosis. 19,2% of the respondents gave in to the illness completely, were passive in the face of fighting with the disease and pessimistic about the speculations on its course and prognosis.

The influence of the above mentioned socio-demographic factors on the styles of coping with cancer disease turned out to be different from that on accuracy of perception of one's own health situation. There was no statistically significant correlation found between the age of the respondents and the style of coping, whereas there was a statistically significant connection as it comes to the variable of "level of education"•

Table 4. Level of education and the style of coping with the disease

			Level of education				In total
			primary	vocational secondary	secondary	higher	
Style of coping	- task-oriented	N	6	17	63	25	111
		% of Style of coping	5.4%	15.3%	56.8%	22.5%	100.0%
		% of Level of education	24.%	28.3%	42.6%	58.1%	40.2%
		% of In total	2.2%	6.2%	22.8%	9.1%	40.2%
	-avoidance-oriented	N	10	27	61	14	112
		% of Style of coping	8.9%	24.1%	54.5%	12.5%	100.0%
		% of Level of education	40.0%	45.0%	41.2%	32.6%	40.6%
		% of In total	3.6%	9.8%	22.1%	5.1%	40.6%
	- pessimistic	N	9	16	24	4	53
		% of Style of coping	17.0%	30.2%	45.3%	7.5%	100.0%
		% of Level of education	36.0%	26.7%	16.2%	9.3%	19.2%
		% of In total	3.3%	5.8%	8.7%	1.4%	19.2%
In total		N	25	60	148	43	276
		% of Style of coping	9.1%	21.7%	53.6%	15.6%	100.0%
		% of Level of education	100.0%	100.0%	100.0%	100.0%	100.0%
		% of In total	9.1%	21.7%	53.6%	15.6%	100.0%

• Symmetric measures, Cramer's V Vc=0,174 , the coefficient of contingency C=0,239 , p=0,011

The style of coping with cancer disease focused on health-giving programs was characteristic of women with higher education, while "pessimistic" style of coping with it was more typical of women with primary education. However, the most often style of coping with the disease among the latter group was an avoidance-oriented strategy with minimising or distorting one's own health situation by avoiding those activities which would confirm the state of risk resulting from the disease.

The analysis that was carried out, revealed also the connection between the period of illness and the style of coping with cancer disease. ♠

Table 5. Period of illness and the style of coping with the decease

			Period of illness				In total
			less than 3 months	4-12 months	13 months to 5 years	>5 years	
Style of coping	-task-oriented	N	7	27	43	34	111
		% of Style of coping	6.3%	24.3%	38.7%	30.6%	100.0%
		% of Period of illness	43.8%	50.9%	37.7%	36.6%	40.2%
		% of In total	2.5%	9.8%	15.6%	12.3%	40.2%
	-avoidance-oriented	N	2	16	51	43	112
		% of Style of coping	1.8%	14.3%	45.5%	38.4%	100.0%
		% of Period of illness	12.5%	30.2%	44.7%	46.2%	40.6%
		% of In total	0.7%	5.8%	18.5%	15.6%	40.6%
	- pessimistic	N	7	10	20	16	53
		% of Style of coping	13,2%	18,9%	37,7%	30,2%	100,0%
		% of Period of illness	43,8%	18,9%	17,5%	17,2%	19,2%
		% of In total	2,5%	3,6%	7,2%	5,8%	19,2%
In total		N	16	53	114	93	276
		% of Style of coping	5.8%	19.2%	41.3%	33.7%	100.0%
		% of Period of illness	100.0%	100.0%	100.0%	100.0%	100.0%
		% of In total	5.8%	19.2%	41.3%	33.7%	100.0%

♠ Symmetric measures, Cramer's V Vc=0,154 , the coefficient of contingency C=0,213 , p=0,040

The task-oriented strategy of coping with cancer disease was characteristic of women whose recovery process lasted 4-12 months, i.e. for those women who were undertaking very intensive course of cancer treatment. It is possible that specific character of this phase of disease is of great importance (intensive treatment, rehabilitation) and supports health-giving behavior for strengthening the treatment effects.

As it comes to the other variables, there were no statistically significant connections founded.

Conclusions

To sum up the foregoing discussion, it can be said that accuracy of patient's image of her cancer disease (in the sense of correctness of the image with the academic medical knowledge) has serious consequences for patient's behavior towards the health-giving tasks. Generally speaking, health-giving activities are supported by realistic image of one's disease. It means that the more correctly a patient perceives the state of her health condition, its determinants, and their respective participation in the process of recovery, the lesser is a probability of behavior which could be harmful to health condition (e.g. postponing medical appointments, not following the doctor's instructions, leading an unhealthy lifestyle, etc.).

The subjective image of patient's disease has considerable influence on her emotional condition. The above mentioned fact is even more important, when we take into account that emotions not only express some general physical and mental state of a patient, but they also can cause further pain and, what is more, can influence the pace of convalescence. In this sense, the subjective image of disease has an indirect impact on the course of treatment, even if it can only modify rather than determine the given process. [8]

Following the above, it is crucial for a patient to receive the complete, and appropriate to her expectations and intellectual abilities, information on the disease, on suggested treatment and its side effects, on its consequences, etc. The doctor's role, here cannot be overestimated. The well-conducted talk with a patient, and creating a good doctor-patient relationship are the conditions essential for good cooperation of a patient and her readiness to fulfil the therapists' instructions. Patients who are properly informed, equipped with the accurate image of their disease, are more engaged during treatment and have some sense of control over the disease.

Coping with disease is tantamount to undertaking the intentional effort that results from perception of a particular situation as stressful. This perception does not have to be the realistic by any means, but purpose of the activity should be conscious. Putting the matter this way makes it possible to include the defense mechanisms into the strategies of coping without evaluating them as good or bad. The phenomenon of coping, similarly to the phenomenon of stress, is a process and it is contextual, with human and environmental variables. [15]

According to R. S. Lazarus and S. Folkman [11], coping is tantamount to undertaking the intentional effort that results from perception of a particular situation as stressful. In the context of disease, the strategy of coping will include seeking for the information, following the doctor's instructions, carrying out health-giving activities, but also avoiding the information, intentional thinking about something else, distracting

one's attention from the problem. The activity of seeking for the information can be accompanied by the tendency for confrontation and elimination of negative factors, whereas avoiding the information can combine with a tendency for distraction and avoidance.

It is also worth mentioning that facing the disease, both dominating among the respondent's strategies of coping, i.e. task-oriented one and avoidance-oriented one, turn out to be more effective than passiveness expressing resignation. [16] Nevertheless, reaction of avoidance of disease, effectively protecting from fear, remains in opposition to the instrumental function of coping. In other words, a patient, not being conscious of her disease and its consequences, does not engage in activities aimed at recovery. On the other hand, the task-oriented strategy of coping, aims at improving one's health condition and concentrates on health-giving activities.

Effectiveness of coping with cancer disease noticeably results from the positive influence of previously good adaptation within the family surroundings, from positive influence of confrontation and resistance attitudes towards the disease, and from the positive role of engagement and optimistic attitude towards the treatment. [17] The other significant factor influencing the coping with disease is social support, which is seen as specific buffer protecting against the stress effects.

From the above deliberations, the following conclusions can be drawn:

1. Both, accurate images of the disease, and task-oriented coping with the disease support cooperation of a patient during the course of treatment and orient a patient at health-giving activities.
2. In doctor-patient relationship, there is an important element of appropriate communication, which creates an accurate image of the disease and supports a patient in her undertaking of struggle against the disease.
3. In coping with cancer disease social support from health service, relatives, friends, and support groups plays an important role.
4. The activity of support groups should then be backed, as they effectively help patients in coping with the disease by education, rehabilitation, and rebuilding their self-esteem.
5. The exceptional support should be directed towards the patients who are older, less educated, and come from little towns and villages.

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Thanatology education as a way to the Ars Moriendi

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Introduction

Death, dying and a concept of mourning are the problems that most often accompany the humanity, and bother most civilizations. The thoughts on death were changing, depending on times and influences, religious or political, prevailing in a civilization. A prominent French death anthropologist Vovelle [1], described on almost 800 pages of his book, *Death in the Western World*, the attitude of the European nations, to the concept that we discuss here, throughout the history.

The understanding of death concept can be shown by e.g. the analysis of the art, starting with *ars moriendi, meditatio mortis, preparatio mortis* in the early Middle Ages, through the baroque macabre, ending with XX century, when death started to be seen even as a pornography.

The subject was raised with different intensity in different historical periods. Kaźmierczak [2] notices in his work, that: *Usually, humanists ignoramuses do not talk about death; they talk about things stimulating the will to live, meaning, the so-called "interesting" things, whereas - cunningly - humanists non-ignoramuses talk only about death, not quite clearly distinguishing it from dying or agony, or confronting it with a fear of unknown, before and after death.*

Ostrowska [3] emphasizes the fact that *we treat dying and its elements as something very personal, unpleasant and almost embarrassing – a subject that is inappropriate to talk about while meetings, leading to confusion or, at least, to ambivalence and problems with externalization of our reactions.* However, the author [3] convinces us that such feelings are related only to talk about natural death, which is a mere fact of our life. Media relations are, inter alia, the problem of such an attitude, as they are *overloaded with tragic, violent death, shown, many times, in a naturalistic and drastic way* [3]. As it was mentioned before, all those changes had their reflections in a holistic expression of a human "life" education. Even in XX century, in Poland, the funerals were conducted in homes, which meant that death and dying was something normal; a fact that was not embarrassing and did not have to be put on the margin of society, as it often happens today. Vovelle [1] shows it on the based on of 70s, in USA – "*Drive-up Funeral Home, where one could see the body of a beloved person and sign a letter of condolence, without leaving a car"*[1]. Ostrowska [3], indeed, claims that "*the urbanization processes made people go away from the nature and from the possibility of*

observing its life cycle, from birth to death; and a tendency to create nuclear families caused one not to see it even in a family."

Actually, the above-mentioned example of Polish funerals, being conducted in home of a dead person, was related to the beginning of 90s, when the possibility of migration from one city to another was not as developed, as it is today. This meant that the bounds between family members and observance of the cycle of its life made the process of death something natural. The change of polish multi-generational families into nuclear ones, has led a human being of the modern world, coming after material goods, to be a lonely island. And being such a isolated island in a big city, one started to invest in a totally different way of nurturing – the one going into direction of the youth worship. According to McLuhan [4], this new tendency resulted from several issues; firstly, from the medicine development, secondly, from changing the modern world into "*global village,"* and thirdly, from changes in thinking about education. The last point is probably the most important, as, to the great extent, it stems from the other two.

Ostrowska [3] notices that "*the medicine development has to lead to the specific revaluations; it canceled a distinct border between life and death, created a possibility of artificial life sustaining and gave hope of deceiving death. Consequently, it affected perception of death as a natural end of human life."*

Kopania [5], analyzing Max Scheler's opinions on human perception of death, emphasizes the change of one's thinking about life; he explains that in social awareness of developed countries, human life re-evolved, meaning, it went from the sacredness to the highest value. As we mentioned before, this kind of perception has indispensable influence on the understanding of Polish, modern education.

The aim of the education is one's holistic development, both, vertically and horizontally. In the Regulation on modern education goals, the Minister of National Education and Training, November 6, 2003 [6], says: *"The supreme goal of school educational activity is comprehensive development of a student. School education consists in teachers' harmonious realization of the tasks within teaching, skills developing and nurturing. These tasks create the complementing one another and being equally important ways of each teacher's work. In the field of teaching, school provides students, specifically, with: learning correct and free speaking, writing and reading with understanding; becoming acquainted with the required concepts and getting considerable knowledge on the level that would, at least, enable a student to continue learning on the next stage of the education; coming to understand, instead of memorizing conveyed pieces of the information; developing skills to find different kinds of relationships and dependences (causal, functional, of time and space); developing skills of analytic and synthetic thinking; conveying the subject information in an integral way, leading to better understanding of the world, human beings and oneself; getting acquainted with the rules of personal development and social living; getting to know the national culture heritage, seen in the European culture perspective" [6].*

As it can be easily noticed, there is not a word on the thanatology education issues, which should be based on the perception of the education in the context of death, first of all. This kind of education should focus on understanding death in the modern world, shape its concept – familiarize with it. Another fundamental task should be getting the strengthening skills that show which way to go to deal with suffering, death and other people mourning – emphatic education.

Thanatology education should be an avant-garde of the system, to make student meet it first, before death, to prepare him to what is inevitable.

The aim of the study

Checking students' expectations about thanatology education.

Materials and methods

We used the original questionnaire survey composed of 14 questions, created with the use of the biggest Polish service for making internet questionnaires and tests – http:www.ankietka.pl/

The respondents were 172 students and pupils of different types of academies, schools and courses of learning, who filled out the questionnaire on-line.

The respondents were 15-49 years old. The biggest group, 32 (18.5%), was 23 years old, and the smallest, one person, were groups of 36 and 49. The research was directed to the learners, and the majority of them included I grade students (53,18%), while the minority included students of junior high schools (2.89%) -5 respondents.

Answering the question, *Do you think studies/school prepare people to talk about death?* the huge majority said *no* (79%), and only 20. 81%% said *yes*.

On the question, *Have you encountered, during your studies, the subjects of: death, dying, mourning, orphan-hood?* the respondents usually answered *yes* to the subject of death (68.79%). The other data are shown in Table 1.

Table 1. Subjects the respondents encountered during studies

	Death	Dying	Mourning	Orphan-hood
Yes	68.79%	61.27%	27.75%	31.21%
No	31.21%	38.73	72.25%	68.79%

Afterwards, they had to answer the question, *Are you interested in broadening your knowledge on the foregoing subject?* 129 respondents (74,57%) said *yes*, and almost ¼ of them (25,43%) said *no*.

Next question was. What kind of *classes would you prefer?*, and there were two options to choose: *workshops*, chosen by 130 respondents (75,14%), or *e-learning*, chosen by 43 respondents (24,86%).

Thereafter, *Who should such classes be directed at?* And the biggest group (90,75%) said that it should have to include all the interested (Fig.1).

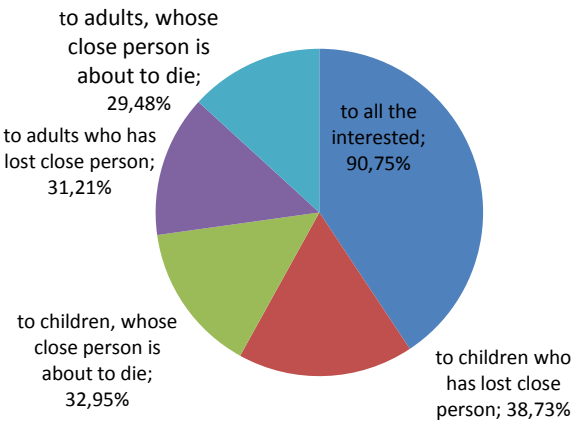

Figure 1. People that the thanatology education should be directed at

Next question was, *In what aspect you would like to broaden your knowledge on dealing with death and mourning?* The questionnaire gave four options to choose: psychological, pedagogical, bio-ethical, sociological. The majority pointed the psychological aspect (152 – 87.86%). The other data are shown in Fig.2.

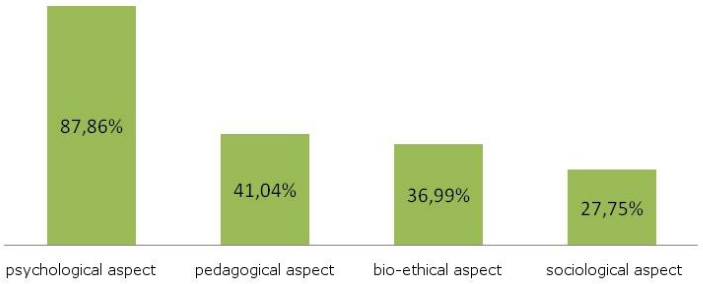

Figure 2. Aspects of broadening the knowledge chosen by the respondents

The last question was open-ended and was related to the subjects, connected with death, dying, mourning, which our respondent would like to raise. This question gave us 175 different answers. We made selection and established criteria: because of me (internal), and because of the others (external):

a) Internal – problems:
- related to a period before the death of a close person – 13 people
- related to mourning time – 46 people
- mental state – 39 people
- related to a place where one can find help – 4 people

b) External – problems:

- how to talk:
    - what will happen with the dying – 6 people
    - with close people after the death – 3 people
- how to behave in the surroundings of the dying – 1 person

c) Bioethics – 20 people
d) Philosophy – 18 people
e) Psycho-medical aspects – 11 people
f) General information – 8 people

Discussion

The questions asked in the questionnaire, can be regarded as a continuation of the questions related to the problem of death and dying, asked in a context of cultural issues of our civilization.

As Vovelle notices [1], the increasing speed of media development in XX century, and the digitalization of all areas of life, places a more and more strict embargo on the issues connected with the death and dying. In the author's opinion [1], the modern world has come to a place, where the death is put on the pornography level, and this caused its total disappearance from the modern scientific discourse.

Ostrowska [3] puts it similarly, claiming that *the progress of the medicine, as a science that dismisses death phantom, caused that the death became moved away from the wards to the separate rooms, in order not to "scare" with its presence; thus, the thing that determined our normal functioning for ages, in the modern world has become something non-aesthetic and unattractive, so as to get rid of it from our sight.*

However, the research we conducted, and its results presented above, has shown that this pushing aside of those issues to the margin of a social life, was a mistake. A human being cannot function without the perspective of the death; it is just imprinted on one's existence.

Thus, the question, whether to reintroduce the thanatology education, seems to be out-of-date; we should rather ask how to do this?

The main subject of interest of the contemporary thanatology education that we offer, would be re-familiarizing with death. Firstly, there should be defined the concept of death, secondly, we should describe what is fear of death and analyze the process of mourning. These points are affirmed by the results of our research. The majority of the respondents indicated that they would like to get acquainted with the issues relating to mourning (almost 50%). Secondly, they wished to get to know the issues relating to psychology, suggesting the education based on talking with a person, who has lost someone close, searching for the ways of helping such person, dealing with somebody, who is expecting the death of a close person, dealing with the feelings of a family, who is expecting someone's death, helping such people, and helping a person who is dying and is aware of it.

Similar conclusions can be drawn from question 12, in which the respondents emphasized the fact that they would like to broaden their knowledge on thanatology in the psychological context (80%), and only a bit more than 27% indicated the sociological context.

This wish to investigate thoroughly the psychological aspect of the presented thanatology context, is probably the result of the desire to overcome the fear of unknown.

Kępiński [8] focuses the attention on the fact that the fear is: *fascinating not only for those, who analyze it, but also for everyone, who are embraced by it. The fear is a negative state of feelings; at the same time, it is a signal of danger, though, contrary to the pain, it influences us from larger distance.*

Ostrowska [7], in her work, refers to Schulz, and lists eight factors that, potentially, are the reasons for feeling the anxiety about death; and these are:

1. Physical suffering – slow dying accompanied by the pain, causes fear among people. Being permanently bedridden, with never-ending suffering and a sense of hopelessness and pain, is one of the most petrifying visions of the pre-mortal period.
2. Humiliation – the pre-mortal physical suffering is often accompanied by such symptoms as vomiting, inability to control the excretion processes, etc. That causes shame, embarrassment, and a sense of humiliation.
3. Changes in a body – emaciation, changed and often deformed body, marked by various operations – a dying person resembles a corpse, although he or she is still alive.
4. Dependence on the others […] – we are afraid of the state, in which the simplest action would be impossible for us.
5. Consequences of our death for the others – a sense of leaving people, who will suffer because of our passing […]
6. Discontinuation of life tasks realization – except for the suicides, who choose the moment of their death themselves.
7. Non-existence, a sense of emptiness related to it – we just cannot imagine our non-existence, and that the life can go on without us.
8. Punishment for sins – the fear of punishment can be present in minds of the religious people, who, analyzing their life, come to the conclusion that it was far from perfection [7].

The research conducted by Fiedorczuk and Owłasiuk [10], similarly to ours, shows that the subject of death is presently being pushed aside to the margin of everyday life. The researchers prove, that: *a huge majority of women and men try not to talk about it; for 13% of women it is additional psychological burden, while 18% of use substitute terms for it.* It is worth noticing that the research by the authors' was conducted on a different age group and was related to a practice of a family doctor – while our research was conducted on the students, mostly of the specializations connected with the medicine (17%), what can be the reason for a different attitude towards the issues related to the thanatology. Undoubtedly, the medical studies prepare people to talk about death in the best way. The number of people pointing the answer, which indicates a lack of preparation to talking about death, could be much bigger, if the research was conducted on the student from the non-medical studies.

Another research that is worth mentioning, was conducted by Krakowiak, Modlińska team from Gdańsk [10]. It was based on the need of introducing the thanatology education in practice to schools. They write: *during the workshops, students of medical academies declared, many times, a lack of skills to talk with the seriously ill, as well as a lack of skills to listen actively to the patients and their families…*

Summing up: the re-introduction of the thanatology would be the possibility of returning the dignity to the terminally ill. The value of the contemporary civilization is not determined by the gross domestic product, but by the way, it leans over the ones,

who are not able to work anymore, thus, the ill, the disabled and those, who are "on their way to the shore".

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Gorzkowska Maria

When to start or when to stop resuscitation - literature revive. Shortened running title: resuscitation ethics

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Introduction

The sudden and unexpected cardiac arrest is a negative event in consequence both, for the patient and for his family and friends. Despite immense efforts and progress that have been made over the last decade, only in few cases resuscitation is effective and ends with long-term positive treatment results [1].

The decision whether to start respiratory resuscitation or terminate it, is a matter of discussion among many medical professions. The development of medical technology allows to prolong the patient's life even in case of hopeless prognosis, which is a common phenomenon. Since the first resuscitations, which were conducted in 60s among the patients, who had the cardiac and respiratory arrest in the operation block conditions, 70% of the patients were discharged [2], evoking great enthusiasm relating to high efficiency of resuscitation.

It led to initiating resuscitation in case of almost every patient with the cardiac and respiratory arrest. Research data show that a survival rate among the hospitalized patients with the cardiac and respiratory arrest at the intensive care units, who are under constant monitoring of life parameters, is 9,2 % [3].

In all cases of the sudden cardiac arrest, medical staff has to consider the following question: when and how long resuscitation should be conducted. The answer to that question is based on the analysis of the risk, costs and benefits for the patient, his family and medical staff [4].

The resuscitation is advisable in case of the primary cardiac and respiratory arrest or clinical death, provided that the patient is potentially enabled to live, therefore, has physiological prognosis understood as brain, coronary and pulmonary circulation, and critical hypoxia time have not been exceeded. The cardiac arrest is not a result of the terminal stages of chronic diseases [5].

Ethics

Basic ethical rules referring to a patient care are: autonomy, harmlessness, justice, honesty and dignity[6]. Autonomy is a basic right of a patient to decide about one's health. Every patient has a right to take independent decisions about the therapeutic process, its intensity, restriction or even discontinuation. Attempting resuscitation with hopeless prognosis is incompatible with the rule of harmlessness, one of the main resuscitation ethic rules. In case of chronic diseases, resuscitation prevents from dignified and peaceful death. Any action undertaken by medical staff should consider both benefits as well as possible risks. In most cases, ethical rules are applied, as it is a moral duty of a doctor to follow them. However, there are cases when giving

resuscitation is not appropriate. But giving it to all the patients who can benefit from it is compatible with the equality rule (which means that all the patients have a right to treatment). The rules of dignity and honesty give the patient a right to be treated by all means of accessible methods and sources. Everyone has a right to be informed about the condition of one's health, diagnostic methods and treatment.

Decision-making process

Making decision about attempting CPR differs from the other decisions related to patient's treatment. The reason is a fact that cardiac arrest is the most critical situations of all occurring in the hospital. Patients with cardiac arrest are unable to take any decisions; therefore, a medical staff has to do it in their name. This kind of decision has to be made immediately, without hesitation, to make resuscitation successful [8].

The main aspect of giving CRP, is defining the aim of resuscitation. The American Health Association clearly defines those aims. According to AHS, resuscitation should be given to save life, restore it, bring relief in suffering, restrict disability, and adverse clinical death. If it cannot be achieved, the treatment is futile.

Withdrawing resuscitation

Most resuscitation attempts end with failure, therefore, it has to be withdrawn. This decision is made under following circumstances: medical history, prognosis, time between cardiac arrest and RKO attempt, EKG record, defibrillation time, ALS time, asystole time, lack of reversible causes of sudden cardiac arrest, and lack of ROSC [10]. The decision about resuscitation withdrawal is often subjective, and based on many factors. An experienced emergency or ambulance service staff members, with the appropriate training should be given a mandate to decide not to initiate or to stop resuscitation in well-defined conditions. To make those decisions more objective – Resuscitation Predictor Scale (RPS) has been created. It was based on the seven-year patient's analysis, who experienced hospital cardiac arrest. It has been created to evaluate patient's chance of survival in the defined time. The following factors may influence resuscitation withdrawal: an asystole lasting longer than 10 minutes in spite of basic and advanced resuscitation, lack of spontaneous circulation in first 15 minutes of resuscitation, basic resuscitation procedure initiated for longer than 3 minutes since the beginning of resuscitation. The authors emphasize the cardiac arrest mechanism, as a conditioning factor of effective resuscitation.(cardiac arrest, in pulmonary mechanism, gives more chances of survival). Also VT, VF rhythms, as a factor of sudden cardiac arrest, give more chances of survival [11]. Other surveys suggests the age factor, as the effectiveness of resuscitation. The authors of the publication analyzed 266 incidences among hospitalized patients, and it was suggested that patient's chance of survival decreases with age. The patients under 60 have more chances, but in case of patients over 80, the chances are low. Consequently, there is no detectible chance for 90-year-old patients [12]. As every case is different, we have to have an individual approach to it.

When not initiate resuscitation

Resuscitation should not be initiated when all the circumstances show that treatment is futile, and it is contradictory to patient's will. One of the patients described it as "drastic, painful, and humiliating procedure," suggesting in this way that resuscitation should be attempted only if there are chances of survival [12]. Resuscitation initiated among some groups of hospitalized patients can often prolong the process of a terminal death. The group includes: the terminal stage of cancer, renal

failure, COLD, cardiac failure, liver failure, multi-organ failure [13]. Withholding saving life procedure, in case of certain social groups, is based on bioethics and is approved by international academics all over the world. This procedure is conducted to avoid unnecessary suffering of the dying patients, and therefore, should not be mistaken for euthanasia. Many research show, when CRP should be withheld. One of the most recent studies, conducted in eight Greek hospitals, indicate the situation, when CRP should be withheld. The most important are: unresponsive treatment, unfavorable prognosis of basic disease, unfavorable prognosis of disease, which intensify a bad condition of the patient. It is worth mentioning that most of the decisions were taken by a team or a conducting doctor. It reflects the paternalistic model of European hospitals [14]. Unfavorable resuscitation prognoses are also notified between the septic patients, patients with an out-of-hospital cardiac arrest, a cardio crisis, and stroke [15]. Another situation when resuscitation should not be attempted, is a declaration of DNAR. When the patient is terminally sick and death is unavoidable, a medical team, a patient and his family can decide about DNAR procedure. Undertaking such an action is based on a patient's dignity right, which could be violated by resuscitation procedure [16]. DNAR statement is defined as medical procedures, which are withdrawn in case of pulmonary or cardiac arrest, prior to patient's consultation (if it is possible) or a family (if impossible for a patient) [17]. DNAR procedure means resuscitation arrest, not a restriction of treatment, and it should be emphasized while talking to patient's family. Society worries that introducing DNAR may be connected with the worsening of a medical care. An attitude of a nurse who takes care of the intensive care patients was analyzed. The results has shown that a declaration of DNAR has no influence on health care standards [18]. Therapeutic autonomy of the patient impose on the doctors a necessity of consultation with patient, in case of cardiac arrest. Unfortunately, many publications prove that the doctors are unwilling to do it. It may be the result of a poor training, connected with doctor-patient relations [19]. This kind of research is scarce in Poland. Some attempts have been made by Doctor Andruszkiewicz, to put emphasis on the fact that, DNAR is mistakenly associated with euthanasia. Everyday situations in hospitals show that there is almost no acceptance towards resuscitation, especially in case of a cancer terminal stage. Andruszkiewicz result's analysis showed that 49% of emergency service doctors, have to decide on the procedure in case of cardiac arrest. It seems obvious that emergency service doctors do not have sufficient medical knowledge about the patient to make a difficult, clinical decision in a short period of time. Another important issue in Andrusiewicz survey is the fact that the patient is excluded from making decision about resuscitation and the role of family in this aspect is minimized. This kind of procedure violates a patient's autonomy and the rule of conscious approval on treatment, which is included in Penal Code, the act of Medical Professions and Medical Ethics Code [20].

Conclusions

Sudden cardiac arrest is the main cause of death in Europe. Depending on cardiac arrest definition, every year, 350000-700000 cases are recognized [21]. Data published by the National Registry of resuscitation (NRCPR) reveal that in case of 14000 conducted resuscitations, 44% ended with temporary return of pulse, but only 17% of the resuscitated survived and were discharged from the hospital. One-third of them was placed in the care centers because of the brain damage [22]. Medical staff did not consider the resuscitation necessity.

Progress of the medical science has developed the methods that allow replacing some of the life functions. However, careless introduction of these methods can violate patients' rights. Every patient has a right to decide about his treatment. This decision should be made by the patient himself, and if it is impossible - by his family. In today's world, death is perceived as a failure, not as a natural course of life. In most cardiac arrest cases, the undertaken procedure changes a natural dying process into slow and humiliating one [23]. Resuscitation should be initiated only, if there is a chance of the patient's survival. Recently, a lot of attention has been given to the patient's autonomy. It is strictly connected with informing the patient about medical procedure and its course. The same rules should refer to resuscitation. Precise and detailed information about procedures, possible risk, and treatment will allow the patient to make an appropriate decision on resuscitation. Initiating a routine resuscitation procedure leads to persistent therapy, and consequently, violates basic rules of the patient's care.

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THREATS IN THE WORKPLACE

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Symptoms of back strain due to poor ergonomics

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There are many definitions of the ergonomics. The term derives from the Greek and can be translated as a study of work activity. Its objective is optimal work efficacy, where work is viewed as human interaction with tools in a given socio-technical environment to produce a product. Proper and optimal ergonomic design of work-place is a necessity, both, in the industry and household. A human being, the key element of the system, is the most fragile and unpredictable element of it, despite substantial adaptive powers of humans. Human efficacy is affected by interaction with technical, material and social factors [1].

The basic principle of optimal work conditions is to take into account psycho-physical abilities of humans. When work requirements exceed the adaptive abilities of a human organism, mental and physical fatigue develops, as well as ailments and occupational diseases. Frequently, a spine is affected, which causes discomfort and strain. Spine is a part of the most complex biomechanical systems of human organism. Bony elements of the spine as well as joints, ligaments and intervertebral disc, function as a scaffolding, and are not sufficient for motor performance. Muscles enable motor activity and constitute a form of corset strengthening and stabilizing the whole system [2].

The patient should know, which situations and activities should be avoided and which are not harmful. In the Nachemson study, pressure values were determined for the intervertebral disc on the L_3 level in different body positions and during physical activities [3, 4].

Exhausting work performed for a long period of time, in poor ergonomic conditions, leads to the problems with lumbar spine. With advances in diagnostic techniques, more and more affections of the skeletal system are detected and classified. One of the criteria, applied to differentiate between diseases, is the time scale of degenerative changes. In accordance with the criteria, affections can be divided into those, which develop over a long period of time and back injuries. Longtime changes include innate abnormalities, degenerative changes and strain injuries, inflammatory processes, neoplasm, metabolic disorders and genetic disorders. Trauma resulting from transient forces can be divided into stable and non-stable. The scale of damage depends on the force, its direction and site. They usually combine, resulting in complex back injuries, which are difficult to treat.

All the diseases have one feature in common – they are inextricably connected with pain, making normal life difficult [2, 5].

The strain put on spinal structures, plays a direct role in the degenerative changes development. Unfavorable biomechanical conditions of work, extreme sports, the sedentary way of life or innate abnormalities, create favorable conditions for strains.

The key component of preventive measures and therapy of spinalgia, is physical education, including daily activities. In order to prevent affections of the musculoskeletal system, it is important to sleep on the appropriate surface. Mattresses should be flexible enough to adjust to the person's silhouette and to give relief to the back. The pillow should not be too high and flexible. Prophylactics or therapeutic exercises should include exercises, which can be performed not only at home, but also at work. The easiest ones to perform are stretching, hyperextension (performed every few hours) and isometric exercises of abdominal muscles. Training patients about safe lifestyle, safety at work and relaxation time, as well as combating obesity, are key elements of management of spinalgia. Furthermore, the patient should become aware of the close connection between health problems, performed work and lack of physical activity. Patients should know the difference between the correct spine loading during daily activities and strain [6,7].

It is essential to assume correct body posture during work, if problems with the musculoskeletal system are to be prevented. Proper standing posture is beneficial for human organism and keeping good posture significantly reduces the risk of the back problems and pain [8, 9]. It is important to prepare adequate working conditions, seat and seating position. The most unfavorable is lacked of lumbar support at 90 degrees angle. When basic principles of work ergonomics are known, problems can be prevented, making work more efficient, as less energy and materials is wasted.

The aim of the study is to determine the impact of poor ergonomics of work on the occurrence of lower-back pain in the selected occupational groups.

Materials and methods

Material: the subjects of the study were 90 people active in work, selected randomly in Pokarpackie Voivodeship, Little Poland and Lublin Voivodeship. The participants were divided into three groups, according to their occupation: surgeons, dentists and computer specialists (Table1).

Table 1. Characteristics of the examined population

Characteristic of groups	Variable	Number of people	% Values
Group I	Women	3	10
	Men	27	90
Age	Up to 30 years old	5	16.6
	31-50	17	56.6
	Over 50	8	26.6
Place of living	Village	1	3.3
	City up to 50,000	3	10
	50,000-100,000	15	50
	Over 100,000	11	36.6
Group II	Women	21	70
	Men	9	30
Age	Up to 30 years old	11	36.6
	31-50	15	50

	Over 50	4	13.3
Place of living	village	4	13.3
	City up to 50,000	3	10
	50,000-100,000	15	50
	Over 100,000	11	36.6
Group III	women	16	53.3
	Men	14	46.6
Age	Up to 30 years old	5	16.6
	31-50	15	50
	Over 50	10	33.3
Place of living	village	3	10
	City up to 50,000	4	13.3
	City 50,000-100,000	15	50
	City over 100,000	8	26.6

The study was conducted between November 1, 2010, and January, 2011. The study method was a diagnostic survey. The study tool was a questionnaire developed by the researcher and Barbara Headley Pain Scale, consisting of 14 questions, demonstrating the nature and extent of dysfunction caused by pain in different spheres of life with the use of 0-10 scale. The questions covered such issues as patient's perception of pain, ailments experienced at night, efficacy of painkillers, problems with sitting, still standing, walking, disturbances in daily life, performing household tasks, loss of control over other spheres of life due to pain. The study was anonymous and conducted with a person, knowing rules of filling in the questionnaire. On the basis of the answers analysis, the assumptions were made.

Results

The results of the research demonstrated that 73% of the respondents experienced back pain during performing work duties or other activities. 27% of them were computer specialists, 24% surgeons and 22% dentists. Only 27% of the respondents did not experience back pain. 18% of the surgeons, 20% of the dentists and 20% of the studied computer specialists had a correct body mass. 10% of the surgeons, 11% of the dentists and 11% of the computer specialists were overweight. 6% of the surgeons, 2% of the dentists and 2% of the computer specialists had the first degree obesity. The analysis of the results revealed that, most frequently, in all examined groups, the pain occurred in a lower back. 57% of answers related to this kind of pain, 20% of which were answers provided by surgeons, 19% by computer specialists and 18% by dentists. 31% of all answers related to the pain experienced in the cervical segment of the spine, and this was most often observed in the group of computer specialists (15% of all ailments). In all, 44% of the respondents indicated that they experienced chronic pain lasting more than three months: 12% of them were surgeons, 14% dentists and 18% computer specialists. The study showed that 14% of the surgeons and 15% of the dentists experienced only sporadic pain during the day. Computer specialists indicated frequent pain – 15% of all answers.

Responding to the questions about pain intensity, the subject usually indicated moderate pain: 21% of the surgeons, 18% of the dentists and 11% of the computer

specialists. Intense pain was experienced by 3% of the surgeons, 10% of the dentists and 12% of the computer specialists. 12% of the surgeons, 1% of the dentists and 8% of the computer specialists indicated that they had experienced only mild pain (Table 2).

Table 2. Pain intensity

Pain intensity, groups	Moderate	Severe	mild
Surgeons	21%	3%	12%
Dentists	18%	10%	1%
Computer specialists	11%	12%	8%

The analysis of symptoms experienced by the respondents during work showed that in the group of dentists, the most frequent symptoms are: numbness of upper limbs – 9%, and tingling sensation in the fingers – 8%. Surgeons usually reported numbness - 6% and pain in the feet - 5%. Headache at work was reported by 8% of computer specialists, 6% of dentists and 5% of surgeons. Headaches may result from a wearing of the cervical spine elements – the areas where pain was usually localized. IT specialists also indicated the other ailments (4% of the answers). The most frequent were: sore arms and restrictions in cervical segment of vertebral column. Dentists experienced back pain, numbness, which could result from pressure exerted on nerves by the intervertebral discs elements. In case of subjects, who did not report any problems with their musculo-articular system, the symptom could result from using devices emitting high-frequency vibrations. 11% of surgeons who reported pain, 14% of dentists and 4% of computer specialists were employed for up to 10 years. 11% of surgeons, 5% of dentists and 11% of IT specialists were employed for up to 20 years. And in case of 6% of surgeons, 7% of dentists and 18% computer specialists, the employment period was 30 years. 12% of the subjects had been working for over 30 years. The results showed that significant majority of respondents, employed for at least 20 years, experienced intense back pain. Only 4% of dentists and computer specialists who did not experience back pain did not do any physical activity in a daily life. 29% of surgeons, 13% of dentists and 13% of computer specialists claimed to train once or twice a week. 4% of surgeons, 17% of dentists and 8% of IT people claimed to train 3-5 times a week. 8% of dentists trained more than five times a week. Thus, many of the respondents claimed to train quite often. Physical activity improves nutrition of spinal structures, strengthens musculi-ligament structure and thereby prevents the occurrence of pain. Unfortunately, much bigger percentage of the respondents, complaining at the back pain, do not play sports: 17% of surgeons, 6% of dentists, 11% of IT people. 14% of surgeons train 1-2 times a week, whereas 5% of them train 3-5 times a week. Among all the examined subjects with back pain, IT people trained sports the most frequently. 23% of them claimed to train 1-2 times a week, 3% 3-5 times a week (Table 3).

Table 3. Physical activity

Group	Physical activity		
	lack	1-2 times a week	3-5 times a week

surgeons	17%	14%	3%
dentists	6%	18%	5%
IT personnel	11%	23%	3%

Analyzing the results of the Barbara Headley Pain Scale, certain connections can be noticed. Describing the ability to perform household chores with the 0-10 scale, where 0 means no difficulties and 10 - unable to perform task, most subjects claimed to have slight difficulties due to the pain, those were usually IT personnel. Most of the participants continued to work as before despite back pain or had to make some small changes in their duties. Considering the issue of lost control over the other spheres of life, where 0 means preserved control and 10 complete loss of control due to the pain, apart from certain subjects who claimed to have sustained control over their life, the majority of participants lost their control to some degree.

Discussion

Epidemiological studies and clinical experience show that problems with the motor apparatus are one of the most prevalent health problems. It can be inferred from the results that certain professions are more exposed to the back problems and back pain development [10]: staff employed in health sector, social welfare, transport and commerce.

Furthermore, working on the computer, in an incorrect position, and repeating the same activity, causes static strain as the load put on the muscles, and skeletal system is not evenly spread. Epidemiological data show that 33% of employees suffer from back pain, 23% fatigue, 23% muscle pain, including neck-ache and pain in the nape of the neck, 13% complain about painful arms and 12% legs [11].

The results of the research on the group of surgeons, dentists and IT specialists demonstrate that problems with the musculoskeletal system constitute a real problem and effect 73% of the participants of the study. 57% of them indicated problems with lower back, 31% neck and nape of the neck, 29% speak about radiating pain to the legs and 8% complain about pain in the feet.

The results of the Bartuzi et al. [12] study showed that IT personnel usually complained about lower-back and cervical spine problems, and indicated those spinal segments as causing the most intense pain. Present data gathered from current literature on health problems of IT personnel [13] show that every third employee working on the computer, complains about sore arms and hands, but problems are usually localized in the neck and shoulder's areas. This study confirms the occurrence of problems with the motor system in IT personnel. Back problems were found in the majority of the subjects. Usually, cervical and lumbar segments were affected. Employees working on the computer workstations also indicated pain radiating to the upper arms and painful shoulders. Personnel with the same employment period, working on computers, complained about back pain more often, when the working hours were longer.

Bugajski et al. [14] found that people working on computers for the average 48 hours a week for three years, were significantly obese. This study shows that IT personnel with a long period of employment, working over 8h a day, is usually

overweight. Thus, the study confirmed that sedentary lifestyle lasting many years, not sufficient free time that could be devoted to physical activity, leads to the body weight increase.

IT specialists, who were physically active, complained about pain less frequently. Studies conducted by Bernaard, Arien et al [15] demonstrated that the lifestyle changes of people working on the computers, which include more physical activity, are beneficial. Changes in work set up and introduction of recreational sport, reduced the occurrence of neck-ache and shoulder pain. Overall effect was greater, when the workers not only changed the way of performing their work duties, but also introduced sports into their lives.

The Polakowska and Głuszcz-Zielińska [16] study on 31 dentists employed in Industrial Specialist Health Center, with the average working period of 20 years, showed that all of them complained about problems with motor apparatus or peripheral nervous system. The problems had different nature and degree. Increased risk and incidence of arthropathy after years of employment, as a result of working in an enforced position, was demonstrated also in the other research [10].

This study has shown that 100% of dentists employed for over 20 years have some sort of problems with the musculoskeletal system. The results of the study and data gathered from the available literature, demonstrate that various strains resulting from unphysiological enforced positions, finally, culminate and lead to health problems.

Among the symptoms that can be found in the literature, there is numbness, tingling sensation in the fingers, stiffness of hands, arthralgia, pain in the feet. Numbness in upper limbs, paraesthesia in fingers and reduced efficiency of hands can be caused by the primary degenerative changes or dicopathies located in the upper spine segment. This study revealed that 9% of the studied dentists experienced numbness of upper limbs, 8% tingling sensation in the fingers and 3% pain in the feet – employees working in standing position. These complaints were often made by young dentists, not really feeling pain, which suggests that the symptoms may result from changes in spinal structure, but also from the use of the equipment emitting vibrations.

Dentists see their work environment as adequately prepared and, at the same time, rarely complain about problems with the musculoskeletal system (24%). Surgeons view their environment as unprepared (16% and 13% of IT specialists).

In addition, most of the respondents (33% of the surgeons, 11% of the dentists, 22% of the IT personnel) were not trained in ergonomics. Only 1% of the examined surgeons admitted to undergoing training, 11% of IT personnel and 22% of the dentists.

Conclusions

1. Excess weight and obesity are the significant problems in the examined group (42% of the subjects). The spine gets additional strain because of that, and this results in the increased pain during work.
2. Physical activity can have beneficial effect on pain reduction during work. Only 8% of the subjects who did not indicate any problems with the musculoskeletal system, were not active in sports, and as much as 34% of the subjects who complained about back pain were not physically active.
3. Problems with the musculoskeletal system result not only from enforced posture during work, but they are also caused by stress that significantly increases the level of pain. This is especially noticeable in the group of surgeons who change their

postures over the course of their work, and yet they claim to feel the significant level of pain.

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The problem of social service workers exposure to stress

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Introduction

According to Merecz [1], workers of health care and other social services, in their professional work, "face" something of the highest value – life and health of a human being in its every dimension: physical, psychological, spiritual and social. Unfortunately, the psycho-social factors connected with the professional activity, are the elements which are often underestimated, and, which obviously influence the quality of a performed work [1]. The definition of the World Health Organization, 1993, says: *"the psycho-social threats are related with interaction between work essence, work organization, management systems, work environment conditions and competences, needs and individual features of a worker"* [1].

It is claimed that the psycho-social risk connected with the work relates to those aspects of planning and managing the work – also in its social and organizational context – which can cause the psychological or physical traumas [2].

Development

The mental stress often occurs in various areas of a professional life, and basically, there is no such work in which there would be no mental stress, and the workers, as well as the employers always face the requirements connected with indispensable task's performance or the need of adjusting to the changing reality.

The results of the researches conducted in the framework of the Northwestern Nation Life [3, 4] has shown that 40% of respondents consider their work to be extremely stressful, and 29% feel stress connected with the performed work. The researchers associate it with the fact that the place of work and position the respondents to hold, have become to them the source of numerous difficult and overwhelming situations [3, 4]. The United Nations called the work stress "a world epidemic of XX century" [4].

According to Widerszal-Bazyl [2], it seems that when discussing the sources of social service workers stress in work; one can refer to two models: I → Requirements-Control-Support model and II → lack of balance between effort and reward model.

The first model assumes that a level of stress is determined by the interaction of three fundamental dimensions of work environment:

- number of requirements that the worker has to cope with
- control level – meaning, a possibility to decide what and how to do something, as well as to choose the working conditions
- social support received in work [2].

The second model, developed by a German medicine sociologist, Segrist [5], is based on a general belief that every relationship between people can be treated as a process of a mutual exchange (we get something from others, and we give something to them). Everything is all right, until it is fair, i.e. both sides are convinced that their contributions and benefits are in balance. The Siegriest's model assumes that the work stress occurs, when the effort put in work is bigger than rewards gained as a result of performing it [5].

From a viewpoint of stress development, the most disadvantageous situation occurs, when a big number of requirements is accompanied by a low level of control and social support [2]. In such situations, an individual is devoid of basic sources to deal with big challenges. There are not enough freedom and possibility to cope with them alone (low control level), and to receive help from the others (low social support level) [2].

Based on professional literature, we can distinguish several work aspects, which cause psycho-social risk [2]:

- work subject – lack of variety of or short working cycles, fragmentary or senseless work, not using worker's skills, great uncertainty, necessity to meet people,
- workload and work pace – too much or too little work, working at forced pace, high time pressure, constant deadline pressure,
- time frameworks of work – shift-work, night shifts, inflexible working time, unpredictable working hours, long working time or working time disturbing social relationships,
- control – limited possibility of participation in decision-making, no influence on workload, work pace, shifts, etc.,
- environment and device – inaccessible, unsuitable or badly treated device, bad environmental conditions: lack of space, not enough light, too high noise level,
- organization culture and functions – bad communication, insufficient support in problems solving and personal development, undefined or undetermined organization aims,
- relationships between employees – social of physical isolation, bad relationship with superiors or co-workers, interpersonal conflicts, lack of social support,
- role in organization – unclear role, role conflict, responsibility for people,
- career development – stagnation and uncertainty of career course, no too rapid promotion, low salary, uncertainty of having job, minor social significance of work
- relationship home-work – conflict between work and home requirements, insufficient support at home, problems with career of both spouses.

Analyzing the professional literature, one can encounter a concept of "occupational stress," which is essential from the viewpoint of stress influence on the working process, and is defined as, *"incompatibility, experienced by an individual, between environmental requirements (related to performed work) and personal/situational resources of the person, accompanied by various psychological, physical and behavioral symptoms* [6].

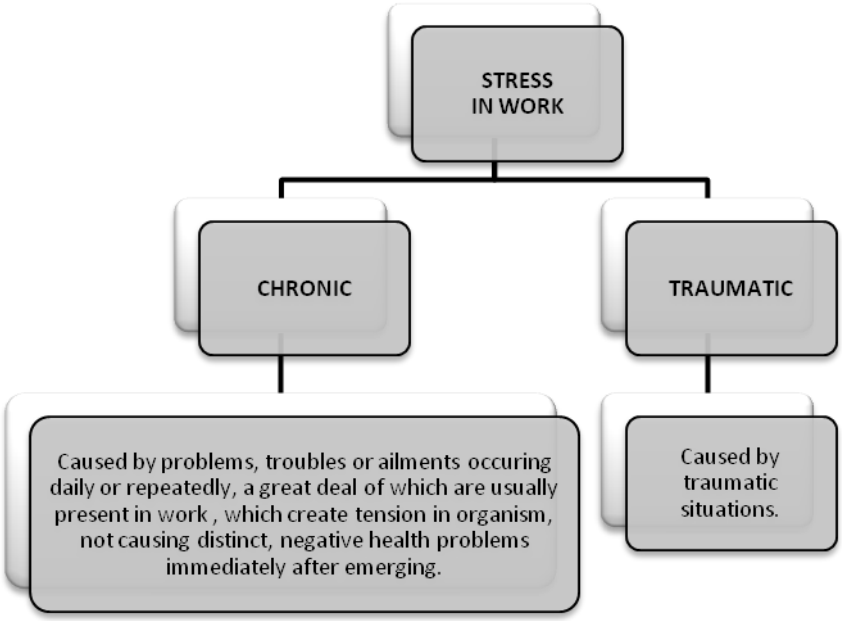

Figure 1. Stress in work

In Dudek's opinion [7], one can experience two kinds of stress in work, chronic and traumatic.

The development of posttraumatic stress disorder – PTSD, was first mentioned in 1980. In the beginning, this concept was concerned only with psychological aspects of posttraumatic stress, but in subsequent years it was extended, and considered numerous somatic disorders, including cardiovascular system disease's development. PTSD is a protracted reaction on stress, caused by extremely overwhelming, traumatic mental experiences, connected with decompensation of internal discharge, mainly in hypothalamus-hypophysis-adrenal gland axis [8]. The creation of PTSD is determined by conjunction of factors, occurring in three periods:

- pre-traumatic – including two groups of factors: features shaped before one encountered a traumatic situation, which predisposes one to react in a specific way and to evaluate the occurring phenomena in the environment; and a state in which one was, before experiencing trauma,
- traumatic – being a period in which the traumatic situation happens and affects a person continuously; the strength and kind of the experiences are determined by a character of traumatic situation, its physical parameters and psychological meaning; a function of the situation in PTSD development is determined not as much by its objective characteristics, as by the subjective perception of it, cognitive representations of the situation, which are created in one's mind,
- post-traumatic – beginning in a moment, when the traumatic situation ceases to exist, but is still present in one's mind. It is a period in which alternately occur importunate memories, attempts to process the information which is derived from the traumatic situation, assimilating it into cognitive structures one posses. In this stage, the strength of experienced emotions is determined by one's features:

emotions level during traumatic situation, remedial strategies, which can be directed at lowering the emotion's level or at solving a task, and social context in which one functions [7].

The research conducted on a representative group of American society has shown that 61% of men and 51% of women have been exposed to traumatic situation during their lifetime [9].

Cherny, Coyle and Foley [10] claim that, generally, doctors are expected to be able to deal with the stress, connected with communing with suffering patient and his family, with a sense of loss and mourning. They also created a list of factors affecting them in a stressful way, including:

- high patients mortality rate
- necessity of making decisions, which affect patient's life and dying, often hampered by complex circumstances,
- high expectations from the doctors,
- conflicts within a staff
- sense of patient's being dependent,
- decrepitude, changes is appearance, physical deformity,
- very bad mental state of patients and their families [63],
- factors related to pain and stress caused by treatment.

It is worth emphasizing that, as a rule, stressful factors in working with patients with cancerous disease include:

- uncertainty and concerns about relapse
- frequent and very serious side effects after antitumor treatment,
- in most cases, necessity of applying palliative treatment instead of casual treatment,
- difficulties in making decisions on treatment (especially in case of progressive disease), which can cause side effects or even patient's death,
- difficulties in communication with patient and his family during treatment – controlling their reactions,
- a lack of understanding of situations and stress doctors are exposed to by people from the outside of the work environment [11].

In Cherny and co. opinion [11], there are some more factors intensifying health care workers' stress, such as:

- emphatic co-suffering with the family,
- physical disease (exposure to somatic aspects of the disease, symptoms which are troublesome and difficult to soothe, patient's decrepitude),
- burden of care (emotional commitment; making frequent decisions related to life and death, frequent "communing" with death, frequent exposure to extreme mental stress),
- depending on patient: high expectations from the doctor, total physical and emotional dependence on the doctor, patient's progressive decrepitude, high mental and emotional stress of the patient,
- of an aesthetic nature: deformation of patient's body, unpleasant smell, extensive wounds,
- contact with patients with contagious diseases, also AIDS,
- considering cancer to be a stigma,
- mental disorder and mental disease of the patient,

- inadequate "back-up" (insufficient training in dealing with patients and their families problems, lack of support and help, excessive workload),
- conflicts (with colleagues on substantial and over substantial matters; with patients and families),
- conflicts in the face of making difficult decisions in unfavorable circumstances,
- conflict between a duty of taking care of terminally ill, and finding time for satisfying one's own needs,
- of a psychological nature (fears, depression, sleep disorder, abusing medicines and drugs),
- of an existential nature (state related to previous experiences, reducing value of previous achievements, feeling guilty because of the limitations of treatment effectiveness, apprehension, feeling lack of sense, fear of death).

In Kliszcz and co. opinion [12], nursing, as an occupation of a generating stress nature, seems to be a particularly interesting area for the researches on the factors affecting functioning in work and relationships with other people, as the interpersonal relations between nurses and patients, or co-workers, are characterized by great intensity of emotions, often the negative ones. According to the authors, the results of the research they conducted, show clear tendency for suppressing negative emotions in the groups of nurses with the shortest and medium time of vocational experience [12]. Simultaneously, in the first to the above-mentioned groups, there was noted an intensified level of fear. The nurses were also characterized as accumulating negative emotions, which might be connected with the occurring fear and depression. Those variables interacted and intensified one another. In the authors' opinion, one should create conditions to teach them how to deal with anger in a way that would not develop their resistance and feeling guilty [12].

In Whitfield's opinion [13], the most difficult for nurses are friendly relations with patients being their age, because at the moment they are dying, the nurses can feel guilty of their death, be afraid of their own death or get depressed. The author has shown that 61.5%% of responding nurses found it difficult to deal with their feelings, connected with the patient's passing. Because, as a rule, feeling strong emotional bounds in the patient/family-caretaker relation entails highly personal nature of the relationship between them. Moreover, the specific features of work in the palliative care, e.g. permanent contact with incurable diseases, suffering and death, necessity of being constantly alert in a controlled way, pressure related to heightened expectations from staff - who, in general, opinion, should be sensitive to many situations - communing with many patients at different stages of the disease, as well as identifying emotionally with a patient, being disappointed with medicine helplessness, especially in case of cancerous diseases, increase the possibility of getting a sense of senselessness and aimlessness of the work [13].

The reflection of it can be found during the research conducted by Sauders in one of the American hospitals [14]. Its subject was the reaction time of nurses on a patient's ring. The research has shown that the longest procrastination took place, when the nurses were supposed to go to the most ill [14].

Grugała [15], analyzing the group of 100 nurses, who work in cardiology department and intensive cardiologic care, in a system of twelve-hours shifts, in five cities of south-east Poland, has shown that they find their working environment to be full of stress, being a result of difficult situation's specificity. More than a half of the

respondents exceeded the average stress level, and were classified to a group, where its results may be manifest themselves as somatic disorders [15].

Jośko and co. [16], in the research conducted between 158 doctors of different specializations, working in Silesian Medical Academy and in regional hospitals within the Silesia area, has shown that they constitute a social group with high level of dissatisfaction about their working conditions, salaries, work organization and training system. 97, 4%% of them claimed that their salaries were too low, 75.7%% of which claimed that they were much also low. The system of teaching was also regarded as inadequate. 57% of the respondents thought that too much time during studies was devoted to a theory, and too little to a practice. About 28% of the doctors often felt helpless before their patients and were not able to help them, using conventional healing methods. The group of doctors taking part in the research felt highly stressed, and the stress level – in 1-5 scale – for 29.1% of them was 4, and for 38,6% it was 5. Almost 47% believed that they were not able to deal with the stress in work, 12,6% of which admitted that they needed help in that matter. Up to 87.3% of the respondents were jealous about working conditions of the doctors in the other countries, and 63.3% of them wished to go abroad and work there [16].

Conclusions

The above shows that there are occupations in which the exposure to traumatic situations is a part of a professional role. These include health-care workers and social workers (e.g. policeman, fireman, psychologist, rehabilitation pedagogue, sociologist).

The aforementioned occupations, as well as all the others in which the work with people, close contact with them and helping them is essential, can encounter an occupational burnout. The specificity of medical and social services, as well as the stress resulting from their characteristic organization and performance condition, accompanying the work based on a close contact with ill or disabled people, in the face of wages making financial independence impossible and causing lack of sense of security, with faint possibility of promotion and development at the same time, more and more often cause disappointment and losing faith in the rightness of the occupation idea [16 - 21].

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PROBLEMS OF SOCIAL MEDICINE

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Attitudes to drinking among students of the Medical University of Gdańsk

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Introduction

University students, upon reaching maturity, achieve the peak of physical fitness and experience plenty of psychological satisfaction, coping at the same time with a lot of stress and conflicts. The studies relating to attitudes and behaviors share the thesis that subtle situational variables often affect our behavior. [1]. Therefore, young adults (aged 20-35), demonstrate various attitudes to the consumption of psychoactive substances [2]. However, medical students, due to the specific character of the profession, constitute a special group which should be characterized by a model attitude to the use of addictive substances.

The reason why numerous researchers are interested in the topic of attitudes to drinking is a search for a connection with health-related behaviors. In order to understand what factors decide that sometimes the behaviors depend on particular attitudes, it is necessary, according to Wojciszke, 2006, p. 202 "(...) to aggregate behavior-related data and specify the attitude measured", accordingly.

The term "attitude" was introduced by W.J. Thomas and F. Znaniecki in 1918 in the introduction to "Polish Peasant in Europe and America" to denote attitude as a value which can be the subject of discussion [3].

Their work initiated the development of attitude measuring methods and a great diversification of the very notion of attitude, resulting, among others, from the complexity of the phenomena included in the scope of its definition. In time, the authors - M.B. Smith, (1947); D. Katz and E. Scotland (1959) as well as Polish authors - S. Mika (1966); T. Mądrzycki, (1970) and S. Nowak (1973) of the works on attitudes assumed that attitudes have a complex structure. Nowak (1973) suggested a three-element definition of attitude which says: "A person's attitude to an object is a body of relatively lasting dispositions to evaluate this object and emotionally react to it, and any relatively lasting convictions about the nature and features of this object and the relatively lasting dispositions to behave towards this object, accompanying these emotional and evaluative dispositions" [3].

Attitudes can be short- or long-lasting. They usually reveal a person's views and willingness or inclination to certain non-linguistic behaviors, or even exclusively lasting behaviors of the person. The objects of attitudes can be people, their problems, theories, ideas, events, situations, institutions and social phenomena [4].

Wojciszke (2006) states that "a person's attitude to an object (person, thing, event, idea) is a relatively lasting tendency to judge this object positively or negatively

by this person". Such a definition suggests that the essence of attitude is the judging dimension – the tendency for placing a person on a bipolar continuum of the object – from extremely negative to extremely positive [5].

The above definitions of attitudes indicate that attitudes are subjective and arise from our past and present experiences with a particular object or category of objects [5].

A simple and precise definition is given by Sęk (2007), who considers health-related behaviors as "reactive, habitual and/or intentional forms of human activity which are – based on the objective knowledge of health and subjective conviction – significantly and mutually related to health" [6].

The definitions quoted to indicate that health-related behaviors "spring" from individual systems of views – the attitudes controlling the individual's perception and making it possible to understand their meanings. Since their early childhood, people acquire strong views on particular health-related behaviors, activated by particular health symbols. The views, especially associated with strong moral symbols, can be handed down and reproduced from generation to generation. Hence, as suggested by Zaborowski (2004), any actions addressed to our society can bring the desirable health effects if they are directed to the population at a very early stage of development. And health awareness at a mature age combined with a strong health-promoting identification, and motivation can lead to the changing of risky behaviors [7 - 9].

In ICD – 10 classifications, psychoactive substance abuse is called harmful use. This non-adaptive behavior model usually accompanies students at numerous occasions such as drinking to passed exams or as a solace in the event of failure. Drinking becomes a source of joy and a way of coping with life. Literature on the subject indicates that psychoactive substance abuse quite quickly results in the appearance of different harmful effects on health, manifesting themselves as physical, psychological and social problems [10, 11].

The studies conducted among 40% of 1st-year students of the University of Warmia and Mazury show that regardless of their permanent place of residence, as many as 73% of the respondents declared that they drank alcohol, and the female students examined (52.7%), more often than the men, expressed the view that alcohol should be available on the university premises – in clubs and shops [12].

A nationwide study within the Students 2000 project, conducted in 2010 among students of 40 universities, including medical universities, by the Psychological Society Institute of Psychology, ordered by the State Agency for Prevention of Alcohol-Related Problems (PARPA), showed that the most frequent problems occurring after the consumption of alcohol by the respondents were: hangover (51.61%), missing classes (24.53), doing something they regretted later on (21.80%), not remembering where they were and what they did (12.11), an argument with friends (11.13%) and lower academic achievements (10.66) [13].

Another nationwide study showed that risky drinking among medical students was evident in 46.5% of the respondents, while 4.3% of the students pointed to alcohol problems [14].

The studies mentioned indicate that the consequences of alcohol abuse by students are, on the one hand, biological and health effects and, on the other hand, socio-economic ones. The principal problems occurring in alcohol abusing young people include self-destruction of those addicted to alcohol and damage to the physical, psychological and mental development [15]. However, in order to understand why some of them become susceptible to the intake of and addiction to particular psychoactive substances, we should take into account a number of co-related factors: socio-

demographic factors, personality traits, methods of stress management, cognitive and emotional factors, localization of the sense of control, the sense of one's own effectiveness, attitude to life (optimism – pessimism) and others, which contribute to the development of addictions.

The results obtained by other researchers point to the necessity of investigating the above phenomenon among medical students and formulating interventions and prevention programs.

Materials and methods

The study participants were students of the Medical University of Gdańsk (MUG). In the year 2009/2010 there was 3896 students (2901 women and 995 men) of the Medical University of Gdańsk. The study included 423 students (309 women and 114 men), the mean age in the study group was 22.9 years (SD=4.56). In the year 2009/2010 there was 3896 students of the Medical University of Gdańsk The study method was the diagnostic survey, and the study technique was the anonymous on-line questionnaire developed by Prof. Mieczysław Ciosek and Regina Żuralska. The invitation to the study was sent to the students' e-mail boxes. Each student, upon logging on the extranet website of the MUG, was able to voluntarily participate in the study. In addition, each study participant was given a unique code ensuring anonymity. The participants were asked to answer questions regarding attitudes, e.g. Alcohol bolsters up courage; Alcohol causes damage to health. Attitudes were measured by means of the Likert's scale: Yes – Rather yes – Difficult to say – Rather not – No. The answers were attributed the following numerical values: Yes=5, Rather yes = 4, Difficult to say = 3, Rather not = 2, No = 1. The scale of attitudes to alcohol comprises 26 levels, of which 13 refer to the so-called positive effects of drinking, and 13 questions concern negative effects of alcohol abuse. On the basis of the questionnaire, it is possible to analyze particular answers to the questions, make generalizations and sum up the scores for the questions concerning the positive effects of drinking, obtaining a numerical measure of the level of acceptance of drinking on a scale from 13 to 65 pts. Summing up the scores for the questions defining the negative effects of drinking, we obtain a result indicating the degree of disapproval, also ranging from 13 points (low level of disapproval) to 65 points (very high level of disapproval). The ratio of the acceptance level to the disapproval level forms the indicator of the general attitude to drinking. The statistical analysis was conducted using the software package Statistica No 8.

Results

The study findings have been presented in two parts. The first (analytical) part presents an analysis of the students' answers to the questionnaire on attitudes to drinking. And the second part presents an analysis of the connection between attitudes and selected socio-demographic factors.

A. Analysis of the students' answers to the questionnaire on attitudes to drinking

The analysis was initially conducted on the basis of thirteen questions on the harmful effects of drinking. Then, the answers to the questions on possible benefits of drinking were analyzed.

Table 1. Ranking of opinions on the harmful effects of drinking

Questions concerning negative attitudes to drinking	Cumulative percentage of "rather yes" and "yes" answers
Alcohol causes damage to health	92.4%
Alcohol causes numerous complaints	91.6%
Alcohol leads to premature death	89.0%
Alcohol impairs memory	85.6%
Alcohol abuse destroys friendships	84.8%
Alcohol makes it difficult to study	83.9%
Alcohol "ruins" families	82.6%
Alcohol is the principal cause of road accidents	82.4%
Alcohol causes negligence of work duties	75.3%
Alcohol leads to crime	65.8%
Alcohol adversely affects mental health	65.2%
Alcohol is the principal cause of interpersonal violence and aggression	54.9%
Drinking leads to poverty	52.1%

Table 1 presents a ranking of students' opinions on different kinds of harmful effects of drinking. The majority (over 50% in each case) of students point to a negative effect of drinking in the listed areas of harmful effects of drinking. More than 89% of the respondents reply that alcohol is harmful or rather harmful to health, causes numerous bodily complaints and leads to premature death. Next (from 82 up to almost 86%), the respondents stress the negative effects of alcohol on human cognitive functions such as memory and learning. In this range, students also point to alcohol as the cause of road accidents and its negative impact on family relationships. In the range from 60% to 80%, the respondents point to negligence of work duties, committing crime and deterioration of mental health due to drinking. They attach the least importance to alcohol as a factor leading to poverty and the cause of interpersonal violence and aggression.

Then followed an analysis of these questions of the survey (13 questions as well) which concerned the positive effects of drinking on different areas of human life. The results are presented in Tables 2.

Table 2. Ranking of opinions on the harmful/positive effects of drinking

Questions concerning positive attitudes to drinking	Cumulative percentage of "rather yes" and "yes" answers
Alcohol bolsters up courage	77.7%
The right dose of alcohol gives a lot of pleasure	68.5%
Alcohol makes it easier to initiate social contacts	65.8%
Alcohol helps to forget about problems	42.0%
Alcohol gives a boost	35.7%
Alcohol effectively relieves physical pain	35.3%
Alcohol stimulates creativity	19.1%
Drinking is "the done thing"	13.9%

Drinking brings more benefits than harm	8.4%
Drinking helps to deal with many important matters	7.4%
Alcohol is the best remedy for stress	5.0%
Alcohol helps you to stay healthy	4.8%
Alcohol is helpful at work	0.7%

The respondents' answers to the questions concerning the positive effects of drinking indicate that more than 65% of the students surveyed believe that alcohol bolsters up people's courage, gives quite a lot of pleasure and facilitates making social contacts. From 35 to 42 percent of the students state that alcohol helps to forget about problems, relieves physical pain and gives a boost. About 1/5 of the respondents believe that alcohol stimulates creativity and some 14% claim that drinking is the "done thing". Under 10 percent of the students answer "yes" or "rather yes" to the questions whether drinking brings more benefits than harm, whether drinking helps to deal with many important matters, whether alcohol is the best remedy for stress and helps to stay healthy. Almost 1 percent replied affirmatively to the question whether alcohol is helpful at work.

B. Relationships between attitudes to drinking and selected socio-demographic factors and questionnaire data

Using the calculation procedures described in the introduction, the following three quantitative variables were obtained:

1. Variable based on the 13 questions concerning a negative attitude to alcohol which can be provisionally called the attitude of "disapproval" of drinking.
2. Variable based on the remaining 13 questions concerning positive opinions on the effects of drinking on different areas of human life. The variable can be provisionally called the attitude of "acceptance" of drinking.
3. Variable defining the relation between the acceptance attitude to drinking and the disapproval attitude to it.

a. Gender and attitudes to drinking

The results are presented in Table 3. The statistical inference conducted allows us to reject the hypothesis on the equality of the averages relating to the attitudes to drinking measured in women and men. The data contained in the table indicate that there is a statistically significant difference in the intensity of attitudes relative to the gender. And so, women represent a weaker attitude suggestive of positive effects of drinking than men. At the same time, women express a higher degree of disapproval of drinking, stressing the negative effects of drinking more intensely than men. These results also affect the general attitude to drinking expressed as a ratio of the accepting attitude to the disapproving one.

Table 3. Comparison of attitudes to drinking relative to the gender

Variable	Average woman	Average man	t	df	p	Standard deviation - woman	Standard deviation - man
Accepting attitude	32.76	35.24	-2.85	392	0.004	7.77	6.54
Disapproving attitude	55.54	51.34	5.05	391	0.000	6.94	7.31
Accept./Disapp. ratio	0.61	0.71	-4.03	379	0.000	0.20	0.20

b. Marital status and attitudes to drinking

A similar analysis was conducted in relation to the role of marital status. A statistically significant difference was found here too. Unmarried male and female students exhibit a greater intensity of accepting attitudes to alcohol, a lower level of disapproval and, consequently, a more tolerant attitude to drinking than married men or women. The results are presented in Table 4.

Table 4. Comparison of attitudes to drinking in relation to marital status

Variable	Average spinster / bachelor	Average married woman / man	t	df	p	Standard deviation - woman	Standard deviation - man
Accepting attitude	33.60	29.96	2.49	392	0.013	7.50	6.62
Disapproving attitude	54.12	59.20	-3.77	391	0.000	7.17	6.24
Accept./Disapp. ratio	0.64	0.52	3.19	379	0.001	0.20	0.14

c. Age and attitudes to drinking

The correlations between age and attitudes to drinking are presented in Table 5.

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Table 5. Correlations between attitudes to drinking and age

Variable	How old are you?
Attitude of acceptance	-0.1218 p=.017
Attitude of disapproval	0.1895 p=0.000
A/D ratio	-0.1588 p=0.002

The results obtained indicate that there are statistically significant, although not high, correlations between age and attitudes. Correlation coefficients show that the older the age the lower the degree of acceptance of drinking and the higher the level of the attitude of disapproval.

d. Age of getting drunk for the first time and attitudes to drinking

The results are presented in the tabular (correlation values and significance). The age of getting drunk for the first time was grouped in age brackets in such a way that the higher the bracket number, the lower the age of alcohol initiation.

Table 6. Correlations between attitudes to drinking and the age of getting drunk for the first time

Variable	When did you get drunk for the first time?
Attitude of acceptance	0.3130 p=0.000
Attitude of disapproval	-0.2964 p=,000
A/D ratio	0.3328 p=0.000

According to the data presented in Table 6 there is a statistically significant relationship between the age of getting drunk for the first time and attitudes to drinking. The younger the age of getting drunk for the first time, the lower the level of disapproval.

Discussion

This study indicates that the majority of the students of the Medical University of Gdańsk demonstrate a negative attitude to drinking, enumerating more negative than positive effects of drinking. Regarding the negative effects, the students mainly emphasize the harmfulness of drinking to physical health and as a consequence, the shortening of life span. Relatively, less importance is attached to the socio-psychological

consequences of alcohol abuse. It seems that the emphasis on the negative effects of drinking can be related to the character of the studies with a predominance of biological issues in the teaching of students. As regards the positive impact of drinking, the MUG students point to the positive effects of drinking in the socio-psychological domain. A substantial number of the respondents stresses such positive features as the positive impact on the improvement of social contacts, courage and mood, i.e. the pleasure experienced. In this domain, however, the students' views are rather based on their own experience. However, such a substantial percentage of the respondents with a positive attitude to drinking may indicate that the attitude of abstinence among the MUG students is rare. Similar observations can be found in the work of the researchers studying the phenomenon [14].

However, many authors studying attitudes to drinking among students note the positive relationship between the attitudes and behaviors and the related problems [16]. A similar conclusion can be drawn based on the results obtained from the MUG students.

The second part of the analyses and results from points to certain relationships between the attitudes expressed by the students examined and selected socio-demographic factors.

These analyses show that female students view the phenomenon of drinking more critically than male students. According to some studies, this phenomenon is also characteristic of the population in general, not only the student population. The marital status too affects attitudes – single people present more liberal attitudes to drinking than married ones. Even intuitively, this result seems quite obvious.

As it appears, an important role in the development of attitudes to drinking is played by the age of alcohol initiation. The younger the age one gets drunk at, the higher the level of acceptance of drinking, which is a similar conclusion to those published by Al - Hagwi, 2010 [17].

To sum up, it is worth mentioning that the advantage of the study, apart from finding out the attitudes to drinking among the MUG students, is the fact that it established the relationships between the attitudes and selected socio-demographic factors, which contributed to a better understanding of the phenomenon and higher predictability of actual behaviors.

Additionally, it must be stressed that in order to understand how the attitudes to drinking among the MUG students can be changed, it is necessary to broaden the studies by adding the affective and behavioral components of attitude.

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Student's views on the retrieval of transplantation organs from living donors

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Introduction

The idea of substituting healthy tissues and organs in the place of those that are diseased is long-standing and has, in all probabilities, accompanied the humankind from its very beginning. It has stimulated the development of a scientific discipline known as transplantology. Although the evidence for the early transplantations can be found in the Renaissance, the evolution of this medical specialty took much longer, and the dynamic development of transplantology as a scientific branch of clinical medicine took place no earlier than in the second half of the 20th century.

Worldwide, including in Poland, transplantation has become the standard form of treatment. However, transplantology has no equal among the other areas of medicine in terms of the numerous controversial questions it raises in regards to its medical, legal, ethical, and social aspects. The underlying dilemmas deal with the idea of a human being as a living creature. The transplantation procedure involves both the diseased individual, for whom the graft represents the only hope for restoring health, and another human, a living or deceased donor of the organ.

The late Latin term *transplantare* (to graft, *plantare* – to bud), was popularized as *transplantacja* (transplantation) in Polish language. This term corresponds to the procedure of surgical transplantation of cells, tissues, or entire organs from the body of the donor to the body of the host [1].

According to R. Góral *transplantation refers to surgical translocation of tissue or entire organ (graft) performed in certain conditions, from one site to another in the same patient, or from one individual (donor) to another one (host), in order to complement the loss of tissues or restore function* [2].

Based on the relationship between the donor and the host and the degree of their genetic similarity, the following types of grafts can be distinguished:

- Autogenic (autologous) grafts – tissues or organs removed from one site and applied to another site in the same person (e.g. skin transplantation to repair a burn wound, transplantation of veins to the arterial system);
- Isogenic (syngenic) – a rarely performed procedure of transplanting tissue or an organ between two genetically identical individuals, i.e. monozygotic twins;

- Allogenic (homologous) grafts – transplants between two members of the same species who are not identical genetically; an example of allogenic transplantation is organ transplantation in humans;
- Xenogenic (heterogenic) grafts – transplants from one species to another (animal organs transplanted into humans); host' response is particularly strong due to species-related differences and, therefore, this type of procedure is currently a subject of clinical trials [3- 5].

Evaluation and selection criteria of transplant donor

Most commonly, organs for transplantation are obtained from deceased individuals, and less frequently from living donors who are genetically or emotionally related to the host.

According to the Polish Transplantation Act of July 1st, 2005, cadaver transplantation can be performed if a persistent and irreversible loss of brain function has been confirmed in a deceased individual, and such person did not refuse retrieval of cells, tissues, and organs during his/her life [6]. Living organ donation can be made by a donor who is directly related to the patient (sibling, parent, other relative) or by an individual who is emotionally attached to the host, e.g. spouse or cohabitee [7].

Clinical evaluation of the potential donor includes determination of the cause of death, analysis of the medical history, exclusion of absolute and relative contraindications, and tests performed to eliminate the risk to the recipient and living donors associated with harvesting and transplantation of organs [6, 8, 9].

Concurrently with the progress in knowledge and an increasing demand for organs, the contraindications for transplant harvesting are not adhered to as restrictively as previously. Until recently, the presence of relative contraindications was considered sufficient to refuse organ harvesting for transplantation purposes. Unfortunately, a continuous increase in the number of individuals awaiting transplantation along with a simultaneous decrease in the number of declared donors have been reflected by a constant reduction in the number of contraindications for organ harvesting [10].

The absolute contraindications include:

- AB0 incompatibility of blood types
- Presence of antibodies against HIV and *Treponema pallidum*
- Malignancies (with the exception of central nervous system malignancies with low extra-cranial metastatic potential)
- Sepsis
- Systemic diseases that damage the organs (collagenoses, amyloidosis, systemic sclerosis)
- Type 1 diabetes.

The relative contraindications include:

- Positive serological testing for hepatitis B and C
- Chronic alcoholism
- History of abdominal or chest injuries
- Long hospitalization at an intensive care unit (prolonged administration of pharmacological agents with toxic effects on various organs)
- Abnormal results of laboratory tests [10].

In the case of living donors, the contraindications to organ procurement also include psychological factors. Any premise of acting under duress constitutes an

absolute contraindication for harvesting the kidney from a living individual. Therefore, a discussion with potential donor should take place in the absence of the host and members of host's family, and the consent for organ harvesting is required to be in writing. The donor should be provided with sufficient information with regards to the potential consequences of his/her decision. Subsequently, detailed examination of the donor is required in order to ensure that the transplantation procedure will not be harmful to his/her health. During the qualification process, immunological tests, a thorough physical examination, and an array of laboratory tests and other diagnostic procedures assessing the general health status of the donor as well as the function and structure of his/her kidneys, are performed. Final evaluation of the potential donor and the host of the kidney should take place at the transplantation center and involve a nephrologist, a surgeon, and a psychologist [11].

Current legal status of organ transplantation in Poland

Ten years after the implementation of the first transplantation act, new legislative solutions are needed. The necessity of new legislation is due to the advances in medicine and related transplantational procedures as well as Poland's accession into the European Union, requiring the amendement of domestic laws to common European standards.

The new *Act on retrieval, storage, and transplantation of cells, tissues and organs* was enacted by the lower house of the Polish parliament (Sejm) on July 1st, 2005, and proclaimed on January 1st, 2006. It is based on the notions and experiences associated with the previous legislation; however, it implements also the changes enforced by the Directive 2004/23/EC of the European Parliament.

The new law defines the rules of procurement, storage, and transplantation of cells, including hematopoietic bone marrow cells, peripheral and umbilical blood, and tissues and organs originating from living donors or cadavers. Moreover, it specifies the rules of testing, processing, storage, and distribution of human cells and tissues [12, 13].

According to the act:

- Transplantation is a medical intervention permitted by law and is regulated by the act.
- It is forbidden to seek or accept payment for harvesting the transplant from the donor. This rule does not apply to the reimbursement of costs associated with procurement, storage, processing, sterilization, distribution and transplantation of cells, tissues, and organs obtained from the donor.
- Human organs' trafficking is forbidden.
- Every individual who has reached the age of majority and is not incapacitated can become a living donor.
- Pregnant women can donate cells and tissues providing that maternal and fetal safety are ensured.
- Specific limitations apply to the bone marrow harvesting from underage individuals; they can only be donors for their siblings after obtaining the consent of their legal guardian and court approval.
- Living organ donation can be made by the first-degree relative, adopted child, sibling or spouse of the host.
- The *ex vivo* donation of organs is also acceptable in the case of unrelated individuals if justified by particular personal considerations.

- Only an individual in whom a persistent and irreversible loss of brain function (cerebral death) has been confirmed can become a postmortem donor of organs.
- In the case of *ex mortuo* transplantations, cells, tissues, and organs may be harvested for transplantation purposes unless previously refused by the donor (consent is assumed) by registering in the Central Registry of Refusals, a signed written declaration, or a verbal declaration made in presence of at least two witnesses.
- A living donor possesses the right to self-determination, and therefore his/her written consent is required for transplant harvesting.
- Allocation of organs is based on medical criteria determined by the current evidence and by the principle of equal access to transplantation procedures.
- Transplantation procedures can be performed only at the designated facilities [12].

Ethical dilemmas of transplanting organs from living donors

Insufficient supply of organs from deceased donors has been reflected by a growing popularity of organ procurement from the living donors. Due to medical considerations, and aside from direct relatives, donors that are related emotionally, i.e. spouses and friends, are also recognized.

Giving an organ to another person by a living individual represents a highly valuable gift, a "gift of him/herself". It is a situation that is completely different from the postmortem donation of organs. Most importantly, the *ex vivo* transplantation of an organ is associated with injuring the donor in order to save the ailing individual. In ethics this problem is referred to as the principle of bodily integrity or completeness [14].

Three individuals are involved in the transplantation of an organ from a living donor: the donor, the host, and the transplantation specialist. The latter may have doubts whether the procedure does not exceed the principle of doing no harm. Although the risk of death due to organ donations (kidney) is comparable to that associated with dying in a road accident or as a result of other diseases, undoubtedly the physician is an active participant in this process. As admitted by Professor Nielubowicz: "*I found the harvesting of transplants from living donors an extremely difficult psychological experience. My doubts finally disappeared when I realized that the donation of the kidney can be compared to other acts that are considered noble"* [14].

Also, the recipient has difficulties dealing with the situation as a result of the realization that the donation of an organ represents donor's act of heroism. A gift that contains a part of oneself places the gifted person in a specific situation characterized by strong feelings of gratitude. It is especially important when the donor is related to the recipient. The emotions and feelings binding the recipient and the donor are markedly stronger than those between other family members [15, 16].

The aim of study

1. To analyze and compare students' knowledge of transplantology;
2. To assess the students' views on transplanting organs from living donors;
3. To identify potential differences between nursing and management students in regards to organ transplantation.

Material and methods

The study included 60 randomly selected nursing students and 60 management and marketing students from the State College of Computer Science and Business

Administration in Łomża. One hundred questionnaires were selected for analysis (incomplete questionnaires with missing answers were excluded).

The students were asked personally to complete the questionnaire and informed that the survey is fully anonymous and the results will be used solely for scientific purposes.

The questionnaire data was subjected to statistical and descriptive analysis.

Results

The study included 100 students who were divided into two groups: nursing students (n=50, 100%) and students of management and marketing (n=50, 100%).

All nursing students were females (100%), while the group of management and marketing students included 72% of women and only 28% of men.

The age of the majority of nursing students participating in this study (46%) ranged between 36 and 45 years. The least numerous portion of nursing students constituted those older than 45 years (8%), while the up to 25 years of age and 26-35 years of age categories corresponded to 22% and 24% of the responders, respectively. The majority of non-medical students (70%) were aged 25-years or younger and none was older than 45 years; only 6% were between 36 and 45 years of age. However, the fraction of 26- to 35-year-old individuals was the same as amongst the nursing students (24%).

In regard to the questions assessing faith-related matters, the majority of medical (68%) and non-medical (78%) students declared themselves as being practicing believers; the remaining 22% of management and marketing students and 32% of nursing students claimed being non-practicing believers (Figure 1).

Figure 1. The ratio of the students to faith

The responders were asked if they have experienced a death of a close person. Less than half of the nursing students (46%) and 32% of the non-medical students have had such experiences. Subsequently, we verified if our responders, irrespective of experiencing the death of a close relative, would accept the postmortem transplantation of their own organs to another person.

Most of the responders, namely 84% of nursing students and 70% of the students of non-medical field, would accept transplantation of their organs if required by

their close relative; 26% of management students and only 10% of nursing students would agree freely to donate their organ during their life if it could save someone else's life. However, 6% of the responders would not agree to donate their organs during their lives; they were unable to give the reasons behind this attitude or pointed to fear of health consequences associated with transplantation.

Transplantology is a dynamically developing medical discipline characterized by a rapid progress. Transplantation of organs is a widely accepted, effective and safe treatment modality. The fractions of nursing and management/marketing students who would accept giving their organs for transplantation during their life were similar (Table 1).

Table 1. Allow respondents to donate organs for transplant in life

Nursing students and the direction no medical agreed to give an organ transplant for life	**average**	**t**	**p**	**N impor-tant**	**SD**	**p**
students of medical	1.28	-0,441	0.660	50	0,78	0,019
students of no medical	1.34			50	0,55	

The Snedecor's F-test confirmed the homogeneity of variance, and the results of Student's t-test (*p*-value equal to 0.660, with the level of statistical significance assumed at *p*-value lower than 0.05) confirmed the above mentioned hypothesis.

The next question tested how many responders would accept organ transplantation if this procedure was the only determinant of their survival. The majority of the participants, 78% of nursing students and 76% of management and marketing students, would accept organ transplantation under such circumstances.

The fractions of management students who would accept the transplant only from a living or deceased donor corresponded to 4% and 6%, respectively. Only 2% of management students would deny the transplantation; the fractions of management and nursing students who were unable to express their opinion on this matter was found to be 16% and 18%, respectively.

Our study revealed that most nursing and management students support organ harvesting from living donors; however, this fraction was higher amongst the nursing students, probably due to their superior medical knowledge. Nevertheless, only 36% of all responders would give their organs freely for transplantation to a stranger; in contrast, most of nursing and management students would donate their organs in order to save the life of their close relatives. Perhaps, our findings reflect students' ignorance and resulting concerns regarding the health consequences of organ harvesting.

Another question assessed if our responders have ever discussed the question of postmortem transplantation of their organs. The results are alarming because as many as 78% of management and marketing students and 48% of nursing students have never discussed this issue with their families; 42% students of nursing and only 10% of management and marketing students have had such a discussion, and the fraction of students who did not discuss this issue but have plans to do so in the future amounted to 10% and 12%, respectively (Fig. 2).

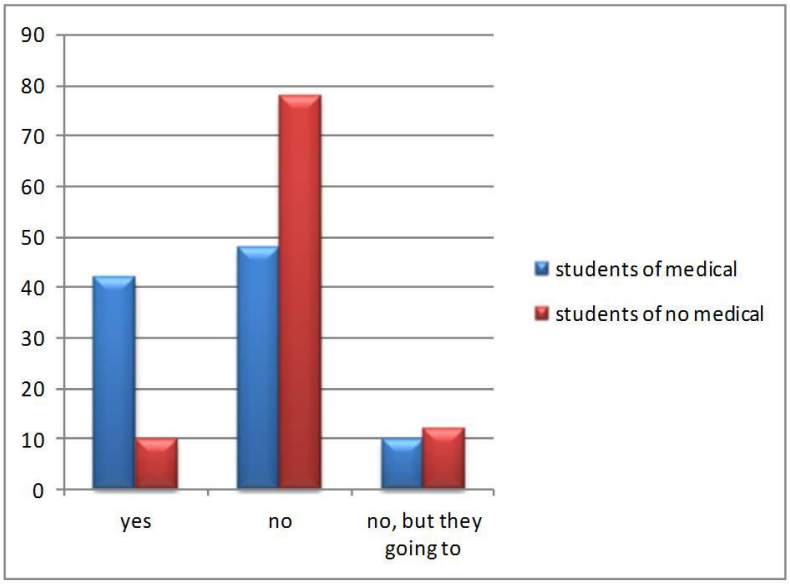

Figure 2. The conversation of the students with the family of the donation for transplantation in case of his own death

It is believed that the infringement on personal autonomy (also applicable in the case of a deceased person) is forbidden. Consequently, postmortem harvesting of organs is allowed only if there is expressed consent from the donor or, at least, the lack of refusal. However, in practice most family members of a deceased individual categorically refuse harvesting of his/her organs**.** The same number of surveyed nursing and management and marketing students spoke with their family members about the issue of organ donation for transplantation in the event of their death (Table 2).

Table 2. Interview respondents with the family of the donation for transplantation in case of his own death

Students of nursing and medical direction is not discussed with the family of the donation for transplantation in case of his own death	**average**	**t**	**p**	**N impor-tant**	**SD**	**p**
students of medical	1,68	-2,98	0,004	50	0,653	0,026
students of no medical	2.02			50	0,473	

The Snedecor's F-test confirmed the homogeneity of variance. The abovementioned null hypothesis was rejected based on the Student's t-test as the *p*-value was found to be lower than 0.05 and equaled 0.004. Consequently, the alternative H1

hypothesis should be accepted according to which the fractions of nursing and management/marketing students who discussed the question of donating their organs for postmortem transplantation with their families were significantly different.

Discussion

Transplantology is a scientific discipline that incites a myriad of emotions, controversies and debates in various communities. Organ transplantation offers hope to those individuals who not so long before would not be expected to survive. Therefore, the popularity of this treatment and the hope that it offers, should increase public awareness of the involved issues [17].

This study analyzed the attitude of responders towards obtaining organs for transplantation from living donors. We found that as many as 80% of nursing students and 52% of management and marketing students supported this method of treatment. Rolka, who examined the students of management from the same university, revealed that the fraction of responders who accepted transplantation of organs from living donors amounted to 97% [15], markedly higher than in this study. Szczepański et al. surveyed the inhabitants of the province of Silesia and observed that 83% of the responders support obtaining of the transplants from living donors [18].

To assess the responders' views on donating their organs for transplantation I have asked the following question: "*Would you accept donating your organ for transplantation during your life?"*. The majority of responders, 84% of nursing students and 70% of the students of management and marketing, would accept donating their organs to a close person. Furthermore, Szczepański et al. reported similar findings; 60% of responders from Silesian province participating in their study would donate their organs to family members in an attempt to save their live [18].

However, it should be noted that these results represent solely the declarations of our responders. We are unable to verify if our responders would follow their declarations in reality – particularly in view of the fact that as recently as in 2000 only one per 100 of kidneys transplanted in Poland originated from related donors. During the same year, the kidneys originating from related donors corresponded to one-third and one-fourth of all transplanted kidneys in Scandinavia and United States, respectively [18].

One should discuss his/her attitude towards organ transplantation with close relatives; similarly, awareness of relatives' attitude towards donating organs for postmortem transplantation is a necessity. Lack of knowledge with regards to this matter can result with an insufficient number of harvested organs, and as a consequence prevent many individuals from the State Waiting List to receive an organ which is the only determinant of their survival in the majority of cases.

Although numerous organ transplantations are performed in a number of designated facilities available in our country, still the number of procedures covers only a small fraction of demand. According to Eurotransplant, the optimal number of kidney transplantations should be equal to approximately 50 procedures per 1 million of population; only eight surgeries of this type are performed in Poland meaning that approximately 3000 individuals die yearly in our country due to the lack of kidney transplant [19]. The knowledge and understanding of law is of vital importance. Social demand for education is high as confirmed by the data reported by the Public Opinion Research Center, and all the individuals interested in this issue, both the potential hosts and donors, declare similar needs [17].

In Poland, the waiting time for transplantation is exceptionally long. Many years of dialysis are associated with the wait for a kidney transplant; in the case of the individuals who require heart or liver transplant, long waiting time can be equivalent to the death sentence. This is an extremely difficult period for the potential recipients since they are well aware of all consequences associated with delayed transplantation. After spending many years in a hospital and dealing with healthcare professionals, they gain knowledge of their condition which is frequently equal to that of medical experts. However, the attitude towards their own disease is nonetheless highly emotional and lacking in detachment and objective professional assessment. The news of finding a suitable donor, and the required transfer to transplantology center, is perceived with relief on one hand, but associated with an array of concerns on the other. Even now, transplantations are not entirely safe procedures. In many cases complications arise that result in the rejection of transplanted organ, worsening of the condition, or even death. Consequently, the patients are exposed to a level of stress which is beyond their coping skills. With increasing frequency, it is the psychologist who spends the most amount of time with the patients, helping them to go through the worst period. Moreover, they can assure members of a deceased individual's family that donating his/her organs for transplantation will not dishonor them or the donor. Hopefully, proper promotion of transplantology will be reflected by shorter waiting times for transplants in our country, and problems associated with transplantology will no longer constitute a taboo and knowledge available to a few selected individuals. *"Death is the end of life, but not its content or the last word"* [19].

Conclusions

Students of nursing possess superior knowledge with regards to transplant as compared to management and marketing students, probably as a result of the course of their study. However, the level of this knowledge is unsatisfactory. Polish responders do not know the criteria of brain death as well as the Polish legislation with regards to organ harvesting from a deceased individual (the so-called assumed consent); consequently, they believe that physicians always have to seek the approval of a close relative prior to the postmortem procurement.

The majority of nursing (80%) and management and marketing (52%) students support organ harvesting from living donors. Notwithstanding, only 36% of all responders would freely donate their organs to a stranger, while most of the responders from both fields of study would do so in order to save a life of a close family member. Similar fraction of nursing and management/marketing students would agree to donate an organ during their lives.

Irrespective of experiencing the death of a close relative, our responders would approve postmortem transplantation of their organs to another individual.

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The dangers of drug addiction among the youths

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Introduction

The abuse of intoxicants has got a long history; however, the risk connected with it has grown drastically in the XX century, which changed the drug addiction into plague, being the huge problem touching the modern society. Also in Poland, with progressive political system changes, there was the growth of supply and demand for drugs. According to the World Health Organization, under the definition of drugs abuse there is the usage of various active pharmacological remedies to other aims than medical, banned by the international low. The problem of drug addiction is observed first on the local and national level, but it is also the global endanger. In the public health discipline, it carries the serious danger under the cover of negative health and social consequences. Recent international reports say that drug consumption grows in many countries, also in those, which have little previous experience in that range. At the same time, the evaluation of the range of drug addiction brings some difficulties, as well as the assessment of the negative health consequences, because of illegal and very frequent concealment of drug consumption. The struggle with drug addiction is written into the strategy of most prestigious international associations. The United Nations Organization since many years has led the program of Drug Control, and World Health Organization in the Health for Everybody in XXI century strategy claim 12 postulates to reduce the drug addiction prevalence to 25% till 2015, and to reduce the mortality because of drugs to 50%. The United Europe plan in connection with drugs (European Union Action Plan on Drugs 2000-2004) in its main aims assumes above all the limitation of supply and demand process, which will lead to the reduction of drug consumption propagation and the limitation of the consumer number, increase of number of well threatened patients and also limitation of the health damage arising as the result of psychoactive remedies abusage. The anti-drug strategy of the UE in 2005-2012 has the following target: rational limitation of drug usage, addiction and health damage and social risks caused by drug consumption by the scheduled effective and integrated versatile system of supply reduction based on knowledge, taking into consideration prevention, early intervention, treatment, damage reduction, rehabilitation and European sources of reintegration in connection with Members of the UE. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) watches over the creation of integrated information system about drugs, drug addiction and its consequences. The problem of addiction to psychoactive remedies may be observed in the aims of our country's health politics, like

in National Anti- Drug Addiction Program in 2002-2005 and National Health Program in 1996-2005 [1].
To the most frequently appearing forms of social pathology connected with our physical and psychical health, as well as the moral attitude among the young, at the beginning of third millennium except smoking and alcoholism, drug addiction. All kinds of addiction like the other social pathologies show increasing trends in last 10 years (1990 2000) and what is important, there has been noticed the systematically lowering of the age coming into those pathologies. It is especially concerning to smoking, alcoholism, drug addiction and crime. It is a very fashionable trend among the teenagers to release from any kind of authority, also from parents and family environment authority and easy fall into the drug addiction. Drug addiction is a still serious danger for the young's health and life [2-7].

The objective of this study was to evaluate the danger of drug addiction among young people.

Materials and methods

We examined 100 pupils from secondary schools from the cities (44%) and the countryside (56%), who lived in the area of Podkarpacie province. The age of the examined was in the range from 12 to 15. The evaluated group had 40% of girls and 60% of boys. The material was based on the data from the survey. The questionnaire opened and closed questions, which let on discerning analysis of the issue.

Results

The responding teenagers assessed the living conditions as very good 36%, good in 51%, an average and bad in 13%. Over the half of respondents (61%) evaluated the atmosphere at home as rather good, 33% as very good, whereas, 6% of the examined assessed the atmosphere as bad. The parents of the examined pupils were physical workers (29%), on the second place were annuitants and pensioners (22%), and further the farmers (15%) and unemployed (14%). The young asked about the problems they have noticed in the family in most cases, they marked economic problems (32%) and health problems (26%), but also troubles connected with the lack of the employment (13%) and with the alcohol addiction (13%). For 46% of the examined the parents were the authority, for 10% the siblings; clergyman was the authority for 9% of the examined. Right up to 35% of the respondents did not have the authority. The person to whom they would confide is the most often a friend (36%), the parents (32%), the siblings (13%), the clergyman (5%), the teacher (3%), and 8% of the respondents try to solve the problems by themselves, because they do not have any close person to confide to.
According to the research 60% of the examined identifies themselves with the informal young groups. The examined teenagers spend their free time most willingly and most often at the disco (50%), at home (37%), at friend (29%) and in the yard (9%).
Young people asked for mentioning some kinds of drugs the most frequently marked marihuana (27%), amphetamine (20%) cocaine (19%) and heroine (12%). On the second grounds were ecstasy (10%), hashish (8%) and hallucinogenic mushrooms (4%) (figure 1).

Twenty percent of respondents declared their drug experience. People declaring the contact with drugs were at most pupils, who took the drug once (11%), 8% had the contact with drug's couple of times, and only one person confessed to taking drugs regularly. Among the places, where the contact with drugs appeared the young marked:

the park, the street (47%), the house of the friends (21%), the disco (21%), and also own home (11%). The motives to taking drugs were: mainly, the curiosity (58%), persuasion of the others (26%) and the will to make an impression on the acquaintances (16%). Most of the respondents (43%) do not have any difficulties with getting to the drug. Up to 79% of the examined were treated with the drugs, 14% of the young buy from the acquaintances and 7% buy from the drug dealers.

The surveyed young people think, that the school authorities react to the drug problem (34%), but over the half (63%) claimed that the drugs may be bought at school. The examined young people take knowledge about the drugs in 46% from the media and the Internet, 21% from friends, from press, leaflets 18%, from school classes 10%, only 5% from parents (figure 2). Only 30% of respondents presented the knowledge about the consequences of the drug's usage. Nearly half of the examined (45%) could recognize the person taking drugs. Only 7% of the surveyed knew the posts and institutions taking care for the drug addiction. All the respondents claimed negative attitude towards the drug usage.

Discussion

In Poland, the drug addiction shows the increasing tendency and concerns all social groups regardless of the age, education, region of living. There is significant growth of the number of addicted people to opiates, hallucinogens, cocaine and amphetamine. The number of deceases during last few years is from 143 to 180 of cases, what is equal to the growth in last three years at 25%. According to the General Police Office data, in 1998 there were approximately 60 thousands of people taking drugs, with 18 thousands drug addicted in it. The age of the drug addicted varied between 18-20 years. To the most endangered provinces with the highest addiction levels belong: Northern-West Province, Szczecin region, Zielona Gora region, Wroclaw region, Suwalki region, Koszalin region, Legnica region and Warsaw region. The most frequently there were the young, who do not study and do not work (40%). To the most often consumed drugs belonged: amphetamine (marked in 47 regions), cannabis (42), ecstasy (36), LSD (24), hallucinogenic mushrooms (17), medicine (15), heroin, cocaine [8 -11]. In 1998 there was noticed 16.432 crimes connected with drug addiction. In 1997 there were 7.915 of crimes, which indicate the increase of 108%. It is very alarming sign of social pathology especially in comparison with year 1994, when there were recorded 4 000 of crimes caused by the drug addiction. In 1998 there were found out 4 714 of cases of illegal drugs production. In 1997 there were closed down 10 amphetamine laboratories, and till year 1998 there were liquidated 36 illegal amphetamine laboratories all together [2-4].

The cannabis products are the most common illegal substances used by the young. There is an increase of pupils' percentage who takes heroine, amphetamine and ecstasy [12]. Woynarowska (2003) in the presented results of researchers, done in 2002 in representative all-Polish young people at the age between 11- 15 alarms: half of the teenager drink alcohol, most often beer, young people show aggressive activities; every fifth pupil at the age of 15 used psychotropic substances (the most frequently marihuana or hashish) [13]. Quite similar results present: Woynarowska and Mazur in the WHO report in 2000, 21% of examined young people used at least one psychoactive substance (except alcohol and cigarettes) [14, 15]. The mokotowkie results of the research [16] show that in 1988-1996, there was growing the usage of all the psychoactive substances. In 1996-2000 there was continued the increasing trend in the range of drug usage [16].

Chodkiewicz and Juczyński [17] in the study of Lodz pupils show on very often risky activities by the young people; however, the critical period is at the age of 9-10 (alcohol, nicotine) and 14-16 years (drugs). The authors observed the increase of psychoactive substances consumption among girl's population [17]. The research done by Gacek, Rosiński and Tchórzewski from AWF (Physical Education Academy) in Krakow (2005) in the children's environment of primary schools in Zakopane indicates that children at the age of 10-13 are endangered on the impact of psychoactive substances. The percentage of the pupils, who took the psychoactive substance at least once, was an average 15% (19% among boys and 11% among girls) [18]. The young have got an easy access to drugs; the beginning fascination may change fast into the addiction. Its process, each phase, changes and harm it makes in the young organism are described by Cekiera, 1992, Dimoff, Carper, 1993, Wojciechowski, 2001. In the young people's awareness, frequently formed by young adults who take or distribute drugs, there is still the wrong opinion, that incidental and short-lasting drug consumption does not lead to addiction and is not harmful to health [4,19-2].

Mędrela-Kuder and Czubowicz in their researchers [24] marked, that being aware of the danger which the intoxicating substances' consumption bring. The young still take them. It is the symptom of social maladjustment of young people. H of the respondents claim that the Man takes the drug, mainly because of curiosity [23, 24]. Marihuana is the most often used drug among the teenagers and has the special place among the other drugs [25, 26]. Many people smoke to improve their mood or disposition. Marihuana is treated as the inseparable element of good fun, 'the human's friend' [27].

The Polish Parliament accepted on May the 7th, 1998 the resolution in the case of counterattack and fights the pathological occurrence among the juvenile. By that resolution, the Parliament called territorial self-governments, the governmental administration and other institutions and non-governmental organizations taking care for the bringing up, help, therapy prevention among young people, to create and realize the homogeneous counterattacking program against aggression, violence and demoralization among the juvenile. In that resolution Polish, Parliament also paid attention to the help and support of public and commercial media. There is the growth of the pathology phenomenon curve in our society. The occurrences and undesirable behavior, like smoking, drug's usage, aggressive behavior and violence are the plague of the modern world among the adults, and what is worse among children and teenagers [8].

The incidence of drug addiction among young people should be thought in the wide social pathology context, which is in the context of the juveniles and adult's crime, in the context of young subcultures, the alcohol abuse, nicotine addiction and life consuming attitude. The juveniles' crime since the 1990s shows increasing tendency equally in the number of crime activities and in the number of young offenders. There was the growth of the juveniles in murders, fights and beatings, in robberies, thefts, in cruelty. The majority of crimes and offences, as the statistic police data indicates, are committed under the influence of the alcohol or after the drug consumption. Those environmental conditions of young people's drug addiction are often omitted in the analysis of the taking and addicting to drugs [2 - 4].

Cekiera's researches (2001) about the young drug addiction shown, that among the personality features, which the drug addicted numbered as those that lead to the addiction were: changeability (90%), irritability (84%), submission (62%), the need to be in the group – sociability (59%). In their life and development there were ascertained early interests in drugs, at the age under 15 (55%), the lack of education, social life, family life interests. In the drug-addicted childhood, there was ascertained disturbances,

retardation, escalated child's illnesses (41%), injuries and concussions (25%). The results of the drug-addicted personality features let on separating the range of behavior and attitudes, which increase the risk of taking drugs. There were; low level of socialization (91%), low level of responsibility (85%), low level of self-control, lowered level of sense of self-worth (37%) [2 - 4]. In the psychological drug, addiction reasons description, there cannot fail a significant element – the motive that leads to taking drugs. In the examined group, there were dominating the following motives: curiosity and the fashion (41%), and among the second motive, there were: physical and psychical compulsion and drug hunger (58%). To the significant motives also belonged to the will to experience the pleasure, family, school conflicts, conflicts at work (35%), escape from the reality (22%), the will to experiment, boredom, searching the way to rely on the sorrow psychical states, peer persuasion, for best fun, as the sign of the protest, for best courage and finally because of stupidity - 10% [2 - 4].

The own researches depicted that the motive to take the drug were mainly curiosity (58%), the other's persuasion (26%) and the will to impress the acquaintances (16%). Twenty percent of the respondents declared the experience connected with drugs. People declaring the contact with drugs were mainly pupils, who took the drug once (11%), 8% had the contact with a drug's couple of times, and only one person confesses to take drugs regularly.

The above-mentioned results were proven by Chlebna – Sokół's and co. study (2007), which gives data, that single persons revealed, they took different kinds of drugs regularly, for example, marihuana, hashish, LSD [9].

In the USA, there were examined the representative young group inclusive of 4.7%% of population at the age of 12-17. An average number of people intoxicating with hallucinogenic substances nearly doubled among last two years: in 1994 it was 1, 1%,%, in 1995 - 1,7, and in 1996 it was 2, 0%.%. In 1996 r. there was conducted illustration on the representative group of people at the age of 12 and more in the American society, which was connected with smoking, drinking alcohol and taking drugs. It marked, that despite being still popular, smoking and drinking alcohol have lowered. Drinking alcohol by the young people at the age of 12-17 reduced from 21, 1%% in 1995 to 18, 8%% in 1996. Additionally, the number of smokers (29%) also reduced - of 2,8% in 1995 and 1, 9%% in 1996 [8].

The incidence of intoxication among young people carries the significant trait of multi-substance dependence (multiplicity and variety of intoxicating substances consumption) and distinguishes Polish substance dependence from the other countries. Cekierka states, that among the multiplicity of taken substances high position have so-called hard drugs, opiates, the derivative of cannabis and cocaine.

Moreover, there were noted approximately 120 of deferent intoxicating substances consumer by the young. So far there has not been recorded even single case of taking one substance. The number of taken specific used by each person varies from 4 to over 30 ones. To intoxication young people use different chemical products, also pharmaceutical ones, or these, which are not used in medicine (for example; very harmful volatile substances of some glue, paints, sprays), and also homemade drug specifics (for example; simply made-up 'soup' or 'compote' by the usage of poppy, called 'Polish heroine').

It is emphasized that multi-substance dependence is extremely dangerous. It leads to, despite the expected consequences, very hard psychosis, and also to the growth of the drug addiction probability- even if the person uses one intoxicating specific. The present

Polish tendencies connected with the structure, and the changes of the discussed topic are formed as follows:
- the modern substance dependence is definitely of young character, over 60% of the drug addicted are children and young people at the age of 10-24;
- the age of the drug initiation falls down extremely fast, in which main role play peers;
- the fundamental motive of the first contact with drugs is still curiosity;
- girls submit faster than boys, however, substance dependence is more common among male teenagers (the addiction relation between girls and boys is 1:3);
- there is observed the systematic reduction of the consumption of hallucinogens, like LSD, there is also no increase of activating substances consumption; however, there is the significant tendency observed towards frequent than previously application of tranquilizers;
- substance dependence in our country spreads mainly in industrial regions (mainly in big cities) most often it was observed in Warsaw, Poznan, Treble-City, Lodz, Krakow and Breslau;
- there is observed the addictive consumption of tea, coffee and tobacco, especially by school teenagers [10-12].

According to the increase of the addiction among young people, there should be connected educational and prophylactic activities, and also should be developed promoting strategies, for which the most important aim is to improve health condition and to heighten the quality of life [16]. It is seems essential to promote alternative, active forms of spending the free time among young people, included into a healthy lifestyle [20-22, 28, 29].

Conclusions

1. The children' knowledge level about cancer may be defined as an average, what is the signal to informative program's elaboration, which can improve the awareness among children of the cancer problem.
2. The most frequent source of knowledge about drugs and drug addiction are: media and the Internet (46%).
3. Twenty percent of the examined youths declare the contact with psychoactive substances.

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Consumption of alcohol among medical university students

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Introduction

The consumption of alcohol among young people is one of the principal challenges of modern societies. This results in part from the fact that young individuals are not fully aware of the health risks and social consequences of excessive alcohol consumption [1-3].

Only a small fraction of the population of any society possesses sufficient knowledge with regard to alcohol metabolism. The process of alcohol absorption is modulated by several factors, including the degree of gastrointestinal fill and the rate of alimentary passage. Therefore, the rate of alcohol absorption in individuals who drink alcohol with meals that are rich in fats, proteins, and carbohydrates is slower than in those who consume alcohol on an empty stomach [4-7].

Gender is another determinant of alcohol absorption. Following consumption of the same volume of alcohol, women are characterized by higher blood concentrations of ethanol; this phenomenon results from their lower body content of water, among other factors [4, 6, 7].

Alcohol dependence can be analyzed in several spheres, including the social, psychological, and medical spheres. Sociologists consider the problem in question to be a result of non-adjustment to widely approved standards. According to the psychological theory, in turn, dependence is defined as a disorder of one's personality, with a tendency to changing one's hierarchy of values toward aggression and crime. Finally, from the medical viewpoint, alcoholism represents a separate medical condition that requires proper management [7, 8].

According to the World Health Organization, alcohol dependence is defined as a mental and somatic syndrome characterized by alternate periods of exacerbation and remission [1, 2].

The latency period of alcoholism can be variable, depending on individual predisposition and other circumstances. According to literature, the age of alcohol initiation is an important determinant of alcoholism. Beginning to drink alcohol at 10 to 12 years of age, one can develop dependence within a few months. The volume and frequency of alcohol consumption depend on both external (environmental) and internal (personality-related) factors [9, 10, 11].

Consumption of alcohol among students can be stimulated by such personality traits as impulsiveness, depressiveness, anxiety, and mental problems. In addition, a change in the place of residence, i.e., leaving the family home and living with peers, can

be another stimulant of alcohol abuse. Early adulthood is a period when the young individual becomes self-dependent and can make the decision to drink alcohol or abstain, among other decisions of early adulthood [1, 11]. The parental role is weakened during this period, while the influence of peers grows stronger. Initial failures can induce stress and frustration, which in turn can be reflected by adverse health behaviors, including excessive consumption of alcohol [1].

Familial history of alcohol-related problems is another risk factor of alcoholism [1, 11]. According to the results of many studies, students expect that alcohol will help them to relax and lose their constraints. Furthermore, they believe that drinking can facilitate their functioning within a group of peers [12-14].

Consumption pattern is an important determinant of the health consequences of alcohol consumption. The results of many epidemiological studies suggest that both high-risk and harmful drinking can exert many side effects. One cannot observe direct harmful consequences of high-risk drinking but can expect to see them in the future unless this model of consumption changes [1]. In contrast, harmful drinking exerts detrimental effects on every dimension of one's health but does not cause dependence [1, 14].

Health consequences of alcohol consumption are to a large extent modulated by the drinking pattern, e.g. so-called binge drinking, which refers to become drunk in a relatively short period of time. In the social context, heavy drinking can represent a tradition – for instance, drinking after having passed or failed an exam and during other academic rituals. Some people perceive heavy drinking under such circumstances as a normal behavioral pattern which can result in a better integration within a group of peers [12,14,15]. The operational definitions of binge drinking and heavy drinking can be different depending on a country and study. In some epidemiological studies, "heavy drinking" was defined as consuming at least five drinks (corresponding to 70 g of pure ethanol) on a single occasion. In contrast, the term binge drinking refers to repeat heavy drinking, e.g. at least two episodes of heavy drinking within a two-week period [1]. According to some authors, the threshold of heavy drinking depends on the responder's gender: heavy drinking pertains to consuming at least four drinks in women and more than five drinks daily in men. However, one should keep in mind that determining alcohol consumption patterns solely based on the number of ingested drinks can be quite imprecise [1, 15-17].

The problem of heavy drinking has been reported in many developed countries, and affects many college and high-school students. According to many epidemiological studies, men drink heavily significantly more often than women. In some cultures, heavy drinking is perceived as a ritual associated with the evolution from adolescence to adulthood, as well as a public confirmation of one's masculinity [1, 15].

The results of several epidemiological studies suggest that episodic consumption of alcohol, including heavy drinking, is far more frequent among students below 21 years of age than in older ones [1]. One can hardly define the limit of safe drinking since it can be influenced by age, gender, and cultural patterns. The safe limit of alcohol consumption is postulated at two standard drinks daily for women, and 3-4 alcoholic drinks for men; in most studies, standard drink equals to 12.5 g of ethanol or 15 ml of alcohol. However, those assumptions can differ depending on a given study [12, 13, 18].

The aim of this study was to assess the students' views on various alcohol consumption patterns.

Material and methods

The study performed in March 2011 included a group of 504 students from the Medical University of Bialystok. This representative sample, corresponding to 10% of the entire student population, was selected by means of stratified sampling taking into account the department, field and year of study, and participant's gender. Sociodemographic characteristics of study participants are presented in Table 1.

Table 1. Sociodemographic characteristics of study participants

Variable	Mean ± SD (n)	Range (%)
Age (years)	21.7±2.3	18-27
Gender:		
- male	112	22.2%
- female	392	77.8%
Field of the study:		
- medicine/dentistry	192	38.1%
- pharmacy	127	25.2%
- health sciences	185	36.7%
Year of the study:		
- 1st	126	25.0%
- 2nd	108	21.4%
- 3rd	78	15.5%
- 4th	73	14.5%
- 5th	80	15.9%
- 6th	39	7.7%
Place of residence:		
- village	78	15.5%
- town up to 5 000 inhabitants	40	7.9%
- town between 5 000 and 50 000	112	22.2%
- town between 50 000 and 200 000	99	19.6%
- city above 200 000	175	34.7%
Parental education:		
- elementary	21	4.2
- vocational	117	23.2
- secondary	190	37.7
- higher	168	33.3
- no data	8	1.6
Maternal education:		
- elementary	16	3.2
- vocational	78	15.5
- secondary	190	37.7
- higher	212	42.1
- no data	8	1.6
TOTAL	**504**	**100.0**

The protocol of this study was approved by the Local Bioethical Committee of the Medical University of Bialystok. All participants were familiarized with the study

objectives and protocol, and gave their written consent to participate. All participants completed a standardized anonymous questionnaire dealing with their relationship and opinions about alcoholic beverages. The questionnaire was prepared and kindly provided by the PBS DGA Sp. z o.o. Research Agency (Sopot, Poland). The participants were asked to complete the questionnaire during their academic classes. Statistical analysis of the results was carried out using Statistica 10 (StatSoft, Tulsa OK, USA) package. Statistical characteristics of discrete variables were presented as frequency distributions. Normal distribution of continuous variables was verified with the Shapiro-Wilk test. Depending on the results, the characteristics of these variables were presented as arithmetic means and standard deviations (SD) or medians and interquartile ranges (q25-q75).

Results

More than half of our responders had no objections to consuming alcohol several times a year. In contrast, only one-fourth of the participants did not decry drinking alcohol several times per month (Table 2).

Table 2. Distribution of the replies to the following question *"How would you evaluate the following long-term behaviors of your student colleagues?"*

Evaluation	Drinking alcohol once or twice per year		Drinking alcohol several times per month	
	n	%	n	%
Evidently decry	28	5.6	26	5.2
Rather decry	17	3.4	75	14.9
Rather not decry	92	18.3	166	32.9
Evidently not decry	329	65.3	192	38.1
Hard to say	37	7.3	45	8.9
No data	1	0.2	0	0.0
TOTAL	**504**	**100.0**	**504**	**100.0**

Distribution of answers to another question, pertaining to the more frequent consumption of alcohol, suggests that about 70% of the responders equivocally decry becoming drunk every day or nearly every day. In contrast, only approximately 50% of the students evidently negate non-heavy drinking with such frequency (Table 3).

Table 3. Distribution of the replies to the following question *"How would you evaluate the following short-term behaviors of your student colleagues?"*

Evaluation	Drinking alcohol daily or nearly every day		Occasional heavy drinking		Heavy drinking daily or nearly every day	
	n	%	N	%	n	%
Evidently decry	249	49.4	96	19.0	342	67.9
Rather decry	163	32.3	145	28.8	100	19.8
Rather not decry	37	7.3	139	27.6	19	3.8

Evidently not decry	15	3.0	65	12.9	12	2.4
Hard to say	40	7.9	59	11.7	31	6.2
No data	0	0.0	0	0.0	0	0.0
TOTAL	**504**	**100.0**	**504**	**100.0**	**504**	**100.0**

Another question pertained to the risks associated with daily consumption of alcohol, including weekend drinking. In responders' opinion, consuming four or five drinks per day is associated with a considerable health risk. However, only half of the participants attributed a similar risk to weekend drinking. Furthermore, consuming one or two drinks daily was perceived as a lower health risk (Table 4).

Table 4. Distribution of the replies to the following question *"What health risks and other risks are associated with drinking alcohol with various frequencies?"*

Reply	One or two drinks nearly every day		Four or five drinks nearly every day		Five or more drinks once or twice during a weekend	
	n	%	N	%	n	%
No risk	12	2.4	6	1.2	9	1.8
Low risk	43	8.5	13	2.6	31	6.2
Moderate risk	158	31.3	73	14.5	161	31.9
High risk	242	48.0	380	75.4	252	50.0
Hard to say	49	9.7	31	6.2	50	9.9
No data	0	0.0	1	0.2	1	0.2
TOTAL	**504**	**100.0**	**504**	**100.0**	**504**	**100.0**

About one-fourth of the students believed that appropriate information resources and support groups, providing necessary information and support to those with problems related to alcohol or substance abuse, should be arranged within the university structures (Table 5).

Table 5. Distribution of the replies to the following question *"Should universities arrange dedicated points providing necessary information and support to students with problems related to alcohol or substance abuse?"*

Reply	n	%
Evidently yes	172	34.1
Rather yes	188	37.3
Rather not	62	12.3
Evidently not	12	2.4
Hard to say	70	13.9
No data	0	0.0
TOTAL	**504**	**100.0**

Unfortunately, nearly 50% of the responders declared that their university lacked such information or support resources for students facing alcohol-related problems (Table 6).

Table 6. Distribution of the replies to the following question *"Does your university possess dedicated point providing necessary information and support to students with problems related to alcohol or substance abuse?"*

Reply	n	%
Yes	19	3.8
No	239	47.4
Hard to say	246	48.8
No data	0	0.0
TOTAL	**504**	**100.0**

Discussion

This study revealed that most students do not equivocally dispraise sporadic consumption of alcohol. However, our responders represented opposite opinions with regards to heavy drinking, including frequent heavy drinking and binge drinking.

According to some epidemiological studies, occasional heavy drinkers are more frequently absent during academic classes, experience hangover, and sustain injuries. In contrast, the excessive consumption of alcohol not infrequently leads to abuse and unwanted sexual activities [12, 13].

Other epidemiological studies documented that consumption of alcohol can be associated with relatively high mortality of students as well as with their frequent involvement in road accidents. Moreover, some authors suggest that students who drink alcohol attain poorer academic grades. Additionally, they can be oppressive for the local non-drinking community [14, 15].

Drinking alcohol has its own tradition among students, which is transferred to successive generations; consequently, many young people believe that heavy drinking represents an essential component of student life [16, 18].

Our responders possessed satisfactory knowledge with regards to detrimental health consequences of excessive alcohol consumption. In responders' opinion, consuming four to five drinks daily can be associated with considerable health risk. However, they believe that this risk is reduced by nearly 50% in the case of weekend drinking. Indeed, many epidemiological studies confirmed that an excessive consumption of alcohol can be associated with the risk of much health and social problems. Generally, binge drinking is defined as a continuous consumption of alcohol lasting for several days [12, 17, 19].

Aside from typical dysfunction of organs, such as liver cirrhosis or circulatory failure, the consequences of alcohol dependence include also many psychosocial disorders including alcoholic paranoid disorder with Othello syndrome, Korsakoff's syndrome, or acute Wernicke's encephalopathy [4].

Many epidemiological studies revealed that an excessive consumption of alcohol can be reflected by elevated blood pressure, and is associated with the risk of arterial hypertension. The same study documented that blood pressure normalizes within one week after cessation of drinking [18].

Other epidemiological studies showed an association between the excessive consumption of alcohol and the incidence of arrhythmia or hemorrhagic stroke [17, 19, 20].

Due to the future profession of our responders, this subject should be widely understood in the course of their medical studies. This will enable the students to develop proper health habits, which they will be able to implement in the future as a part of healthcare services offered to their future patients.

Alarmingly, our responders declared that their university lacks a proper information resource or support group offering the much needed support to individuals facing alcohol-related problems. It is of note, however, that most students believed that such resources should exist within university structures.

Several authors confirmed the effectiveness of various strategies of alcoholism prevention. The results of their studies clearly support the activities oriented on education and development of proper student's attitude. Consequently, they postulate to eradicate the false assumption on the positive effects of alcohol drinking, e.g. in stressful situations related to exams or during involvement in didactically-intense subjects. Furthermore, they recommend presenting students with recent findings and opinions related to alcoholism, in order to break the vicious circle of myths on the positive effects of alcohol [15, 17, 19, 21].

Previous epidemiological studies revealed the positive effects of cooperation between high schools and community. One example of such cooperation is abiding the law on the prohibition of alcohol consumption by the students not only at the university but also in other public places. Sponsorship from alcohol industry should be completely eliminated or at least avoided in the case of student events in order to promote anti-alcoholic attitudes. Moreover, activities oriented on the early detection of alcohol-related problems should be implemented, along with proper interventions in crisis situations, to reduce the frequency of alcohol consumption among students [1, 17, 19, 22].

In conclusion, this study revealed that one should systematize students' knowledge with regards to the safe patterns of alcohol consumption. Moreover, it identified a potential shortage of university resources for students facing the problem of alcohol abuse.

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Hikikomori - syndrome of social withdrawal or modern depression?

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Hikikomori (jap. ひきこもり) [1] or severe social withdrawal, in Japan's young people has been a prominent public mental health concern since around 2000.

In1978, Kasahara described cases of "withdrawal neurosis" or taikyaku shinkeishou. In the 1980s, Lock described several cases of what she aptly termed "school refusal syndrome" [2]. Both bear a resemblance to con-temporary hikikomori.

Hikikomori is a form of social withdrawal among those who retreat from social interaction for protracted periods of time [3]. It is unclear whether hikikomori is merely a symptom or syndrome of social withdrawal [4].

Hikikomori, it is well known to both the psychiatric community and general public in Japan but it has never been reviewed in the English medical literature. Patients are mostly adolescent and young adult men who become recluses in their parents' homes for months or years. They withdraw from contact with family, rarely have friends, and do not attend school or hold a job. Never described before the late 1970s, hikikomori has become a silent epidemic with tens, perhaps hundreds, of thousands of cases now estimated in Japan. The differential diagnosis includes anxiety and personality disorders, but current nosology in the Diagnostic and Statistic Manual of Mental Disorders may not adequately capture the concept of hikikomori. Treatment strategies are varied and lack a solid evidence base, but often include milieu, family, and exposure therapy [5].

It is suggested hikikomori may be considered a culture-bound syndrome and merits further international research into whether it meets accepted criteria as a new psychiatric disorder.

The published English literature (PubMed database) was searched using a key word: hikikomori. Our search indentified 18 publications on hikikomori.

Definition

The Japanese Ministry of Health, Labour and Welfare established the following criteria for hikikomori: (1) a lifestyle centered at home; (2) no interest or willingness to attend school or work; (3) symptom duration of at least 6 months; (4) schizophrenia, mental retardation, or other mental disorders have been excluded; (5) among those with no interest or willingness to attend school or work, those who maintain personal relationships (e.g., friendships) have been excluded. A national research taskforce further condensed this definition into the following description: "the state of avoiding social engagement (e.g., education, employment, and friendships) with generally persistent withdrawal into one's residence for at least 6 months as a result of various factors" [5]

Modern depression

Japanese psychiatrists have increasingly reported patients with depression that does not seem to fit the criteria of the ICD-10 and the DSM-IV, and which has recently been called modern type depression.

Kato and colleagues [6] explored whether modern type depression is seen in other countries, and if so, how patients with modern type depression are diagnosed and treated. The questionnaires, with two case vignettes (traditional type depression) and modern type depression), were sent to psychiatrists in Australia, Bangladesh, India, Iran, Japan, Korea, Taiwan, Thailand and the USA. Modern type depression was recognized in all participating countries, and especially in urban areas. The factor of personality was regarded as the most probable cause of modern type depression. Whereas about 90% of Japanese psychiatrists applied the ICD/DSM criteria to traditional type depression, only about 60% applied the criteria to modern type depression.

Modern-type depression is characterised by a shift in values from collectivism to individualism; distress and reluctance to accept prevailing social norms; a vague sense of omnipotence; and avoidance of effort and strenuous work [6, 7].

Risk factors

It seems to that young people are suffer from modern type depression. People who were born after 1970, [8] suffer more frequently than others, the generation growing up with home video games in the era of Japan's high economic growth. Young people with modern-type depression tend to feel depressed only when they are at work; at other times, they enjoy the virtual world of the internet, video games, and *pachinko* (similar to pinball). Therefore, people with modern-type depression have difficulties in adapting to work or school and participating in the labour market, similarly to those with *hikikomori*.

Umeda et al. explored [3] data from World Mental Health Survey Japan of community residents aged 20-49 years. They used a multiple logistic regression to examine the association between the lifetime experience of hikikomori and childhood family environment, adjusting for sex, age, and history of common mental disorders. Father's high educational level, mother's common mental disorders, and mother's panic disorders were correlated with hikikomori. These findings suggest that hikikomori cases are more likely to occur in families where the parents have high levels of education. Maternal panic disorder may be another risk factor for children to develop hikikomori.

Epidemiology

An epidemiological study of *hikikomori* indicated a lifetime prevalence of more than 1% in adults in Japan [8]. A large face-to-face household survey was conducted of community residents (n=4134). For respondents aged 20-49 years old (n=1660), we asked whether they had ever experienced "hikikomori". A total of 1.2% had experienced "hikikomori" in their lifetime. Among them, 54.5% had also experienced a psychiatric (mood, anxiety, impulse control, or substance-related) disorder in their lifetime. Respondents who experienced "hikikomori" had a 6.1 times higher risk of mood disorder. Among respondents, 0.5% currently had at least one child who had experienced "hikikomori". The study suggests that "hikikomori" is common in the community population in Japan. However, there are no epidemiological studies in other countries.

Several *hikikomori*-like cases have been reported from Korea, Oman, and Spain, leading to debate as to whether *hikikomori* is a culture-bound syndrome specific to Japan or a new form of maladjustment or psychiatric disorder [5].

Case reports

In 2005, Sakamoto et al. [9] reported a case from Oman, in the southern part of Arabia, with all the essential features of hikikomori. They speculate that the social environment of Japanese and Omani society could reinforce behavior similar to hikikomori.

Teo and Gaw [5] described a 14-year-old Japanese boy who complains of was not wanting to attend school. He had no significant problems or difficulties during elementary school, but suddenly and without any apparent trigger, ceased attending school during the last quarter of the first year of middle school. He stopped any attempts at studying. He greeted the clinician and responded appropriately to questioning, but stated "I just don't want to go to school." Family history was notable only for the patient's 48-year-old mother who had panic disorder and was treated by a psychiatrist. Parents arranged for the patient's home room teacher to regularly visited the patient at home as he refused to attend school. This living situation continued for 2 years. Then, at the time of entrance into high school, the patient suddenly reported that he wanted to return to school. He entered a vocational school specializing in design, and since then has regularly attended classes.

Teo [10] described a patient with major depressive episodes, who declined pharmacotherapy. Diagnostic assessment by structured clinical interview and psychometric tools revealed hikikomori and underlying bipolar disorder. This is the first reported case of hikikomori in the Americas. It illustrates the association between hikikomori and a mood disorder, and suggests the importance of international study of the prevalence and potential treatment strategies for severe social isolation.

Clinical studies

Uchida [11] examined the mean rates of the academic events mentioned above among students of Japanese national universities. He compared those rates statistically between males and females, and among 6 groups according to gender and academic majors. The rates of each event have continually increased over the last 21 years, and a considerable number of the students were shown to have been in a state of "student apathy." Male 4-year course students had a high risk, especially male science course students had serious problems

It is unclear whether hikikomori is merely a symptom or syndrome of social withdrawal. Nagata et el. [12] evaluated this phenomenon in relation to social anxiety disorder. One hundred and forty-one consecutive patients with social anxiety disorder were treated with a combination of psychotherapy, pharmacotherapy and group activity. They found that twenty-seven (19%) of the patients fulfilled the criteria for hikikomori, and these patients had earlier onset, more symptoms and less education than non-hikikomori social anxiety disorder patients. Only 33% of the hikikomori social anxiety disorder patients spontaneously complained of social anxiety disorder symptoms at first visit. Functional impairment in 37% of the hikikomori patients improved after several years of combination therapy. The authors concluded that patients with comorbid social anxiety disorder and hikikomori have lower treatment response rates than those with social anxiety disorder alone.

In a study by US researchers [13] assessed parent and peer relationships, temperament and school experiences in twenty-four hikikomori sufferers. They found the hikikomori participants had a higher incidence of ambivalent attachment, reported more parental and peer rejection and bullying, and expressed greater temperamental

shyness. They also found that shy temperament, and parental rejection predicted ambivalent attachment, which when coupled with peer rejection predicted hikikomori.

The psychiatric background of individuals with hikikomori was examined by Kondo et al. [14]. They recruited 337 individuals with hikikomori; 183 subjects who utilized the centres were designated as the help-seeking group. The multi-axial psychiatric diagnosis based on the DSM-IV-TR, treatment policies and treatment outcomes was performed. They also examined 154 subjects who did not utilize the center's (non-help-seeking group). Most of the subjects in the utilization groups were classified into one of the diagnostic categories. Forty-nine (33.3%) subjects were diagnosed with schizophrenia, mood disorders or anxiety disorders, and this group needed pharmacotherapy. Other subjects were diagnosed with personality disorders or pervasive developmental disorders, and they mainly needed psycho-social support. They suggested that most hikikomori cases can be diagnosed using current diagnostic criteria.

Hikikomori is little known in the Polish literature. Further international research into whether it meets accepted criteria as a new psychiatric disorder or not.

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A current view of alexithymia

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Alexithymia is a term coined by psychotherapist Peter Sifneos in 1973. Alexithymia is not classified as a mental disorder in the DSM-IV. It is a dimensional personality trait that varies in severity from person-to-person [1].

Alexithymia was initially reported to be common in psychosomatic patients who have difficulty in constructing satisfactory relationships with therapists and in completing psychological and behavioral programs. However, later, these characteristics were found in many neuropsychiatric disorders such as depression, substance use disorder, posttraumatic stress disorder, panic disorder, and somatoform pain disorder [2].

Typical deficiencies may include problems identifying, describing, and working with one's own feelings, often marked by a lack of understanding with the feelings of others; difficulty distinguishing between feelings and the bodily sensations of emotional arousal [confusion of physical sensations often associated with emotions; few dreams or fantasies due to restricted imagination; and concrete, realistic, logical thinking, often to the exclusion of emotional responses to problems [3-5].

Persons with alexithymia cannot distinguish from the physiologic emotional arousal, focus on the physiologic symptoms accompanying experiencing the emotions and attribute them to external sources (such as the thrill of excitement as the effect of the induced draft) [6]. They do not understand that they felt physiological sensations are manifestations of emotions experienced by them. This is often the source of their concern about their health, because they think that these bodily sensations are somatic symptoms. These individuals cannot disguise their feelings and express them in words, have limited vocabulary defining emotions [6].

In the present paper, we tried to give a comprehensive overview of alexithymia. Data's source is Medline (up to April 2012).

Cancer

De Vries et al. [7] summarized the literature published between 1972 and 2010 on alexithymia in cancer patients. They identified 16 relevant studies, which are methodologically problematic and show conflicting results. However, several interesting hypotheses emerge such as a possible link between alexithymia and the immune system, between alexithymia and quality of life, or between alexithymia, anxiety and depression. A lack of methodologically sound studies and the large variations of results among studies suggest that the role of alexithymia in patients with cancer deserve more systematic research. Consequently, studies are needed, which investigate the nature (state or trait) of alexithymia, its impact on cancer development and progression, as well

as its influence on compliance and on the underestimation of psychological distress and psychiatric outcome in cancer patients.

Mishra et al. [8] examined the levels of alexithymia in children with cancer, in siblings of children with cancer, and in healthy controls. The highest level of alexithymia was reported by children diagnosed with cancer, followed by their siblings. The intensity of cancer was a significant predictor of the alexithymia score, with patients with the most severe cancers reporting the highest levels of alexithymia. Furthermore, they found also not only children with cancer, but also their siblings showed significantly more alexithymia than their healthy counterparts.

Depression

Bonnaire et al. [9] investigated alexithymia (in relation with depression) in three groups of French gamblers recruited in their gambling location: at the racetracks, in the slot machine rooms, and in the traditional gaming rooms. Gambling behavior was measured by the South Oaks Gambling Screen and DSM-IV criteria for pathological gambling, Alexithymia by the Toronto Alexithymia Scale (TAS-20) and depression with the Beck Depression Inventory. For racetracks and slot machine gambling, pathological gamblers differed from non-pathological gamblers, regarding their alexithymia scores. They concluded that the relationship between alexithymia and depression depended on the type of pathological gambler.

Furthermore, in another study, Leweke et al. [10] analyzed data from 1,461 patients of an outpatient clinic for psychosomatic medicine with various mental disorders collected between January 2007 and October 2009. They found the total prevalence of alexithymia (TAS-20 $\geq$ 61) was 21.36%. The percentage of alexithymic patients was significantly increased in the group of patients with depressive disorders (26.9%) as compared to other diagnostic groups. The authors concluded the prevalence of alexithymia was especially increased for depressive disorders.

Assogna et al. [11] investigated whether alexithymia is linked to the disease process or to psychopathology, particularly depression, in Parkinson disease patients. One hundred Parkinson disease patients and 100 comparison subjects were evaluated. Alexithymia occurred twice as often in Parkinson disease patients as in controls and major. The frequency of minor depression was almost identical in the both groups. Alexithymia was also associated with Parkinson disease independently from depression. They suggested that alexithymia is a depression-independent phenomenon in Parkinson disease patients and may be associated with the disease process.

Psychosomatic disorders

In another study, Mazaheri et al. [12] examined alexithymia symptoms, demographic variables and the severity of gastrointestinal symptoms in a sample of patients with functional gastrointestinal disorders. They found a significant difference between patients with functional gastrointestinal disorders and healthy controls in terms of the number of alexithymia symptoms and severity of gastrointestinal symptoms. The results also indicated the existence of a relationship between educational level and alexithymia as well as its dimensions (difficulty identifying feelings and difficulty describing feelings) in both groups. Furthermore, higher school learning levels were associated with decreased risk of alexithymia.

The relationship between migraine and certain psychological features, such as a tendency toward perfectionism, neuroticism, repressed aggressivity and melancholic mood has been repeatedly reported for more than a century. Recently, with the

development of new diagnostic criteria and statistical methodology, some of these observations have been confirmed [13, 14].

In a recent study, Balaban et al. [13] investigated the prevalence of migraine, alexithymia, and post-traumatic stress disorder among medical students in Turkey. The students with a migraine were diagnosed with alexithymia and post-traumatic stress disorder more frequently than those without migraine. Furthermore, the Migraine Disability Assessment Scale scores correlated with the post-traumatic stress disorder scores. Migraine was associated with the alexithymic personality trait and comorbid psychiatric disorders, including post-traumatic stress disorder.

Autism spectrum disorder

The results from recent studies suggest that alexithymia, a disorder characterized by impairments in understanding personal experiences of emotion, is frequently co-morbid with autism spectrum disorder (ASD) [15]. The emotion recognition scores for the ASD group were significantly poorer than in the control group, and performance was influenced by the severity of alexithymia and the psycho-acoustic complexity of the presented stimuli [15]. Higher levels of alexithymia in the ASD group accounted for some, but not all, of the group difference in emotion recognition ability.

Panic disorders

It is suggested a high risk for panic disorder probably share with subjects with panic disorder an underlying vulnerability involving features like anxiety sensitivity and alexithymia [16, 17]. Subjects with panic disorder show higher alexithymia and anxiety sensitivity levels compared with healthy controls. Emotional and bodily sensation competencies could be protective factors for panic disorder in high-risk populations.

Psychotic disorders

The influence of severe psychopathology on alexithymic features has been poorly studied. Recently, a significant association between psychotic disorders and alexithymia was reported. Picardi et al. [18] studied 199 adults psychiatric inpatients, 60 of whom received a Structured Clinical Interview for DSM-IV Axis I diagnosis of psychotic disorder, were administered the TAS-20 and the 24-item Brief Psychiatric Rating Scale. Alexithymia at discharge was diagnosed in 60% of the patients. .

Drug addiction, problematic Internet use, alcohol-dependent

Alexithymia as a vulnerability factor for Substance Use Disorders is under debate, because of conflicting research results regarding alexithymia as a state or trait phenomenon [19, 20]. Alexithymia is partly a state-dependent phenomenon, but not a stable personality trait in these Substance Use Disorders - population [20].

Drug craving is an important motivational phenomenon among addicted individuals, and successful management of craving is essential to both the initiation and maintenance of abstinence. Although craving in response to drug cues is common in drug-dependent individuals, it is not universal. At the moment, it is not known why approximately 20-30% of all addicted persons fail to report appreciable craving in laboratory-based cue reactivity studies.

Saladin et al. [21] examined the possibility that alexithymia, a personality attribute characterized by a difficulty identifying and describing emotions, may contribute to the impoverished cue-elicited craving experienced by some addicts. Forty methamphetamine-dependent individuals completed the TAS and provided craving

ratings for methamphetamine after presentation of methamphetamine-associated cues. Thirteen participants (32%) reported no methamphetamine cue-elicited craving. Contrary to expectation, TAS factor 1 (a measure of difficulty identifying feelings) scores were positively associated with cue-elicited craving. The results suggested that increasing difficulty-identifying feelings may be associated with higher cue-elicited craving.

For some, Internet use can grow into a problem. People may find themselves online-shopping, gaming, social-networking – Facebook, blogging, gambling to an extent that it interferes with their ability to keep up with school, relationships, and has a negative effect on their mood. Increased accessibility, a culture that supports computer and Internet use, and lots of unstructured time can lead to problematic Internet use in some students.

Yates et al. [22] examined the phenomenology and developmental correlates of problematic Internet use in a large and diverse college student sample. They evaluated a developmental process model of problematic Internet use in which the expected association between child maltreatment and problematic Internet use would be explained by alexithymia. They also explored these relations as a function of gender and race. Males and Asian students endorsed higher levels of problematic Internet use than females and other ethnoracial groups, respectively. Furthermore, problematic Internet use was related to contemporaneous mal-adaptation in the form of decreased self-concept, lower social support, and increased psychopathology across groups. Problematic Internet use and mediation analyses showed that this relation was partially explained by alexithymia.

In alcohol-dependent patients, the defense styles were assessed [23] to verify whether they used less adaptive defense compared with healthy controls and to evaluate if immature defense styles are related with alexithymia. Patients were investigated with the Defense Style Questionnaire, the TAS, and the Temperament and Character Inventory. The alcohol-dependent patients were using neurotic defense style, some immature defense styles (projection, acting out, splitting, and somatization) more, and the mature defense style humor less than the control group. Immature defense style was positively correlated with novelty seeking, harm avoidance, self-transcendence, difficulty in identifying feelings, external oriented thinking, and total alexithymia score. Mean scores of neurotic and immature defense styles were higher in the alexithymic group than the nonalexithymic group. In addition, immature defense style was related with alexithymia.

Pulmonary disorders

In a Chinese study, [16] of patients with chronic obstructive pulmonary disease was assessed the prevalence of alexithymia and its relationship to socio-demographic factors and pulmonary function. Alexithymia was measured with 20-item Toronto Alexithymia Scale. The patients' socio-demographic variables and the forced expiratory volume in one-second percentage of predicted (FEV(1)% predicted) were recorded. Alexithymia was significantly more common in the chronic obstructive pulmonary disease patients than in controls. Male patients presented higher TAS-20 total scores and externally oriented thinking scores than the females. It is suggested that, in the management of chronic obstructive pulmonary disease, alexithymia feature should not be ignored and the appropriate psychotherapeutic treatment for alexithymia should be applied.

Recently, the prevalence of post-asthma attack posttraumatic stress disorder and the severity of psychiatric co-morbidity among a group of college students was reported by one study [24]. Alexithymia and coping strategies were also assessed. No significant differences between the asthma and control groups in severity of psychiatric co-morbid symptoms were found. Asthma severity was correlated with post-asthma attack posttraumatic stress disorder and psychiatric co-morbidity. They concluded people can develop post-asthma attack posttraumatic stress disorder symptoms and degrees of psychiatric co-morbid symptoms after suffering asthma attack. The severity of these symptoms related to people's perceptions of asthma severity and alexithymia.

Moes-Wójtowicz et al. [25] estimated the coincidence of asthma and the psychosomatic diseases, and the level of alexithymia in adult patients. Patients filled in a questionnaire consisting of: Asthma Control Test, list of factors which may cause asthma exacerbation, Toronto Alexithymia Scale 26 (TAS-26). Patients took part in an interview gathering information about diagnosed diseases in which the presence of psychological or behavioural influences is thought to have played a major role in the etiology of physical disorders or disorders connected with stress but presented by the patient as somatic symptoms. Alexithymia was diagnosed in 21.6 percent of patients. A correlation between the level of alexithymia and stress and strong emotions was not found. Stress or strong emotions were marked as factors causing asthma exacerbation in 61 percent of patients. The authors concluded that high level of alexithymia among the patients with asthma, frequent coincidence of asthma and psychosomatic diseases and the distinct influence of stress and strong emotions on causing asthma exacerbations, confirm that asthma may be considered as the psychosomatic disease.

Eating disorders

Recent studies have demonstrated that alexithymia is also commonly found in patients with anorexia nervosa, bulimia nervosa and binge eating disorder. The prevalence rates of alexithymia have been shown to vary from 23% to 77% among patients with anorexia nervosa and from 24% to 62.5% among patients with binge eating disorder [26, 27].

However, relatively little is known about the underlying neurobiological relationships between alexithymia and anorexia nervosa. In a functional MRI study, [28] anorexia nervosa patients showed significant activation of the orbitofrontal cortex, dorsolateral prefrontal cortex and medial prefrontal cortex while processing negative words concerning interpersonal relationships, as compared with the processing of neutral words. Moreover, the subjective rating of unpleasantness with negative words and neural activities in the amygdala, posterior cingulate cortex and anterior cingulate cortex negatively correlated with the level of alexithymia in these patients. Anorexia nervosa patients tend to cognitively process negative words concerning interpersonal relationships, resulting in activation of the prefrontal cortex. Lower activation of the amygdala, posterior cingulate cortex and anterior cingulate cortex in response to these words may contribute to the impairments of emotional processing those are hallmarks of alexithymia.

The default mode network is a network of brain areas that is normally active during rest and involved in emotion processing and self-referential mental activity, including introspection. In a more recent MRI study, [29] within the default mode network, alexithymic participants showed lower connectivity within frontal areas within the default mode network (medial frontal and medial temporal areas) as compared to non-alexithymic participants. In contrast, connectivity in the high-alexithymic

participants was higher for the sensorimotor cortex, occipital areas and right lateral frontal cortex than in the low-alexithymic participants. The results suggest a diminished connectivity within the d mode network of alexithymic participants, in brain areas that may also be involved in emotional awareness and self-referential processing.

Traumatic brain injury

Wood and Doughty [30] emphasize that individuals who develop maladaptive coping styles after traumatic brain injury usually experience difficulty expressing their emotional state, increasing the risk of psychological distress. Difficulties expressing emotion and identifying feelings are features of alexithymia, which is prevalent following traumatic brain injury. The patients with traumatic brain injury exhibit significantly higher rates of alexithymia and psychological distress and lower levels of task-oriented coping than healthy controls. Furthermore, levels of avoidance coping and psychological distress is considerably higher in a subgroup of traumatic brain injury patients with alexithymia than in a non-alexithymic traumatic brain injury sub sample. It is believed, that early screening for alexithymia following brain injury might identify those most at risk of developing maladaptive coping mechanisms. This could assist in developing early rehabilitation interventions to reduce vulnerability to later psychological distress.

Chronic idiopathic urticaria

In a more recent study, [31] the interrelationship between chronic idiopathic urticaria, psychological co-morbidity, posttraumatic stress, repression and alexithymia was investigated. Eighty-nine participants with chronic idiopathic urticaria and 105 without chronic idiopathic urticaria responded to an online questionnaire. Both groups completed the General Health Questionnaire-12, the Perceived Stress Scale, the Posttraumatic Stress Diagnostic Scale and the TAS - 20. Patients with chronic idiopathic urticaria reported higher levels of alexithymia than the control. Partial least square's analysis revealed significant paths between posttraumatic stress and chronic idiopathic urticaria severity and psychological co-morbidity. Disease severity and psychological co-morbidity are differentially influenced by the relationships between trauma, alexithymic traits and defense mechanisms.

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REHABILITATION ISSUES

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Proprioception of ankle joint and foot arch of the young, physically active people

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Introduction

One of the most common injuries of musculoskeletal system, is sprained ankle. Mechanism of the injury is usually connected with the exceeded physiological scope of inversion and plantar flexion, while the center of mass is transferred above the ankle. 75% of ankle injuries are connected with damages of lateral ligament complex, which consists of anterior talofibular ligament (ATFL), calcaneofibular ligament (CFL) and posterior talofibular ligament (PTFL). Capsule and ligament injuries influence proprioception disorders and joint stability [1, 2].

Proprioception refers to afferent information ascending from internal peripheral body areas, which influences postural control, joint stability and conscious perception. This term could be associated with joint position sense, kinesthesia and perception of resistance or weight. Proprioceptors occur in muscles, tendons, particular capsules and ligaments. They serve as the receivers of messages about changes in muscles tension and length, localization of limbs in relation to each other and trunk, as well as body movements [3, 4].

Methods of proprioception evaluation

Many methods of integrity and functionality of senso-motoric control systems evaluation, is based on the examination of variables connected with afferent and efferent paths, as well as of the final result of skeletal muscle's activation.

Examination of proprioception is used for estimation of peripheral afferentation. Elements of proprioception diagnostics are: tests on joint position sense, kinesthesia and muscle tension sense.

Examination of joint position sense includes the analysis of precision of active and passive joint position repetition, both, in the closed and open biokinematic chains [5, 6].

Biomechanics and kinesiology of the talocrural joint

Talocrural joint and subtalar joints are responsible for the transfer of body weight and ground reaction forces. Talocrural joint consists of lower extremity of tibia, fibula and trochlea of the talus. Plantar flexion and dorsiflexion axis of movement runs almost transversely through the lateral and medial malleolus [7, 8].

Axis of subtalar joint runs transversely from the lower, posterior, lateral part of the joint and medially to the upper, anterior part. Along with the axis, inversion and eversion occur. Important for foot mechanics are also processes of pronation and supination, which occur along with the axis placed almost in the sagittal plane.

Foot movements are complex and they are almost always the composition of movements, particularly, of joints.

Next to the stable articulations, foot arch, which consists of transversal and longitudinal arch, is responsible for transferring and amortization of pressure and ground reaction forces. Arches of the foot are set between fulcrums of foot sole (tuber calcanei) and a head of first and fifth metatarsal bone [7, 8].

Proprioperception disorders of the young, physically active people

Problems with ankle joint position senses are revealed during the movement of plantar flexion and inversion. Studies on proprioception oscillate around the patients with functional ankle instability (FAI). However, proprioception disorders also touch physically active patients, who did not suffer from any injury [9-11].

Materials and methods

The study included 54 students of physiotherapy of the Health Sciences Faculty at the Medical University of Bialystok. 44 women and 12 men took part in the research. The details are shown in (Table 1).

Table 1. Demographic and clinical characteristics of examined group

Variable	Age	Body mass	Height	BMI
average	21.41	66.52	1.71	22.62
median	21	63.23	1.7	22.29
min	20	45.6	1.54	17.71
max	28	99.63	1.9	31.44
quartile min	21	58.47	1.65	20.46
quartile max	21	75.28	1.76	24.20
standard deviation	1.19	11.72	0.08	2.88

Thirty-four patients have had the injuries, and 18 patients have had at least one ankle sprain. In the group being after at least one injury, eight patients suffered from a sprain of left limb and 14 of right lower limb. Only a conservative treatment was applied: plaster 61%, stabilizer 55% or elastic bandage 4%. 66 % (12/18) of patients after the injury was physically active, in contrary to those, who did not suffer from any injury 47 % (17/36).

The aim of this study was to evaluate proprioception of ankle joint and foot arch of the young, physically active people. Evaluation of proprioception was performed with the use of JPS test and functional examination of proprioception, using the stabilometric platform Prokin 3 by Technobody with additional Pro Kin Line Software, which allows to obtain objective results. During the examination of JPS, joint was set in one position,

in closed kinematic chains (dorsiflexion, plantar flexion, pronation and supination) in the angular scope of 5º and 10º for 10 seconds. Patient's task was to repeat a presented position in three subsequent attempts. After the measurement of movement range, the results from the monitor of the stabilometric platform were interpreted. Functional examination of proprioception on stabilometric platform included going along the round tract five times, with the scope of 5º and 10º of a talocrural joint. Computer software calculated average trace error (ATE) and average force variation (AFV) for left and right lower limb. Evaluation of foot arch was based on a determination of Wajsflog and Sztriter-Godunov indexes, as well as Clarke's angle, using a computer analysis of feet by CQ-ST device. All indexes determined the range of foot arch fall. Value of limbs load was measured by weight test.

Normal distribution was verified by Kolmogorov-Smirnov tests with Lillefor's correction and by Shapiro-Wilk test. Normality in distribution of analyzed quantitative variables was not stated. To compare quantitative variables without normal distribution, non-parametric Mann-Whitney U test was applied to both groups. To compare dependent variables, Wilcoxon signed-rank test was applied in case of two variables. Spearman's rank correlation index was also determined. Differences were considered statistically significant when $p<0.05$. All examinations were performed with the use of StatSoft Statistica 10.0.

Results

Parameters describing proprioception and foot arch of a group of patients without injury of ankle joint, are presented in (Table 2).

Table 2. Parameters describing proprioception and foot arch of the examined group

Parameter	median		average ± SD	
	No injury	injury	No injury	injury
Average JPS	1.30	1.22	1.35± 0.46	1.26± 0.31
ATE L	37	35	37.11± 8.73	39.44± 14.25
ATE R	38	39	36.64± 8.59	40.22± 13.28
ATE +time L	85	88.00	87.81± 12.85	92.11± 16.75
ATE +time R	94	89.50	95.39± 16.35	93.83± 14.79
AFV L	0.75	0.75	1.06± 1.84	0.77± 0.52
AFV R	0.80	0.75	0.79± 0.48	0.79± 0.52
Wajsflog L	43.5	43.00	48.39± 34.59	43.17± 15.26
Wajsflog R	44.5	45.50	45.75± 21.34	41.67± 15.21
Sztriter – Godunov L	0.47	0.47	0.43± 0.16	0.47± 0.15
Sztriter – Godunov R	0.47	0.48	0.45± 0.12	0.46± 0.13
Clarke L	57.4	63.50	56.46± 12.49	57.72± 16.45
Clarke R	64.9	62.95	62.91± 12.79	59.92± 16.51

No significant correlation was found between mean error in JPS analysis and parameters describing functional proprioception examination (ATE, ATE+time, AFV) of the studied group. Statistical tendency was proved to be in correlation between mean

error of JPS and ATE parameter of both limbs of the group of patients after the injury. No significant correlation was observed in the group without injury (Table 3).

Table 3. Correlation between joint-position sense and ATE in the examined group

Pair of variables	N majors	R Spearman	P
Average JPS – ATE L	18	0.42	0.08
Average JPS – ATE R	18	0.43	0.07

In the group without the injury, correlation of ATE + time and average error in JPS in left lower limb were at the limit of statistical significance (Table 4).

Table 4. Correlation between JPS and ATE with time in the group without injury

Pair of variables	N majors	R Spearman	p
Average JPS – ATE+time L	36	0.32	0.06
Average JPS – ATE+time R	36	-0.06	0.71

A significant negative correlation (p=0.03; R= -0.29) was found between the level of physical activeness and average error in JPS analysis. Statistical tendency was proved to be in correlation between physical activity and ATE parameters of the examined group (Table 5).

Table 5. Correlation between physical activity and parameters describing proprioception of the examined group

Pair of variables	N majors	R Spearman	*P*
Physical activity – Average JPS	56	-0,29	0,03
Physical activity – ATE L	53	0,23	0,095
Physical activity – ATE R	54	0,20	0,15

In the group without the injury, no significant correlation was found between the abovementioned parameters. However, in the group being after the injury, the tendency to negative correlation between physical activity and average error in JPS analysis was observed.

Significant difference was proved to exist between parameters describing foot arch such as Wajsflog index, Sztriter-Godunov index, and Clarke's angel in the group of women and men (p=0.05). No significant differences were found between the parameters describing foot arch in groups with and without ankle injury.

No significant correlation was found between mean error of JPS, particularly, in moves at 5º and 10º and mean error in sector referring to those parameters. Statistically significant correlation was found only between an average error of JPS and pronation of

right limb at 5º and ATE of the fifth sector. Statistical tendency was found in correlation of ATE in sector six and seven with mean error of JPS in supination (Table 6).

Table 6. Correlation between joint-position sense, particularly, moves and average tract error, movement sectors

Pair of variables	N majors	R Spearman	P
ATE Sector 6 L – JPS supination 5° L	54	0.23	0.098
ATE Sector 7 L – JPS supination 10° L	54	0.24	0.078
ATE Sector 5 R – JPS pronation 5° P	54	0.38	0.004

Statistically significant difference in ATE of right lower limb was found between groups of patients after application of plaster and without it. What is more, the difference of average error value in JPS was at the limit of statistical significance in mentioned above groups (Table 7).

Table 7. Differences in parameters describing proprioception of patients with and without plaster

Variable	Patients with plaster N	Patients without plaster N	P
Average JPS	11	4	0.058
ATE L	11	4	0.102
ATE R	11	4	0.015

In the examined groups, significant differences were found between particular measurements during JPS analysis in movement of right lower limb: dorsiflexion 5º and 10º, plantar flexion 10º, and left lower limb: dorsiflexion 5º, supination 5º. Statistical tendency was noticed in differences between: plantar flexion 5º left, pronation 5º right (Table 8).

Table 8. Differences between particular measurements in JPS analysis of the examined group

Variable	N majors	P
JPS dorsiflexion 5° left	56	0,004
JPS dorsiflexion 5° right	56	0,017
JPS supination 5° left	56	0,010
JPS dorsiflexion 10° right	56	0,035
JPS plantar flexion 10° right	56	0,001
JPS plantar flexion 5° left	56	0,068
JPS pronation 5° right	56	0,070

Significant differences were found between particular measurements during JPS analysis in right lower limb movement: dorsiflexion 5º, plantar flexion 10º, and left lower limb: dorsiflexion 5º, supination 5º in the group without injury. Statistical tendency was stated in differences in plantar flexion movement 5º of left lower limb (Table 9).

Table 9. Differences, in particular, measurements of JPS analysis in the group without injury

Variable	N majors	P
JPS dorsiflexion 5° left	38	0,003
JPS dorsiflexion 5° right	38	0,017
JPS supination 5° left	38	0,031
JPS plantar flexion 10° right	38	0,000

Significant differences were noted between particular measurements during JPS analysis in dorsiflexion 10° of left lower limb after the injury. Statistical tendency was observed in pronation 5° of right lower limb.

There were no significant differences between parameters describing proprioception of the patients with fallen foot arch, determined by Wajsflog, Sztriter-Godunov and Clarke's indexes, and patients with normal or high foot arch.

Time of the last injury was not correlated with parameters describing proprioception.

Statistically significant correlation was not found between BMI, differences in load of lower limb in weight test and parameters describing foot arch. Comparison of parameters describing proprioception and foot arch in groups with and without the injury was also statistically insignificant.

Discussion

Ankle joint injury is one of the most common injuries occurring during physical activities. The most common complaints reported by 20-40% of patients treated conservatively after the injuries are: pain, ankle swelling, joint instability, a chronic sprains. Frequency of those symptoms occurrence is not connected with the injury extend. 75% of ankle injuries are connected with lateral ligament complex, which consists of ATFL, CFL and PTFL. Joint capsule and ligament injuries influence proprioception disorders and joint stability [1, 2].

Proprioception examination as a component of sensomotoric control systems is highly significant to the process of determination of joint stability disorders. It is possible to develop rehabilitation program based on targeted examination responsive to patient's objective functional issues [1, 2].

Special attention has to be paid to proprioception recovery of patients after ankle injury with applied plaster, who revealed increased error value in joint-position analysis. During examination of sensory function of passive and active components of sensomotoric control system and musculoskeletal system response, disorders influencing joint stability may be determined.

Authors examining joint stability and sensomotoric control system focus on measurements and evaluations of postural control, kinesthesia, JPS and time of muscle reaction [12].

Examination of JPS is performed actively and passively. Position in a closed or open kinematic chains is useful for this analysis. Authors examining proprioception issues presented incompatible studies about differences in JPS results in groups with and without ankle sprain. Inversion, eversion, dorsiflexion and plantar flexion were analyzed [12].

No significant difference between controls and subjects with a chronic ankle sprains after analysis of passive and active JPS in the inversion-eversion plane was found [13].

After analysis of injured and uninjured ankles of patients with unilateral ankle sprain, Holme et al. did not observe differences in active JPS of the inversion/eversion plane [10].

Those researchers studied only an absolute error and did not differentiate direction. Less precise JPS was also observed by some researches with chronically unstable ankles. After examination of active JPS of the plantar flexion-dorsiflexion plane, Glencross and Thornton proved some deficits to appear after the injury [14].

According to Boyle and Negus, examination of active and passive JPS of patients with recurrent ankle sprains, in comparison with patients without injury, is less precise [15].

According to Hartsell, patients with chronically unstable ankles were less aware of active JPS than patients with healthy ankles at a test position of 15° inversion [16].

Gait and sports require proper foot position. Ankle sprain may be a result of hitting the ground in unnecessarily inverted position. According to some studies, incorrect foot positioning may occur only in case of patients with CAI. Those patients may also suffer from recurring sprains connected with altered afferent input. Furthermore, no significant differences were found between uninjured patients and those who had recurrent ankle sprains in the past. However, significant differences were proved to exist between the patients after recurrent inversion sprains in the past, not connected with instability, and those who suffered from chronically unstable ankles. Past ankle sprains without resultant instability did not influence patients' ankle position awareness [12, 17].

In this study, correlations between JPS analysis and functional proprioception examination were found, using TecnoBody Prokin 3 platforms. Results suggest efficacy of using both examinations in proprioception disorder's diagnostics.

Differences between errors of JPS were changing along with the number of performed measurements, and the time from normal position determined by the examiner.

Statistically significant correlations between tract error in sector S6 and S7 of left lower limb proved in functional examination (ATE) and JPS error in supination, confirm that stabilometric platform is useful in functional examination of ankle proprioception.

Statistically significant differences between results of JPS analysis suggest the influence of time from determination of normal position on error value. Results of other authors suggest application of 3-6 measurements in one setting. Comparable JPS evaluation requires standardized methods. It would be helpful in creating standardized examination protocol [12, 18, 19].

Patients with FAI may suffer recurring ankle sprains according to the proprioceptive deficit. Patients who suffered from sprains without instability showed normal proprioception. That is why prevention of FAI should be the main goal for the treatment of lateral ankle injuries [12, 17].
Our results suggest that rehabilitation after injury is highly significant in preventing functional instability of ankle, which is the reason of proprioception disorders.

Conclusions

1. Stabilometric platform is useful for diagnostics of proprioception disorders.
2. Proprioception disorders are not found in case of young patients after distant ankle injuries without instabilities, in comparison to patients without injuries.
3. Joint-position sense analysis and proprioception functional examination has similar diagnostic value in case of patients after ankle injury.
4. Foot arch does not influence ankle proprioception.
5. Ankle injury influences proprioception disorders less than functional ankle instability.

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Disability as an increasing social problem in Poland

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Introduction

Disability is one of the most important aspects of the health state evaluation. It is also a serious social problem. Poland belongs to the group of countries that have a big percentage of disabled people. It concerns both aged persons and very young ones, including little children. It is the result of the congenital anomalies, chronic diseases, accidents and injuries [1 - 3].

The definition of the World Health Organization describes the disability as the decreased physical, mental, intellectual or sensory fitness that interacts with different barriers, and limits full and effective participation in the life of the society on the same level as the other citizens [4 - 6].

At present, there are at least two definitions of the disabled people in Poland. The first one results from the law and is concerned with the criteria of the disabled people group qualification. The second one, which is much broader, is used in the statistical registries of the Main Statistical Office. It defines not only the disabled people in the legal meaning, but also the people who declare to have some limitations in performing particular activities (so called biological disability) [1, 7].

According to the Polish law, there are two types of medical statements that are regulated by different legal acts and performed by different institutions. The Social Insurance Office performs medical evaluation that entitles to receiving the health benefits, while the Councils for Confirming the State of Disability do it in case of other purposes. According to the present law, the possession of the valid statement, issued by the institutions mentioned above, qualifies the person for the group of legally disabled, and gives the right to apply for and receive the special help and privileges that this group owes (for example the benefit compensating the disability to work, the nursing benefit, stays in the rehabilitation centres, lower travelling fares). Biological disability informs only of the subjective declaration of the person about his or her limited ability to perform defined activities [8 - 11].

The biological disability according to the European Union criteria

According to the Eurostat, the number of disabled people, who lived in Poland at the end of 2009, and who had the limited ability to perform usual activities due to health problems, came to 8,1 million. The study did not take into account whether they had the legal certificate of disability or not [1].

The epidemiologic data indicate that more than one fifth of Poles belong to the group of people with disabilities. 75% of them have less serious limitations of daily activities, while 25% of them have them limited to a great extent. The biological disability increases with age, and is intensified especially after the age of 50. According to the European Union's criteria every third person at the age of 50 gets to the group with disabilities, as well as almost 75% of people at the age of 70. The biological aspect of disability becomes more distinct, when the other features are also taken into consideration, including those indicating poor health. Women are qualified for this group much more often than men – almost one fourth of women and only one fifth of men. Only one sixth of the examined people noted that their state of health was good or very good. Most of the population estimated it as mean, bad or very bad. In case of more than 90% of this group long lasting health problems were observed. If we limit the biological disability level estimation in Poland, from the end of 2009, to the population of adults (15 years old and more) we can observe that despite they constitute 25% of the whole population, it is still lower than the average number, suggested by the European Union (26%). In many countries of the Central and Eastern Europe, the percentage of the biologically disabled people in the whole population, is much higher than in Poland. In Estonia it is 29%, in Latvia – 31% and in Slovakia – 33% [1, 12, 13].

Legal and biological disability according to the Main Statistical Office

On the basis of the accepted level of the functional limitations that are the criterion of the biological disability for the Main Statistical Office the population of disabled people in Poland may come from 5,3 million to 9 million. The lower limit of this estimation was obtained when all the legally disabled people and the those with serious limitations of activity were counted, while the upper limit was obtained when also the persons declaring any limitations, even not very serious, were added. The number of 5,3 million stands for the criteria that have been used, until now, to count the population of the disabled people in Poland (in the questionnaire studies or the National Common Counting), while the number of 9 million, additionally, takes into account the full criteria of the biological disability, functioning in the European statistics [1, 3, 6].

The studies, conducted in accordance to the methodology used in Poland, indicate that the number of the disabled has decreased by 950 000 during the last 5 years and it was 5,3 million at the end of 2009. Only every fifth disabled person did not have the certificate of disability, which means that they did not have the legal status of the disabled. In the structure of such a population, the legally disabled are the most frequent. They constitute a half of this population. Every third person have the legal certificate of disability and feels seriously limited, and 20% of them are the people without certificates, but with serious limitations of the basic life functions (only biologically disabled). Analyzing the structure of the group according to the sex and age, it can be observed that the general index of disability is higher among women than men (14.1% vs 13.1%). However the analysis of different age groups allows to state that, almost in every age group, men are more often disabled (up to the age of 69). Only among very old people (over 70) there are relatively more disabled women (mostly in the biologic aspect). The cities' inhabitants are slightly more often disabled than the rural population.

Considering the age (up to 20 years old) it is possible to say that the disability in the country is lower than in the cities and in the older groups it is slightly higher (excluding the group of 70-79). Taking into consideration the territorial difference, it is easy to observe that the biggest number of the disabled live in the areas around Lublin, Gorzów and Bydgoszcz and Toruń (the districts with the capitals in the above mentioned cities). One sixth of their population is disabled. The problem is smaller in the following regions: Mazowieckie, Podlaskie, Warmińsko-Mazurskie and Świętokrzyskie – only one eight of their population is disabled [1, 12, 14, 15].

Table 1. The incidence of disability in Poland [1].

Voivodeship	Disabled					
	All	0-14 years	15-29 years	30-49 years	50-69 years	70 years and more
	%					
All	**13.9**	**3.1**	**3.9**	**7.1**	**25.0**	**45.2**
Dolnośląskie	14.2	2.7	4.3	7.0	23.8	46.7
Kujawsko-Pomorskie	16.1	4.2	5.7	9.8	26,9	51.5
Lubelskie	16.3	3.0	3.7	9.4	29,8	50.1
Lubuskie	16.1	4.0	4.2	7.5	32,2	47.5
Łódzkie	15.3	3.5	3.8	7.1	26,1	46.4
Małopolskie	15.8	1.9	4.6	6.9	30,8	55.6
Mazowieckie	12.4	5.1	3.3	4.5	22,2	38.9
Opolskie	14.8	5.1	3.4	8.3	23,8	48.9
Podkarpackie	13.2	3.0	4.2	8.4	25,2	39.8
Podlaskie	**12.4**	**1.1**	**4.5**	**7.0**	**20.7**	**41.7**
Pomorskie	13.1	2.4	3.7	8.0	25.0	42.0
Śląskie	13.7	1.5	3.5	7.6	23.1	46.1
Świętokrzyskie	12.0	3.6	3.5	6.2	19.6	37.3
Warmińsko-mazurskie						
Wielkopolskie	12.4	2.3	3.7	7.9	21.8	46.2
Zachodniopomorskie	3.0	2.7	3.0	5.2	27.3	45.9
	13.4	5.0	4.0	9.2	22.4	38.5

The legally disabled people can be found in the population most frequently. They constitute 38-40% of all disabled in the regions: Opolskie. Podlaskie and Mazowieckie and 62% in the Lubuskie. The number of people having the certificate of disability and declaring the limitations in the everyday life comes to 29% of the disabled in the whole country. In the other regions the percentage hesitates from 24% in the Łódzkie, Pomorskie and Lubuskie to almost 38% in Warmińsko-Mazurskie. The group of people with the biological disability only, meaning, the people who do not have the certificate of disability but they feel serious limitations in the daily activities, is relatively big. They constitute 21% of the whole population, and the numbers hesitate from about 14% in Małopolskie to 30% in Mazowieckie and Opolskie [1, 12, 15].

The characteristics of the disabled at the age of 15 and more

It was estimated that the number of the disabled at the age of 15 and more, amounted to almost 5,1 million at the end of 2009, which was related to about 16% of the whole population (16,7% of women and 14,9% of men). An average age of the disabled was 61. In comparison to the population of 2004, this age increased by one year. The disabled women are older than men (the former 64 and the latter 59). Almost 78% of the disabled adults have the legal certificate of disability. The rest of them (22%) do not have the certificate but they declare the serious limitations in everyday activities. At the same time, more than 60% of the people with legal certificates did not mention the serious limitations or only slight ones. The number of people with legal certificate of disability amounts to almost 4mln. Among them, the most frequently can be found the people with the moderate degree of disability (1,3 million) and with the slight degree of disability (1,2 million). According to the results of the study more than 60% of the certificates confirming the severe disability, is concerned with people at the retirement age. The next 25% is concerned with people at the age before the retirement, but who are immobile (40-59). About 25 % certificates of disability is concerned with the relatively young people at the age of 15 to 49. The consecutive and numerous group consists of the people at the age of 50 that constitute almost 40% of all the people with certificates confirming the slight disability [1, 3, 13]. The disabled people evaluate their health as worse and they have more frequent, long lasting, medical problems and chronic diseases; they have to ask for medical help more often. In this group the injuries of the limbs and the diseases of the musculoskeletal system are the most frequent (56% of disabled adults), and the next are the cardiovascular diseases (50%), neurological diseases (33%), the dysfunctions and diseases of vision (27%), hearing (14%) and psychiatric diseases (10%) (Figure 1).

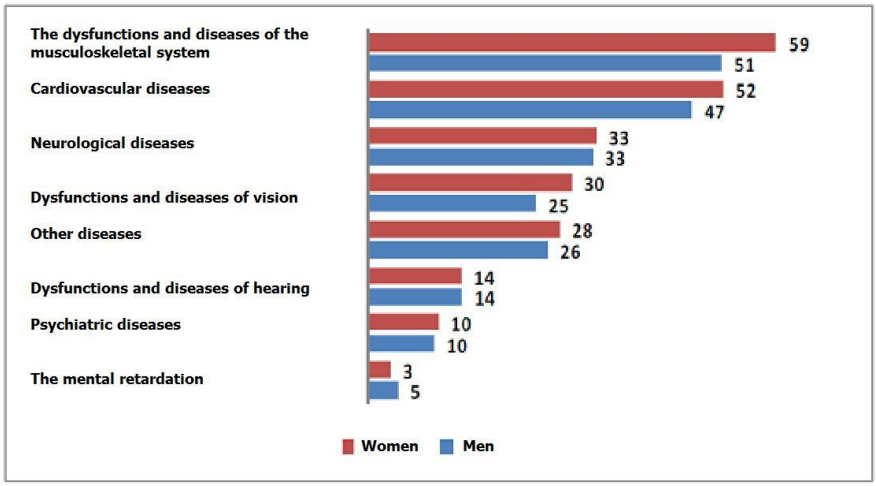

Figure 1. The kinds of diseases among the disabled in Poland (%)[1].

Based on the analysis of the health state of the Polish population made in 2009 it is possible to claim that:

1) Almost 60% of the disabled cannot carry the object weighing 5kg, for more than 10m (for example, example the shopping bag with the contents).

2) Every second person has impaired vision from the short distance, even when using glasses; at the age of 80 or more, 75 % of people have such problems.
3) Every third disabled person has difficulties with recognizing faces from 4m.
4) Every third disabled person cannot hear well the conversation of several other people, even when using the hearing aid.
5) More than 40% of the disabled have difficulties with walking 500m without help, and every fourth has such difficulties with ascending and descending the first floor.
6) More than 38% of the disabled have difficulties with performing simple activities connected with self-service:
    a. Every third disabled person has difficulties with going to bed or leaving bed, and with sitting down or standing up from the chair,
    b. More than every fourth has difficulties with putting on or off the clothes or with washing the whole body.
7) More than 64% of all the disabled perform the housework with difficulty:
    a. Every fifth disabled person cooks the meals with difficulty,
    b. Every third person does everyday shopping with difficulty,
    c. Every ninth takes medicines with difficulty,
    d. The considerable part of this population (over 30%) has also problems with light housework.

The problems, of course, appear with different frequency, but they increase with age. The considerable part of the old people need the help of the others to perform daily activities [1, 12].

The overall number of the disabled children is almost 180,000. In this group, there is about 46,000 children disabled legally and biologically, 123,000 with only legal statement and 11,000 children disabled only biologically. The bigger part lives in the cities (111000). In the country live 68,000. According to the analysis of the study, taking into account the age, the most numerous group of the disabled is at the age of 5- 9 (4%); in the group of children under the age of 10-14 there are 3, 2%% disabled people, and in the group of the youngest children, there are 2, 2%% disabled people. In the oldest group, there are mostly children both, legally and biologically disabled (1%), but also only legally disabled (2,2%). The most numerous group of children with the biological disabilities only, is that of the age of 5-9. The above-mentioned data are similar in all age groups, both in the cities and in the country, both, for boys and for girls. The number of the disabled boys is higher than that of the girls – 102,100 boys, 77,700 girls. In case of girls, most of them are only legally disabled – 51,500 of them, while in case of boys, there are only 71,300 legally disabled [1, 3, 12].

The institutions helping the disabled

The present economic situation forces the disabled people and their families to deal with not only variable health problems but also social, economic and professional ones. The possibility to overcome them depends, to the great extent, on the support of the others. There are many institutions that offer help to the handicapped, such as: The Office of the Representative of Disabled People, The State Fund for Rehabilitation of Disabled Persons, The Association for Mentally Disabled People, The Polish Parliament of Disabled People, The Country Council of Disabled Persons, The Country Board for Economy and Rehabilitation and many others. The tasks connected with the disabled are performed by the state and local authorities and non-governmental organizations that associate the disabled and the people helping them. Moving the social activity from the central organizations to the local ones, which took over the tasks and gained the

entitlements in the last decade, resulted in the increasing role of the local authorities and non-governmental organizations. The support on this lowest level and, at the same time, on the level that is closest to the people in need of help, seems to be the most important. Their activity is very complex and relates to:

1) Running professional training and changing professional qualifications.
2) Organizing work agencies and professional advising offices and sending there the disabled who need the specialist program of training and medical or social rehabilitation.
3) Legal and economical advisory activity.
4) The participation of the disabled and their families in the rehabilitation stays.
5) The participation of the disabled in the social, public, cultural, touristic and sports life.
6) The initiatives directed towards limiting the results of disability.
7) The adjustment of job surroundings to the needs of the disabled.
8) Removing the architectural barriers, as well as those connected with living conditions, transport and communication.
9) Providing with the equipment that enables or makes it easier to function normally in the society.
10) The cooperation with the units of the government administration and the local authorities, the non-governmental organizations helping the disabled and the other subjects to get employment and rehabilitation, and to help the families of the disabled children [12, 16, 17].

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The needs of disabled persons as the challenge for the hippotherapy – the activity of the Rehabilitation Day Centre for Children in Kisielnica, as an example

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Introduction

Different schools of therapy all over the world have different definitions of hippotherapy. The word “hippotherapy” (from the greek word hippos – a horse) means only the physiotherapy on the back of a horse or the therapeutic gymnastics on the horse, while in Poland, the word has broader meaning and includes all the therapeutic activities connected with the horse and horse-riding. The Polish understanding to the word “hippotherapy” is the closest to the “therapeutic horse-riding." It includes all actions aimed at restoring health and fitness by using horse-riding and a contact with a horse [1, 2].

Development and improvement of the dynamic balance is the basic aim of hippotherapy. Grochmal said that every movement of a horse and of a person sitting on it gives an impulse for getting balance and appropriate position of trunk and limbs [3].

Many health advantages of horse-riding make it a useful sport, especially, for the disabled people, because it may become the method of rehabilitation. Being in touch with the horse beneficially influences the mental state of patients. Mild waving movement favors relax and release stress. It is worth emphasizing that an animal does not judge anyone. People, who make new acquaintances with difficulty, come to friendly terms with the horse easily. Hippotherapy may be an excellent school of life. It enriches the knowledge about the world and, at the same time, teaches a patient to be self-dependent, responsible and able to cooperate with others. Staying with the animal stimulates all the senses and causes a child to smile [4].

In the Cardinal Wyszynski District Hospital in Lomza there is a Rehabilitation Day Centre for Children in Kisielnica, which is a structural unit of the Department of Rehabilitation. It consists of: the Rehabilitation Department and the Neurological Rehabilitation Department, Regional Day Clinic of the Therapeutic Rehabilitation (the Clinic for After-Hospital Follow-up, The Clinic of Therapeutic Rehabilitation and the Rooms of Physical Therapy, Physiotherapy and Therapeutic Massage), The Day Centre of rehabilitation and The Day Centre of Rehabilitation for Children [5].

It was founded on December 15, 1989, and its activity is regulated by the statute of the Department of Rehabilitation. It delivers services for the disabled people with the aim to restore their physical fitness and mental well-being to the degree, which is possible to be achieved by realizing the individual program of rehabilitation. It is based on the hippotherapy (among all) – the multi profile process of improving general fitness of disabled children – that influences the movements within the body, physiological processes and mental state. It may be also the form of sport for disabled people if it is trained under the supervision of the physician who claimed no contraindications for such therapy [6 - 9].

The rehabilitation exercises that are conducted by then centre are financed by the National Health Fund and include: hippotherapy, passive exercises made by hand, passive redression exercises of the joint made manually, active and passive exercises, methods of neuromuscular reeducation, exercises of kinetic coordination, sensomotoric methods, active free exercises, active exercises with the resistance, active verticalization, learning the locomotion functions, balancing exercises and coordination of posture, releasing and relaxing, exercises of the manual fitness, exercises improving general fitness, active exercises of breathing, exercises with the horses (cleaning, feeding and leading) and learning horse-riding for the hyper-reactive and autistic people [10, 11].

The centre runs the hippotherapy for the patients with autism, infantile cerebral palsy, Down's syndrome, faulted posture, mental and kinetic retardation, attention-deficit hyper-reactivity syndrome (ADHD), the paresis after the cranio-cerebral injury, Miller-Dicker syndrome, Dante-Walker syndrome and Rett syndrome, disorders of the behavior and emotions, West syndrome, mental retardation, suspected Nagier syndrome, multiple sclerosis, disorders of the psychokinetic coordination, complex disorders of development, psychokinetic hyper-reactivity, four-leg palsy during the infantile cerebral palsy and disorders of the central kinetic coordination [12 - 14]. The statistical data concerning the activity at the centre during the last five years are shown in Table 1.

Table 1. The statistical data concerning the activity of the Day Rehabilitation Centre for Children in Kisielnica

Year	The number of patients	The number of out-of-hospital procedures
2006	103	30588
2007	89	29681
2008	78	23226
2009	63	13270
2010	62	14746
2011	67	14888

The effects of the therapy

The Rehabilitation Centre has worked up its own method of therapy during 23 years of activity. It is the use of horse-riding and performing the set of exercises in its

course. It consist of turning the trunk in three planes, the exercises of the muscles of the abdomen, the postural muscles and performing the exercises stimulating the superficial and deep sensibility. The most important results of the rehabilitation are: the stabilization of the muscular tension for almost all patients (hippotherapy causes the normalization of the muscular tension in case of either flaccid or spastic patients) and improvement of the posture of the body, as well as increase of the general fitness.

For patients with cerebral palsy, the exercises on the horse reproduce the proper pattern of motion. In patients with the tendency to spasticity, the hippotherapy prevents its recurrences and assures the greater freedom of breathing, but also increases the lung capacity, which makes patients more immune to different respiratory tract infections. For patients with psychokinetic over-reactivity the exercises on the horse have the calming and relaxing effect that leads to greater obedience, better behavior at school and at home, the increase of concentration and attention. Hippotherapy wakes up the passion for horses and horse-riding, which is expressed by collecting pictures and sculptures of horses and telling all the members of the family about experiences with horses. For autistic children the exercises with the horses, break out the isolation and make them open up to the therapists and the external world. In this way new relations between the patient and the horse or the patient and the therapists are born, which is the excellent introduction to the further therapeutic work. The horse is the "living equipment" that adjust to the needs of each patient. Together with increasing fitness of the patient, it is possible to augment the level of difficulty of the performed exercises and give the more and more independent tasks (to go from the passive exercises to active ones, from leading the patient to the therapeutic horse-riding and the sport for disabled, which not only improves the physical fitness, but also creates higher self-esteem, the feeling of one's own value and belief in one's possibilities with the need to broaden them). The most spectacular effects of hippotherapy include the ability to sit, to stand up independently, to move in the wheel-chair, to walk and run, to stop the blockade of the speech apparatus and to fight the fear [15, 16, 17].

The aim of the study was to evaluate the therapeutic influence of the hippotherapy used in the Day Rehabilitation Centre for Children in Kisielnica in the advance of rehabilitation for children, undergoing this treatment, based on the opinions of their parents.

Materials and methods

There were thirty disabled children taking part in the research. They were the inhabitants of the Podlaskie Voivodenship and were undergoing rehabilitation with hippotherapy in the Day Rehabilitation Centre for Children in Kisielnica. As a method of the research, we used the questionnaire. It consisted of six parts evaluating the influence of hippotherapy on different aspects of the child's development: the big motor activity (BMA), the small motor activity (SMA), emotions and motivations (EM), social (S), personality (P) and cognitive (C).

Each part of the questionnaire included general statements that allowed to evaluate the changes in the studied aspect of the child's development. The parent had to determine to what extent he noticed the changes, appearing due to hippotherapy. There was used a following scale: 0 - does not exist, 1 – very big, 2 – big, 3 – moderate, 4 - small, 5 – very small. The results were analyzed quantitatively.

Results

In the examined group, there were 70% of boys and 30% of girls. The average age of the rehabilitated children, both boys and girls, was 11. The youngest patients were 4 years old and the oldest 27 years old. The age difference was 23 years. The rural inhabitants constituted 27% of the studied group and the urban inhabitants - 73%. All the children came from the regular families with two parents. 53% of the families had one child, 23% two children, 17% three children and 7% - four.

The time of disability diagnosis differed in the examined group. 20% were diagnosed just after birth and 80% in the infancy. The average time of hippotherapy was five years. The frequency of the exercises was different. The most numerous group (54%) attended exercises three times a week, 23% - five times a week, 13% two times a week and 10% once a week.

The evaluation of the general motor activity of a child was made before and after the hippotherapy. Unfortunately, 33% of parents did not notice the improvement of the general motor activity of a child after the implementation of the hippotherapy. Among the rest of them – 57% noticed the improvement of the general motor activity state by one-level – meaning, from bad to good or from very good to excellent, while 10% noticed the change of the general motor activity state by two levels – meaning, from bad to very good. All parents who filled the questionnaire noted that their attitude towards the hippotherapy was positive.

Big motor activity (BMA)

Considering the big motor activity, the parents found that the best improvement was noticeable in relaxing and decreasing the muscular tension (32% - very big, 56% - big). For children with the tendency to the secondary deformities, the hippotherapy proved to be efficient (21% - very big, 58% - big). Parents observed also the improvement in keeping balance of the body (31% - very big, 45% - big) (Table 2).

Table 2. Results for the big motor activity (BMA)

	Big motor activity (BMA)	Disorders not found (%)	Disorders found (%)	Very big	Big	Mode rate	Small	Very small
1	General improvement of motor activity	3	97	28	38	21	10	3
2	Improvement of the posture	7	93	18	50	25	4	4
3	Development of keeping body balance	3	97	31	45	17	3	3
4	Strengthening the flaccid muscles	27	73	18	41	36	0	5
5	Relaxing and decreasing the muscular tension	17	83	32	56	12	0	0
6	Preventing from further secondary deformities	20	80	21	58	17	4	0

Small motor activity (SMA)

Considering the small motor activity, the parents found that the hippotherapy had a positive influence on the respiratory functions (39% - very big, 48% - big) and speech (32% - very big, 56% - big). The rehabilitated children showed significant improvement in space orientation (22% - very big, 56% - big) (Table 3).

Table 3. Results for the small motor activity (SMA)

Small motor activity (SMA)		Disorders not found (%)	Disorders found (%)	Very big	Big	Moderate	Small	Very small
1	Improvement of space orientation	10	90	22	56	15	4	4
2	Improvement of motor dexterity	7	93	14	61	18	4	4
3	Improvement of hand motions precision	3	97	17	38	38	3	3
4	Positive influence on respiratory functions	23	77	39	48	9	4	0
5	Positive influence on speech	17	83	32	56	12	0	0
6	Decreasing hypersalivation	40	60	56	17	17	11	0

Emotions and motivation

In the emotional and motivation aspect, the best improvement the parents observed, was the higher level of released stress and relax of a child (6% - very big, 29% - big) and his or her motivation for the maximal effort (45% - very big, 41% - big). After hippotherapy the children showed their feelings with gestures and speech more easily (56% - very big, 30% - big) (Table 4).

Table 4. Emotional and motivational aspect (EMS)

Emotional and motivational aspect (EMS)		Disorders not found (%)	Disorders found (%)	Very big	Big	Moderate	Small	Very small
1	It motivates a child for the maximal effort	3	97	45	41	3	0	10

2	During hippotherapy a child performs the exercises that are difficult for him in other circumstances	10	90	44	37	7	0	11
3	It motivates a child to cooperate during exercises and participate in exercises other than those with a horse	10	90	37	37	15	7	4
4	Exercises in the open air make a child relaxed	7	93	61	29	0	4	7
5	A child more easily shows the feelings (gestures, speech)	10	90	56	30	4	11	0
6	A child overcomes fear	17	83	36	36	20	0	8
7	Nocturnal fear and nycturia disappear	50	50	33	33	20	13	0
8	The aggression of a child decreases	30	70	33	29	33	0	5
9	The proximity of a horse calms a child	10	90	56	19	19	0	7
10	A child becomes less nervous	3	97	48	28	17	0	7

Social aspect (SA)

In the social aspect, the parents noticed the positive influence of the active participation of a parent in the hippotherapy on the feeling safe by a child 63% - very big, 25% - big). Rehabilitation run in the groups that had the influence on the increase of engaging themselves in organized educational plays (38% - very big, 42% - big). Children became more open in the contacts with others (41% - very big, 33% - big) (Table 5).

Table 5. Results for evaluation of the social aspect (SA)

	Social aspect (SA)	Disorders not found (%)	Disorders found (%)	Very big	Big	Moderate	Small	Very small
1	A child becomes more open in contacts with others	10	90	41	33	15	7	4
2	It sets a child free	37	63	21	47	26	5	0

	from the isolation							
3	Gaining abilities to stay in the group	13	87	19	35	38	4	4
4	A child participates actively in the organized educational plays	20	80	38	42	13	4	4
5	Improving relations between a mother and a child	33	67	30	40	15	5	10
6	Making the safety level higher by including a mother into hippotherapy as an active participant	47	53	63	25	0	6	6
7	It induces the initiative and active attitude towards the surrounding	7	93	32	36	11	18	4

Personal aspect (PA)

Parents noticed positive influence of hippotherapy on the personal aspect (29 – very big, 50% - big). Definitely more often did children expressed joy during hippotherapy (26% - very big, 44% - big) (Table 6).

Table 6. Results for the personal aspect (PA)

Personal aspect (PA)		**Disorders not found (%)**	**Disorders found (%)**	**Very big**	**Big**	**Moderate**	**Small**	**Very small**
1	A child shows the joy of life	10	90	26	44	11	7	11
2	Positive influence on the personality of a child	7	93	29	50	14	4	4
3	Increase of the self-esteem	13	87	38	27	27	8	0
4	Greater assertiveness of a child and augmented belief in his abilities	13	87	42	23	31	4	0
5	More courage	7	93	14	46	36	4	0

Cognitive aspect (CA)

The parents found the increased ability of a child to concentrate (24% - very big, 59% - big). The children attending hippotherapy easily noticed elements in their surrounding (33% - very big, 42 – big) and improved their active and passive vocabulary (42% - very big, 31% - big) (Table 7).

Table 7. Results for the cognitive aspect (CA)

Cognitive aspect (CA)		Disorders not found (%)	Disorders found (%)	Very big	Big	Moderate	Small	Very small
1	Improved concentration	3	97	24	59	14	3	0
2	Development of the active and passive vocabulary	13	87	42	31	15	8	4
3	Improved pronunciation	17	83	36	28	24	8	4
4	Increased ability to notice elements in the surrounding	20	80	33	42	13	8	4
5	A child learns easier	13	87	19	35	35	8	4

Having in mind the considerable health effects that have been obtained during the 23 years of the Day Rehabilitation Centre for Children in Kisielnica existence, there is a need to build up and modernize this unit, as it is the only object of that kind, localized within the structures of the District Hospital in Lomza. Being in proximity to the medical staff and technical equipment to the hospital, it can be used as the potential of the rehabilitation staff to achieve high effectiveness in treating the disabled persons. Apart from performing the current ambulatory rehabilitation, there is a need to organize the all-day rehabilitation stays. Present possibilities of the center enable to treat 100 patients a year. Estimated needs take into account up to 400 children a year and are still increasing. The efficacy of hippotherapy in the rehabilitation of the children as the therapeutic success is obvious [15, 16, 17]. The positive evaluation of the work of the therapists employed in the Day Rehabilitation Centre for Children in Kisielnica is reflected by the results of this research.

Conclusions

1. More than half of parents of the children attending the hippotherapy noticed the improvement of the general state of the child's motor activity by one level.
2. About 10% of parents found that the general motor activity of a child improved by two levels after the hippotherapy.
3. All the patients who filled the questionnaires confirmed their positive attitude towards hippotherapy.

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Hippotherapy as the best form of kinetic rehabilitation

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Introduction

Hippotherapy has its roots in the ancient Greece when Hippocrates – the father of medicine – published the dissertation, in which he propagated the horse-riding as the medical form of gymnastics. Hippotherapy is one of the multifunction rehabilitation forms that can be implemented for the people of different age: children, adults and old persons. It is the therapy and rehabilitation method that is performed "on the back of the horse", and its goals include gaining back the physical fitness and mental well-being. It uses the slow movement of a horse to treat the abnormalities of the posture, the deficits of movements, neuromuscular and psychiatric diseases. In case of children, the therapy consists of exercises and playing, while in case of adults, it is aimed, to the greater extent, at the conscious activity in order to improve the kinetic coordination, the orientation in space and normalization of muscular tension, as well as the factors influencing the statics and dynamics of the different parts of the body [1, 2].

The essence of the therapy is to see the horse as a kinetic stimulator – it enables trunk and the whole body movements stimulation to gain back the balance, due to the continuously changing middle point of weight. The doctor sends a patient to the hippotherapy after the analysis of his health state and the kind of his disability. The exercises with the horse are the element of the rehabilitation. In Europe, this kind of therapeutic and recreational activity is widely spread. In Poland, it still gains the enthusiasts. At present, the focus is on treating children with different degrees of disability, especially the infantile cerebral palsy (Little's diseases). In case of adults, the number of ways of this method use, still increases, due to the small physical activity of this age group [3, 4].

The main forms of hippotherapy:

1) The use of a horse movement during horse-riding. A patient feels relaxed and accompanies the changes in the horse movement, without performing the therapeutic gymnastics.
2) Improving physical fitness by adding therapeutic gymnastics to the horse movements. It is conducted by a physiotherapist, who plans the exercises program

according to patient's age and the kind of psychokinetic development abnormalities, especially in case of children.

3) It gives much better therapeutic possibilities and conditions for maintaining the sitting position [5].

The length of rides, a form and position of the patient, should be adjusted to his psycho-physical possibilities. In all age groups, especially, in the children group, a contact with an animal is significant. The emotional factors are the main point of interest – getting used to the horse by a direct physical contact, is necessary to get rid of fear. The uncontrollable fear would prevent the patient from getting benefits from the horse movement. Taking care of the patient's safety by the physiotherapist and sometimes by the horse trainer, enables him to feel increasing pleasure during the successive visits in the horse-riding centre, which may be the source of joy and pride [6].

The conditions that must be met before starting hippotherapy:

1) The selection of a horse type, taking into account its sex, age, posture, height, abilities and temper.
2) The horse should be trained and prepared for strong and diverse reactions of the patient.
3) The proper selection of equipment – a good saddle, which enables patient to sit in a natural position, giving an appropriate support for feet, limbs and the posture required for the exercises. Patients with the spine diseases need a high saddle with stable support, so called "cowboy saddle" or "the saddle of survival".
4) A girth with the straps to keep the balance and control the trunk axis. Riding without the saddle can also be a part of the therapy, as a horse body temperature is two degrees higher, and that helps to relax and warm up the patients' muscles.
5) The safety belt held in hands, especially at the very beginning of the training, which gives support, balance and certainty.
6) Safe Devonshire Boots stirrups that prevent the foot from moving forward. They should be covered and made of leather. They are used with people having problems with controlling their bodies. The other type of stirrups are called Peacock; they have the external rubber band that opens in case of falling and releases the foot. The "S" letter shaped stirrups give a possibility to put in the foot from the side – they are designed for the therapeutic horse-riding, recreation and disabled people sports.
7) The horse should have a bridle, and its speed should be adjusted to its temper and the degree of training.
8) The clothes of a rider should be adjusted to the kind of therapy; high boots are recommended, especially, to the people with the orthopedic diseases and abnormalities of posture [3, 4].

The standards of professional hippotherapeutic procedures

To assure the safety and effectiveness of the hippotherapy, it should be performed by the professional team. This task requires close cooperation during all the individual rehabilitation exercises. The team consists of at least:

1) The physician who decides on the necessity of using the hippotherapy and chooses its form.

2) The physiotherapist who supervises the other forms of the patients' rehabilitation.
3) Qualified hippo-therapist, having a professional license of the physical fitness instructor, specialized in the hippotherapy, who conducts the exercises with a horse.

The enlarged team consists of:

1) The psychologist.
2) The speech therapist.
3) The other specialists that plan the therapy of the patient and his family.

To assure the required and appropriate safety and service level it is necessary to:

1) choose the horses specially trained with the calm and stable walk, having the right proportion to the composition of the patients' body,
2) ascertain the proper safety net for the patient,
3) use the additional equipment to strengthen the effect of the therapy,
4) perform the exercises on the specially prepared areas (the covered halls are the best).
5) note down the kinds of exercises in the individual patient's documentation [7].

Hippotherapy is widely used as the complex rehabilitation form of the children with the neurological diseases, especially with infantile cerebral palsy (Little's disease), autism, Down's syndrome, damage of the central nervous system, incorrect posture and poor balance. In case of adults, it is used after strokes and, more rarely, in treating the multiple sclerosis or the posttraumatic brain damage. For the neurological diseases mentioned above, the kind of rehabilitation is chosen individually, taking into account the degree of the damage. Maintenance and correction of sitting position, as well as the right position of the head, spine and pelvis, are the most important factors. Thus, the proper position on the horse is essential to let the patient benefit from its movement. The list of recommendations for the hippotherapy gradually increases and include the orthopedic syndromes [8, 9].

Hippotherapy supplements and broadens the therapeutic possibilities and is the integral part of the treatment. Obviously, it still develops but it is not true that it can be used only in cases where the traditional methods do not give the satisfying results [10].

It is a form of the psycho-kinetic rehabilitation with the use of horse. It is one of the multi-profile rehabilitation forms, meaning, the rehabilitation that influences movements, senses, mental state and social well-being. It is used both for children or youth and for adults. The beneficial health effects of the contact with a horse were already known in the ancient era. In the modern medicine, it appeared as a method of therapy, in the 50's and 60's of the 20th century (especially in neurology, orthopedics and psychiatry). It is closely connected with the other rehabilitation and therapeutic methods and fully profits from their heritage. The aim of such therapy (with the elements of horse-riding) is to give back to the patient as much physical fitness and good mental state, as it is possible. Hippotherapy is one of the medical rehabilitation elements, which is performed by a specialist, and recommended and controlled by a physician. The hippotherapist has to take care of the patient's safety and guide him in the contact with an animal [11, 12].

The horses, used for hippotherapy, are carefully selected, and the choice is based on their character, first of all. They must be mild and obedient, as also have the suitable composition of the body and appropriate age. One the most popular horse races,

used in Poland, are the huculs [11]. The horse should be adjusted to the rider, to his or her height and the rehabilitation needs [13].

The range of hippotherapy influence:

1) It codes in the brain the appropriate design of the pelvis movement during walking.
2) It normalizes the muscular tension.
3) It improves balance, coordination, orientation in space, the scheme of one's own body and the feeling of rhythm.
4) It stimulates and normalizes the superficial feeling (a touch, temperature, pain).
5) It increases self-esteem.
6) It decreases emotional disorders.
7) It develops positive social contacts [9, 13].

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Evaluation of multi-profile child improvement with a psychomotor handicap based on a PEDI questionnaire

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Introduction

PEDI scale (Paediatric Evaluation of Disability Inventory) is a testing tool estimating children's disabilities in the age from six months to 7 and half years old. The test can be also used in diagnosis of older children among whom psychomotor handicap was stated [1-3].

The questionnaire contains 197 confidential elements of functional skills, which are set in three domains:

I. Self-dependence – the part contains child performance of basic, everyday activities such as; ability of using containers for drinking, combing hair, whipping nose, washing hands, doing and undoing buttons, using lavatory without second person help.
II. Mobility – in this domain are tested child's skills in entering and getting out of a car, moving indoor and outdoor, using a toilet. There is also evaluated: manner, speed, and distance of the given way the children must pass. There is also tested the strengthens of stepping up and down stairs.
III. Social functions – this part contains understanding of words meaning and sentences complexity, functional using of language communication, peer interactions and solving assignments given by the therapist-teacher.
There is also tested child's own security caution, carefulness and social functions.

All abilities mentioned above are marked in 0 – one scale. Mark 0 says about limitations or lack of abilities or possibilities to perform a given assignment. Mark 1 indicates abilities to perform a given assignment [3, 4].

PEDI questionnaire in the second and third part assesses the level of a tutor's help in self-dependence, mobility domains and also kinds of modification and adoptions for a disabled child [5].

The aim of this case report is to present a multi-profile improvement of a child with a psychomotor delay based on the PEDI scale.

Materials and methods

The PEDI was used to evaluate a psychomotor assessment of the child. Analysis of the literature was also performed. The statistic methods of constructing time series, classification, and counting percentage rates were used.

In 2009, a six-year-old girl with a considerable mental and psychomotor handicap was evaluated using the PEDI scale. The child had symptoms of psychomotor

hyperactivity, hands and feet distemper and a speaking skill handicap. The child was not given an explicit diagnosis. Both Rett syndrome and Angelman's syndrome were suspected; however, neither of these have been confirmed by genetic studies. In 2012, to verify the child's development, the PEDI test was repeated.

The child is under the permanent care of doctors and physiotherapy practitioner control and cooperates with a speech/language pathologist, PT counselor and psychologist.

She attends a Pedagogical Centre named "The Bright Aim" and takes part—together with her mum—in practical classes, "A parent of a child." The aim of the classes is polisensoric stimulation and learning how to best adapt to the peer group.

Peto's Guided Teaching, Shantal's Massage, Sensor Integration Method (SI) and Weronika Sherbornen's Developing Movement Method were used. The main aim of integrated preschool education and rehabilitation involves passing from distinction to ortho function in each of the functional parts of life. Parents widened the child's therapy with hippo therapy, dolphin therapy, dog therapy and music therapy (photos A and B). The aim of these classes was to help the child reach autonomy as much as possible. The advantage of working with animals cannot be overestimated.

Working with dolphins is particularly beneficial due to being able to take advantage of the iontophoresis phenomenon. Under the influence of ultrasounds sent from the dolphin's sonar, there comes a stimulation of a child's organisms on the cellular level. The consequence of this is diffusion through the cell membranes of the organism. It increases the number of hormones, especially endorphins, and nutrients. Echo detecting has a regenerative and simulative influence on rebuilding damaged nerve cells.

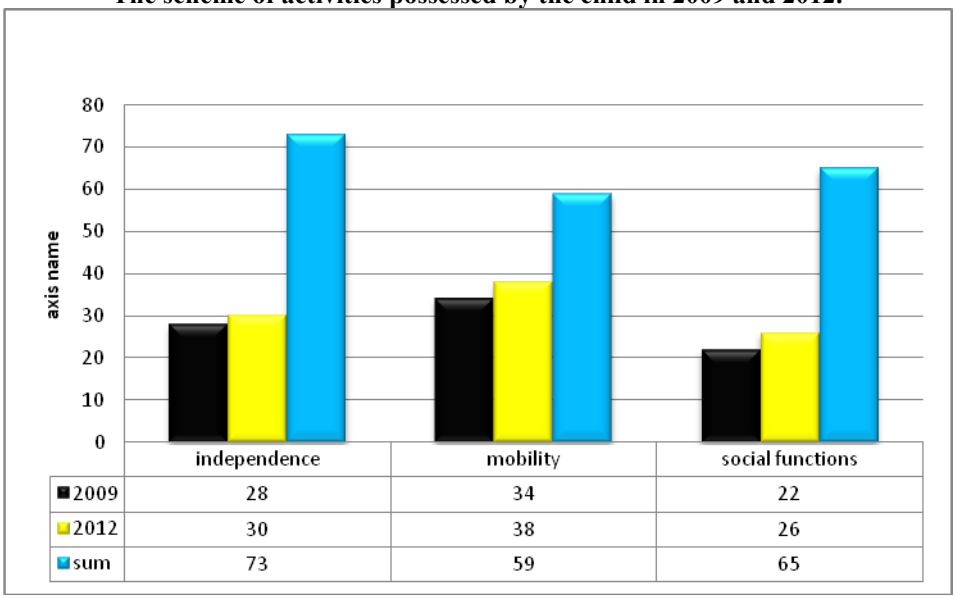
Photo A

Photo B

Results

The results from the PEDI test indicate that child's multiple profile therapy brought quantitative and qualitative progress in functional and psychomotor development.

The scheme of activities possessed by the child in 2009 and 2012.



	independence	mobility	social functions
2009	28	34	22
2012	30	38	26
sum	73	59	65

Figure 1. Comparison of child's functional abilities possessed by the child in 2009 and 2012

These results give us a picture of the child in 2009. In the independence domain, she was capable of performing 38% (which is 28points out of 73 points in the PEDI test) of such activities as eating, holding a toothbrush, taking off socks, and unlacing shoes (Figure 1). However, mostly (62% in the independence domain), the child could not take food with any consistency, brush teeth well, or take off trousers with a stretchy belt. In comparison, in 2012, the child's independence grew to 41 % (which is 30 points out of 73 points in the PEDI scale). In the three-year time period, the child possessed such skills as correct use of the fork and putting on and taking off of trousers (Table 1).

Table 1. Comparison of functional activities in independence domain in 2009 and 2012

INDEPENDENCE				
2009			2012	
K. Trousers	0	1	K. Trousers	0 1
49. Helps to put legs over the trousers sleeves		X	49. Helps to put legs over the trousers sleeves	X
50. Takes off trousers with stretching belt		X	50. Takes off trousers with stretching belt	X
51. Puts on trousers with stretching belt		X	51. Puts on trousers with stretching belt	X
52. Takes off trousers, together with unbuttoning		X	52. Takes off trousers, together with unbuttoning	X
53. Puts on trousers with buttoning up		X	53. Puts on trousers with buttoning up	X

In the mobility sphere, in 2009, the child reached the score of 57%, which is 34 points in 59 points on the PEDI scale (Drawing 1). In this sphere, the child could roll over, crawl on the floor, go the distance of 15 meters, and go up the stairs. However, the child could not sit or get up from the chair without hands help or go along a rough surface (e.g., cracked pavement). In 2012, the mobility of the child increased to 64% (38 points). The little patient possessed such skills as moving between rooms without any problems along rough surfaces (e.g. lawn, gravel roads) (Table 2) (Photos C and D).

Photos C and D

Table 2. Comparison of child's functional activities in mobility domain in 2009 and 2012

MOBILITY				
2009			2012	
G. Moving indoor: distance and speed	0	1	G. Moving indoor: distance and speed	0 1
28. The child moves around the room but with difficulties (falls down, stumbles, goes too slow for one's age)		X	28. The child moves around the room but with difficulties (falls down, stumbles, goes too slow for one's age)	X
29. The child moves around the room without any difficulties		X	29. The child moves around the room without any difficulties	X
30. The child moves between rooms but with difficulties		X	30. The child moves between rooms but with difficulties	X
31. the child moves between the rooms without difficulties		X	31. the child moves between the rooms without difficulties	X
32. The child moves in rooms on the distance of 15 metres; opens and closes door		X	32. The child moves in rooms on the distance of 15 metres; opens and closes door	X
K. The child moves outdoor: Surfaces	0	1	K. The child moves outdoor: Surfaces	0 1
45. Even surfaces (smooth pavements, roadways)		X	45. Even surfaces (smooth pavements, roadways)	X
46. Minimal rough pavements (cracked pavements)		X	46. Minimal rough pavements (cracked pavements)	X
47.Bumpy pavements (lawns, gravel roads)		X	47.Bumpy pavements (lawns, gravel roads)	X
48. Moves up and down of sloppy ramps and driveways		X	48. Moves up and down of sloppy ramps and driveways	X
49. Steps over kerbs		X	49. Steps over kerbs	X

Data collected in 2009 state that in the social function's sphere, the child reached 33% (22 points out of 67 points in the PEDI scale). The child could react to sounds, comprehend and react to simple commands, and initiate well-known play (Figure 1).

On the other hand, the child could not cooperate with other children or take part in plays with rules; the child could not name objects. Taking data from 2012 under consideration, the child's social functions grew to 40% (which is 26 points out of 65 points in the PEDI scale).

The data says that the child understands short sentences about known people and objects and short commands with the words "if/then." The child did not possess verbal communication and was careless about being close to street traffic and hot objects (Table 3).

Table 3. Comparison of child's functional acts in social functions in 2009 and 2012

SOCIAL FUNCTIONS					
2009			2012		
B. Understanding of clause complexity	0	1	B. Understanding of clause complexity	0	1
6. The child understands short sentences about familiar objects and people		X	6. The child understands short sentences about familiar objects and people		X
7. The child understands simple commands with using words describing people and objects		X	7. The child understands simple commands with using words describing people and objects		X
8. The child understands hints describing position of objects		X	8. The child understands hints describing position of objects		X
9. The child understands complex commands with words "if/then", "first/ then"		X	9. The child understands complex commands with words "if/then", "first/ then"		X
10. The child understands two sentences saying the same but in different forms		X	10. The child understands two sentences saying the same but in different forms		X

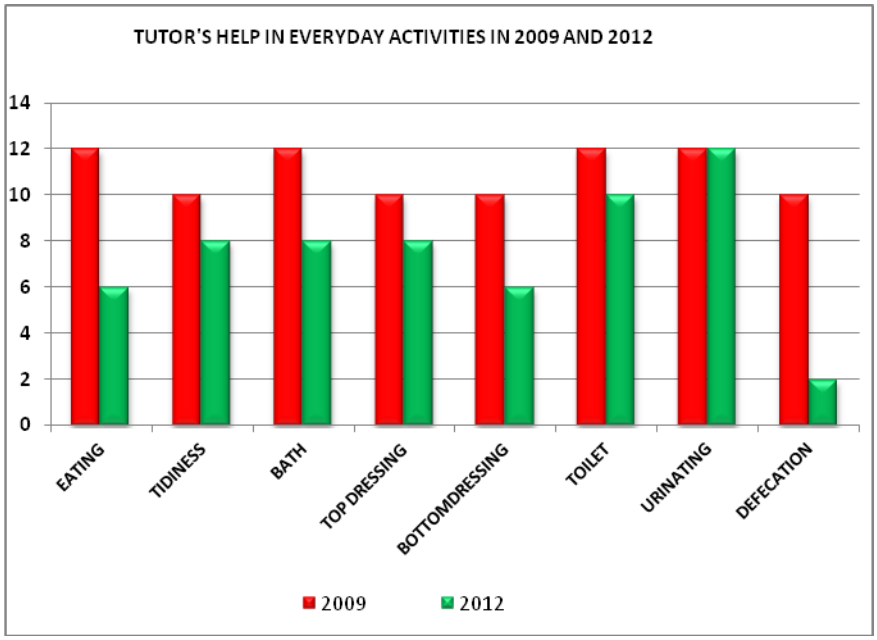


Figure 2. Tutor's engagement in child's everyday activities in 2009 and in 2012

The chart shows data from the second part of the PEDI scale, which indicates tutor's help at child's everyday activities.

In 2009, the child in independence sphere was totally dependent from the tutor's help during such everyday activities as: eating, bath, urinating and emptying bowels. However, in 2012 tutor's help was minimal (e.g. eating) or fairly (bath).
The child had defecation skill and full independence from his tutor's help. She also did not control urination. (Figure 2).

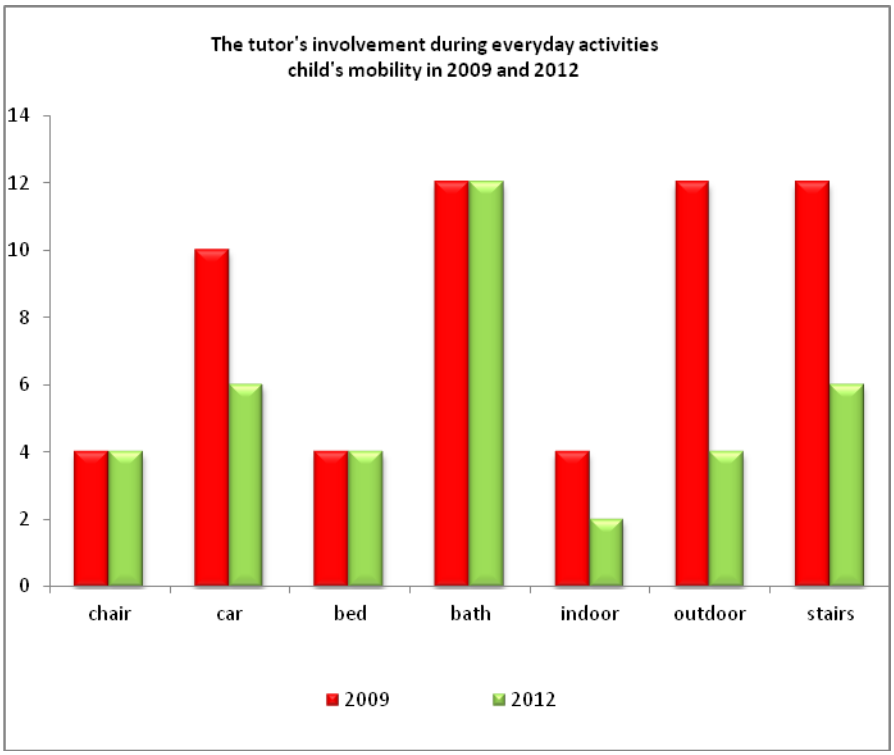


Figure 3. The chart shows tutor's help during child's everyday activities in 2009 and 2012

Analysing the above data in the tutor's help sphere in the child's everyday activities in 2009, the child's mobility when having a bath, moving outdoors, or moving on the stairs was dependent upon the tutor's help. However, in 2012, the tutor's help decreased. The child required slight supervision and minimal help. Unfortunately, in the three-year period, the child's mobility when having a bath stayed the same; she was totally dependent on the tutor's help (Figure 3).

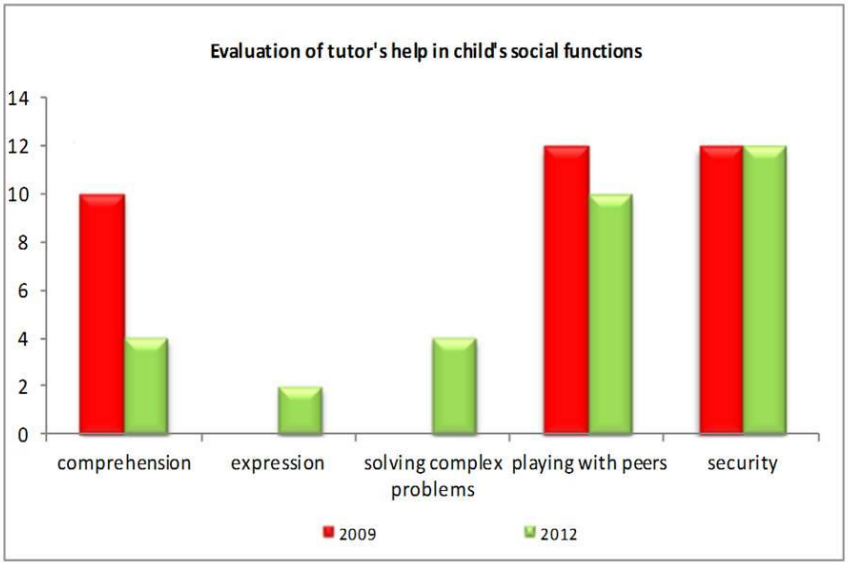


Figure 4. Tutor's help rate in child's social functions

The chart shows the tutor's help rate in the child's social functions in 2009 in such areas as playing with peers and security; in these areas, the child completely required the tutor's help. In 2009, the expression domain and the solving complex problem domain were not tested. In 2012, the functions mentioned above were tested and the child's ability in comprehension functions and solving complex problems still required the tutor's supervision. On the other hand, in the expression sphere, the child reached absolute independence from the tutor's help (Figure 4).

Conclusions

The PEDI scale is a sensitive diagnostic tool evaluating 197 confidential patient's functional abilities. It attempts to estimate reliably and to compare children's achievements and therapy monitoring [6, 7].

A multiple profile therapy of children with psychomotor handicaps is efficient. According to the PEDI scale, it can be concluded that the test brings quantitative and qualitative developments. Evaluating the child's rehabilitation process, considerable improvement in quality of performed assignments and an increase in the child's independence and mobility can be noted. As a consequence, the tutor's supervision decreased. Constant and integrated therapy have an influence on forming an improvement in motor patterns, the child's own body sense, and everyday activities. The therapy stimulates the child to recognise and understand one's own feelings, the needs of a family and its local environment. The therapy also improves and develops the speaking apparatus and hearing reception [8-10].

Systematic and simultaneous therapy that is based on the cooperation of many specialists supported by PEDI Questionnaire enables the monitoring and evaluation of

child development and also the measurement of the rehabilitation program results. Animal therapy, which is a natural method of curing people through beneficial contact with animals, affects the senses of children within the social, psychic, physical and intellectual spheres of their life. Integrated therapeutic action, together with polysensory therapy, affects a child's independence, mobility and social functions. The therapeutic and polysensory action based on the PEDI questionnaire enable the estimation progress and the regression of development in the functional domains of a patient.

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HEALTH EDUCATION

Kęsy Maricn

The disturbances appearing in the process of social communication on the example of selected Polish hospitals

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1. The state of the Polish medical services

The socio-economic transformation that Poland has been going through since the 90's of the 20th century until today, contributed in a significant way to the change of the structure of education and employment of medical staff. Job-related emigration of doctors and nurses after the opening of the labour market in the European Union countries (mainly in the Great Britain, Italy and Scandinavian countries) as well as the transfer of employees to the private sector played a crucial role in this change. The private sector has developed in Poland since 1991, since the Act on healthcare centres came into force which created the possibility of opening healthcare centres by institutions and persons referred to in Section 8.

The structure of employment and pay of medical staff is a crucial problem not only for representatives of medical professions but also for the general public. These problems directly affect not only the management of healthcare centres but also they are important to patients because the quality of services expected by them is the outcome of employment opportunities for suitably qualified medical staff, expenses incurred by healthcare centres and also of satisfactory working conditions other than pay [1]

Employment of medical staff in healthcare centres which signed contracts with the Public Payer (National Health Fund) for providing health services is governed by implementing regulations of the Minister of Health to the Act on healthcare services, setting out the requirements for employed specialists or among other things the hours when services are provided. They are generally referred to as the "basket regulations".

Meeting these requirements determines the minimum employment required to provide health services, provided that the hospital intends to carry out services under a contract with the Public Payer. If the hospital is not interested in cooperation with the National Health Fund, the requirements described in those regulations do not apply to it. Then the only authority to decide whether it is justifiable to employ or dismiss an employee is the hospital management board taking into account the economic needs.

It is worth noting that legal requirements often diverge from the actual need for specialists in hospitals. In Polish conditions it is often the case that the Public Payer demands than an outpatient clinic employ a doctor specializing in a given area (e.g. an allergist at an allergy clinic), while not agreeing that the patient be seen by a doctor of related specialization (e.g. pneumonologist). Poland is not a country in which there is a sufficient number of all specialists. In many regions there is a lack of specific medical specialists, therefore such a top-down decision for healthcare centres is very disadvantageous because it makes it necessary to close down a clinic or hospital ward and thus, reduce availability of medical care to patients. These restrictions are absent in

the case of facilities which do not sign contracts with the National Health Fund because the decision about the employment of a doctor is made by the board.

Hospital executives are not able to determine the full staff costs without additional analyses because in the traditional accounting approach staff costs are only salaries, social security contributions and other benefits to employees. Staff costs should therefore be regarded as the costs of employing staff, but also as the costs of cooperation with medical staff in forms of employment other than a contract of employment. According to M. Nowak [4] when calculating staff costs, all costs related to the functioning of the HR department and the costs of conducting procedures associated with human resources should be taken into account. A considerable emphasis is placed that as staff costs should be regarded other costs than in a traditional accounting approach, including, costs of materials used by the staff department, depreciation of equipment costs, the costs of space occupied by the staff department, and other costs by category such as representation and advertising costs if they relate to activities not in the consumer market but in the labour market.

While analysing aspects of human resource management in healthcare centres one cannot omit to emphasize the importance of two entities listed by A. Pocztowski - operations manager and company management board. The participants of this process should of course be adapted to the health sector, in which units do not always resemble companies operating in the market. Assuming that the information available to the operating manager and company management board concerning the analysis of healthcare units are the basis for HR policy making, we can speak of perfectly sufficient entities of the process.

2. The theoretical seizure of the communication levels in the hospitals

Each professional group perceives its own features in a positive way, whereas if the same feature is ascribed to another professional group, it may be regarded as something negative in reference to this foreign group. And so, doctors perceive themselves as an educated group, which, due to the nature of the profession, constantly increases its qualifications. However, this feature, when it is ascribed to nurses, is perceived by doctors as a negative one. They often wonder why nurses study and state that their basic education is enough in their job and to perform their duties.

Interpersonal relations in hospitals depend on intergroup relations, which are influenced by stereotypes. The following figure presents a typical intergroup relation in hospitals, where different groups communicate in intragroup and interpersonal systems reflecting the stereotypes that arise from the way a given group is perceived.

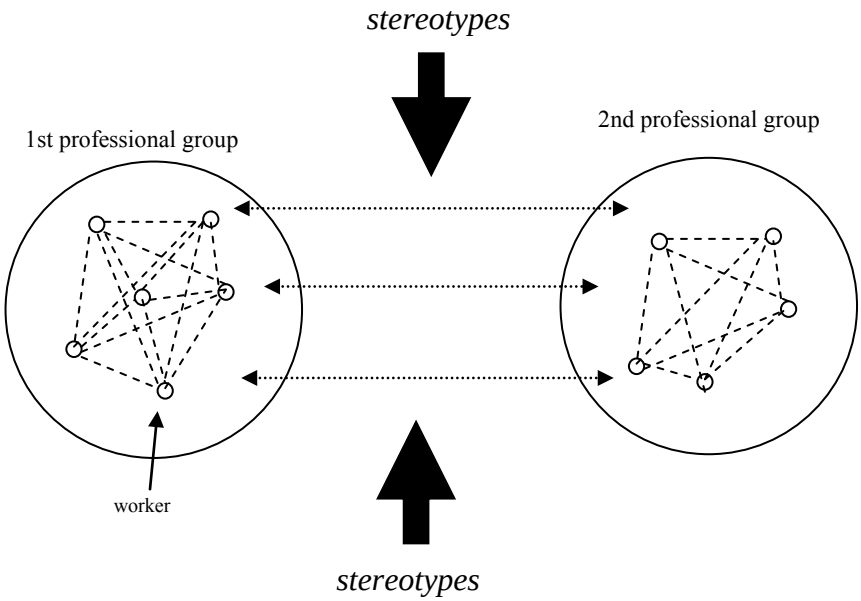

Figure 4. Description of intergroup relations in hospitals

Source: Rola procesu komunikacji w zarządzaniu pracownikami szpitala *[in:] edited by J. Stępniewski, P. Karniej and M. Kęsy,* Innowacje organizacyjne w szpitalach*, Warszawa 2011,* p. *412.*

3. The methodology of the original researches

The hospital employees for the purpose of the survey were divided into 4 occupational groups: doctors, nurses, administrative and technical staff. The original survey was carried out from June to October 2011 in six districts of hospitals employing at least 400 employees. The main survey tool was a survey questionnaire, supplemented by observations made on the spot in the hospital.

It was assumed that the subject of the survey will be 20% of employees, selected at random, taking into account the occupational group criterion. The employment data, at the onset of the survey showed that the following numbers of people were employed at the hospitals: hospital A - 450, hospital B - 540, hospital C – 620, hospital D –740, hospital E – 850 and hospial F - 934. In accordance with the accepted survey guidelines every fifth employee was selected at random to participate in the survey. The questionnaire has been distributed to 827 people (including 91 doctors, 419 nurses, 176 administrative workers and 141 technical workers). The questionnaires have been correctly filled by 695 people out of 827, constituting 84,04% of all the questionnaires.

Deliberations concerning the relations inside the hospital must take into account the present attitude of the hospital staff to the exchange of ideas and observations at staff meetings.

4. The situational analysis stepping out of disturbances in the hospitals

The results shown in Table 1 show that in terms of frequency and importance of the discussed issues, staff meetings most often concern current issues, organizational issues, staff issues, or the hospital strategy issues. The frequency of these meetings varies. According to 66.9% of the respondents, meetings concerning current issues are held at least once a month. Next, in order of frequency are the meetings concerning organizational changes (at least once a month - 22.2%).

The third type of meetings arranged at the hospital focus on the strategy of the organisation and according to 17.2% of the respondents they are convened at least once a month. Meetings discussing staff issues are the least frequent, in this case only 16.9% of the respondents attend meetings which deal with this topic at least once a month.

Table 1. Frequency of hospital staff meetings and topics discussed

	Hospital strategy		Organizational changes		Staff issues		Current issues	
	N	%	N	%	N	%	%	%
Once a week	33	4.7	22	3.2	22	3.2	128	18.4
Once a month	87	12.5	132	19.0	95	13.7	337	48.5
Every half a year	114	16.4	142	20.4	162	23.3	89	12.8
Once a year	128	18.5	111	16.0	111	16.0	32	4.6
No	168	24.2	65	9.4	161	23.1	50	7.2
I don't know	165	23.7	223	32.0	144	20.7	59	8.5

Source: Primary data from the surveys carried out in selected hospitals.

High frequency of meetings focussing on current issues may indicate that the management and middle management focus mainly on operational activities while other matters also relevant to the operation of the hospital are discussed minimally.

Creating a good atmosphere at the workplace requires the involvement of all the hospital staff.

Table 2. Stereotypes in the hospital

	Division of employees into medical and auxiliary staff	
	in numbers	in percentage
Yes	467	67.2
No	97	14.0
I don't know	131	18.8

Source: Primary data from the surveys carried out in selected hospitals.

About 67.2% of the staff under survey confirmed the view that in hospitals there is a division into medical staff and auxiliary staff.

The negative effect of the existence of such a kind of divisions is the existence and depeening of inferiority complexes in administrative staff, and even to a greater extent in technical staff. 67.2% of the respondents confirmed that inferiority complex phenomenon does exist in hospitals and 95.2% of the administrative and technical staff confirm this view.

An interesting result from the survey, which refers to the existence of the inferiority complex phenomenon in hospital employees is data obtained from the doctors' group of whom 94.5% do not notice inferiority complex in other hospital employees. It can result from rare contacts with representatives of those occupational groups, showing no consideration for them or feeling superior to other employees of hospitals.

Table 3. The sources of conflicts in the hospital

	Inferiority complexes in hospitals	
	in numbers	in percentage
Yes	476	68.5
No	75	10.8
I don't know	144	20.7

Source: Primary data from the surveys carried out in selected hospitals.

Ann addition to these considerations is the analysis of the influcence of the divisions and inferiority complexes on personal conflicts. In this case, it proved correct that the existing divisions are a source of personal conflicts among the staff. Lot of staff see influence of divisions on interpersonal conflicts. It is about 75.0% of employees.

Table 4. The sources of conflicts in the hospital

	Influence of divisions on interpersonal conflicts	
	in numbers	in percentage
Yes	521	75.0
No	41	5.9
I don't know	133	19.1

Source: Primary data from the surveys carried out in selected hospitals.

Conflicts occur at every workplace. However, it is important which type of conflicts is dominant. Conflicts over professional issues should occur because they are beneficial for the company while personal conflictual situations over personal matters, i.e. concerning interpersonal relations should be avoided.

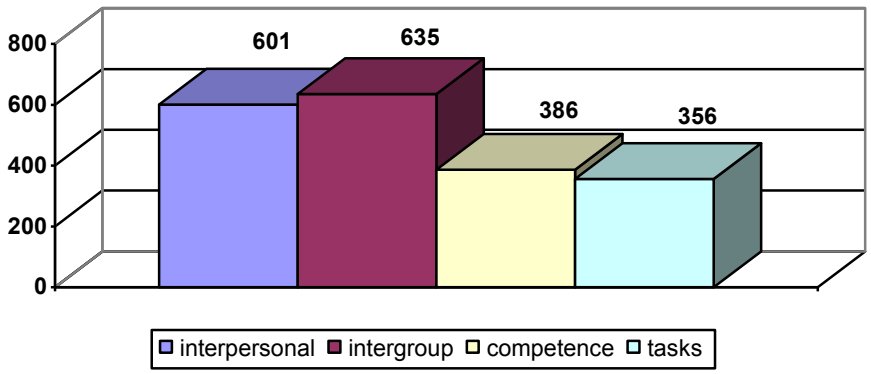

Figure 1. Sources of conflicts at work

Source: Primary data from the surveys carried out in selected hospitals.

In accordance with the results obtained, most conflicts are of intergroup nature (91.4% respondents) and of interpersonal nature (86.5%). These are typical emotional or personal conflicts. In addition, the frequency of intergroup conflicts indicates that the stereotypical attributing negative characteristics to the representatives of other professions, is a frequent phenomenon in hospitals under survey. Conflicts desired by the organization, which strengthen its creativity and development occur less frequently. Conflicts about competence or tasks were shown respectively by 55.5% and 51.2% of the respondents. The results obtained suggest that conflicts at organizations negatively affect the organization of work.

During the survey the employees were divided into 4 groups. This was the basis for the analysis of relations at the level of the group and among the individuals.

On the basis of empirical data it can be said that the results for both types of relations are similar. Bad relations with representatives of "foreign" occupational groups were indicated by 19.4% of the respondents.

Table 5. The quality of intergroup communication in the hospital

	At intergroup level	
	in numbers	in percentage
Very bad	14	2.0
Bad	121	17.4
Neutral	275	39.6
Good	266	38.3
Very good	19	2.7

Source: Primary data from the surveys carried out in selected hospitals.

However results on the interpersonal level are contrast, at the level of interpersonal skills fewer respondents indicated bad relations (10.1%). The people

maintaining at least good intergroup relations or interpersonal relations constitute a group of 41.0% and 51.1% of the respondents.

Table 6. The quality of interpersonal communication in the hospital

	At interpersonal level	
	in numbers	in percentage
Very bad	3	0.4
Bad	67	9.7
Neutral	270	38.8
Good	317	45.6
Very good	38	5.5

Source: Primary data from the surveys carried out in selected hospitals.

While examining the level of communication within the organization one should take into account the participation of employees in the integration meetings, which can be viewed as a manifestation of their desire to contact with other employees and identifying with the organisation.

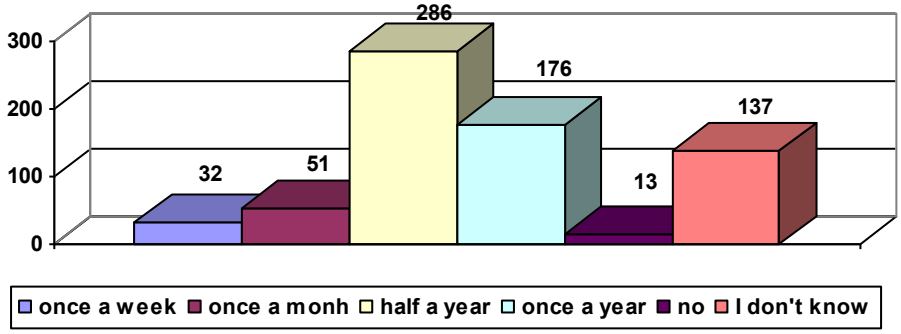

Figure 2. Frequency of integration meetings

Source: Primary data from the surveys carried out in selected hospitals.

On the basis of the data under analysis it can be concluded that employees do not maintain social contacts and if they do occur they are maintained with occupational groups, or possibly, with the representatives of the two groups: doctors and nurses. 68.3% of the staff under survey said that the meetings were held, at most once every half a year, or even that they were not held at all. 19.7% of the respondents do not know whether such meetings are arranged at all. This points to the almost total isolation and lack of social contacts with other employees, on a less formal basis.

These results show a group of people who are not a team, who pursue their own subjective goals, not identifying themselves with other members of the team.

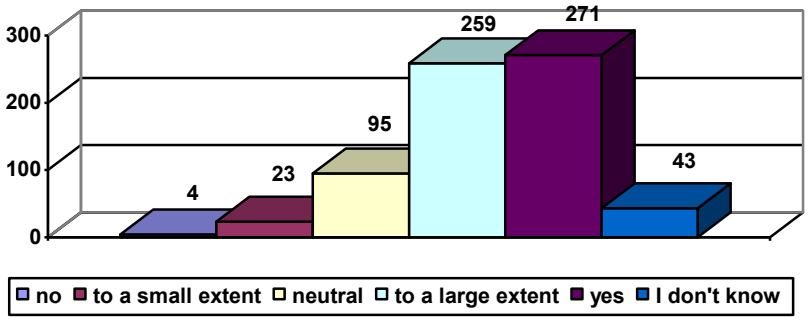

Figure 3. The influence of the relations on the quality of the operation of the hospital

Source: Primary data from the surveys carried out in selected hospitals.

Figure 3 is the summary of the primary results and it presents the respondents' view on the influence of the existing relations on the operation of the organization.

The results of the survey are consistent with the theoretical knowledge. 76.3% of the hospital staff confirmed that the level of interpersonal relations affects the quality of the operation of hospitals.

5. The modification of the process of the social communication in the hospitals

In case of the intergroup relations, the worst situtation is a formation of a negative stereotype, which constitutes the great power allowing to maintain and intensify stereotypes in relations and intergroup [2] or interpersonal perception.

It is assumed that any rivalisation increases hostility, whether it refers to individual, or intergroup relations. The situation in hospitals may be an example, where the whole personnel is not satisfied with remuneration, but only in case of a medical group, the financial situation has improved. The rivalization between groups for the limited and valuable supplies entails the intensification of mutual prejudices. Competition for welfare causes hostility between groups, and, in extreme cases, it ends with a conflict, an open war.

There is no doubt that many various groups directly compete for social and material goods [3].

Because of the nature of the services provided in hospitals changes must be made in a very thoughtful and prepared manner, in particular regarding the aspect of human resources. Making staff innovations in hospitals should begin with improving interpersonal and intergroup relations. Following these actions, it is necessary to employ measures to neutralise negative stereotypes and strengthen positive ones. Providing that the above actions have been taken, staff meetings should be started to be organised, but outside the premises of the organisation. And it is important that this type of meetings are held outside hospitals and at the beginning, together with the partners, in order to strengthen the sense of security.

6. Conclusions

Hospitals belong to the category of units, where regardless of the character and range of activities it is extremely important to create positive intergroup and interpersonal relations.

The method of neutralising or improving the negative stereotypes show that there are ways in which it is possible to change the attitude of professional groups among one another. It could have an ifluence on the better organisation and effectiveness in hospitals.

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Recurrent fungal infections and health related behavior

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Recurrent fungal infections are difficult diagnostic and healing problem. The explanation why these diagnostic difficulties are so crucial, is that it is very difficult to clearly identify the pathogen as the cause of the infection, since it occurs naturally in flora that lives in certain areas on the body. The search for new methods of identifying and classifying fungal flora is a challenge to the present study [1].

Methods of treatment are also constantly modified. The approach to a single disease is different from treatment of recurrent fungal infections. There are numerous different patterns of treatment. However, some of them still remain as latent infections, and it is only a matter of time before they become the full-blown relapse. A group of patients where this recurrences is more frequent can be distinguished. These are patients who receive treatment for cancer, have weakened immune system (for instance, HIV infection), have diabetes, take birth control or are after treatment with antibiotics or heavy surgeries. It can be noted that there is an increase of *Candida* and *Aspergillus* infections in the blood of patients treated at intensive care units around the world. [2-5]. On the other hand, there is a group of patients treated for many years for recurrent fungal infections without the pronounced risk factor. It shows that the general condition of the body's resistance is not the only risk factor.

The weakening of the physiological intestinal flora or micro-flora of the skin creates favourable conditions for the conversion of a fungal infection. Human environment is composed of both external environments, where we have a direct or indirect impact through proper nutrition and health education activities within the skin.

It is important to give patients the chance of full health and recovery, not necessary using the recognized drug treatment schemes. Indication of natural food products with the principles of healthy eating (fresh vegetables and fruits) can provide a basis for avoiding recurrent fungal infections.

It should be remembered that the presence of fungi on the skin and in the gastrointestinal tract determines the natural flora. However, imbalance in this area leads to the development of symptomatic infection. The most spectacular is the occurrence of fungal infection after antibiotic treatment that affects the balance between bacteria and fungi. Fungal infections such as *Blastomycosis* may occur on different parts of the body: the genital area, mouth, body folds, or take a systemic nature [4,6]. The most common cause of these infections is *Candida albicans*. It exists as a component of physiological biofilm that lives in the epithelia. It should be noted that there are no symptoms of the disease in conditions of full health. Only weakening bacteria that physiologically

maintain a balance by taking antibiotics, creates favorable conditions for yeast. In such conditions, it is important to strengthen the resilience by adopting the right kind of probiotic bacteria in suitable quantity and avoiding sugar in the diet. A great trick is to maintain a balanced diet. It is especially important to avoid sweets and products containing easily fermentable ingredients in excessive amounts.

Fungi, beyond vitamins and minerals, also needs carbohydrates to develop [16]. The provision of excessive amounts of fats and sugars in a daily diet can create favorable conditions for fungal flora, at the cost of promoting probiotic bacteria. Excessive intake of fats in the diet also leads to increase in blocking insulin receptor on the cell and insulin resistance. In the long term, it will also increase blood sugar levels. Moreover, this increase may maintain for much longer. In addition to decrease in resistance, it is also one of the groups with increased risk of developing fungal infections in case of diabetic patients. More than a half of ascertained fungal blood infections are caused by *Candida albicans* [12]. Prolonged exposure of pathogenic fungi on the mucous membranes facilitates the emergence of the blood and increases the chance of recurrence of infection symptoms.

However, *Candida* can be found usually in-hospital intensive care units and surgical departments during hospital treatment. *Candida's* species account for almost 10% of all nosocomial infections, that states their presence in blood of patients [1,2, 4]. The lack of effective standards of care, treatment and monitoring of *Candida's* infections in the blood, poses a new challenge to the hospital care in the world. Developing such an approach and developing methods for surveillance of risk factors, would avoid the high mortality rate in case of patients with the most compromised immune systems [3].

The second, most common fungal infection, as evidenced by microbiological studies of blood, is aspergillosis [5]. It contributes to a particularly high mortality risk of patients treated with steroid and those with the mechanical ventilation [6].

Clinical, radiological and microbiological criteria are used for the diagnosis of fungal infection risk. Nevertheless, the practical application of effective preventive measures is difficult [7]. Each patient has a diverse flora of saline and different resistance. Eventually, the patient receives appropriate medical treatment tailored to the health risk. The decrease of resistance associated with current treatment, and general health, have an impact on the increased propensity of the fungal infection emergence. Like the self-diagnostic, invasive diagnostic methods and the use of intravenous catheters and puncture, increases the risk of infection and hospital mortality [8 - 11].

A growing number of invasive treatments around the world causes the increased susceptibility to hospital infections, especially *Candida's* species [1, 12]. This applies to more than half of all cases of fungal infection and is a big problem and challenge for modern medicine [13, 14].

The occurrence of fungal infections may also be related to the weakening of the natural bacterial flora, which is a counterweight to fungal diseases. Such disorder often occurs during menopause, and in case of women with low estrogen in the vaginal epithelium [15]. Estrogens determine the sufficiently high level of substances needed for proper metabolism of lactic acid bacteria of the genus's *Lactobacillus*. Vaginal bacterial flora of healthy women in 90% is made up of lactic acid bacteria. If their number falls, it creates the conditions for the development of pathological flora, normally present in a minority [17-19]. Almost every woman at least once in a lifetime experience vulvovaginal candidiasis.

Factors predisposing to candidiasis is shown in table 1.

Table 1. Group of the most common factors responsible in the development and conversion of candidiasis [20].

Factors associated with the decline of the overall resistance of the organism dietary factors drugs.
- Pregnancy
- Diabetes
- Hormonal disorders
- excessive bleeding from the genital tract (over 7 days)
- Anemia
- AIDS
- Cancer
- Prolonged exposure (moisture, underwear, towel)
- obesity
- too much sweets
- preservatives, highly processed foods
- lack of fresh vegetables and fruits
- Antibiotics
- Steroids
- Hormonal contraception
- treatment for cancer

The digestive tract is a reservoir and is responsible for the majority *Candida* infections. The presence of the same strains of fungi responsible for the infection, as may be found in the rectum, was discovered [21]. Restoration of physiological balance in the gastrointestinal tract has a beneficial effect on the growth of resistance to infections of the vagina and vulva. This can be achieved by avoiding excessiveness of sweets in our diet, and promoting the presence of lactic acid bacteria. One of the metabolites of lactic acid bacteria is protease inhibitors that block the formation of filamentous appendages and invasive vegetative pseudohyphae fungus [22].

A diet consisting largely of fresh fruits and vegetables, and limiting the intake of sugars may be not only an effective treatment but also the best way to prevent relapse of fungal infections that reside in the intestine and that may spread to other parts of the body. A perfect complement to physiological barriers and rebuilding the body's defense is the use of lactobacilli bacteria.

Below, we present the examples of health-related behavior, that everyone can obey. What is more, they can help to control or get rid of recurrent fungal infections (of course besides the therapy ordered by your doctor):

1. Take the probiotics orally (for six months, then in a manner reminiscent of - package a few weeks), preferably consisting of a number of live Lactobacillus strains, present within the population throughout the country.
2. Treat your partner. (Although no symptoms)
3. Give up sugar in the diet! (Yoghurt, flavored waters, juices, sweetening tea / coffee, chocolate bars, sweets)

4. The overall change in eating habits. Instead of white flour products - bread and pasta with whole grain. The use of mainly fresh fruit and vegetables, and avoiding products with a long expiration date.
5. The change of trousers for skirts / dresses. Sleeping without panties. Frequent change of linen.
6. If the partner uses a condom, taking into account the possibility of allergic reactions to latex, lubricants, or other
7. Resignation (at least temporarily) from taking bath. The shower is more "physiological"
8. Use sanitary pads instead of tampons.
9. Discard old sponge to wash the body. Alternatively, do not use sponges.
10. Wear cotton underwear and iron with a classic cut, not a thong.
11. Use paper towels to dry the skin of the perineum.
12. Do not run irrigation and rinsing of the vagina.
13. Dispense with the use of antibiotics trying to influence the growth of resistance (healthy diet, physical activity, preferably in the fresh air)
14. Take care of "water balance" of the body (waters with mineralization exceeding 1500 mg). Avoid dehydration and drying of mucous membranes.

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Introduction

The most effective and low-cost form of dealing with cardiovascular diseases is prevention. The earlier it is started, the better. However, there are many difficulties and barriers to be overcome to implement the process of prevention; for example, bad habits or low health awareness. The background of those obstacles often consists of inappropriate patterns learned in family life. That is why the need for effective education in healthy lifestyle aimed at children, and youth is noticed more and more often. Moreover, the development of risk factors of cardiovascular diseases begins early, and its peak takes place at the age 17-35.

Taking into consideration the above-mentioned issues, there is a need to promote – also among young children - appropriate health attitudes to prevent or slow down the development of diseases and to facilitate the treatment of future patients.
Considering the above, a question may be raised: What is the current health condition and health awareness among young people? This is the main question that was researched in this study. The research was conducted on high-school students from three schools of good renown in Tricity (Gdańsk – Sopot - Gdynia).

Materials and methods

The study group for this research consisted of 155 students from three secondary schools, considered as the best in the region: III High School in Gdańsk [1], I High School in Sopot [2] and VI High School in Gdynia [3]. There were 90 boys and 65 girls at the age of 16-17, who attended second year classes. The examined groups of students were chosen by school headmasters who considered timetables, which made the selection at least partly random. The research tool was a questionnaire with 43 questions (with four opened questions) assessing (objectively and subjectively) health knowledge, general

[1] Considered to be the best high school in Poland - in terms of preparing for later studies it achieved 1st place in Newsweek's ranking in 2004.
[2] Considered to be the second best high school in Sopot, it ranked 66th according to Newsweek.
[3] Considered as the second best high school in Gdynia it achieved 19th place in the Newsweek ranking.

health condition, eating habits, addictive substances usage, as well as the level of social support and the stress level.
Anthropometric measurements were conducted: respondent's height (in the interview), weight (using automatic scales[4]), waist, hips and the dominant arm circumference (using tailor measure), blood pressure and pulse (automatic apparatus Omron M5-I [5] was used). The blood pressure of the dominant arm was measured three times and once of the other arm. There were at least two-minute intervals between each measurement.

Results

General health condition – subjective evaluation.

Subjective assessment of one's health among the youth is following: only 29 % of high-school students evaluated it as very good, 54.2 % as good and, at the same time, girls evaluated it as worse (Table 1).

Table 1. How do you estimate your health condition in comparison with your peers?

	general	girls	boys	p
very good	29.0%	24.6%	32.2%	<0.05
good	54.2%	53.8%	54.4%	n.s.
average	12.9%	18.5%	8.9%	<0.05
bad	2.6%	3.1%	2.2%	n.s.
very bad	1.3%	0.0%	2.2%	<0.05

Addictive substances

22.6 % of students admitted to smoking cigarettes, 11 % currently do not smoke, but they used to do it in the past.

Table 2. Addictive substances – smoking

	general	girls	boys	p
smokers	22.6%	24.6%	21.1%	n.s.
smokers in the past	11.0%	12.3%	10.0%	n.s.

Girls slightly more often than boys admitted to smoking (table 2). Smoking was acknowledged by high school pupils as one of the worst factors detrimental to their health but much less, by the group of smokers. Evaluation, according to the 10-point scale degree, of a health hazard was assessed as 10 by 20.6 % of the smokers, 36.9 % of non-smokers, 47.1 % of ex-smokers. 9 points were given by 5.9 % of the smokers, 18.4 % of non-smokers and 17.6 % of ex-smokers. A slightly less often, they admitted that tobacco smoking may cause heart diseases (80 % of the group), but, at the same time, the

[4] Tefals' automatic scales Balméo model, with maximum weigh ability up to 160 kg and the maximum exactness up to 100 g.
[5] Omron M5-I, which fulfil the European Union Directive 93/42/EEC requirement and consistent with the European standard EN 1060, non-invasive blood pressure manometers. Part I Additional requirements for electromechanical systems of blood pressure measurements. Part III Additional requirements for the system of blond pressure measurements..

ones who gave up smoking were the most aware of it (88.2 % of the group). Generally speaking 81.9% of the respondents acknowledged that smoking increases the risk of heart attack. The increase of the risk of cancer caused by smoking is generally known (92 % of respondents): however, there was not a single non-smoker among those who admitted to the lack of knowledge (ten, 6.4 %).

87.7 % of respondents admitted to drinking alcohol. 67.9 % of the respondents (69.6 % of girls and 66.7 % of boys) drink alcohol few times a month and several times a year – 28.5 % of drinking respondents (respectively 26.8 % and 29.6 %). There are more teetotaller among girls (15.4 %) than among boys (10%). Data referring to drugs is exceptionally alarming. 33.8 % admitted to drug taking, additional 17.9 % stated that they were offered drugs at some point in their lives. In this case markedly more boys (38.2 %) than girls (27.4 %) used this type of addictive substance. Drugs were offered to 19.1 % of boys and 16.1 % of girls.7.7% admitted to taking drugs few times a month (4.6 % of girls and 10 % of boys), 6.4 % of respondents (4.6 % and 7.8 % respectively) few times a year.

Eating

Only 34.2 % of respondents answered "always" when asked about regularity of meals. "Sometimes" was the answer given by 50 % of the group, while the meals are never eaten regularly by 14.8 % of respondents. Girls are slightly less regular in their eating habits.

Table 3. How many meals do you usually have daily?

	general	girls	boys	p
1 meal	2.6%	4.6%	1.1%	<0.05
2 meals	12.9%	21.5%	6.7%	<0.05
3 meals	40.0%	33.8%	44.4%	<0.05
4 meals	29.0%	24.6%	32.2%	<0.05
more then 4 meals	15.5%	15.4%	15.6%	n.s.

Fruit and vegetables (94.8 %) were referred to as the most wholesome products; however 75 % of the respondents eat those products once or twice a day; very few more often, and all the others less often. Wholemeal bread (85.8%) was recognized as the second among the wholesome products. Milk and other dairy products (rated as the third – 82.6%), and the fourth were fish meals (78.7%). Much less the respondents referred to pork-butcher's products, meat, poultry (37.4%), vegetable oil (36.8%), fat (7.7%), sweets (6.4%), salt (4.5%).

Physical activity

Subjective evaluation of physical activity by young respondents turned out to be low.

Table 4. How do you evaluate your lifestyle?

	general	girls	boys	p
very active	19.3%	9.2%	26.7%	<0.05
active on average	64.5%	67.7%	62.2%	n.s.

not much active	16.1%	23.1%	11.1%	<0.05

Activity of any kind is practised by 86.4% of respondents (83.1 % of girls and 88.9% of boys). Among them as many as 51.2% less than 12 times a month; 34.1% - 12-20 times a month, and only 14.7 % more than 20 times a month[6]. In case of the majority of them, the exercise session lasts at least half an hour, with 6.2 % it lasts up to half an hour, while 5.4% cannot specify the duration. A more common pattern is less frequently, but longer.

Respondents were asked about their most frequent ways of spending free time. Typical leisure activities such as football or cycling are performed by 55.5 % of high school students (43.1 % of girls, 64.4 % of boys).

It was also possible to mark an answer referring to a more static kind of leisure activities. And so, watching television was enjoyed by 53.5 % of respondents (girls – 58.5 % and boys - 50 % of boys); computer games – by 45.2 % (girls – 25.6%; boys - 60%).

Stress, social support

Everyday life is seen as stressful by 13.5 % of respondents, while 60 % see it as fairly stressful. As many as 24.5 % saw themselves as a bit stressed and completely stress-free are 1.9%. Girls seemed to have more stressful life, considering the fact that the first answer was marked by almost an equal number of both the sexes, while the second was marked by 66.1 % and 55.6 % respectively. Low stress level was felt by 30 % of boys and only 16.9 % of girls.

The feeling of loneliness almost never affected 45.2 % of the respondents (36.9 % of girls and 51.1 % of boys). It was sometimes felt by 36.8 % of the group (40 % and 34.4 % respectively) and 14.2 % often felt lonely (girls - 20%, boys - 10%), whereas 3.9 % felt lonely almost always (girls – 3.1%; boys – 4.4%).

The statement “I lack confidence” was not accepted as true by 31 % of people (girls – 27.7 %, boys – 33.3 %). It was sometimes accepted by 47.7 % (respectively 41.5 %; 52.2 %). It was described as “often” by 14.2 % (16.9 %; 12.2 %) and as “almost always” 7.1 % (13.8 %; 2.2 %) of the respondents.

6.7 % of the respondents (7.8 % girls and 5.8 % boys) did not have any close friends. 13.3 % of the group (9.4 %; 16.3 %) had one close friend; two close friends – 24 % (21.9%; 25.6%); three and more – 55.3 % (60.9 %; 51.2 %). The respondents met their friends at least once a week - 86.4 % (girls - 89.1 %; boys - 84.4 %); at least once a month – 8.4 % (7.8 %; 8.9 %), and less often than once a month – 4.5 % (3.1 %; 5.6 %).

51.6 % of the respondents (49.2 % girls; 53.3 % boys) had close contact with both parents; with one parent – 34.8 % (38.5 %; 32.2 %), and with none of the parents – 13.5 % (12.3 % girls; 14.4 % boys)

Health knowledge

The questionnaire also contained the open questions, which best reflected the knowledge about the referred topics as they did not suggest the answers.

The respondents, when asked about non-pharmacological methods of preventing heart diseases gave up to seven answers. 72.9 % of them gave from one to four answers (three were given by 20 %, four by 18.1%, five by 11 %, whereas more

[6] 12 times a month is equivalent to 3 times a week, and 20 times a month is equivalent to 5 times a week

than five were given by individual students). No answers were given by 11 % of the respondents.

In this context, the respondents most often wrote about a proper level of physical activity (36.8 % of the respondents, healthy diet (32.3%), non-smoking (21.9 %), avoiding or relieving stress (19.3 %) and non-drinking alcohol (11 %). Only one person mentioned avoiding passive smoking and one, proper social support. Two people suggested that alcohol, in moderate quantities, can serve as an efficient prophylactic measure; 11 persons mentioned regular medical check-ups.

As many as 42.6 % of the respondents could not name any diseases and complications caused by untreated hypertension. One answer to this problem was provided by 23.2 % of people, two by 13.5 %, three by 15.5 %, and very few could provide more (up to six). Most often the respondents wrote about heart attack (31 %) and cerebral hemorrhage (13.5 %). Such diseases as arteriosclerosis and coronary disease where mentioned very seldom – 3.9% and 2.6 % respectively. There were also isolated cases of such answers as: death, collapse, arrhythmia, cancer, short breath, organ failure, blindness.

The causes and factors increasing hypertension are unknown to 37.4 % high-school students. One answer was given by 15.5 %, two answers by 14.8 %, and three were provided by 18.7 %. A few gave even six answers. Stress was the most often mentioned factor – 22.6 %, smoking – 12.6 %, unhealthy diet – 9.7 %, too much cholesterol in one's diet – 8.4 %, and also coffee and alcohol – each of them was mentioned by 6.4 %.

Too much salt in the diet and genetic factors were mentioned only by one person each. The influence of too little physical activity on hypertension was mentioned by six people.

The answer to the question concerning maximum values of correct blood pressure for adults was not known by 65.2 % of the respondents. Value 140/90mmHg or more was provided by 11.6 % persons, while 17.4 % mentioned values lower than 140/90mmHg). The reversal of values of systolic and diastolic pressure were found in 5.8 % of the answers.

Measurements

BMI of 89 % of the respondents was lower than 25 kg/ m^2; BMI in 8.4 % of the respondents was between 25 and 29.99 kg/m^2, and in 2.6 % of the cases the value was 30 kg/m^2 or more. All people with obesity were aware of the problem, yet not all of those who were diagnosed as obese knew about it before. Four out of thirteen claimed not to be overweight. One person did not know whether or not she/he had problems with the weight. 19.6 % with correct weight claimed to be overweight; 6.5 % did not know whether they had the right weight. Among the respondents there was one person treated for hypertension. Yet, as many as 10.3% of students (16 people) proved to have increased blood pressure. Increased systolic pressure was recognised in 8.4 % of cases, 0.6 % had increased diastolic pressure and 1.3 % the both values were increased.

Discussion

As a result of the choice of respondents we focused on a group of the youth, whose parents, in most cases, are educated people. The respondents most probably will

graduate from universities and it is highly probable that they will enter decision and opinion making circles either on regional or national level.

The respondents do not evaluate their state of health condition as very good and this opinion is not ungrounded. At this moment, it is possible to notice increased blood pressure in quite a substantial part of the group. This suggests the need to monitor blood pressure among young people. Overweight does not seem to be a great threat as yet. 11 % of the respondents had BMI at the level of 25 kg/m^2 or higher. However, one can see hazards in this disturbing tendency. The youth eat irregularly and too seldom; this problem more often affects girls than boys, but large differences between the sexes are not noticeable in this respect.

Reviewing the results of the research, it's hard not to conclude that most probably partly the mass media and, in an important measure, the parents are responsible for such a state of affairs. In most cases the parents of the respondents are educated and most probably they are professionally active. High-school students do not pay much attention to rational diet and their parents are not able to make sure that their children eat frequently enough and that their diet is well balanced.

Although the respondents know they should eat vegetables and fruit, only in isolated cases they eat the amounts suggested by WHO i.e. 4-5 times a day. Sweets were rarely considered as important food; however, their consumption is significant. This is connected with an important marketing and mass media issue. The opinion has been voiced that snack producers target children and youths in their aggressive advertising, and they are more and more precise in their targeting of still younger clients.

Young peoples' diet is bad both in terms of quality and quantity. Equally intriguing and sometimes quite alarming is the data about addictive substances. One fifth of the respondents admitted to smoking and one tenth claimed to have given up the addiction. It seems necessary to promote the fashion of non-smoking.

The significant majority of high-school students drink alcohol quite regularly. It's intriguing that with this addictive substances there is a tendency for leveling its use by both the sexes or there may be noticed a slight shift in the tendency: girls tend to use addictive substances slightly more often than boys.

A massive abuse of drugs is a serious problem. One third of students admitted to drug taking which shows how low is the efficiency of the preventive measures taken so far, as well as the need to publicize the problem.

It is surprising that the level of physical activity of the youth is so low. WHO speaks about the need of regular exercises most of the days in a week for at least half an hour in each session or possibly twice for fifteen minute sessions. AHA advises daily exercises of the same duration ,whereas more than a half of the respondents have problems with exercising three times a week and daily physical activity is taken up by isolated cases (and in most cases this is professional sport). One session usually lasts more than half an hour, so the respondents show the tendency to practice less often but for a longer time, which obviously, is not as good as patterns suggested by WHO and AHA.

The above mentioned problem is strictly connected with the question of the ways of spending free time. Playing soccer or cycling is practiced by half of the respondents and again, the statistics for the girls are worse. Plenty of time is spent on such activities as watching TV or playing computer games and also, in case of girls, book reading - which is not a negative phenomenon. Girls are significantly less active.

A great majority of the respondents see their life as stressful (74 % assessed their life as very or rather stressful). This can be explained by the high expectations of

high-school students, high competitiveness among students as far as their future university careers are concerned. At the same time the respondents have many friends, and they meet them quite often (80 % of them have at least two friends; 86 % of them meet their friends at least once a week). Girls usually mention a greater number of friends. Also a great majority of the young have close contact with at least one parent (87 %). These results are in contrast with the answers given to the question about the sense of loneliness. In comparison with the data about the number of friends, surprisingly many respondents feel lonely (55 % of them are sometimes, often or always lonely; 18 % often or always; and among girls the data is: 63 % -sometimes, often or always; 23 % - often or always). This phenomenon is present particularly in case of the girls' group. One may suspect that the numerous friendly contacts and relations with the parents are not always truly supportive.

These data are particularly significant in the context of many studies. It's known that loneliness is an important risk factor of premature death. It was also proved that social support received from the parents in one's childhood and youth, as well as stressful events of this period of life have long lasting effect on one's life. Lack of close relationships with parents among students in Harvard was connected with frequent cases of coronary diseases and hypertension 35 years later [20].

Finally, health knowledge of the respondents is definitely insufficient. Although they managed to write something about preventing heart diseases, the topic of hypertension is generally unknown for high-school students. About half of the respondents managed to recall the most basic information about topics mentioned in the questions. Hardly ever, one person could provide two answers. In most cases, proper answers were dispersed among and inter-woven with quite absurd statements. To sum up, the knowledge of cardiovascular diseases among young people is foggy and chaotic.

All this contributes to the picture of a youth as a person more and more under stress, misinformed by media and various forms of advertising, with the parents, school and doctors having less and less influence on him or her.

An additional medical problem is too little attention being paid to this group of patients who create an illusory sense of security in them and in their doctors.

Conclusions

1. The state of health of the young people is relatively good, but there are some disquieting facts.
2. The knowledge about health among the youth is poor.
3. Habits and health patterns are often wrong, slightly worse in case of girls.
4. In the coming years intensive measures should be taken to improve this situation.

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Evaluation of cardiologic patients' knowledge of risk factors for ischemic heart disease

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Introduction

In order to evaluate people's awareness of the risk factors of coronary heart disease and especially their knowledge about all the consequences of neglect or lack of treatment, it is important to characterise the disease and its risk factors.

Coronary disease is characterised by damage to the heart muscle as a result of lack of balance between coronary flow volume and the muscle's demand for oxygen. This can be a consequence of structural changes, dysfunction of coronary circulation or substantial narrowing (and sometimes obstruction) of coronary artery lumen nourishing the muscle. In most cases, the underlying cause of coronary disease is atheromatosis. In coronary atheromatosis there develop atherosclerotic plaques in coronary vessels, just as in other arteries, narrowing the lumen, hindering blood supply to the heart.

In the developed countries, the incidence of the disease is higher, raising the number of heart attack victims and rates of abrupt death. Men in the age range 40-55 years are most at risk. In older people, the risk is similar for both genders and the incidence significantly rises with age [1, 2].

The risk factors of heart disease are well-known. Predominance of one risk factors does not usually pose significant problem for people in the risk group but culmination of many factors and occurrence of symptoms usually change patients outlook on the matter and make them more aware of real risk. It is usually the bad habits that raise the risk of occurrence of the disease. The factors can be divided into those which can be influenced and those which can't [3]. The first include raised cholesterol level, smoking, poor diet and obesity, poor physical activity, diabetes, hypertension, stress. The second group includes: age, gender, genetic makeup. Lack of awareness can lead to heart attack.

Observations and comparisons of patients with ischemic heart disease and healthy population revealed that certain group of factors occurs more often in sufferers than in healthy subjects. Therefore, it is important to propagate knowledge about risks of ischemic heart disease. The measures can include primary prophylactics and in the case of sick subjects secondary prophylactics. The efforts that are made to prolong patients

life and improve life quality usually consist in eliminating well-known risk factors that can be eliminated.

Cessation of smoking, hypertension control and lowering cholesterol level are the most important actions [4]. People who smoke are twofold more at risk of heart attack and death due to heart problems than people not smoking. Within two years of cessation of smoking, the risk in former smokers is reduced by about 50%. In many cases, this factor should be tackled and eliminated as the first one.

In obese patients, there occur metabolic disorders which have direct effect on the circulatory system and development of atherosclerosis. Obesity is often accompanied by raised levels of triglycerides and lowered level of HDL.

The basic approach to treatment of obesity is to achieve negative energy balance through low-calorie diet combined with regular physical activity. It is important to reduce consumption of lipids (to 7% of energy consumption), sugar and cholesterol. Patients should consume more low-calories and high in fibre vegetables and fruit and drink about 2 litres of sugar-free drinks. Not only obesity can lead to heart and vascular problems but also lack of physical activity [4].

Regular moderate physical activity reduces hypertension, raises HDL fraction of cholesterol which inhibits atherosclerotic changes, lowers LDL fraction of cholesterol, reduce concentration of triglycerides, improves carbohydrate metabolism. It promotes collateral circulation in the heart and improves efficacy of metabolism in skeletal muscles.

Numerous of studies show that physical activity after heart attack combined with other beneficial lifestyle changes such as body weight reduction, giving up smoking reduces risk of death (20-25%) due to general causes and due to heart problems [5- 7].

The aim of the study was to assess how much the surveyed people know risk factors for ischemic heart disease with relation to the place of living, gender or health status of people.

Material and methods

The subjects of the study were patients after a heart attack rehabilitated in the hospital of the Ministry of the Interior Affairs and Administration MSWiA in Głuchołazy (24 women, 36 men), the others came from Wroclaw (19 women, 41 men). Mean age of women was 65.9 years and men 63.6. All the participants were surveyed. The questionnaire contained 24 closed-ended questions. It was handed out in two turns (first one in Głuchołazy, group, I, the second in Wroclaw – group II) to randomly selected patients after the heart attack. Before the questionnaire was handed out, each question was discussed and explained to the group. The questions discussed risk factors (10 questions testing patient's knowledge), ischemic heart disease and lifestyle (14 questions assessing patients attitude towards this knowledge), before and after the heart attack. The findings were analysed and evaluated. The first part of questions concerned patient's awareness of the risk factors. Criteria were as follows: *0-50% - patients have no knowledge; * 60% - patients have sufficient knowledge * 70-80% - patients have good knowledge; 90-100% - patients have very good knowledge.

Results

The average weight of women before the heart attack was 73.6 kg (ranged 58 - 96kg). After the heart attack, it was reduced to 63.6kg (59 - 94kg). In the group of men, average weight was 84. 6kg before heart attack (62 - 115kg), after the attack it was reduced to 83.8kg (57 - 110kg) (Table 1).

Table 1. Characteristics of the studied group regarding age and body weight

Studied group	Mean age (years)	Mean weight (kg)	
		Before heart attack	After heart attack
Women	65.9	73.6	72.2
Men	63.6	84.6	83.6
All subjects	64.7	71.9	78.2

The majority of the subjects from the group, I and II (97%) were aware of the detrimental effect of smoking. Practically, no one doubted that it is one of the main risk factors leading to ischemic heart disease and thereby heart attack.

The results showed that in the first group, 10 people did not know correct values for blood pressure and in the second group, two people did not select any answer, three people chose bad answer. The rest of the people from the group (83% from group I and 92% from group II) chose correct answer. When patients know correct values for blood pressure and check their blood pressure on the regular basis, they can control if they have high blood pressure. Thereby, they can detect one of the risks factors early and prevents heart attack (Table 2). It should be noted that participants from Wroclaw (group II) were best informed, which suggests best access to health care or better access to information through media.

Table 2. Patient's knowledge about risk factors

Studied groups	Possessed knowledge about risk factors and their correct values			
	Smoking	Blood pressure	Blood pulse	Cholesterol
Group I	95%	83%	78%	30%
Group II	97%	92%	87%	48%

In all, 13 from group I did not give an answer to the question about correct pulse rate, 8 from the group II indicated incorrect answer. The rest – 99 people (82%-78% from group I and 87% from group II) gave the correct answer.

Only 30% of the subjects from group I knew what correct cholesterol level should be, more than 50% (53%) gave incorrect answer and 17% gave no answer. Patients from group II had slightly better knowledge about it, nevertheless; the results were not satisfying – not even half of the subjects (48%) gave the correct answer, 40% gave wrong answer and 12% did not choose any answer (Table 2). The analyses showed poor knowledge of the patients about cholesterol. A few patients knew which fraction had the beneficial effect on human organism and which one was bad. Subjects from group II were better informed (52% gave the correct answer) and in the group, I only 27%.

Forty-three subjects from group I (71%) thought that any form of physical activity is a factor reducing risk of heart attack, 10 (17%) had no opinion on this matter,

and 7 (12%) claimed that the physical activity had no effect on reduction of risk of heart attack. In the second group, 53 (88%) of the subjects believed that sport could reduce the risk of heart attack, 10% of the subjects (six people) did not know the answer to the question and only one person claimed that sport could not prevent heart attacks (Table 3). The findings showed that participants from Wroclaw were better informed about the beneficial role of the physical activity.

Table 3. The importance of physical activity as viewed by the subjects

Groups	Group I	Group II
Exercises reduce risk of heart attack	71%	88%
No knowledge about the role of exercises	17%	10%
Exercises do not reduce risk of heart attack	12%	2%

Most of the respondents (70%) from group I (42 patients) viewed their body weight as too much, 25% (15 patients) thought their weight was correct and only 5% (3 patients) thought their weight was too low. In the second group, 45% of patients (27) believed their weight was correct, 43% (26 people) thought their weight was too much and 12% (7) thought their weight was too low. The vast majority of respondents (80%) from group I claimed that their knowledge about healthy lifestyle, physical activity and risk factors of heart attack was significantly poorer before the heart attack than after. The rest of the participants from the studied group claimed that their awareness of risk factors leading to heart attack was the same before and after the heart attack. In the second group 70% (42 patients) believed that their knowledge improved after heart attack and 30% (18) claimed that it was the same (Table 4).

Table 4. General level of knowledge

Level of knowledge	Before heart attack	After heart attack	Before heart attack	After heart attack
	Group I		Group II	
Lower	80%		70%	
The same	20%	20%	30%	30%
Higher		80%		70%

Discussion

Disorders of the circulatory system, including ischemic heart disease, are the leading causes of death in the developed countries. Proper health education is crucial for disease prevention. The aim of the study was to test the level of knowledge of cardiac patients about risk factors of ischemic heart disease, considering their place of living and health status.

The findings of the study revealed that the level of knowledge of the participants was good (71%). The majority of the subjects – 95% from group I and 97% from group II did not have doubt about the detrimental effect of smoking. Hardly, anyone doubted it is one of the main risk factors of ischemic heart disease and therefore

heart attack. 83% of subjects from group I and 92% from group II knew what correct values of blood pressure are. The subjects had a little knowledge about cholesterol. Only 30% of the subjects from group I knew a correct blood cholesterol level is. More than half (53%) of respondents gave wrong answer and 17% gave no answer. Patients from group II had slightly better knowledge, but the results were not satisfying – not even half (48%) gave the correct answer, 40% gave wrong answer and 12% did not select any answer.

The subjects of Pieniążek study [8] had an adequate level of knowledge about risk factors for cardiovascular system. Findings revealed that the level of knowledge about ischemic heart disease depended on the place of living. The researcher's study revealed that people living in towns had adequate knowledge and people from cities had good knowledge. When analysing every survey item, people living in Wroclaw had best scores. This could be explained by best access to GP, better access to information delivered in form of patient handouts, ads and found in periodicals.

Kubica et al. study [9] showed that place of living has no effect on the level of knowledge about possible prophylactic measures or symptoms of ischemic heart disease.

Nowicki et al. [10] concluded in their study that places of living is important. Small town dwellers had poorer scores as far as knowledge about risk factors is concerned than city dwellers. Similar results can be found in the Półkarz et al study [11]. They concluded that small-town dwellers had inadequate levels of knowledge about risk factors of the circulatory system diseases.

The Kubica study [9] showed an improvement in patient's knowledge when comparing they answer from the beginning of hospitalization and just before discharge from the hospital.

According to the Commission for Prevention of Polish Society of Cardiology, the prophylactic measures should be on social level and individual. On social level, healthy diet should be propagated and physical activity, the need to combat heavy smoking and alcohol consumption. On individual level, efforts should be made to reduce excess weight, lower cholesterol level LDL, control blood pressure and increase physical activity [13].

The findings showed that 71% of the patients from the group, I believed that physical activity can reduce the risk of heart attack; 10 people (17%) did not have an opinion on this matter and 7 (12%) claimed that physical activity did not reduce the risk. In the second group, 53 (88%) believed that physical activity could reduce the risk, 10% (six people) did not know the answer to this question and only one person believed that sport cannot prevent heart attack.

Differences in patients' perception of their bodies and weight were related with the place of living. 45% of city dwellers claimed that their weight was correct, and 25% of their peers from towns believed so. 70% of the patients from group I and 43% from group II thought their weight was excessive. These were patients' individual perception of their bodies; therefore, more permissive, with bigger margins of error about what is correct and what is not. Patients from Wrocław were satisfied with their bodies, and their bodies did not cause them concern. They did not view excess weight as a factor in development of ischemic heart disease. In the Nowicki et al. study [10] excess weight and obesity emerged as the most important risk factor, then poor physical activity, hypertension and smoking. Therefore, it can be inferred that patients from the group II simply ignored the weight problem, despite risks it poses in correlation with other factors.

When observing IHD incidence rates in the population and the elements that determine it, the knowledge about the disease is inadequate. Risk factors of heart disease are not only a problem in this disease; they can constitute the basis for many other serious diseases that lead to physical efficiency limitations and make patients dependent on others. Primary and secondary prevention is not only a duty of medical personnel. The habit to eat healthy and be active should be instilled in people from early school years and every family should make every effort to live healthy.

Conclusions

1. The analyses revealed that patients from group II had good knowledge – 75%. Patients from group I had only adequate knowledge (66%).
2. Patients from Głuchołazy were less informed about risk factors than patients from Wrocław.
3. The analyses of findings revealed that despite being aware of risk factors for ischemic heart disease and heart attack – smoking, bad diet, excess weight, high-cholesterol level or poor physical activity, patients from group II did not make any efforts to implement their knowledge in daily life. Patients from group I was less informed but put their knowledge to better use in daily life.
4. 80% of the subjects from group I and 70% from the group II their knowledge improved after the heart attack.

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