Uniwersytet Medyczny
im. Karola Marcinkowskiego w Poznaniu
Poznan University of Medical Sciences

Wydział Nauk o Zdrowiu
Faculty of Health Sciences

PIELĘGNIARSTWO POLSKIE

POLISH NURSING

KWARTALNIK / QUARTERLY

Nr 4 (54)
12/2014

Indeksowane w: Ministerstwo Nauki i Szkolnictwa Wyższego 3,0,
Index Copernicus 4,86
Indexed in: Ministry of Science and Higher Education 3.0,
Index Copernicus 4.86

PIELĘGNIARSTWO POLSKIE

POLISH NURSING

Skrót tytułu czasopisma/Abbreviated title:
Piel Pol.

ISSN 0860-8466

Korekta/Proofreading:
Renata Rasińska
Barbara Błażejczak

Korekta tekstów w j. ang./Language editor:
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Skład komputerowy/Desktop publishing:
Beata Łakomiak

Projekt okładki/Cover project:
Bartłomiej Wąsiel

Sprzedaż/Distribution and subscription:
Punkt Sprzedaży Wydawnictw Naukowych UMP
60-356 Poznań, ul. Przybyszewskiego 37a
tel. (phone)/fax: +48 61 854 74 14
e-mail: sprzedazwydawnictw@ump.edu.pl

Redakcja deklaruje, że wersja papierowa „Pielęgniarstwa Polskiego" jest wersją pierwotną (*referencyjną*)

Editorial Staff declares that printed version of „Polish Nursing" is the original version (reference)

WYDAWNICTWO NAUKOWE UNIWERSYTETU MEDYCZNEGO
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Ark. wyd. 7,2. Ark. druk. 10,5.
Format A4. Zam. nr 194/14.

PIELĘGNIARSTWO POLSKIE

POLISH NURSING

ADRES REDAKCJI

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OD REDAKTORA

Szanowni Czytelnicy,

W imieniu Komitetu Naukowego mamy przyjemność zarekomendować Państwu kolejny numer Pielęgniarstwa Polskiego. Jest to pierwszy numer w całości opublikowany w języku angielskim, dzięki któremu chcemy pokazać dorobek polskich naukowców w szerszym gronie.

Treści zawarte w tym tomie mają bardzo zróżnicowany charakter, odzwierciedlają jednak obszary zainteresowań poznawczych i klinicznych zarówno personelu medycznego, jak i kadr nauki uniwersytetów medycznych i innych, mamy nadzieję, że spotkają się z pozytywnym odbiorem przez Czytelników.

W aktualnym numerze przedstawiamy prace, które zawierają badania dotyczące aktualnych problemów związanych ze zdrowiem i zdrowym stylem życia, m.in. artykuł, którego celem jest charakterystyka filozofii pro-ana jako stylu życia.

Ważne dla personelu pielęgniarskiego są prace poświecone zagrożeniom wynikającym z pracy pielęgniarek/pielęgniarzy środowiskowych oraz kwestii dyskopatii lędźwiowo-krzyżowej jako problemu zdrowotnego pielęgniarek. Zapraszamy również do zapoznania się z artykułem, w którym autorzy analizują postawy studentów pielęgniarstwa i medycyny wobec roli pielęgniarki/pielęgniarza w zespole terapeutycznym.

Rekomendujemy także artykuł szczególnie ważny i godny polecenia w kontekście pacjenta, w którym autorzy przedstawiają potrzeby informatyczne pacjenta korzystającego z lecznictwa zamkniętego.

Wśród artykułów poglądowych zachęcamy do przeczytania tekstu poświęconego transformacji systemu ochrony zdrowia w Polsce w latach 1920–1999 oraz artykułu prezentującego teoretyczne modele zachowań zdrowotnych pod kątem możliwości wykorzystania ich do oceny rzeczywistych zachowań zdrowotnych.

Życząc Państwu owocnej lektury miło nam poinformować, iż w kolejnych numerach planowane są dalsze zmiany, których celem jest przede wszystkim nieustanne podnoszenie jakości pisma oraz druk materiałów odpowiadających potrzebom edukacyjnym i poznawczym Czytelników.

Dr hab. Maria Danuta Głowacka
Redaktor Naczelny

Dr inż. Renata Rasińska
Sekretarz Naukowy

EDITOR'S NOTE

Dear Readers,

On behalf of the Scientific Committee we have the pleasure to recommend to you the next issue of the Polish Nursing. This is the first edition published fully in English. We believe works of Polish scientists will reach a wider circle of experts.

The contents of this issue is diversified. Nevertheless, it reflects the area of cognitive and clinical interest of both medical and scientific staff. We truly hope it will be appreciated by the Readers.

In the current edition we present manuscripts that contain research on problems connected with health and healthy lifestyle up-to date, including the article which describes pro-ana philosophy.

Articles on threats resulting from district nurses' work, such as the problem of lumbar-sacral discopathy, are of great importance to nursing staff. The paper analyzing the attitudes of nursing and medical students towards the nurse's role in the therapeutic team is worth considering as well.

We strongly recommend the manuscript presenting informative needs of the patient using inpatient care, particularly in the context of the patient himself/herself.

Amongst opinion articles the Readers will find the paper on transformation of the Polish healthcare system in the years 1920–1999 and the manuscript concerning the use of theoretical models of health behaviour to evaluate health behaviour.

Wishing our Readers the fruitful reading, we inform that next issues will include further changes aimed at constant quality improvement of the journal and publishing papers which will meet cognitive and educational needs of our Readers.

Assoc. Prof. Maria Danuta Głowacka, PhD
Editor in Chief

Renata Rasińska, PhD (Eng)
Scientific Secretary

”PRO-ANA” AS A LIFESTYLE-SHAPING ENVIRONMENT AMONG YOUNG PEOPLE

PRO-ANA JAKO ŚRODOWISKO KSZTAŁTUJĄCE STYL ŻYCIA MŁODYCH LUDZI

Natalia Kaźmierczak, Antoni Niedzielski

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ABSTRACT

Introduction. Pro-Ana is a philosophy, which treats anorexia as a consciously adopted lifestyle rather than a mental disorder with a high mortality rate.
Aim. The aim of this study was to present the characteristics of the pro-ana philosophy as a lifestyle.
Material and methods. A research tool used in this study was an author-made questionnaire, which was distributed to the authors of pro-ana internet blogs. 194 people, aged 12-30, participated in the study, including 190 women and 4 men.
Results. The vast majority of the respondents (85,54%) admit that they reduce the amount of meals, and 17% never have breakfast or dinner. Nearly 40% of the participants count the calories of the eaten products every day. Almost all of the participants do intense exercise in order to lose weight (96,4%), and feel proud when they lose weight (97,94%). More than a half of the respondents (51,55%) induce vomiting after eating. Almost every third participant of the study (30,35%) is distressed at the thought that they are soon going to eat.
Conclusions. Pro-ana philosophy strongly affects young people. It promotes an irrational and not healthy lifestyle. It leads to a formation of bad eating habits, which result in the excessive weight loss and health deterioration.

KEYWORDS: pro-ana, lifestyle, anorexia nervosa.

STRESZCZENIE

Wstęp. Pro-ana jest filozofią, która traktuje anoreksję jako świadomie wybrany styl życia, a nie jako zaburzenie psychiczne o wysokim współczynniku śmiertelności.
Cel. Celem pracy jest charakterystyka filozofii pro-ana jako stylu życia.
Materiał i metody. Narzędziem badawczym wykorzystanym w pracy był autorski kwestionariusz ankiety, który został rozesłany osobom prowadzącym blogi typu pro-ana. Badaniem objęto 194 osoby w wieku od 12 do 30 lat, wśród których było 190 kobiet oraz 4 mężczyzn.
Wyniki. Zdecydowana większość ankietowanych (84,54%) deklaruje, że redukuje ilość zjadanych posiłków, przy czym ponad 17% nigdy nie jada śniadań lub obiadów. Blisko 40% badanych zawsze liczy kalorie spożywanych produktów w ciągu każdego dnia. Niemal wszyscy badani wykonują intensywne ćwiczenia w celu obniżenia masy ciała (96,4%) oraz odczuwają dumę, gdy schudną (97,94%). Ponad połowa respondentów (51,55%) wywołuje wymioty po jedzeniu. Blisko co 3 ankietowany (30,35%) zawsze niepokoi się na myśl, że zaraz będzie musiał coś zjeść.
Wnioski. Filozofia pro-ana silnie oddziałuje na młodych ludzi. Promuje nieracjonalny i antyzdrowotny styl życia. Kształtuje u młodych ludzi nieprawidłowe nawyki żywieniowe, które prowadzą do nadmiernego obniżenia masy ciała i pogorszenia stanu zdrowia.

SŁOWA KLUCZOWE: pro-ana, styl życia, jadłowstręt psychiczny.

Introduction

The name *anorexia nervosa* comes from the Greek language and is a combination of two morphemes, *an* – a lack of, deprivation, and *orexis* – appetite, and commonly refers to a loss of appetite [1]. The characteristic of this disorder is a conscious and intentional loss of weight, not connected with a loss of appetite, doing intense and exhausting exercise, and using laxatives and dehydrating substances [2]. Other consequences of the disorder are distorted perception of one's body, obsessive concentration on one's appearance, and intense fear of putting on weight [3]. This, in turn, leads to serious somatic changes and mental disorders [4, 5].

90–95% cases of anorexia concerns women, mostly adolescent girls and young women [6]. According to Józefik, the peak of the disorder activation is between the age of 15 and 19 [3]. However, Włodarczyk-Bisaga distinguishes between two periods of high incidence of anorexia, i.e. between the age of 13 and 15, and between the age of 17 and 25 [7].

Anorexia nervosa is not always considered to be a damaging and mortal disorder. Pro-ana is a philosophy which treats anorexia as a consciously adopted lifestyle, a way to reach perfection, or a method of losing weight. The name “pro-ana” itself denotes support for anorexia (*pro* – for, *ana* – a shortening for anorexia) [8].

Being on a strict diet is supposed to result not only in a slim figure, but also lead to a feeling of having control over one's body and life. The philosophy holds that low body weight is a symptom of perfection. It is evidence of strong will and of resistance to food temptation. Pro-ana is supposed to offer a recipe for a recipe for a happy life and for achievement of one's goals, regardless of the consequences.

This ideology is appealing mostly to adolescents girls and young women who are on a diet. They frequently communicate on the Internet. They are authors of blogs and are active in the forum devoted to eating disorders. Pro-ana websites offer the room for opinion and information exchange, as well as for sharing one's experiences. They are a place where people look for acceptance, and understanding, as well as togetherness, which is often missing in real life [9].

There are some recurring elements which can be observed on the pro-ana websites. Girls call themselves "butterflies" or "porcelain butterflies". They associate the disorder with someone close or important to them, someone who has some control over them, a friend, queen, goddess, or call it diminutively Ana. This philosophy offers "Ana's Decalogue", "40 reasons why you should be thin", "thinspirations", "butterfly alphabet". Their anthem is the "Courage" song by Superhick, and their motto is Ch. Marlow's quote "Quod me nutrit me destruit". Browsing through the pro-ana websites one can get a full instruction how to get rid of food from the organism, and how to cope with a feeling of hunger. Girls make use of a variety of diets, and act in accordance with "the food guide pyramid by pro-ana". Frustrated with constant binge eating, they describe hatred towards their bodies. They promote dieting supplements and recommend medicine which is frequently of no medical value [10].

In order to stress out the importance of the problem we are dealing with, it seems justifiable to refer to the available date concerning the approximate scale of the phenomenon on the Internet.

A 2006 internet search performed on google.com brought 1,300,000 entries. An analogical research performed four years later brought 4,560,000 entries. The phrase "pro-ana blog", which in 2006 yielded 58,000 entries, resulted in 3,640,000 entries in 2010, which entails an increase by 60 times [11]. A year later the phrase "pro-ana" brought 9,550,000 entries, and "pro-ana blog" 3,450,000 entries (hence a slight decrease) [8]. On the basis of no current information concerning the phenomenon, we repeated the Internet search three times, with monthly intervals. In February 2014, the phrase "pro-ana" brought 41,200,000 entries, a month later 47,000,000, and two months later, 63,7000,000 entries. In comparison to 2011 it entails an increase in the number of websites concerning pro-ana by 6 times. The phrase "pro-ana blog" brought 13,000,000 in February 2014, in March 24,500,000, whereas in April a decrease to 20,500,000.

Aim

The aim of this study is to offer characteristics of the pro-ana philosophy and to attempt to find elements of this specific lifestyle among the authors of pro-ana blogs.

Materials and methods

The research was performed between January and April 2014 in the form of an online questionnaire. The research tool was an author-made questionnaire, which was distributed to the authors of pro-ana blogs. Before filling in the questionnaire, the respondents were informed about its aims. The participation in the study was voluntary and anonymous. A research material of 194 appropriately filled-in questionnaires was subject to analysis.

The research group was made up of 190 women (97.94%) and 4 men (2.06%). The age of the participants ranged from 12 to 30 (**Figure 1**). The age of more than a half (51.03%) of the participants was between 15 and 18. The body weight of the respondents ranged from 37 to 76 kg. The average body weight was between 41 and 50 kg (37.11%), as well as 51–60 kg (30,41%). The rest

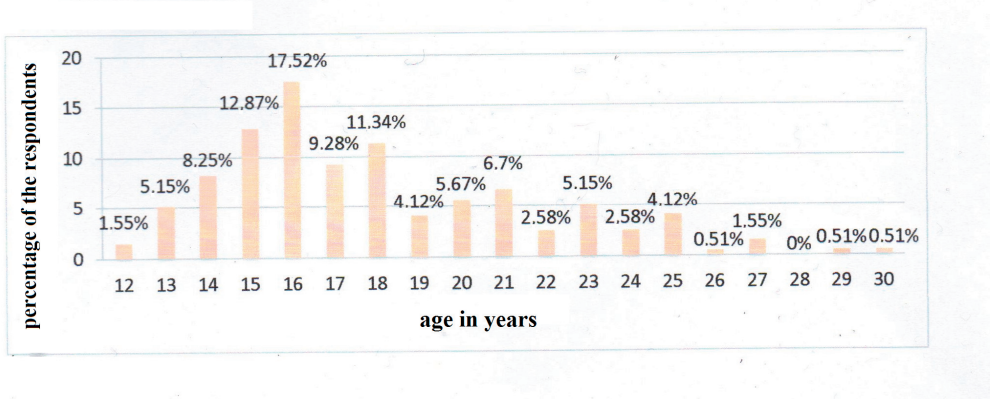

Figure 1. Age of the respondents
Source: authors' study

of the respondents had their body weight in the range of 61–70 kg (15.98%), 37–40 kg (9.79%), and 71–76 kg (6.7%). The respondents' height ranged from 152 to 187 cm. More than a half respondents (53.61%) were between 160 and 169 cm tall. Another major group were of 170 and 179 cm tall (29.38%). The height of the rest of the respondents ranged from 152 to 159 cm (13.92%), and 180 to 187 cm (3.09%).

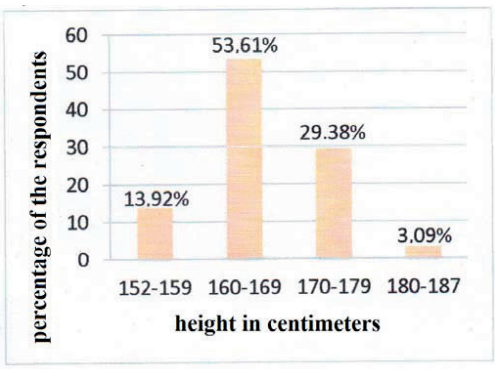

Figure 2. Height of the respondents
Source: authors' study

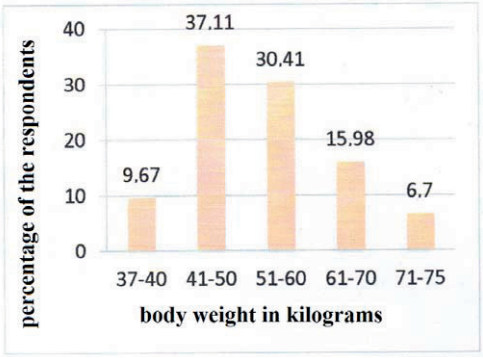

Figure 3. Body weight of the respondents
Source: authors' study

Nearly 80% of the respondents live in the city. These were mostly cities having over 100,000 citizens. Most respondents came from the Mazovia (17.53%), Silesia (12.89%), and Pomerania (11.86%) Provinces.

Results and discussion

The analysed group is characterized by an exaggerated interest in calorific value the content of fat in meals, as well as in particular food products. Almost all (96.4%) respondents know the calorific value of consumed products. This value is known by nearly every second respondent (43.81%). Almost the same number of the participants (40.72%) state that they are aware of it, 21.13% and 19.59 % correspondingly. A complete lack of knowledge on this topic is shown by only 3.6% of the respondents.

Not only do the questioned people know the calorific value of products, but they also carefully count the number of calories consumed during the day – this is done by almost 95% of the participants. Over 40% of the respondents always count the number of calories consumed during the day, while almost every fifth participant (19.59) does it often. Only 5.15% of them do not count the number of the consumed calories. An obsessive counting of calories consumed with meals, as well as the knowledge of calorific value of the eaten products, which are characteristic features of the group analyzed, are the bahaviour typical for the so-called Anorexia Readiness Syndrome [12]. Being too interested in calorific value can affect not only bad eating habits and, consequently, result in an unhealthy lifestyle, but most of all, it can lead to eating disorders.

The participants give up eating meals. Over 80% of the respondents maintain that sometimes they do not have breakfast or dinner. While nearly 16% of the par-

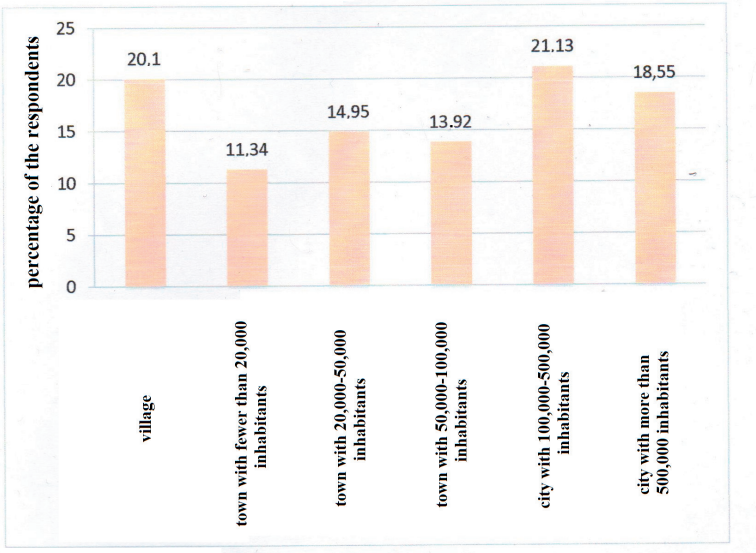

Figure 4. Respondents' place of living
Source: authors' study

ticipants have completely gave up these meals, almost every third participant (28.35%) misses them. Only 17% of the respondents state that they have them regularly. Eating meals regularly is a basis for shaping good eating habits, especially among children. It is also important in terms of a healthy lifestyle in later stages of life.

There is a belief in the Polish society that one should not eat after 6 pm due to the fact that it is harmful for the body. The participants of the analysis maintain this belief. Every fourth (27.83%) participant never eats after 6 pm, and nearly every third (32.47%) respondent often keeps the resolution. The hour of having the last meal during the day does not matter for only 10% of the participants.

Almost all respondents (94.85%) consume low-calorie products, e.g. light, fit or slim ones. These products are always eaten by every fourth (26.29%) participant, and often by almost every third (36.6%) one. Sometimes it happens to 20.1% of the respondents, and rarely to 11.86% of the participants. Low-calorie products are not eaten by only 5.15% of the participants.

Almost half of the number of the participants (41.24%) never eat high-calorie products such as sweets or carbohydrates not getting upset before. It rarely happens to nearly every third participant (30.41%). Only 2% of the respondents state that eating high-calorie products is not a problem for them.

Fruits and vegetables are elementary in diet for most participants. Fruits and vegetables always form the basis for their diet for nearly 30% respondents, often for 27.84%, and sometimes for every fourth participant (25.77%). Fruits and vegetables rarely form the basis for their daily diet for 14% of the participants, and never for 2% of the respondents. Rigorous starvation diets result in a strong feeling of hunger, which the respondents try to fight against. Due to a relatively low content of calories in fruits and vegetables, they are eaten by almost all respondents (94.33%) in order to suppress the feeling of hunger. For this reason fruits and vegetables are always eaten by every third participant (32.47%), often eaten by 30%, sometimes by every fourth respondent (22.68%), rarely by 8% and never by 5.67%. Drinking a large amount of water is another way used by the participants in order not to feel hunger. It is always done by 36.08% of the respondents, often by 28.86% and sometimes by 22.16%. This method is rarely used by 7% of the participants, and never used by 5.15% of them. According to the pro-ana philosophy, water is the basis of the food guide pyramid. Fruits and vegetables are on the next level; this is the reason why the participants willingly consume them. However, the promotion of such bad eating guidelines is detrimental to health and life of all people involved in the pro-ana movement.

Eating low-calorie products, avoiding high-calorie products, as well as eating fruits and vegetables more frequently than other products is a characteristic of not only teenagers who are on a diet, but most of all of people with eating disorders, especially when it becomes obsessively unhealthy, which can be observed among the participants. Almost half of the respondents claim that they always or often eat little and unwillingly, 24.74% correspondingly. Sometimes it happens to 27% of the respondents, and rarely to nearly 15% of them. Only 8.25% of the participants state that they do not have any problems with eating.

The participants claim that they are afraid of the thought that they will have to eat something soon. This thought always worries 28.83% of the respondents. Every fourth respondent is often worried (25.26%), and every fifth one is worried sometimes (19.07%). Only about 13% of the respondents declare that eating does not evoke any negative emotions. For every third participant (34.02%) eating has never been a way of easing the stress, but it has rarely been so for 20% of them. 12.88% of the participants have always, and almost 15% of them have often eased negative emotions by eating.

Almost all participants (94.85%) have confessed that they are afraid of gaining weight. Over 60% of them always feel this fear, and nearly 20% of them feel if frequently. Only over 5% of the respondents believe that the thought of gaining weight does not evoke any fear among them. Over half of the respondents state that they use dietary supplements which aid dieting (56.7%) or such ones which induce vomiting (51.55%) due to the fear of gaining weight. Emotions are one of the most important signals causing that one pursues or avoids something. The participants confess that while eating they are accompanied with a fear of gaining weight. Since this feeling is negative, it is obvious that they avoid situations in which they feel uncomfortable. However, they are not aware of the fact that this way they avoid what keeps them alive. Negative emotions accompanying eating are also characteristic of people struggling with eating disorders.

The respondents, in fear of gaining weight, have used not only restrictive diets, but almost all of them (96.3%) have done intense exercise. It has been always done by every fourth of the participants (24.74%), often by 38%, and sometimes by 20.1% of them. Almost all respondents (90.72%) have confessed that they feel anxiety if they do not exercise every day.

All respondents claim that appearance has an impact on good/bad luck. Nearly 79% of the participants state that it always has an impact, and nearly 16% stat that it often does. Appearance is of the essence for the participants. Almost everyone claims that they way they look is always or often important to them, 84.5% and 9.28% correspondingly.

Over half of the respondents (56.19%) is never satisfied with the shape and weight of their bodies, and

nearly 40% is rarely satisfied. The majority of the participants (81.96%) always consider themselves obese despite the fact they are perceived to be slim by the society. Focusing on one's own appearance too much, as well as a distorted perception of oneself are a characteristic and fundamental feature of eating disorders.

To sum up, the analysis shows that the principles of the pro-ana philosophy are ill-advised, reckless and not healthy. They result in an excessive weight loss and worse health conditions. Any attempts of identification of the youth with this ideology should provoke anxiety, as it promotes a lifestyle which threatens the life and health of many young people.

Conclusions

1. The pro-ana lifestyle is of a great interest among young people.
2. Despite suffering from malnutrition, the participants took up activities of the pro-ana philosophy, which were supposed to result in weight loss.
3. Improper behaviour among the participants is indicative of their anorectic behaviour, which, consequently, may lead to a symptomatic illness.
4. It should be considered appropriate to close the pro-ana websites promoting an unhealthy lifestyle.

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Appendix

Table 1. Data concerning behaviour among the pro-ana society

No.	Statements:	Never	Seldom	Some times	Often	Always
1.	I know the calorific value of every meal that I eat.	7 3.6%	23 11.86%	38 19.59%	41 21.13%	85 43.81%
2.	I carefully count calories of meals eaten during the day.	10 5.15%	20 10.31%	36 18.56%	38 19.59%	80 41.24%
3.	I give up breakfast or I regularly do not have dinner.	33 17.01%	31 15.98%	45 23.2%	55 28.35%	30 15.46%
4.	I try not to eat after 6 pm.	19 9.79%	20 10.31%	38 19.59%	63 32.47%	54 27.83%
5.	I eat low-calorie products, e.g. light, fit, etc.	10 5.15%	23 11.86%	39 20.1%	71 36.6%	51 26.29%
6.	I eat sweets and carbohydrates not getting upset.	80 41.24%	59 30.41%	36 18.56%	15 7.73%	4 2.06%
7.	Fruits and vegetables are a basis of my diet.	4 2.06%	28 14.43%	50 25.77%	54 27.84%	58 29.9%
8.	I satisfy my hunger eating apples or other fruits and vegetables because I know that they are low-calorie products.	11 5.67%	16 8.25%	44 22.68%	60 30.39%	63 32.47%
9.	I drink a large amount of water in order not to feel hunger.	10 5.15%	15 7.73%	43 22.16%	56 28.86%	70 36.08%
10.	I eat little and unwillingly.	16 8.25%	29 14.9%	53 27.32%	48 24.74%	48 24.74%
11.	I am worried that I will have to eat something soon.	26 13.4%	27 13.9%	37 19.07%	49 25.26%	55 28.35%
12.	Eating is a way of easing the stress to me.	66 34.02%	39 20.1%	35 18.04%	29 14.9%	25 12.88%
13.	I am afraid that I will gain weight.	10 5.15%	11 5.67%	17 8.76%	38 19.59%	118 60.82%
14.	I use dietary supplements which aid dieting.	84 43.3%	43 22.16%	19 9.8%	33 17.01%	15 7.73%
15.	I induce vomiting after eating.	94 48.45%	29 14.95%	30 15.46%	30 15.46%	11 5.67%
16.	I do intense exercises to lose weight.	7 3.6%	26 13.4%	39 20.1%	74 38.14%	48 24.74%
17.	I feel anxious if I do not exercise every day.	18 9.28%	33 17.01%	37 19.07%	55 28.35%	51 26.29%
18.	Appearance influences good/bad luck.	0 0%	2 1.03%	8 4.12%	31 15.98%	153 78.86%
19.	Appearance is very important in my life.	0 0%	4 2.06	8 4.12%	18 9.28%	164 84.53%
20.	I am satisfied with the shape and weight of my body.	109 56.19%	79 40.72%	3 1.55%	2 1.03%	1 0.51%
21.	I think that I am too fat despite the fact that other people consider me to look normally.	2 1.03%	7 3.6%	10 5.15%	16 8.25%	159 81.96%

Source: authors' study

The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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THE STATE OF INHABITANTS' KNOWLEDGE ON THE PUBLIC ACCESS DEFIBRILLATION ON THE EXAMPLE OF POZNAN*

STAN WIEDZY MIESZAKŃCÓW NA TEMAT PROGRAMU POWSZECHNEGO DOSTĘPU DO DEFIBRYLACJI NA PRZYKŁADZIE MIASTA POZNANIA

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ABSTRACT

Introduction. The Automated External Defibrillator (AED) is a device used to restore a normal heart rhythm in case of sudden cardiac arrest (SCA). It is a device that is easy to use and it issues voice commands for performing the subsequent rescue operations. Used in suitable time, it positively influences patient survival and post-hospital convalescence. Implementation of the Public Access Defibrillation (PAD) program plays an important role in spreading the use of the AED. The assumption of the program is placing defibrillation devices in public places with a large number of people and where there is a risk of sudden cardiac arrest.

Aim. The aim of this study is to check the implementation of the PAD program in the city of Poznan, by evaluating the knowledge of the inhabitants on AEDs and their location, and to examine the general opinion of people on the use of AEDs in the case of sudden cardiac arrest.

Material and methods. The study involved 100 randomly selected people near the location of defibrillators. The group of respondents consisted of 50 women and 50 men. The study was conducted by means of the authors' own questionnaire. The questions concerned the knowledge of Poznan residents of the availability of automatic external defibrillators.

Results and Conclusions. Based on the conducted survey, it was found that the inhabitants of Poznan do not have the knowledge of what an AED is and what it is used for, as many as 74% of the respondents answered the question concerning the knowledge and use of defibrillators negatively. Of the respondents, 71% did not know where such devices are located in Poznan. Despite the lack of knowledge (in over 70% of respondents) concerning the AED, 69% of the surveyed people would decide to use a defibrillator in an emergency.

KEYWORDS: Automated External Defibrillator, Public Access Defibrillation.

STRESZCZENIE

Wstęp. Automatyczny Zewnętrzny Defibrylator (AED) to urządzenie służące do przywracania prawidłowej pracy serca w przypadku nagłego zatrzymania krążenia (NZK). Jest urządzenie proste w obsłudze wydające głosowe polecenia, dotyczące wykonywania kolejnych czynności ratunkowych. Zastosowany w odpowiednim czasie, pozytywnie wpływa na przeżycie i rekonwalescencję poszpitalną. Istotną rolę w rozpowszechnianiu użycia AED jest wdrażanie programu Powszechnego Dostępu do Defibrylacji (PAD). Założeniem programu PAD jest umieszczanie urządzeń do defibrylacji w miejscach użyteczności publicznej, w których jednocześnie znajduje się duża liczba osób oraz istnieje ryzyko wystąpienia NZK.

Cel. Celem pracy jest sprawdzenie sposobu realizowania programu PAD na terenie miasta Poznania poprzez zbadanie stanu wiedzy mieszkańców na temat defibrylatorów AED oraz ich umiejscowienia, a także zbadanie powszechnej opinii na temat użycia AED w przypadku nagłego zatrzymania krążenia.

Materiał i metody. Badaniu poddano 100 losowo wybranych osób w pobliżu lokalizacji defibrylatorów. Grupę ankietowanych stanowiło 50 kobiet i 50 mężczyzn. Wykorzystano kwestionariusz ankiety własnej konstrukcji. Pytania dotyczyły wiedzy mieszkańców Poznania na temat dostępności do automatycznego zewnętrznego defibrylatora.

Wyniki i wnioski. Na podstawie przeprowadzonej ankiety stwierdzono, iż mieszkańcy Poznania nie mają wiedzy na temat czym jest i do czego służy AED, ponieważ aż 74% respondentów odpowiedziało negatywnie na pytanie dotyczące wiedzy i użycia defibrylatora. Podobne wyniki można zauważyć w przypadku pytania drugiego, gdyż 71% odpowiadających nie wiedziało, gdzie takie urządzenia znajdują się na terenie Poznania. Pomimo braku wiedzy dotyczącej AED większość przebadanego społeczeństwa zdecydowałoby się na użycie defibrylatora w nagłej sytuacji. Świadczy o tym fakt, że 69% ankietowanych odpowiedziało pozytywnie na to pytanie.

SŁOWA KLUCZOWE: defibrylator, Powszechny Dostęp do Defibrylacji.

*The article was written on the initiative and with the involvement of members of the Student Scientific Circle *Quality Manager*.

Introduction

The Automated External Defibrillator (AED) is a device used to restore normal heart rhythm. It is used in the case of ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT). In the case of asystole, it is not recommended to perform external defibrillation [1]. Defibrillation is most effective if it is done within 3–5 minutes of sudden cardiac arrest (SCA). For every passing minute the patient' chances of survival decrease by 10–15% [2]. It shows how important the implementation of the PAD program is in order to increase the use of AEDs. Fast delivery and use of the device increases patient's survival after the sudden cardiac arrest, as well as having a positive impact on the quality of their future life. Appropriate marking of AEDs locations plays an important role here.

The Public Access Defibrillation program (PAD) was introduced in Poland in 2000. It assumes that defibrillation by means of an AED can be performed not only by individuals with appropriate training in this area, including police officers, security guards and paramedics but also by witnesses of an emergency [3]. The assumptions of this program indicate that it should be implemented in places where over the last 2 years a sudden cardiac arrest has taken place, and the time to reach medical assistance at the scene exceeds 5 minutes. An important aspect is the speed of the delivery of an AED to the patient – it should not be no longer than 5 minutes [4].

The emphasis should be put on placing AEDs in areas where there is high concentration of people, e.g. airports, sports facilities, offices, casinos, shopping malls. It is due to the fact that in these places SCA occurs in the presence of witnesses, and trained staff is close enough to provide medical assistance very quickly [5].

Aim

The aim of this study is to check the implementation of the PAD program in the city of Poznan, by evaluating the knowledge of inhabitants about AEDs and their location, and to examine the general opinion of people on the use of an AED in the case of sudden cardiac arrest.

Material and methods

A survey consisting of the authors' own questions concerning the knowledge of AEDs, their location, as well as the residents' opinions on their availability was conducted in the city of Poznan. The research (voluntary and anonymous) included 50 women and 50 men (randomly selected) and was carried out near the places where defibrillators were located.

Results

Percentage distribution of the answers provided to the questions is illustrated in **Figures 1(a-c)** and **Figure 2**.

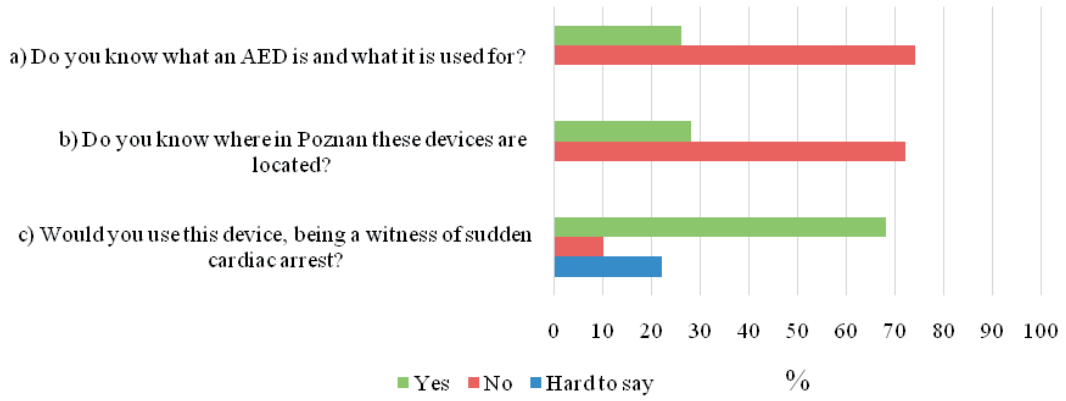

Figure 1 (a-c). The knowledge of the inhabitants of Poznan on the use and location of AEDs
Source: author's own materials.

As it may be concluded from Figure 1, the first question concerning the knowledge of the AED and its use in practice, was answered positively by only 26% of the respondents, the other 74% did not have the knowledge of the AED (**Figure 1a**). In terms of the question relating to the respondents' knowledge of the device location in their city, only 28% of them possess this information, while for the remaining (72%), the places where Automatic External Defibrillators are available are not known (**Figure 1b**). The percentage of negative responses (for both questions) is a very disturbing fact. In case of the question relating to the attitude of respondents in the situation of the

sudden cardiac arrest, 68% of them expressed the opinion that in such an emergency they would use an AED, while 22% of people were not able to provide a clear answer. The remaining 10% would not perform this activity (**Figure 1c**).

authorization, permission or qualifications, which further emphasizes that the defibrillator is a medical device approved for public use. The above-mentioned Act provides the possibility of the AED to be used by people without qualifications in order to save the life of the victim [7].

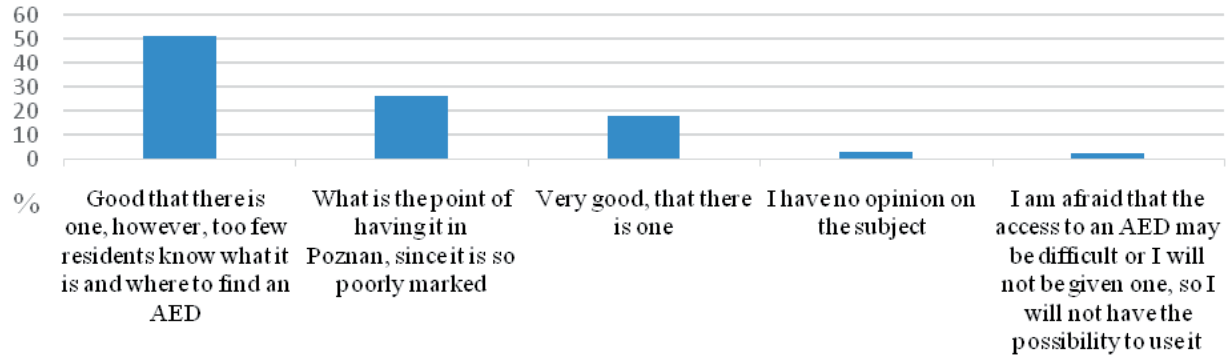

Figure 2. Opinions of the residents of Poznan on the AED
Source: author's own materials.

Discussion

The result of the conducted study may be a statement that the residents of Poznan have little knowledge of the Public Access Defibrillation program, which is being implemented in their city. A disturbing fact is that so many people do not know what the AED is and in what situations it can be used. This shows how important the role of further spreading the PAD campaign among the inhabitants is. The priority should be to improve first aid education from the very early age. Incompetence of the public associated with this may be due to people's unawareness concerning the legal obligation to provide the first aid. It is clear from the content of the Art. 162 of the Penal Code, which states that anyone who does not expose himself or another person to the danger of loss of life or serious harm to health is obliged to provide the first aid. The research carried out in Great Poland in 2008 shows that unfortunately, this article is mostly known to students and to a smaller extent to employees. In some cases, people do not have the awareness that this regulation applies to all citizens, not just the medical staff [6]. Performing the automated external defibrillation is considered among the medical society as one of fundamental links in the chain of survival and an action contained in the first aid, provided by random people at the scene of the accident. In accordance with the State Emergency Medical Services Act (art. 3 paragraph 7), the first aid are actions that are taken in order to save lives by witnesses of a threat by means of authorized medical devices and products. The use of the defibrillator in accordance with the law does not require any

The study clearly shows that it is an ineffective action to purchase defibrillators and put them in public places, while residents are not properly informed about it, and the staff has no training in this area. The lack of substantive knowledge of providing first aid with the AED results in a situation in which the population may consider using the device as too difficult, which leads to creating a psychological barrier. Defibrillators localized in public places are not as advanced and complex as those used in hospitals and emergency medical teams. The AED gives voice or visual commands thanks to which it is possible to perform the proper defibrillation. Some of these devices have additional information on how to do proper chest compressions [8]. The examined part of the inhabitants of Poznan drew attention to inadequate education in this field. As many as 51% of the respondents suggested it by choosing the answer *"It is good that there is one but too few residents know what it is and where the AED can be found "* (**Figure 2**). The challenge of modern medicine, especially cardiology, is to improve the functioning of health care systems and other auxiliary services, such as the police and fire service. It is also important to increase training in the field of cardiopulmonary resuscitation not only among the medical staff, but especially among the general public. The next step is to implement properly prepared educational programs, as well as placing defibrillators in public places [9], both visible and properly labeled.

Based on the analysis of the obtained material, it was found that the residents did not have the knowl-

edge about the location of defibrillators that are available in Poznan. The reason for this ignorance is insufficient marking of AEDs in their locations. This results in the limited efficiency of use of the equipment, which in turn leads to a decreased chance of survival of a sudden cardiac arrest victim. Therefore, an important element of the PAD program is effective marking of defibrillators. Markings should be placed not only at the main entrance to the building where the AED is located, but also directly next to the device. An effective solution would be to mark the whole road from the entrance to the institution, to the exact position of the device. The properly implemented PAD program results in an increase in the number of cardiopulmonary resuscitations (CPR) and allows to take an immediate defibrillation by witnesses of the emergency. An attention should also be paid to an important role played by employees in various institutions, since in many places, the AED is likely to be used only by them. It is due to two causes: in numerous locations where the AED is available, there is authorized staff that is only appointed to use it. Not without significance is also the problem of the lack of inhabitants' knowledge about the appearance of the signs on AEDs [4]. It is also important that a significant percentage of the residents of Poznan noticed the problem with AED marking. It was found that although the AED was located in the city, it was poorly marked and very few people know where it may be found.

Despite the lack of adequate knowledge on what the AED is and where it can be found, a significant part of the respondents indicated a willingness to use this device in an emergency situation. This proves the readiness of society to provide first aid. Before launching the PAD program, only 15% of victims experienced return of spontaneous cardiac circulation, and only 5–7% survived and were discharged from hospital. If witnesses of such a situation start the rescue operation, the chances of patient's survival may double or even triple. That is why, it has become such an important aspect to promote early defibrillation with the use of AEDs [7]. A significant element would be to increase the amount of campaigns offered on the subject of first aid with the use of a defibrillator. It is worth paying attention to the need to organize training on the basic life support. According to the guidelines of the European Resuscitation Council, self-study along with practice is essential, which is an alternative to instructor-led courses. After a period of 3 to 6 months, the participants' knowledge deteriorates, hence it is important to continuously monitor their skills [10]. The most efficient trainings are those where the group does not exceed 12 persons, assuming that 1 instructor supervises 4 participants. During group trainings an emphasis should be placed on practicing individual skills. A qualified instructor who has the Basic Life Support (BLS) certificate plays an important role here [11].

Of the respondents, 22% were not able to clearly determine whether they would use the AED in an emergency. This may result from the fear of taking responsibility for someone else's life. Among laymen, as far as the first aid is concerned, a very common reason for not taking it, is the fear that the victim's health status may deteriorate. It is important to pay attention to this aspect as early as during the trainings, because as it can be observed, people are unaware of the fact how important it is to take action before the arrival of emergency medical services. The fear of harming the patient may constitute a really serious problem, since it is a desire to improve somebody's health, or save someone's life that should outweigh the fear and motivate people to take such an action. Part of society, which also shows a fear of providing the first aid, mentions the risk of contracting a disease or just a lack of adequate theoretical and practical knowledge in relation to the principles of the first aid. It is a worrying phenomenon in the light of reports on a small share of accidental witnesses in performing resuscitation outside hospital [6]. Studies show that most commonly, cardiac arrest in adults occurs in pre-hospital settings, where the patient's survival depends on the reaction of witnesses. A large part of the population does not undertake or starts basic life support too late, which significantly worsens the prognosis of victims who have experienced the sudden cardiac arrest. The result is that only 25% of the victims have the chance to get alive to hospital where they can receive professional medical care [12].

Among the respondents, 9% of them admitted that if they witnessed a cardiac arrest they would not take rescue actions using the AED. Almost everyone said that they had no knowledge of the use of this device and that they would not be able to use it. Here it is important to refer to increasing the knowledge of Poznan residents of the use of defibrillators. The most important element is to recognize that there has been a sudden cardiac arrest and to stick two adhesive electrodes on the patient's chest. This device analyzes and points (using audio signals) the subsequent steps to perform. Once fully charged, it recommends defibrillation, and then it makes a new analysis. If defibrillation is ineffective, the device recommends starting CPR (cardiopulmonary resuscitation) by a person providing aid [13].

Conclusions

The conducted observations clearly show that it is not enough to invest in the purchase of AEDs, but first and foremost to inform residents about the location of the de-

vice and to educate people on how to use it. It is important to effectively spread the knowledge of the sudden cardiac arrest, especially for risk groups and their relatives, because the use of a defibrillator in the early stage of the sudden cardiac arrest increases the chance of patient survival and his/her successful convalescence. The PAD program should be promoted through all sorts of social campaigns concerning the first aid with the use of the AED. An emphasis should also be put on marking the location of defibrillators in the city of Poznan.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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RISKS ASSOCIATED WITH THE WORK OF DISTRICT NURSES

ZAGROŻENIA WYNIKAJĄCE Z PRACY PIELĘGNIAREK/PIELĘGNIARZY ŚRODOWISKOWYCH

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ABSTRACT

Introduction. There are many risks appearing in a work of district nurses which remarkably hinder their occupational activity and very often is a reason for changing the profession.
Aim. The aim of this research was to identify chosen risks associated with the work of district nurses.
Material and methods. To carry out this research a method of diagnostic pool using questionnaire techniques was used. The questionnaire consisted of 20 multiple choice questions. The research was carried out from December 2013 to March 2014 among district and family nurses in the Mazovian Province.
Results. Community work was described as hard by 48% of respondents. The most often chosen factors responsible for overloading district nurses are: very low pay (88%), to high community expectations (87%), not enough employment (85%), burden associated with travelling to patients (84%), psychological (83%), administrative (60%).
Conclusions. Main difficulties faced by district nurses in the course of their work in basic healthcare were: excessive overload with administrative duties, burden associated with travelling to patients (distance) and psychological burden. Very low pay, to high expectations from the community and not enough number of district nurses employed constitutes a big problem in the community work.

KEYWORDS: district nurse, occupational risks, workload.

STRESZCZENIE

Wstęp. W pracy pielęgniarek/rzy rodzinnych pojawia się mnóstwo zagrożeń, które znacząco utrudniają im aktywność zawodową, a niejednokrotnie są przyczyną zmiany zawodu.
Cel. Celem pracy była identyfikacja wybranych zagrożeń występujących w pracy pielęgniarek/rzy środowiskowych.
Materiał i metody. W celu przeprowadzenia badań zastosowano metodę sondażu diagnostycznego z użyciem techniki ankietowej. Kwestionariusz zawierał 20 pytań zamkniętych. Badania przeprowadzono od grudnia 2013 do marca 2014 roku wśród pielęgniarek/rzy środowiskowo-rodzinnych w województwie mazowieckim.
Wyniki. Pracę w środowisku jako ciężką określało 48% badanych. Najliczniejszymi czynnikami obciążającymi pielęgniarki/rzy rodzinne/nych są: zbyt małe zarobki (88%), zbyt duże oczekiwania ze strony środowiska (87%), niedostateczna liczba zatrudnienia (85%), obciążenia wynikające z dotarcia do pacjenta (84%), psychiczne (83%), biurowe (60%).
Wnioski. Głównymi obciążeniami w pracy pielęgniarki/rza w podstawowej opiece zdrowotnej były: nadmierne obciążenie czynnościami biurowymi, obciążenia wynikające z konieczności dotarcia do pacjenta (odległości) oraz obciążenia psychiczne. Zbyt małe zarobki, zbyt duże oczekiwania ze strony społeczeństwa i niedostateczna liczba zatrudnionych pielęgniarek/rzy stanowi duży problem w pracy środowiskowej.

SŁOWA KLUCZOWE: pielęgniarka środowiskowa, zagrożenia zawodowe, obciążenia.

Introduction

The work of district nurses is one of the most responsible and difficult occupations as it is connected with protection of one's life and health. It requires availability and ability to manage everyday problems. However, to match up those challenges district nurses ought to have stabilised work situation and feel safe in the profession.

The profession of district nurses should create mutual benefits where, by helping others, the district nurse has an opportunity to develop professionally and intellectually and has a right to a decent pay for efforts undertaken.

The current situation of Polish district nursing raises a lot of concerns. On one hand, one can see a rapid development of academic nursing which increases the chances of occupational independence of district nurses, increases the quality of services, increases the demand for medical care due to aging society and also raising qualifications as well as the transformation of the nursing educational system. However, on the other hand, one encounters the constant reduction of nursing posts and increase in the number of patients. This is connected with a decrease in the quality of services provided [1–4].

The nurse overloaded with responsibilities finds it difficult to provide high level of services. Currently in the work of district nurses there are many problematic situations resulting from the ambiguous interpretation of regulations, load of administrative duties, claims and aggression form patients and too high expectations from the community. Describing risks associated with the work of district nurses allows for the implementation of measures which would prevent deepening of feeling unhappy, physical and psychological overload of nurses and, what follows, quitting the job or emigration [5–7].

In the work of family nurses there are many risks remarkably hindering the professional activity and contributing to the change of profession. Polish nursing struggles with a high risk to the status of Polish health services which, in turn, affects further development of nursing. The characteristics of those risks are organisational – associated with the reduction in the number of nurses and legal ambiguity which impairs work undertaken; economical – associated with the unsteady economic and organisational situation of the Primary Health Organisation in Poland; and also medical which are impaired by inaccuracy between development of medicine and development of nursing [8–10].

Aim

The aim of this work was to identify chosen risks associated with the work of district nurses.

Material and methods

To carry out this research a method of a diagnostic pool using questionnaire techniques was used. The author's own questionnaire, consisting of 20 multiple choice questions, was used as a research tool. The research was carried out from December 2013 to March 2014 amongst 100 of family/district nurses in the Mazovian Province and employed by state and private Primary Health Organisation Institutions. Respondents quite willingly took part in the research.

Results

Amongst respondents employed in state and private primary care institutions the majority was formed by females (85), the remaining were male (15).

The biggest number of respondents were in the under 30 age group (39%). 37% of people were in the group of 30 to 40 years of age. The third group consisted of nurses from the age group of 41–50 years; they represented 18% of all respondents. People at the age of 50 and over claim 6% of respondents.

Nearly half of the respondents' (48%) earnings are between 1700 PLN and 2000 PLN a month. 25% of respondents receive up to 1700 PLN. In the third group there are 20% of people with monthly earnings between 2001–2300 PLN. The smallest number (7%) of respondents was formed by those whose monthly earnings exceeded 2300 PLN.

More than a half (55%) of respondents live in urban areas and 45% of respondents – in rural areas.

Medical services contracted by teams or Private Healthcare Institutions are carried out by 53% of respondents. The individual contract, arranged as a group practice, is used by 24% of people to provide services. The last group consisted of nurses working on the basis of individual contracts – 23%.

The biggest group (44%) is formed by respondents with the higher 1st degree education + community course. Secondary education + community course is held by 29% of respondents. People with the higher 2nd degree Master's diploma represent 27%. The level of education decreases with age – older people gained mostly secondary education and the younger ones proudly hold the Master's diploma.

In rural areas live more nurses with the secondary education and urban ones prevail with those with higher education.

Amongst respondents the essential argument on choosing the community based work is the lack of the shift-based system – 24% answers. Thy community based work is perceived as calmer than for example hospital by 13% of respondents. The third argument turned out to be desire to work in the community (11%). 10% of respondents chose community based work because of the possibility to take up paid employment. Other arguments were: less psychological overload (9%), higher autonomy of this occupation (9% of answers), stronger recognition of nurses' qualifications (8% of answers), coincidence (7%), less professional responsibility (6%), higher remuneration in Primary Health Organisations (3% of answers).

The difficulty level of community work was described as hard by 48% of nurses and as medium hard (33%). 9% of respondents do not perceive the difficulty level in community based work as heavy.

Most respondents (88%) claims that work of family/district nurses is not appropriately remunerated. 12% of respondents said it was rather appropriately paid.

Uncertainty from the risk of general unemployment is felt by 49% of respondents. Definitely 43% of respondents do not feel this way, 8% of those asked do not have a defined opinion on the subject.

A relationship between feeling uncertainty from the risk of general unemployment, respondents' gender and their monthly income was noted. Those respondents who earn the most feel more confident. In comparison to men, women more often feel threatened with general unemployment.

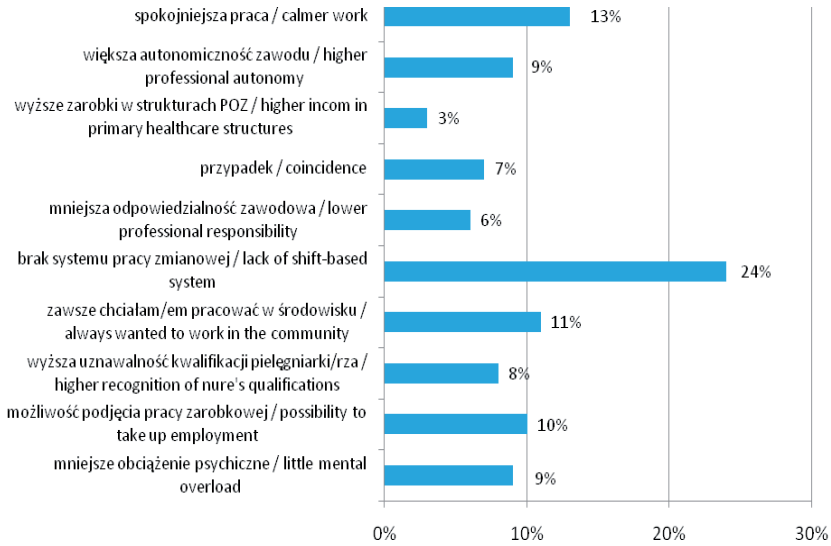

Figure 1. Arguments deciding on choosing community based work

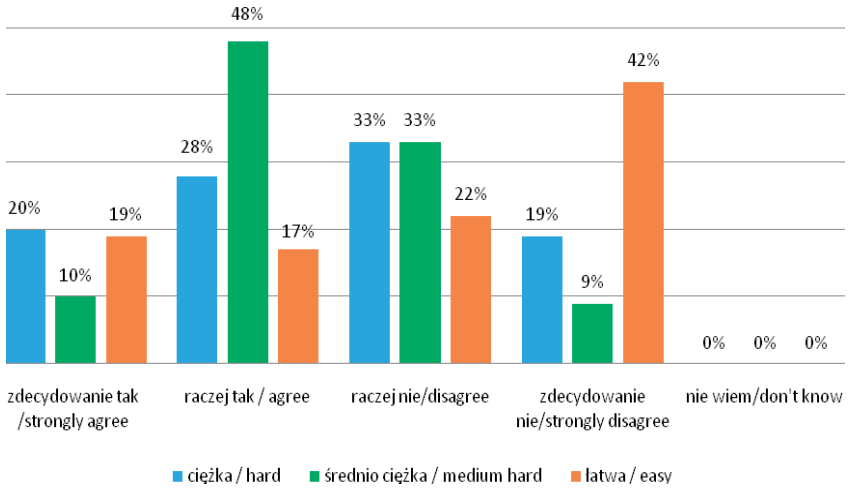

Figure 2. Difficulty level of community based work

According to data, 64% of respondents are afraid of consequences associated with self-employment. 29% of respondents do not fear the consequences and 7% of respondents do not have a defined opinion on the subject. According to 44% of respondents, fear is a result of lacking community activity in signing up active lists of district nurses. 35% of those asked do not fear such consequences and 21% of respondents do not have a defined opinion on that matter.

The highest numbers of factors burdening district nurses working in the community are: too low earnings (88%), too high expectations from the community (87%), not enough employment (85%), distance and necessity to travel to patients (84% of respondents), psychological factors (83%), fear from being self-employed (64%), aggression form patients and their families (58%), competition between district nurses (32%), lack of autonomy in the job (31%).

There is a correlation between the age of respondents and burden associated with the need to travel to patients. Older people are less likely to complain about this type of burden than younger ones. It was also noted, that people working through group contracts, Private Healthcare Institution, complained more about the administrative burden.

The biggest group is formed by people who reach patients within 30–60 minutes (68%). 24% of nurses reach patients within 10–15 minute. Respondents who take longer than 60 minutes to travel represent a group of 6% and 2% were not able to define time needed to travel to patients.

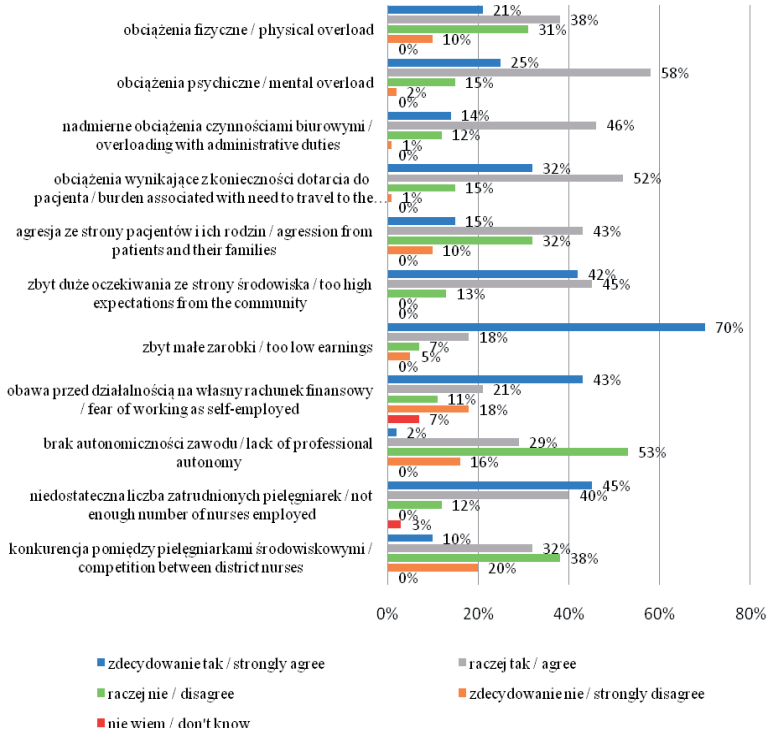

Figure 3. Burden associated with community based work

It was noted that respondents' age, gender, place of residence and way of contracting provision of medical services had no impact on an average travel time to patients.

A little correlation was noted between an average travel time to patients and monthly earnings. Those who earned more needed more time to reach patients.

An average time spent on providing services did not exceed 10 minutes only in 5% of respondents. Most respondents (55%) spend on this between 10 and 30 minutes. 36% of respondents need between 30 to 60 minutes and 4% of respondents were not able to define an average time spent with patients.

It was noticed that time spent on providing services to patients was not affected by age, gender, place of residence and way of contracting provision of medical services. There is a little correlation between respondents' education and time spent with patients. People with higher education devote less time for this.

Only 59% of nurses were happy with their work, 26% of respondents were neutral about their happiness in community based work and 15% were unhappy.

A correlation was ascertained between the level of work satisfaction and respondents' age, their education and way of contracting provision of medical services. More often people with the higher education and younger ones, who are contracted on a group contract (Private Healthcare Institution), are happy with their work. The level of work satisfaction was not affected by respondents' gender, place of residence and monthly income.

Nursing is perceived as vocation and would be chosen again by 54% of people. 11% of respondents would have chosen a completely different occupation. This occupation would not be chosen again by 18% of respondents because of lack of respect from the society and 17% do not have an opinion in that matter.

Discussion

Nursing is a very responsible occupation in which a nurse carries out duties to the patient and meets his/her medical, physiological and social needs. By providing services nurses themselves are exposed to a number of professional risks in their everyday work.

The research carried out shows that the biggest risks in the work of district nurses are risks resulting from loo low earnings (88%), too high expectations form the community (87%), not enough employment (85%), burden associated with the need to travel to the patient (84%) and psychological burden (83%).

Amongst the risks in the community based work a big group of respondents (60%) named problems with managing documentation which is associated with constant changes in regulations. It may also be associated with keeping too much documentation in a quite short period of time, which limits the time needed for environment recognition and planning the work with

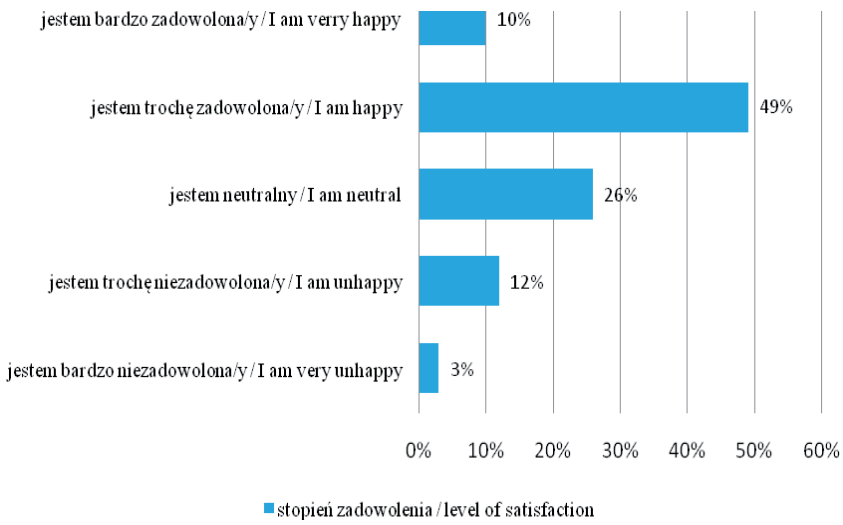

Figure 4. Level of work satisfaction

the patient and his family. In order to be able to quickly evaluate the quality and effectiveness of services and gather information one has to have proper documentation. However, there is a problem resulting from correctly prepared documentation in the reformed system of primary healthcare, which causes obstructions in the flow of information and problems in a teamwork. That, in turn, diminishes care effects.

District nurses' documentation that is currently in force does not allow for full monitoring and evaluation of carried out services. Its contents is not fully used by other team members in care planning. Thus, district nurses working in accordance with the process of caring have no opportunity to show their professional actions [11, 12].

Nurses are also complaining about aggression from patients and their families (58% of respondents). This can be connected with too high expectations from the community. Very often in emergency situations nurses have limited help prospects. More often patients ask for care that is beyond district nurses' remit. A consequence of their reaction is verbal aggression and quite often even physical. This strongly influences mental health, motivation and effectiveness of work [13].

Respondents' opinion on a way their work independence was perceived by co-workers was also analiysed. 58% of respondents firmly stated that the autonomy level is insufficient. Those results are confirmed in the work of other authors, where also more than a half of the respondents described the autonomy level as insufficient [1, 12]. Nurses perceive the autonomy of their work a little bit differently once contracts are introduced. It turns out that definitely the higher work autonomy is noticed by 75% of respondents.

Respondents point out to long-term negligence in the healthcare as a main cause of that – 28% of answers. The second place is taken by too slow changes introduced by the government – 21%. The introduction of the National Healthcare Found came third – 19% and 11% – unfavourable contracting of nursing services. Less important factors are: organisation of nurses' work (9%), the Primary Healthcare Organisation reform (8%), education of nurses (4%).

After the healthcare reform introduction the district nurse's role in Poland is undermined. Before the introduction of the healthcare reform researches reported that working time of district nurses is inappropriately used, they are overloaded with doctors' commissions and have a very small input in recognition of patient's needs and appropriate care [10].

Since contracts were introduced 83% of people have indicated a high increase in responsibilities. Nurses noticed definite changes expressed by the higher autonomy in work performed – 26% of respondents.

Independence and separation of nursing is shown by many authors. It can be seen based on Owłasiuk's results [11] that the majority of primary care doctors appreciate professional independence of nurses in providing care. More than a quarter of respondents claims that nurses shout open their own practice.

According to Glińska and others [12], a factor determining the implementation of the modern model of nursing, by large based on the autonomy of the nursing occupation, is the co-workers' attitude in both nurses and doctors. Results from Ślusarska and others [14] show that the professional activity of nurses largely depends on doctor's decision.

A correlation between respondents' gender and their opinion on the increase in work carried out was observed. Men more often than women and on larger scale indicated the increase of that independence. It was noticed that people with a lower monthly income more frequently connected changes introduced after the contract with diminishing nurses' role in primary healthcare.

Moreover, the correlation between the means of medical services provision and opinions on changes after the contract introduction was observed as well. People who provide services through the team contract, private healthcare institutions less often note changes in remuneration and changes in the competition between nurses providing healthcare. To a lesser degree diminished role is also noticed by nurses in primary healthcare. A very small correlation was observed in changes between the competition among nurses and their education level. People with the higher education spot those changes more.

Similar tendencies have already been observed. It is worth mentioning that research undertaken by Stachowska and others [1] showed a high number of beneficial and unfavourable changes in the profession noticed by nurses after introducing the reform. As positive ones they considered: self-fulfillment, independence. As negative ones they considered: too many responsibilities, too much paperwork, too wide area, a high number of patients, the lack of certainty at work and remuneration, and unsufficient decision-maker's knowledge about the district nurse's role.

Results obtained showed that more than a half of respondents (59%) were happy from the community work.

This job, despite of many disadvantages, is related to helping others and it brings professional satisfaction. It may refer to a fact that for district nurses a highly motivating factor is working with the patient and professional independence, which remarkably influence the quality of services and professional responsibility [15].

Conclusions

1. Lack of shift-based work, calmer work and higher professional autonomy have prevailing importance in choosing work by district nurses.
2. Overloading with administration duties, burden associated with the need to travel to the patient (distance) and mental overload constitute main risks in nurse's work within primary healthcare.
3. Too low income, too high expectations from the community and not enough number of employed nurses constitute a big problem in community based work.
4. Nurses working in primary healthcare experience satisfaction with the work they do.

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The manuscript accepted for editing: 15.10.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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ATTITUDES OF NURSING AND MEDICINE STUDENTS TOWARDS THE NURSE'S ROLE IN THERAPEUTIC TEAM

POSTAWY STUDENTÓW PIELĘGNIARSTWA I MEDYCYNY NA TEMAT ROLI PIELĘGNIARKI W ZESPOLE TERAPEUTYCZNYM

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ABSTRACT

Introduction. The system of healthcare has been based on predominant power of doctors for a long time. Nowadays it is changing into a new model with an interdisciplinary team.
Aim. To analyze attitudes of nursing and medicine students towards the nurse's role in the therapeutic team.
Material and methods. The study sample consisted of 50 nursing students and 50 medicine students of the University of Medical Sciences. Data were collected with the help of the Jefferson Scale. The data were analyzed with the Mann–Whitney U test and Spearman's correlation coefficient.
Results and conclusions. The study showed that the nursing students expressed more positive attitudes toward interdisciplinary collaboration than medicine students. There is a need to change the education curriculum in order to improve collaboration between future professional nurses and doctors.

KEYWORDS: nurse role, relationship, medical education.

STRESZCZENIE

Wstęp. System opieki zdrowotnej przez wiele lat opierał się na dominującej roli lekarzy. Obecnie model opieki zdrowotnej ulega modyfikacji, zakładając istnienie interdyscyplinarnych zespołów.
Cel. Analiza postaw studentów pielęgniarstwa i medycyny wobec roli pielęgniarki/pielęgniarza w zespole terapeutycznym.
Materiał i metody. Grupa badana składała się z 50 studentów pielęgniarstwa i 50 studentów medycyny Uniwersytetu Medycznego w Poznaniu. Do zebrania danych posłużono się skalą Jeffersona. Analiza wyników przeprowadzona została za pomocą testu Manna-Whitneya i współczynnika korelacji Spearmana.
Wyniki i wnioski. Badanie wykazało, że w stosunku do studentów medycyny studenci pielęgniarstwa przejawiają bardziej pozytywne postawy wobec współpracy interdyscyplinarnej. Istnieje potrzeba zmiany programu nauczania w kierunku większej współpracy pielęgniarek/pielęgniarzy i lekarzy.

SŁOWA KLUCZOWE: rola pielęgniarki, współpraca interdyscyplinarna, edukacja medyczna.

Introduction

Over the centuries, the profession of the nurse has undergone various transformations. The first model of the nurse appeared in the age of Nightingale as the Victorian model of a "good woman", serving for God and people [1]. The role of the nurse was perceived from the context of nurturing, care of the patient and execution of physician's recommendations. This type of the definition has served as the foundation for noticing a nurturing aspect in the healthcare system. Similarly, nowadays, nursing the patient as well as conducting physician's recommendations constitute main obligations of the nurse. The code of ethics as well as the Act on the execution of the profession of nurses and midwives explicitly demonstrate that aspect. "A nurse fulfilling a professional role shall be obliged to ensure an attentive care for all the patients. In the approach to the patient, the nurse shall demonstrate kindness, understanding, and patience establishing atmosphere of mutual trust [2]. The nurse shall always act in the interest of her patients especially if their life or health may be endangered. The nurse conducts her professional care over lives and health of people. To her best knowledge, she counteracts suffering and prevents diseases. She always provides assistance for each individual irrespective of their race, religion, nationality, political opinions, property or other differences" [2]. One of the basic duties of the nurse refers to the execution of physician's recommendations in the process of diagnostics, curing, and rehabilitation [3]. In 2004 Poland joined the European Union and since then the nurses' education system has changed according to EU standards and law [4]. Simultaneously, a slow process of changes in professional relationships between nurses and physicians was instigated. For

a long time that interaction has been perceived as the relationship of "subordinate entity – dominating entity" [5, 6]. The nurse – usually a female, caring, nurturing and taking care of a good atmosphere, totally subordinate, used to fulfill the role of the assistant to the physician – a strong man, giving orders and instructions. That relation was determined by numerous factors such as culture, social status, education, etc. However, at the times of constantly occurring social and cultural changes, activities of feminist organizations and movements as well as education, the manner of perceiving the position of nurses, their role and relationships with physicians also undergo transformation. Nurses are better and better educated and they demonstrate more and more competence. They achieved not only autonomy of the profession but also of the scientific activity. Currently, nurses constitute a significant element of a therapeutic and reference model of treatment [6, 7]. That team consists of several various medical professions (the basic ones refer to the nurse and physician) as well as the patient. The principles of partnership are adopted. Each member of the team is responsible for his/her field and enjoys autonomy within that field being the best expert within a given scope. All members of the team work for a common goal referring to the patient's welfare. An inter-disciplinary team, as studies have revealed, constitutes the most effective form of running a therapeutic treatment [7]. This situation has effected a change in mutual relations between nurses and physicians. This is no longer the above mentioned relation between a subordinate entity and a dominating one. It has a "partner to partner" nature. At least such are theoretical assumptions. In practical terms the situation is diversified, which may be partially caused by models shaped in the course of studies. Within the scope of education individuals acquire attitudes towards theirs own profession as well as professions of other members of a therapeutic team. In relation to the above mentioned, we decided to verify the basis referring to the role of the nurse in a therapeutic team among students at the faculty of nursing and medicine.

Aim of the study

The aim of the study is the analysis of attitudes of nursing and medicine students with regard to mutual relations between physicians and nursing personnel as well as the cooperation between physicians and nurses in a therapeutic team. There have been three initial hypotheses set in this study:

Hypothesis 1. There are differences in attitudes towards the cooperation between physicians and nurses depending on the faculty of studies.

Hypothesis 2. Students' opinions on the cooperation between physicians and nurses depend on their sex. Women more often demonstrate more positive attitudes than men.

Hypothesis 3. There is a dependency between the length of education and the manner of perceiving the cooperation between doctors and nurses.

Material and methods of the study

The study has been conducted among students of the Poznań University of Medical Sciences. 100 students took part in the research with the distribution into 50 students of nursing and 50 students of medicine at all years of studies. Women accounted for 66% of examined students. 66.7% of them studied nursing and 33.3% of them studied medicine. Men accounted for 34% of examined students. 82.4% of them studied at the faculty of medicine and 17.6% of them at the faculty of nursing (**Table 1**) the age of respondents ranged from 19 to 28, the average age was 22.5 (SD=2.1) in case of students of nursing and 23 (SD=2.6) in case if students of medicine.

Table 1. The study sample according to faculties (n=100)

	Faculty				In total	
	Nursing		Medicine			
	n	%	N	%	n	%
Sex:						
Female	44	88	22	44	66	66
Male	6	12	28	56	34	34
Year of studies:						
I	10	20	9	18	19	19
II	10	20	7	14	17	17
III	10	20	8	16	18	18
IV	10	20	7	14	17	17
V	10	20	9	18	19	19
VI	-	-	10	20	10	10

The study was conducted with the questionnaire method. The main research tool referred to the Jefferson Scale intended for the assessment of cooperation between physicians and nurses, for the use of which authors' consent was granted. The Jefferson Scale was for the first time implemented in 1985 at Jefferson Medical College in Philadelphia [8, 9]. It consists of 15 items based on 7-point Likert's scale, presented in 4 categories:

1. Partnership relations together with the need of common education – covering 7 statements (items 1, 3, 6, 9, 12, 14, 15).
2. Differentiating between notions of "caring and curing" – covering 3 statements (items 2, 4, 7).
3. Nurse's autonomy – covering 3 statements (items 5, 11, 13).
4. Physician's authority – covering 2 statements (items 8, 10).

The range of points for category 1 is from 7 to 28, for category 2 from 3 to 12, for category 3 from 3 to 12 and for category 4 from 2 to 14.

The study adopts the cut-off point of 2 which means that points 1–2 mean a negative answer, and 3 and more points – a positive answer [9]. For the entire scale possible scoring ranges from 15 to 60. For statistical analyses non-parametric Mann–Whitney tests as well as Spearman's correlation coefficient have been implemented. The level of $\alpha = 0.05$ has been adopted.

Results

Results referring to individual statements of the scale have been presented in **Table 2**. The table depicts the percentage of students examined who gave positive answers to individual items.

Table 2. Distribution of positive answers on Jefferson Scale according to faculties

Jefferson's Scale	Nursing n=50			Medicine n=50			In total n=100
	%	n	Me*	%	n	Me*	n(%)
1. A nurse should be view as a collaborator and colleague with a physician rather than his/her assistant	98	49	4	92	46	4	95 (95)
2. Nurses are qualified to assess and respond to psychological aspects of patients' needs	98	49	4	80	40	3	89 (89)
3. During their education, medical and nursing students should be involved in teamwork in order to understand their respective roles	100	50	4	88	44	4	94 (94)
4. Nurses should be involved in making policy decisions affecting their working conditions	100	50	4	94	47	3	97 (97)
5. Nurses should be accountable to patients for the nursing care they provide	100	50	4	100	50	4	100 (100)
6. There are many overlapping areas of responsibility between physicians and nurses	78	39	3	70	35	3	74 (74)
7. Nurses have special expertise in patient education and psychological counseling	78	39	3	48	24	2	63 (63)
8. Physicians should be the dominant authority in all health care matters	34	17	2	20	10	1	27 (27)
9. Physicians and nurses should contribute to decisions regarding the hospital discharge of patients	88	44	3.5	54	27	3	71 (71)
10. The primary function of the nurse is to carry out the physician's orders	62	30	3	20	10	2	40 (40)
11. Nurses should be involved in making policy decisions concerning the hospital support services upon which their work depend	96	48	4	68	34	3	82 (82)
12. Nurses should also have responsibility for monitoring the effects of medical treatment	92	46	3.5	68	34	3	80 (80)
13. Nurses should clarify a physician's order when they feel that it might have the potential for detrimental effects on the patient	84	42	4	90	45	4	87 (87)
14. Physicians should be educated to establish collaborative relationships with nurses	98	49	4	82	41	3	90 (90)
15. Inter-professional relationships between physicians and nurses should be included in their educational programs	100	50	4	80	40	3.5	90 (90)

Me – median*

As it is evident from the table both nursing as well as medicine students gave positive answers to most of the questions. Most positive answers were given to statement number 5. "Nurses should be accountable to patients for the nursing care they provide" (100%); statement number 4. "Nurses should be involved in

making policy decisions affecting their working conditions" (97%) as well as statement 1. "A nurse should be viewed as a collaborator and colleague with a physician rather than his/her assistant". The lowest number of positive answers were referred to statement number 8. "Physicians should be the dominant authority in all health care matters" (27%); and statement number 10. "The primary function of the nurse is to carry out the physician's orders" (40%).

Verification of tested hypotheses

Hypothesis 1. There are differences in attitudes towards the cooperation between physicians and nurses depending on the faculty of studies.

The results of the analysis have been presented in **Table 3**. Considerable differences were revealed in groups compared. Nursing students obtained higher scores of the Jefferson Scale than students of medicine. They obtained the average of 51.8 vs. 44.7 both in case of the general scores as well as in individual categories. Simultaneously, hypothesis 1 has been confirmed.

Table 3. Scores of the Jefferson Scale among students of nursing and medicine

Categories of the Jefferson Scale	Students of nursing n=50		Students of medicine n=50		The Mann-Whitney U test	p
	Mean	SD	Mean	SD		
1. Teamwork and education for future cooperation	25.4	2.1	22.0	2.5	368.0	<0.01
2. *Caring* versus *curing*	10.7	1.1	8.9	1.6	458.0	<0.01
3. Nurses' autonomy	10.8	1.1	10.1	1.4	907.0	0.02
4. Physician's authority	4.9	1.5	3.7	1.3	813.0	<0.01
Total n=100	51.8	3.9	44.6	4.1	678.0	<0.01

Hypothesis 2. Students' opinions on cooperation between physicians and nurses depend on their sex. Women more often demonstrate more positive attitudes than men.

The analysis of attitudes referring to cooperation between physicians and nurses with consideration of their sex was conducted initially without the division of respondents with regard to their faculty of studies (**Table 4**), and subsequently with consideration of that factor. Consequently, it has been reported that sex of respondents determinates their attitude to cooperation between physicians and nurses in a statistically considerable manner in categories 1. ($p<0.01$) and 2. ($p=0.01$). Categories 3. and 4. did not demonstrate significant differences between the groups of females and males. However, females obtained higher scores than males at each category (**Table 4**).

Table 4. Scores of the Jefferson Scale among men and women

Categories of the Jefferson Scale	Students of nursing n=50		Students of medicine n=50		The Mann-Whitney U test	p
	Mean	SD	Mean	SD		
1. Teamwork and education for future cooperation	24.5	2.7	22.1	2.5	568.5	<0.01
2. *Caring* versus *curing*	10.0	1.7	9.4	1.5	840.5	0.04
3. Nurses' autonomy	10.5	1.2	10.4	1.4	1105.0	0.90
4. Physician's authority	4.4	1.5	4.1	1.5	978.5	0.29
Total n=100	49.4	5.5	45.9	4.5	788.5	<0.01

The verification of hypothesis 2. with the division according to the faculty of studies has not presented a considerable statistical difference. One shall still remember, however, about a significant disproportion in the number of females and males studying at analyzed faculties which might have exerted an influence on results obtained.

Hypothesis 3. There is a dependency between the length of education and the manner of perceiving the cooperation between physicians and nurses.

Conducted analyses demonstrated low and insignificant correlations ($r \leqslant 0.2$) between the variables. Thus, the relationship between the length of education and less or more positive attitude towards the subject examined has not been reported.

Discussion

According to the literature, one of the main factors determining the attitude to one's own profession and professional relations between collaborators may refer to attitudes shaped in the course of studies. Education develops first models which in a natural manner are transferred to the future work. The phenomenon is named the *socialization of the profession.* This is based on the process adopted to teach students values and conducts characteristic for a given profession [8]. Thus, professional attitudes presented in the course of students may constitute a potential factor influencing future professional relationships between nurses and physicians which is the subject of this study.

Conducted analyses reveal that attitudes of students of both nursing and medicine towards the cooperation between physicians and nurses are in majority positive. However the results of the analyzed group demonstrate higher scores of students of nursing, which proves that future nurses will accept more partner role of nursing personnel in a therapeutic team than students of medicine. Similar findings were reported by Hojat in studies conducted among students of nursing and medicine in

1999 [10]. The above mentioned may result from aspect poorly outlined during the course of medical studies aspects referring to cooperation with other members of a therapeutic team. Additionally, our studies have revealed that students of medicine perceive the nurse as a member of a therapeutic team, however, within a limited scope. According to the majority of respondents of medical faculty (92%), the nurse is the collaborator of the physician; still, only 54% of them accept that the nurse should co-decide about the discharge of the patient from hospital. The above mentioned means that the stage of the caring process execution, at the moment of the discharge of the patient form hospital is of no significant meaning, or that students of medicine have no awareness that apart from the process of diagnostics and curing the process of the patient nursing is executed in parallel. Such a situation demonstrates that the role of the nurse as a fully legitimate member of a therapeutic team is not fully accepted. Similar conclusions were drawn on the basis of the study conducted in Indiana in 2004 where the teamwork of students of medicine and students of nursing was analyzed. As it turned out, 100% of students of medicine reported the patient to be a member of a therapeutic team, and scarcely 45.6% of them considered the nurse to be such a member [11].

As it has been mentioned, students demonstrate positive attitudes towards cooperation between physicians and nurses. Both future nurses and physicians want and see the need for educating themselves with regard to teamwork ability. 94% of respondents notice the need for education in order to understand their role and roles of other members of a therapeutic team better. Additionally, the majority of students are of the opinion that physicians shall undergo trainings within the scope of cooperation with nurses (90%) and they would like their curriculum to cover aspects related to shaping interpersonal relationships between physicians and nurses (90%). Better mutual comprehension of roles and activities of physicians and nurses results in a much more valuable relationships between those professions, which consequently translates the quality of nursing. Sterchi in 2007 while analyzing relationships in medical teams noticed that the length of professional experience of physicians demonstrated a positive impact on their attitude towards cooperation with nurses [12]. This phenomenon may be attributed to better comprehension and understanding of the role of the nurse in practical terms by physicians. The above mentioned proves also that previously they did not have sufficient knowledge on competence of nurses, and only work experience helped them shape a new image of their colleagues [12].

The literature on interactions between professional relationships between nurses and physicians depicts determining role of social and cultural influences. Mainly, a strong influence of a stereotype perception of female and male sexes is presented. The above mentioned means that the nurse – usually a woman assumes a subordinate role towards the physician – identified as a dominating and masterful man [13,14]. Basing on such assumptions as well as conducted by us studies, we may state that the conviction on the dominating role of the physician, often a man, is still maintained. Men of the examined group demonstrated more conservative attitudes that women. Similar conclusions were drawn on the basis of other studies when the attitudes to interactions between the physician and the nurse were analyzed among professionally active nurses and physicians [10,15]. One shall not assume, however, that this tendency is strong and lasting. On the background of social and cultural reforms we may formulate certain forecasts. The profession of the physician is no longer dominated by men. It is becoming more and more feminized which may subvert the theory of the "gender" stereotype on the physician – nurse relationship. Women themselves gain more considerable respect as partners and collaborators. The study conducted in 2006 may serve here as the example: the study presented that male physicians expressed more positive attitudes towards the cooperation with nurses than female physicians [16]. It is worth to continue the instigated studies, in particular in the light of the current debate on sex in cultural and social contexts. Moreover, longitudinal studies, enabling the observation of changes in opinions and attitudes of students who have gained experience in the course of professional work, would also be valuable.

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The manuscript accepted for editing: 01.07.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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LUMBAR-SACRAL DISCOPATHY – NURSES' HEALTH PROBLEM

DYSKOPATIA LĘDŹWIOWO-KRZYŻOWA – PROBLEM ZDROWOTNY PIELĘGNIAREK

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ABSTRACT

Introduction. Intensification of lumbar-sacral discopathy symptoms to a great extent results from maladjustment of the workstation in relation to ergonomic guidelines, working in a forced body position and hard physical labour.
Aim. The analysis lumbar-sacral discopathy development, work-related nurses' health problem.
Material and methods. The survey was performed with a diagnostic poll method among 100 randomly selected nurses. Participation in the survey was voluntary and anonymous. The questionnaire consisted of 20 questions and the survey was carried out in 2013.
Results. Lumbar-sacral discopathy is a health problem for N=29 respondents with job tenure of 21 years and more ($p<0,05$). Limb numbness, pain radiating down to the buttock and the knee, spine pain are frequent problems. The forced body position and/or sudden change in the body position and hard physical labour may lead to occurrence of lumbar-sacral discopathy.
Conclusions. The lumbar spine pain problem in the occupational group of nurses is of great significance. Nurses with longer job tenure are more susceptible to discopathy.

KEYWORDS: nursing, spine, health risks, lumbar-sacral discopathy.

STRESZCZENIE

Wstęp. Na pogłębianie się objawów dyskopatii krzyżowo-lędźwiowej duży wpływ ma niedostosowanie stanowiska pracy do zasad ergonomii, wykonywanie pracy w wymuszonej pozycji ciała oraz ciężka praca fizyczna.
Cel. Analiza powstawania dyskopatii lędźwiowo-krzyżowej, problemu zdrowotnego pielęgniarek związanego z wykonywaną pracą.
Materiał i metody. Badania przeprowadzono metodą sondażu diagnostycznego wśród 100 losowo wybranych pielęgniarkach, udział w badaniu był dobrowolny i anonimowy. Kwestionariusz ankiety składał się z 20 pytań, badania przeprowadzono w 2013 roku.
Wyniki. Dyskopatia krzyżowo-lędźwiowa jest problemem zdrowotnym dla N=29 badanych ze stażem pracy 21 lat i powyżej ($p<0,05$). Częstymi problemami są: drętwienie kończyn, ból promieniujący wzdłuż pośladka, ból promieniujący do kolana, ból kręgosłupa. Na występowanie dyskopatii ma wpływ wymuszona pozycja ciała i/lub nagła zmiana pozycji ciała oraz ciężka praca fizyczna.
Wnioski. Problem dolegliwości bólowych kręgosłupa lędźwiowego w grupie zawodowej pielęgniarek jest bardzo istotny. Personel z wieloletnim stażem pracy częściej jest narażony na występowanie dyskopatii.

SŁOWA KLUCZOWE: pielęgniarstwo, kręgosłup, zagrożenia zdrowia, dyskopatia lędźwiowo-krzyżowa.

Introduction

Pain in the area of the spine is a serious, both social and clinical problem. It affects mainly young professionally active people. It is caused due to spine overloading during daily activities and performance of professional activities [1]. Areas affected can be neck, thoracic or lumbar-sacral regions [2]. The cause is the fracture of the fibrous ring of intervertebral disc, which results in a dislocation of the pultaceous nucleus into the fracture and, consequently, in the development of herniation or protuberance [3].

Among various occupational groups nurses are most susceptible to lumbar-sacral spine diseases. Degenerative changes are the effect of injuries associated with intervertebral ring overloading, which may be related to the nature of performed job [4]. The workstation of majority of nurses is related to tasks involving manual moving, carrying or conveying patients and heavy medical equipment [5, 6]. Adverse work conditions (workstation maladjustment in relation to ergonomic rules), working time system and working in a forced body position [6–8] contribute to worsening of medical symptoms.

Aim

The analysis of lumbar-sacral discopathy development, nurses' health problem related to work performance.

Research material

The survey was carried out among 100 randomly selected nurses employed in health care units in the Mazovian Voivodeship. The largest proportion of respondents were persons within the age range of 31–40 (37%) and 41–50 (32%), 18% of the respondents were 51 or more years old. The least numerous group included nurses in the age range of 21–30 (13%). The majority of the surveyed persons performed the profession for 21 and more years (42%), 63% nurses worked in the shift system. The workload of the surveyed team was high for 58% of the respondents. The permissible lifting weight for women (up to 12 kg) are known to 40%. The majority of nurses feel lumbar spine pain after the day shift (62%).

In the survey a diagnostic poll method was used with authors' questionnaire consisting of 20 questions as an instrument. The survey was anonymous. All the respondents expressed their consent to participate in the survey, which was carried out from February to March 2013.

In order to check significance of relations between the analyzed variables, the statistical analysis was performed using the chi-square test.

Table 1. Number of patients in the surveyed nurses' ward

Number of patients in the ward	Frequency	%	Significant percent	Cumulative percent
1 to 15	13	13.0	13.0	13.0
16 to 30	29	29.0	29.0	42.0
31 to 40	38	38.0	38.0	80.0
above 40	20	20.0	20.0	100.0
total	100	100.0	100.0	

The highest number of nurses (38%) are employed in the ward, in which the number of patients amounts from 31 to 40 and 29% of respondents work in a ward with 16 to 30 beds. In wards with more than 40 patients 20% of respondents are employed. Of the survey group 13% of employees work in wards with 1 to 15 beds.

Table 2. Awareness of permissible maximum lifting weights for women among nurses

Permissible lifting maximum weights	Frequency	%	Significant percent	Cumulative percent
up to 12 kg	40	40.0	40.0	40.0
up to 20 kg	55	55.0	55.0	95.0
up to 30 kg	4	4.0	4.0	99.0
I do not know	1	1.0	1.0	100.0
total	100	100.0	100.0	

In opinion of 55% of surveyed nurses the permissible maximum lifting weight for women amounts to 20 kg. The right answer (12 kg) was indicated by 40% and 4% of respondents considered 30 kg as standard.

Table 3. Lumbar-sacral discopathy as nurses' health problem vs job tenure

Lumbar-sacral discopathy, nurses health problem	Job tenure				
	0–7 years	7–14 years	14–21 years	21 years and longer	total
yes	5	3	19	29	56
no	3	0	5	9	17
sometimes	6	2	15	4	27
total	14	5	39	42	100
chi2 (6,N=100) = 12.85; p<0.05					

Lumbar-sacral discopathy is a health problem of N=83 surveyed nurses (yes n=56, sometimes n=27), most frequently it affects persons with job tenure of 21 and more years (n=29); next is a group with job tenure of 14–21 years (n=34), in which discopathy (yes n=19, sometimes n=15) is a health problem. The significant test result allows to reject the null hypothesis and accept an alternative hypothesis about a significant relation between analysed variables. The nurses with longer job tenure (21 years and more) are much more susceptible to lumbar-sacral discopathy than those with job tenure up to 14 years (p<0.05).

Table 4. Frequency of pain sensation vs job tenure of nurses

Sensetion of pain in lumbar-sacral region	Job tenure				
	0–7 years	7–14 years	14–21 years	21 year and more	total
after day shift	11	4	30	17	62
after night shift	1	1	3	2	7
I do not sense pain	1	0	5	18	24
after morning shift	1	0	1	5	7
total	14	5	39	42	100
chi2 (9,N=100) = 20.957; p<0.05					

Spine pain is most frequently felt by nurses after day shifts (N=62). Regardless of the shift, persons performing the job for 21 and more years (n=42) feel pain in the spine area. Analysis of the shift type and job tenure showed a significant statistical relation (p<0.05): nurses who perform the profession for 14–21 years feel pain after a day shift much more frequently than persons who worked shorter or longer than that.

Mentioned ailments, regardless of the shift type, to the least extent are experienced by nurses who have

worked 7–14 years; of this group each twentieth respondent reports the symptoms. Every fourteenth respondent do not experience spine pain in lumbar-sacral region.

Table 5. Limb numbness as an symptom related to discopathy vs job tenure

Limb numbness	Job tenure				total
	0–7 years	7–14 years	14–21 years	21 years and more	
very often	6	1	15	32	54
often	7	3	14	9	33
sometimes	1	0	10	1	12
occasionally	0	1	0	0	1
never	0	0	0	0	0
total	14	5	39	42	100
chi2 (12,N=100) = 27.549; p<0.05.					

Limb numbness as a symptom related to discopathy is most frequently reported by nurses N=87 (very often n=54 and often n=33), of which respondents with job tenure 21 and more years (n=32) report this symptom as occurring very often.

Limb numbness as a serious problem occurs in persons with job tenure of 14–21 years and 21 or more years, which is confirmed by a significant statistical difference level p<0.05 between analyzed variables.

Table 6. Pain radiating down a buttock as a symptom related to discopathy vs job tenure

Pain radiating down a buttock	Job tenure				total
	0–7 years	7–14 years	14–21 years	21 years and more	
very often	4	2	9	25	40
often	8	2	20	10	40
sometimes	1	1	2	5	9
occasionally	0	0	8	2	10
never	1	0	0	0	1
total	14	5	39	42	100
chi2 (15,N=100) = 33.284; p<0.05					

Pain radiating down the buttock is experienced by N=80 respondents (very often n=40 and often n=40). The most numerous group with job tenure of 21 and more years experiences this kind of pain very often (n=25) and often (n=10) and persons who have worked 14–21 years feel it often (n=20).

A significant statistical difference level p<0.05 was observed between the analyzed variables.

Table 7. Pain radiating down to the knee as a symptom related to discopathy vs job tenure

Pain radiating down to the knee	Job tenure				total
	0–7 years	7–14 years	14–21 years	21 years and more	
very often	2	0	4	13	19
often	3	4	15	11	33
sometimes	7	1	9	14	31
occasionally	0	0	10	1	11
never	2	0	1	3	6
total	14	5	39	42	100
chi2 (15,N=100) = 28.364; p<0.05					

The respondents to various extent associate knee radiating pain with lumbar-sacral discopathy – mostly persons with job tenure of 21 and more years (occasionally n=14, very often n=13 and often n=11) and persons who have worked 14 to 21 years (often n=15 and occasionally n=10, sometimes n=9).

The statistical significant difference level p<0.05 was observed between analyzed variables – with the increase of job tenure value probability of associating radiating knee pain with lumbar-sacral discopathy increases.

Table 8. Spine pain associated with bending as a symptom related to discopathy vs job tenure

Spine pain associated with bending	Job tenure				total
	0–7 years	7–14 years	14–21 years	21 years and more	
very often	7	3	23	25	58
often	6	2	7	15	30
sometimes	1	0	2	2	5
occasionally	0	0	7	0	7
never	0	0	0	0	0
total	14	5	39	42	100
chi2 (15,N=100) = 29.530; p<0.05					

Spine pain associated with bending as a symptom related to discopathy is identified by N=88 nurses (very often n=58 and often n=30), mostly the nurses who have worked 21 and more years (n=25) and 14 to 21 years (n=23). Much more frequently often (n=15) spine pain associated with bending is reported by nurses who have worked 21 and more years than by the persons with job tenure of 14–21 years (n=7). The statistical significant difference level p<0.05 was observed between analyzed variables.

Table 9. Factors that may have impact on occurrence of discopathy

Analyzed factors	Very often	Often	Sometimes	Occasionally	Never	I do not know
Cigarette smoking	8	6	13	28	28	17
Stress	12	13	21	28	14	12
Undernutrition	9	19	28	34	2	8
Osteoporosis	45	39	12	3	0	1
Hard physical labour	70	28	2	0	0	0
Age	43	37	17	2	1	0
Sport practicing, e.g. weightlifting, martial arts	27	47	21	4	1	0
Obesity	52	45	3	0	0	0
Forced body position	71	28	1	0	0	0
Excessive physical strain	70	29	1	0	0	0
Excessive overloading of the musculoskeletal system	49	42	8	1	0	0
Injury	53	29	17	1	0	0
Sudden change of body position	70	24	6	0	0	0

Among the analyzed factors, that may have impact on discopathy occurrence, the following were indicated as main factors: the forced body position (71%), excessive physical strain, the sudden change of body position and hard physical labour (70%), injury (53%) and obesity (52%). Other frequently mentioned factors were: practicing sports like weightlifting or martial arts (47%), obesity (44%) and excessive overloading of musculoskeletal system (very often – 49% and often – 42%).

Surveyed nurses with lumbar-sacral discopathy do not associate or do not know whether to associate cigarette smoking (45%), stress (26%), undernutrition (10%) with discopathy occurrence or associates them sometimes and occasionally.

Discussion

Spine loading during performance of professional tasks poses a risk to nursing staff health [6], may lead to lumbar-sacral discopathy and related pain disorders, which are so common that they become one of main social, medical and economical problems and are classified as civilization diseases. One of various occupational groups susceptible to discopathy occurrence includes nurses and spine pain problem in this occupational group is very significant [2, 5]. The spine lumbar-sacral region is to the greatest extent susceptible to development of degenerative changes. Discopathic changes affect mainly levels L4/L5 and L5/S1, sometimes L3/L4 and L2/L3, upper section of the spine is more stable and less vulnerable to overloading [2].

Among many factors having influence on health there is a group of factors related to working conditions. If working conditions are favourable, the work becomes a source of satisfaction, it does not cause health disorders and positively influences employees' condition [5].

The awareness of legal regulations, regarding for instance the permissible maximum lifting weight which is 12 kg for women, is important as well. This regulation was known to 40% of the surveyed nurses, while 55% respondents indicated higher weight values, thus exceeding the standard by 8 kg, and 4% of respondents exceeded the permissible limit by as much as 18 kg. The presented analysis shows that knowledge of law regulations regarding weight lifting among nurses, in spite of trainings in safety and hygiene at work, is still unsatisfactory and in 60% of nurses it requires complementation.

The research carried out by Bilski, Sykutera [9], as well as the research by Maciuk, Krajewska-Kulak, Klimaszewska [5] showed nurses' unsatisfactory knowledge of regulations regarding weight lifting – around 30% of nurses indicates higher permissible maximum weights for women.

In the present paper spine pain occurrence, its localization and radiating down to the buttocks and knees as well as limb numbness were analyzed. The research demonstrated also that the discopathy problem was closely connected with the working time and the shift types. Discopathy and related pain most frequently affect nurses who have performed nursing for over 21 years.

Similar observations were made in the research carried out among nurses in Łańcut and Biała Podlaska [4, 10] – spinal pain also affected mainly persons with job tenure over 21 years.

In each healthcare unit the most numerous group consists of nurses who perform shift work and feel spine pain mostly after the day shift [4, 5]. The authors' own research as well as researche carried out by other scientists show that nurses report limb numbness, pain radiating down to the buttock and to the knee as most frequent symptoms related to discopathy. Among factors that may have impact on discopathy occurrence the forced body position, sudden change of the body position and hard physical labour are listed most frequently [4, 5].

Of the persons participating in the research carried out by Bilski [9] 71 associated lower spine pain with forced body position, 48 respondents stated that pain was caused by sudden change in body position and 55 persons associated the ailments with weight lifting.

The results of the research performed by Kułagowska [8] among anaesthesia nurses show that majority of respondents associated their musculoskeletal system pain first of all with an incorrect and forced body position during working and excessive physical strain.

In case of the spine load prevention and maintaining the body posture are of great importance. Lying several times a day for 15 minutes brings temporary relief, relaxes muscles and cause pain subside [11].

Publications regarding epidemiological research performed on the occupational group of nurses unequivocally prove that the lumbar-sacral discopathy problem is fairly common in this occupational group [1, 5, 10].

Conclusions

- Nurses' knowledge of legal regulations regarding permissible maximum lifting weights for women is low and requires complementation by safety and hygiene at work trainings;
- Spine pain is a significant problem in the occupational group of nurses, nursing staff with long job tenure is susceptible to discopathy.

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The manuscript accepted for editing: 21.10.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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INFORMATIVE NEEDS OF A PATIENT USING INPATIENT CARE

POTRZEBY INFORMACYJNE PACJENTA KORZYSTAJĄCEGO Z LECZNICTWA ZAMKNIĘTEGO

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ABSTRACT

Aim. The aim of the studies was the evaluation of the accessibility of informative support provided to patients by the medical personnel.
Material and methods. The studies were conducted among 95 patients of clinical wards and the admissions of the clinical hospital at Poznan University of Medical Sciences.
Results. The majority of patients participating in the study obtained information at least in the four areas examined (the patient's condition; diagnostic examinations and treatments; effects of medical activities, the doctor's instructions). However, in the process of communication there appeared mistakes in the form of providing the information, which the patients determined as incomprehensible. 50% of the patients did not receive the information about the way in which they should prepare themselves for diagnostic examinations/treatments. More than 20% of the patients claimed that during the admission to hospital no medical interview was carried out with them.
Conclusions. Proper communication in the patient-medical personnel relationship is of great importance to the right course of the diagnostic-therapeutic process and in consequence it influences the patient's satisfaction and the image of the medical subject.

KEYWORDS: communication with a patient, informative support, psychological stress.

STRESZCZENIE

Cel. Celem badań była ocena dostępności wsparcia informacyjnego udzielanego pacjentom przez personel medyczny.
Materiał i metody. Badania przeprowadzono wśród 95 pacjentów oddziałów klinicznych oraz izby przyjęć szpitala klinicznego im. H. Święcickiego Uniwersytetu Medycznego im. Karola Marcinkowskiego w Poznaniu.
Wyniki. Większość pacjentów uczestniczących w badaniu uzyskała informacje przynajmniej w 4 badanych obszarach (stan zdrowia; badania diagnostyczne i zabiegi; skutki czynności medycznych; zalecenia lekarskie). W procesie komunikacji pojawiały się jednak błędy w postaci udzielania informacji, które pacjenci określali jako niezrozumiałe. 50% pacjentów nie otrzymało informacji o tym, w jaki sposób należy przygotować się do badań diagnostycznych/zabiegów. Ponad 20% pacjentów stwierdziło, że podczas przyjęcia do szpitala nie przeprowadzono z nimi wywiadu lekarskiego.
Wnioski. Prawidłowa komunikacja w relacji pacjent-personel medyczny ma istotne znaczenie dla prawidłowego przebiegu procesu diagnostyczno-terapeutycznego, a co za tym idzie, wpływa na satysfakcję pacjenta oraz wizerunek podmiotu leczniczego.

SŁOWA KLUCZOWE: komunikacja z pacjentem, wsparcie informacyjne, stres psychologiczny.

Introduction

Health problems should be acknowledged as a natural, strong and common source of stress. Psychosocial consequences connected with the fact of experiencing a somatic disease are diversified since they depend on first of all the medical characterisation of a disease, which means its type, duration, the degree of threat to life. At the same time, however, one may show some general regularities in human functioning, changes appearing in different spheres of a person's activity which take place regardless of the type of a disease. Furthermore, a disease often initiates a spiral of loss – losing health resources entails limitations or inability to perform a professional role, which in turn causes the decrease of the economic situation involving, in a further perspective, a threat to material basis for existence [1].

The disease is reflected in emotional and cognitive processes. An ill person builds the image of his or her disease (the concept of the disease), and various factors take part in this process – among others, the emotions experienced, current physical and mental state as well as information the source of which is the medical personnel, specialist literature, social environment (family, friends), the Internet. Therefore, while creating a cognitive representation of his or her own disease, a patient uses both medical and non-medical sources of knowledge, which – taking into account the last factor – results in certain threats. Not all the information obtained by an ill person is true. The lack of knowledge, incomplete or unreliable knowledge may contribute to the escalation of the reaction of anxiety, fear, dread or quite the opposite – lower the ill person's motivation to

behaviour directed at diagnosing the health problem and undertaking proper treatment. In this context the key meaning should be attributed to the issue of proper communication in the patient-medical personnel relationship. The necessity to use medical help in the conditions of inpatient care, which is associated with a serious state that cannot be helped in the conditions of an outpatients' clinic, enhances the stress related to the diagnosis of the disease. In this situation both the patient and the family accompanying him or her in the process of treatment expect full, reliable information provided in an understandable form from the medical personnel.

Aim

The aim of the paper was the attempt to evaluate the level of the information obtained by patients concerning such aspects as: 1. the patient's condition; 2. the type, aim, course and effects of diagnostic examinations and treatments; 3. preparation for medical examinations and treatments; 4. receiving a doctor's instructions concerning health behaviour after leaving hospital (taking medicine, diet modification etc.); 5. the conditions in which the interview with the patient was carried out.

Material and methods

The study was conducted among the patients of one of clinical hospitals at Poznan University of Medical Sciences, in the period from September 2013 to February 2014. Altogether 95 people participated in the study; the study encompassed 62 people who came to the admissions of the hospital and 33 patients of clinical wards. The study used a questionnaire drawn up for the use of the study presented.

Results of the study and their discussion

As was established on the basis of the study conducted, all the people obtained information concerning their condition from the medical personnel. However, 26% of the patients decided that not all information was understandable to them. It probably means that in the process of providing the information some communication barriers occurred. The barriers include, for example, the use of specialist vocabulary by the personnel, the lack of asking questions which would enable the personnel to determine whether the message was understood by the patient.

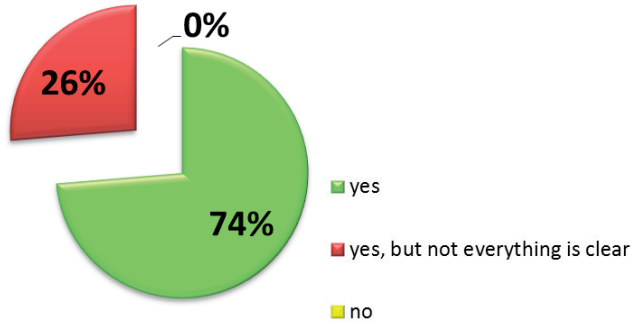

Figure 1. The percentage division of answers indicating whether a patient received full and comprehensible information about his or her condition
Source: own study

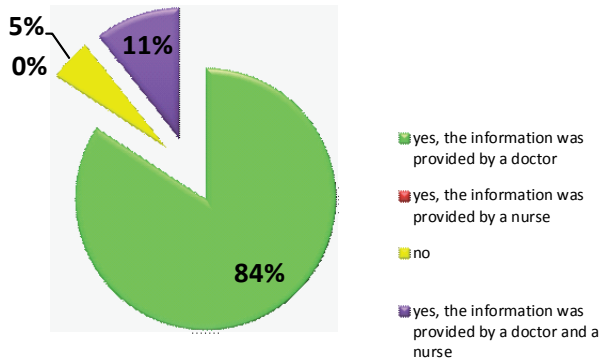

Figure 2. The percentage division of answers indicating the access – or the lack of access – to the information concerning the necessary diagnostic examinations and treatments
Source: own study

The duties of the medical personnel include informing a patient how the diagnostic and medicinal process will proceed, what the aim of particular medical activities is and what their effects may be. As results from own studies, the majority of patients (84%) received essential information in this area from a doctor, for 11% of the patients the source of the information was both a doctor and a nurse, yet 5% of the patients did not obtain such information from the members of the therapeutic team.

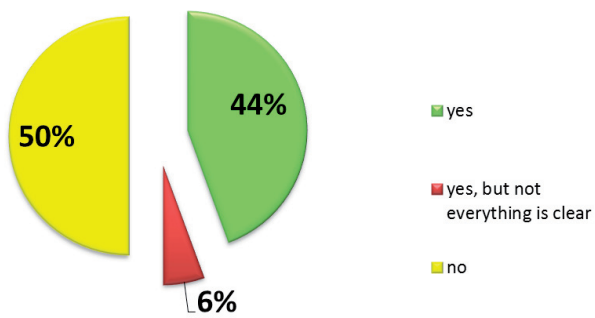

Figure 3. The percentage division of answers indicating whether a patient received or did not receive written information concerning what the examination consists in and how to prepare oneself for it
Source: own study

The information explaining the essence of the examination and the expectations connected with the patient's preparation for it should be provided in a written form. Own studies let the researchers to state that half of the patients did not receive – formulated in writing – full, comprehensible information explaining the aim and course of the examination and the process of preparation for it, which should be treated as a serious iatrogenic error.

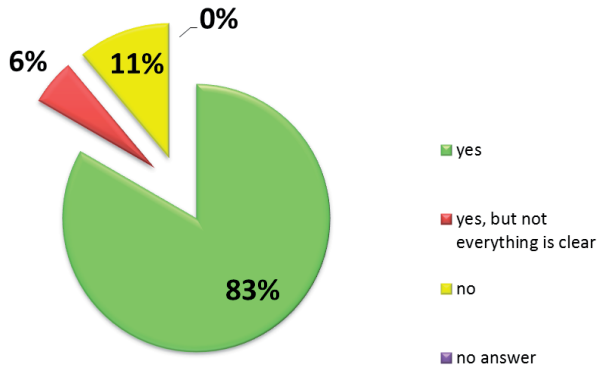

Figure 4. The percentage division of answers indicating the access or the lack of access to the information concerning the treatment, anaesthetization and effects of particular medical activities
Source: own study

As was established in the studies, more than 80% of the sick obtained information concerning the activities undertaken in connection with the treatment; however, in the case of 11% patients the answer received was negative, the next group of subjects admittedly obtained information but had reservations as for its comprehensibility or acknowledged it as insufficient. The lack of information concerning the effects of anaesthetization intensifies the patient's discomfort in the post-operative period.

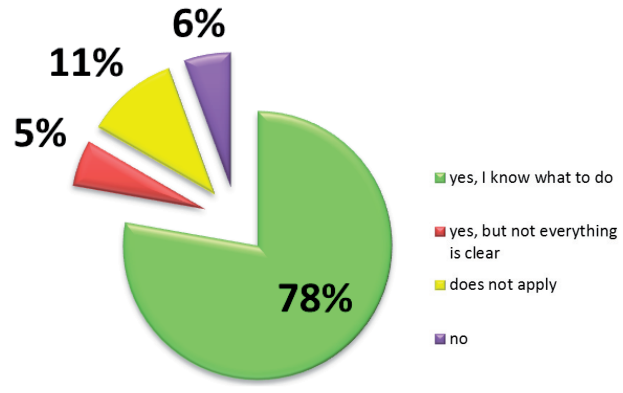

Figure 5. The percentage division of answers indicating the access or the lack of access to the information concerning how to take care of one's health after returning home
Source: own study

The information in this area was obtained by nearly 80% of the patients, whereas 11% altogether did not receive any information or assessed the information as insufficient or not fully understandable. The process of recovery is long-lasting and does not end together with leaving hospital. In order for the medical procedures to bring the expected result, after returning home the patient should keep to the doctor's instructions related to introducing changes in the lifestyle, undertaking rehabilitation and further treatment in the outpatients' system. However, in order for it to happen, an ill person must receive indispensable information already at the hospital treatment stage.

The situation of a patient awaiting admission to hospital is connected with experiencing strong emotional tension. The patient does not usually know the very procedure of admission; thus, it is a new situation for him or her, which generates anxiety. The patient cannot predict which diagnostic and therapeutic procedures he or she will be subject to at the ward. The person is accompanied by the sense of uncertainty and fear. In this situation, already during the admission to hospital, he or she expects informative and often also emotional support from the personnel.

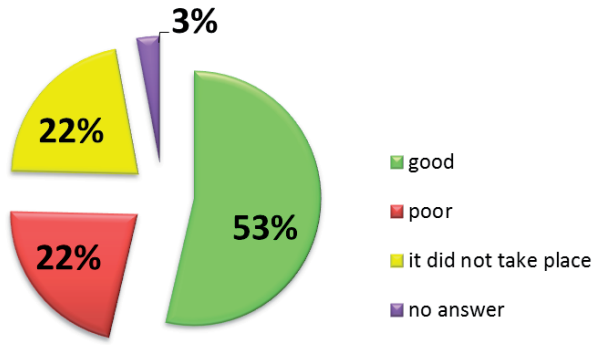

Figure 6. The percentage division of answers evaluating the conditions in which the medical interview was carried out
Source: own study

What is important for a patient in the admissions is both the form of the interview with a doctor and the physical surroundings in which the interview is carried out. Taking into consideration the results of own studies, one may state that more than 20% of the subjects evaluated the conditions in which the interview was carried out as poor. In view of the fact that patients in the admissions are often accompanied by someone from the family or friends, one should remember that these people, especially during a momentary absence of a patient (connected with e.g. the necessity to perform diagnostic examinations) expect information about his or her condition and further proceedings. In the ques-

tionnaires, in the space meant for additional statements of the patients, there appeared utterances (sometimes harsh in form), proving the lack of informing family and friends about the sick person's condition. And thus, the participants of the study indicated the following irregularities: 'The patient was taken to the ward without informing the family who were waiting in the admissions'; 'A lack of conversation with the family, a lack of information and forbidding the contact with a close, ill person. Everyone needs care, warmth, closeness and security!'; 'A lack of interest, a lack of information'; 'The family: no information'. At the same time it is worth noting that the comments of the subjects of the study also had positive overtones: 'Polite personnel at the reception desk'; 'Kind personnel'; 'Only the positive'.

Discussion

As was established in own studies, the level of informative support provided to patients is diversified depending on the area that it concerns. The majority of patients partaking in the study obtained information at least in 4 areas examined (the condition; the aim and specificity of diagnostic examinations and treatments; the effects of medical activities including anaesthetization; doctor's instructions which concerned undertaking particular kinds of health behaviour after leaving hospital). In the process of giving information there occurred, however, communication errors that consisted in, e.g. providing information in a way which turned out to be incomprehensible for a certain group of patients. This means that communication in this case should be acknowledged as ineffective. One of the most frequently occurring obstacles in communication with patients is using specialist vocabulary by doctors. Meanwhile, as was established in Baranski's studies, over half of the subjects could not give a correct meaning of such terms as a gland, haemoglobin or hormones [2]. What is really worrying is the fact that half of the patients partaking in own studies did not receive information about the way in which they should prepare themselves for diagnostic examinations and treatments. Over 20% of the patients decided, however, that no medical interview was carried out with them when they were admitted to hospital. As I. Heszen and H. Sek notice, the results of many questionnaire studies prove that patients show the need to obtain medical information and simultaneously they very rarely ask questions when the information provided by the doctor is insufficient [3]. A stay in hospital is connected with the occurrence of hospitalisation stress as well as experiencing negative emotions and feelings which accompany the functioning in the role of a patient of inpatient care. In response to the stress caused by the disease and the stay in hospital, an individual undertakes particular activities directed at coping with a situation perceived in general as a loss and threat. Functioning in the role of a sick person usually involves an increased demand for support, especially informative and instrumental, but also emotional and spiritual. Social support (in the aforementioned forms) may be defined as a resource to which a person appeals in difficult, critical situations, which are connected with the depletion of individual possibilities of coping. Using the techniques of active listening (paraphrasing, reflecting emotions, summing up), lowering the patient's tension in a situation in which he or she experiences strong fear, and first of all providing informative support, that is giving full, understandable information concerning the condition and various aspects of hospitalisation, are the elements of the medical personnel's proceedings which may be called elementary psychotherapy [3].

Insufficient involvement of the medical personnel in shaping proper relations with a patient may lead to actions thwarting the effects of the treatment process. In a situation of not receiving full, reliable and understandable information from a doctor, the patient may lose faith in the doctor's professionalism and attempt at searching for alternative forms of help. The phenomenon of 'computer revolution' has also been described in which it is necessary to use medical imaging universally. As M. Blaxter writes, it leads to a situation in which it is the image obtained with the use of diagnostic devices (a CAT scanner, magnetic resonance, angiograph, PET), and not the human body, that forms the basis for medical practice [4]. In this place it is worth referring to the two disparate types of a doctor-patient relationship described in the literature on the subject [5]:

1. somatic orientation – it is connected with concentration only on the patient's disease and the treatment process,
2. general orientation – it manifests itself in treating the patient as individuality and using an open style of communication which encompasses such reactions and behaviour as:
    - interest and involvement (assessed, among others, on the basis of the non-lingual and non-linguistic messages as well as signs of empathy);
    - structuralisation (explaining claims by asking questions);
    - the patient's participation in taking decisions connected with the diagnosis and treatment;
    - intentional probing (including new data in the interview);
    - discussing the reasons for coming to the medical institution with the patient.

Preferring one of the above-mentioned types of a relationship by the doctor determines the character of the interaction with the patient, facilitates or prevents building a proper therapeutic relationship and translates into the way of communication. In this context one should mention the three models of a doctor's contact with a patient singled out in the literature [5, 6]:

1. activeness-passivity, when the doctor entirely controls the sick person (operations in anaesthetization, serious injuries, the state of a coma),
2. management-cooperation, when the patient obeys the doctor's instructions,
3. mutual cooperation, which consists in a subjective treatment of the patient and his or her equal participation in the diagnostic-therapeutic process.

Work based on the premises of the third of the aforementioned models – the mutual participation model – demands fulfilling particular requirements. Some of them are addressed to the medical personnel and concerns specific attitudes (respect towards the patient) as well as skills (among others, cognitive empathy, that is the ability to perceive and understand the states of another person; providing information about the condition, the diagnostic and medicinal examinations planned; shaping types of behaviour which favour achieving health objectives). The remaining requirements are directed at the organisers of the medicinal process and concern such aspects as: providing the right place in which the interviews can take place, offering employees some trainings directed at developing psychosocial competence, first of all in the scope of communication, providing support, shaping the relationship with the patient.

Proper communication is an essential element of clinical proceedings. It enables not only ensuring medical and non-medical needs of the patient but also collecting vital information concerning the course of the treatment and care process. In the second context, effective communication is also the condition of obtaining information about different problems (undesirable phenomena, errors), which influence the assessment of care quality made by the patient. The information may constitute the basis for actions directed at improving the quality of the services provided, and in the future contribute to a better functioning of the medical subject as well as building its positive image in the surroundings.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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HOSPITAL ARCHITECTURE AND THE PATIENT'S SATISFACTION WITH THE MEDICAL SERVICES PROVIDED

ARCHITEKTURA SZPITALA A SATYSFAKCJA PACJENTA ZE ŚWIADCZONYCH USŁUG MEDYCZNYCH

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ABSTRACT

Introduction. In recent years in the sphere of medical services a growth of the importance of quality in health care has been observed. The increased awareness of patients and striving for receiving services at the highest level possible involve an increase of expectations towards organisations. Therefore, more and more frequently quality management systems in health care entities are implemented, patients' satisfaction research is conducted and medical services are constantly improved. The functioning of medical entities orientated towards quality is closely connected not only with possessing certificates and employing medical professionals, but also with the conditions in which the medical services are provided and with fitting out medical facilities with modern medical equipment and apparatus.
Aim. The aim of the present study is to show a relationship between hospital architecture and satisfaction experienced by the patients who are the beneficiaries in them.
Material and methods. The study was carried out based on the standardised PASAT questionnaire. The detailed aim of the study conducted was the comparative analysis of the level of satisfaction of the patients hospitalised in certified facilities and those without the quality certificate. The level of satisfaction with reference to the material dimension of the service, which means the factors connected with hospital architecture, was examined.
Results and conclusions. The results of the study show a direct relationship between coming up to patients' expectations in the dimension of the technical infrastructure of the service by certified hospitals and the level of satisfaction with medical services.

KEYWORDS: patient's satisfaction, hospital architecture, quality certificates.

STRESZCZENIE

Wstęp. W ostatnich latach w sferze usług medycznych obserwuje się wzrost znaczenia jakości opieki zdrowotnej. Wzrost świadomości pacjentów, dążenie do otrzymywania świadczeń na możliwie najwyższym poziomie wiąże się ze zwiększeniem oczekiwań wobec organizacji. Stąd coraz częściej wdraża się systemy zarządzania jakością w podmiotach leczniczych, prowadzi badania satysfakcji pacjentów i ciągle doskonali usługi medyczne. Funkcjonowanie podmiotów leczniczych zorientowanych na jakość jest ściśle związane nie tylko z posiadaniem certyfikatów, zatrudnieniem profesjonalistów medycznych, ale również z warunkami, w jakich udziela się świadczeń zdrowotnych, z wyposażeniem placówek medycznych w nowoczesny sprzęt i aparaturę medyczną.
Cel. Celem przeprowadzonych badań była analiza porównawcza poziomu satysfakcji pacjentów hospitalizowanych w placówkach certyfikowanych i bez certyfikatu jakości.
Materiał i metody. Badano poziom satysfakcji w odniesieniu do wymiaru materialnego usługi, czyli czynników związanych z architekturą szpitala. Badania przeprowadzono w oparciu o standaryzowany kwestionariusz PASAT.
Wyniki. Wyniki badań ukazują ścisłą zależność pomiędzy spełnieniem oczekiwań pacjentów w wymiarze infrastruktury technicznej usługi przez szpitale certyfikowane a poziomem satysfakcji z usług zdrowotnych.

SŁOWA KLUCZOWE: satysfakcja pacjenta, architektura szpitala, certyfikaty jakości.

Introduction

Architecture constitutes an art of building, the fundamental task of which is to shape the space suiting human needs. A proper design of the architecture of the surroundings has a vital influence on both a person's activity and on his or her health as well as physical and mental state. Abnormalities occurring in this scope may cause, in turn, the feeling of helplessness and stress in the people using the particular space [1]. The notion of architecture acquires significance in designing the space around each person who perceives the needs for surrounding himself or herself with a friendly territory layout, equipping this space, the elements which it consists of and their number, colour and design. The space in which a healthy person functions has a substantial influence on his or her well-being. However, in the case of the occurrence of a disease, where it is necessary to leave the previous private space in order to accomplish

the treatment process in a medical facility, the user-patient loses the space created by himself or herself. Furthermore, he or she begins to experience a worse physical and mental state related to finding himself or herself in the situation of a sick person.

The influence of architecture on human behaviour is a relatively new issue and at the same time it constitutes an interesting area in scientific and research terms. The research centres that became interested in this issue are the American Institute of Architects in The State of Washington and The Academy of Neuroscience for Architecture in San Diego. The studies carried out by them showed that designing hospital buildings in an appropriate way influences the improvement of Alzheimer's disease patients' condition and well-being. Moreover, with the use of non-invasive methods of brain imaging neurologists showed a substantial impact of the visual perception of the surroundings on a person's knowledge assimilation, memory and well-being. Currently, these centres are conducting research on the level of stress of the users in terms of such aspects as: lighting, air-conditioning, colour, noise, the level of privacy and the proximity of windows or walls. The researchers, combining the architects' knowledge and the possibilities of neurology, are developing a new field of architecture, the so-called neuro-architecture. They wish that architecture, enriched by clinical knowledge, has the possibility of eliminating or limiting the development of certain disorders and diseases [2].

Thus, it may be concluded that architecture, the spatial layout of the building and rooms, care of infrastructure and the environment in which the services are provided have an essential influence on the level of a person's satisfaction [3].

Health care entities, in the face of increasing competition on the medical service market, notice the necessity of undertaking actions connected with remaining, surviving and developing, which is possible only when plans of actions directed at the growth of the quality of the services provided are set. This quality should concern all the areas of the health care entity's functioning: from the kind of the services offered, the way and time of performing them to the organisation and course of the whole diagnostic-therapeutic process or the possibility of using modern treatment methods. What is also important is to perceive the role of the patient, focus on identifying and then fulfilling his or her individual needs, which in consequence translates into the level of the satisfaction attained by the patient.

In our times one may observe an intensive growth of the importance of quality in many spheres of life. Yet it is not as vital as it occurs in the case of providing medical services since it refers to human health and life [4]. Thus, quality is more and more frequently taken care of and verified on the basis of the assessments obtained from patients through satisfaction level research carried out by health care entities.

Taking into consideration the division into medical and non-medical factors which determine the quality of medical services, in the process of its assessment three groups of criteria are singled out [5]:

1. The structure criterion – it concerns the factors which allow the medical personnel to perform tasks in accordance with the current medical knowledge with reference to:
   - infrastructure (the equipment of buildings and rooms),
   - material resources (technical equipment as well as medical equipment and apparatus),
   - human resources (the number of people, their competence and qualifications).
2. The process criterion – it concerns all administrative, nursing and medical actions connected with the patient at every stage of health care, to which belong the following ones:
   - the access to medical care (the possibility of obtaining an indispensable service and the waiting time for it),
   - comprehensiveness of the service,
   - the behaviour of the medical and auxiliary personnel,
   - patient service culture,
   - communication with the medical personnel.
3. The result criterion – it concerns the results achieved, which serve as the basis for the assessment of the medical services performed. The following ones are distinguished here:
   - complications (hospital-acquired infections, the number of reoperations, the number of repeat admissions),
   - mortality rate,
   - fitness rate,
   - the average time of stay in hospital,
   - the patient's satisfaction with the medical service received.

The patient in a situation of a disease may expect a high comfort of the stay in hospital, a single or double room with a bathroom, an access to television or the Internet, an unlimited access to the hospital chapel, food and beverage services, a hospital car park for visitors, easy public transport and friendly surroundings of the hospital building with green areas [6].

The standards of providing medical services result from many legal regulations (the directive to the act of medical activity, the act of the profession of a doctor, nurse and midwife legally binding from April 15th 2011).

They refer to the requirements set to medical facilities in terms of [7]:

- building infrastructure – which are related to the norms that they must meet so that services of a particular kind and in a particular scope may be performed. They refer first of all to the establishment surface, the height of the rooms and the obligation to possess driveways for the disabled,
- fitting out with medical equipment – it concerns the minimum quantitative and qualitative requirements of the medical facility equipment in accordance with the speciality and kind of the services provided as well as possessing indispensable certificates and seals of approval confirming the compliance of the apparatus with the binding security norms,
- the medical personnel – it concerns the requirements in the scope of the necessary qualifications and entitlements of the personnel to perform medical services and the determination of the minimum number of the personnel members in the organisation.

As it turns out, the quality of the hospital infrastructure conditions the quality of the services provided and from the point of view of the patient it will have a vital influence on his or her subjective assessment and the level of satisfaction attained.

Material and methods

The study was carried out based on a standardised tool for examining the hospitalised patient's satisfaction – PASAT, which was constructed by the Quality Monitoring Centre in Health Care in Cracow. It consists of 16 questions (or groups of questions) concerning the patient's satisfaction with the stay in a hospital ward and 6 personal questions. On account of its specificity, thanks to the PASAT questionnaire it is possible to assess 5 areas of care:

- medical care and contact with the doctor,
- nursing care,
- standards of living,
- the process of admission to hospital,
- hospital food.

In the study analysed the focus was on the health care areas connected with standards of living and organisational conditions. The patients made an assessment on the 5-point Likert scales with the points described according to the pattern (1 – very good, 2 – good, 3 – rather good, 4 – poor, 5 – very poor).

The research group consisted of patients from 17 hospitals of a different reference level on the territory of the whole country who stayed in the facilities possessing a quality management system implemented, which constituted 59% and 41% of the patients from the facilities which did not possess any certified quality management system. Altogether they constituted a group of 800 people. Among the patients 66% of women and 34% of men should be singled out. The level of education of the patients was diversified: 20% of them had higher education, 9% post-secondary, 33% secondary, 28% vocational and 10% primary.

The results of the study were worked out with the use of the SPSS v. 12.0 PL statistical package. In all the analyses the *alfa*=0.05 significance level was assumed. Furthermore, the U Mann-Whitney non-parametric test of the significance of intergroup differences for the independent data was used.

Results

The study conducted among the patients of the hospitals which possess a quality management system implemented and the hospitals without quality certificates showed a different level of the hospitalised patients' satisfaction with the aspects connected with hospital architecture.

When asked about the motives for choosing a particular hospital as a place in which they wanted to undertake treatment, the respondents marked different answers. The patients of the hospitals which possessed quality certificates relatively more frequently paid attention to the aspects related to the fact if the hospital was fit out with modern medical equipment and apparatus than the patients of the non-certified hospitals. Nevertheless, the most frequent determining factors were: the suggestion of the attending physician, recommendation of the facility by family or friends and highly-qualified medical staff. The patients of the facilities without a quality system implemented were most often directed by a convenient location of the facility (**Figure 1**).

Table 1 shows the opinions obtained from the patients on the subject of the factors responsible for satisfaction with the medical services performed, such as: hospital architecture, functionality and equipment of the rooms, the standards of living in the hospitals.

A list of the results of the tests concerning the significance of the differences between the assessments of the patients staying in certified and non-certified inpatient care facilities was compiled. The U Mann-Whitney non-parametric tests were used here.

Statistically significant differences with reference to the assessments of the functioning of the Admissions of both groups of hospitals were found. As it turned out, the difference in the assessment of the organisation of the way in which patients are admitted to the ward is statistically significant. The patients of the certified hospitals assess higher the organisation of the way of

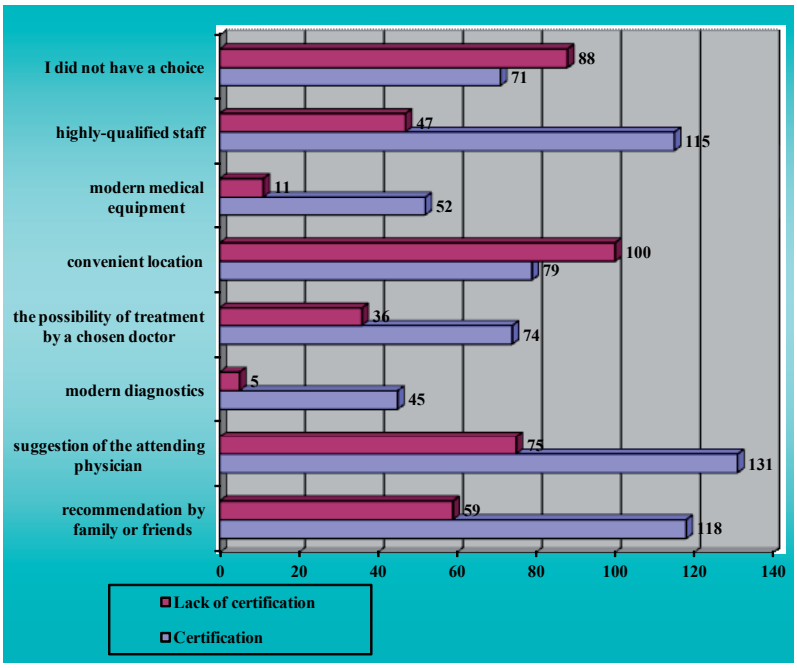

Figure 1. The motives for the choice of the hospital
Source: own study

admission to the ward than the patients of the facilities which do not possess a quality certificate.

Another statistically significant factor assessed in the groups of hospitals examined was providing privacy in the Admissions. Once again certified hospitals obtained better assessments. It is probably caused by the increased care of the conditions and quality of the medical examinations performed, which in turn entails the necessity of providing patients with special examination rooms which enhance their comfort and sense of privacy.

Simultaneously a significant difference occurred in the assessment of the cleanliness in the Admissions; the increased care of cleanliness and order was declared by the patients of the hospitals with a quality management system implemented.

One by one the patients assessed the infrastructure of the Admissions and whether it was equipped with appropriate seats, outdoor clothing stands, etc. Statistically significant differences were registered in the assessments of the patients staying in certified hospitals and those without certification to the benefit of the first ones. It is probably caused by the increased care of the equipment and facilities for patients waiting in the hospital Admissions.

While assessing in turn the hospital ward and the conditions there, the patients indicate significant differences with reference to the equipment of the wards. They assessed such elements as: lighting, appropriate equipment in the wards, among others: stands, tables, cupboards; they also assessed the aesthetics of the furniture. Once again the facilities which possessed quality management systems implemented were assessed higher.

As it turned out, the differences in the assessment of adjusting ward bathrooms to the needs of the patients with indispensable handles, railing or walking frames in certified and non-certified hospitals are not statistically significant.

At the same time a significant difference occurred in the assessment of the sleep and rest conditions at the ward. The patients of certified hospitals assess the level of these conditions higher than the patients of the medical facilities that do not have quality management systems implemented. It may be acknowledged that the increased care of silence as well as good sleep and rest conditions takes place in the facilities which are directed at quality and constantly take care of improving it.

Moreover, significant differences were observed while examining the time determined by the hospital for visiting patients. In the certified hospitals the time for visits by family and friends was assessed higher as appropriate than in non-certified hospitals.

Table 1. The results of the U Mann-Whitney Test for certified and non-certified hospitals concerning the differences in the assessment of the factors responsible for the patient's satisfaction

Factors	Average		Statistics	
	Certified	Non-certified	U Mann -Whitney	Asymptotic significance (bilateral)
The Admissions – organising the way of admitting patients to the ward	1.5866	1.6832	68757.500	**.046**
The Admissions – providing privacy	1.6424	1.7508	66713.500	**.032**
The Admissions – cleanliness in the Admissions	1.3739	1.5125	65876.000	**.003**
The Admissions – the equipment of the Admissions (seats, stands etc.)	1.7241	1.8991	63695.000	**.004**
Hospital ward - the equipment of the patients' rooms (lighting, furniture and their aesthetics, stands, tables, cupboards etc.)	1.6599	1.8313	72429.000	**.002**
Hospital ward - adjusting the bathrooms to patients' needs (handles, railing, walking frames)	1.9648	2.0242	76673.500	**.295**
Hospital ward – sleep and rest conditions	1.6646	1.8333	72629.000	**.002**
Did the time for visiting come up to the expectations	1.6060	1.8328	69306.500	**.010**
General assessment of the stay in hospital	1.5179	1.6818	69268.000	**.002**
Would you recommend the hospital to the family/friends	1.5720	1.8598	63701.000	**.000**

Source: own study

Another question analysed concerned the general assessment of the stay in hospital. It turned out that there are no significant differences between the patients of certified hospitals and those without certification in the scope of low assessments ('poor' or 'very poor'). Such assessments were given by an identical proportion of patients in both groups. A significant difference is visible in the scope of good assessments, and especially the very good ones (**Figure 2**). In this case the patients of certified hospitals definitely better assess the general stay in the facility. It shows that general satisfaction of the patients remains in a relationship with the fact of possessing a quality certificate by the facilities.

Significant differences are also visible in the scope of the declarations concerning the willingness to recommend a particular medical facility to the family or friends. The patients of the hospitals with a quality management system implemented much more frequently decide to recommend a particular facility to other people from their close surroundings (**Figure 3**) than the patients staying in the hospitals without a quality certificate.

Discussion

The quality of medical services performed in health care entities is connected in a vital way with the fact of possessing or not possessing a certificate confirming conformity to the specific quality management system by a particular facility. Care of the factors connected with the material dimension, which is hospital architecture is, as it results from the study, higher in the facilities with a certificate. Thus, the level of the services provided by certified hospitals is, in the conviction of the participants of the study, higher than in the facilities which do not possess certification. As the results obtained in the study carried out by the Shaw, Groene, Mora and Sunol team show, the functioning of the hospitals that possess a quality certificate or the accreditation of the Quality Monitoring Centre in Health Care differs in a significant way from the functioning of the hospitals which do not possess a quality management system implemented [8]. Certified or accredited hospitals are able to provide the patient with a higher level of security and better medical care.

The situation of hospitalisation is a difficult situation since it entails the necessity of adjusting to the new surroundings, not only social but also physical, the impossibility of fulfilling many important and vital needs as well as experiencing many negative emotions, such as fear, dread and anxiety about one's own condition.

According to the reports from the studies, a patient-oriented approach (his or her individual needs and expectations towards the health service and the conditions in which it is provided) brings many benefits regarding the health care entity: it increases the patient's satisfaction with medical care, it speeds up his or her convalescence and also enhances stress and pain resistance and tolerance; it additionally favours the continuation of treatment as well as the search for and the use of the medical care available [9]. Furthermore, the studies indicate that the most important predictor of the patient's satisfaction during hospitalisation is to fulfil his or her expectations [10].

In addition, the increase of patients' satisfaction as well as their loyalty remains in a relationship with the quality of medical services and a positive image of the facility in its surroundings. It translates, in turn, into an increasing number of patients interested in using the

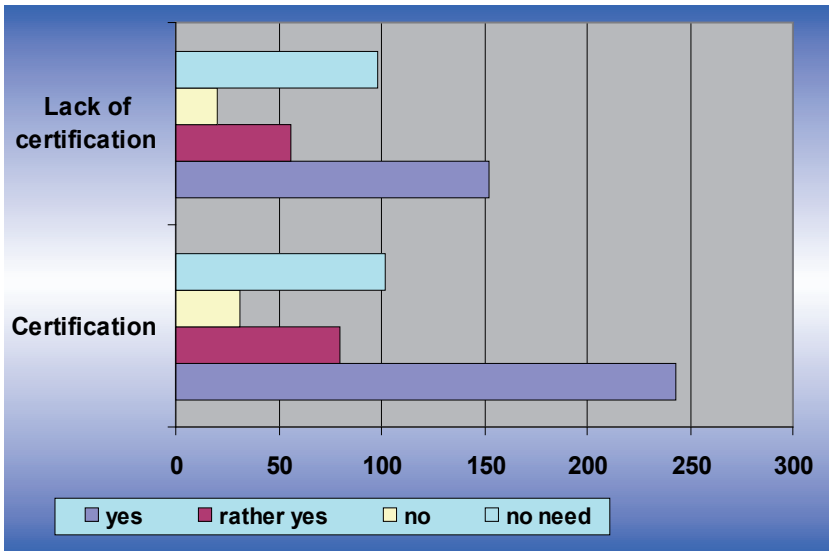

Figure 2. The general assessment of the stay in hospital
Source: own study

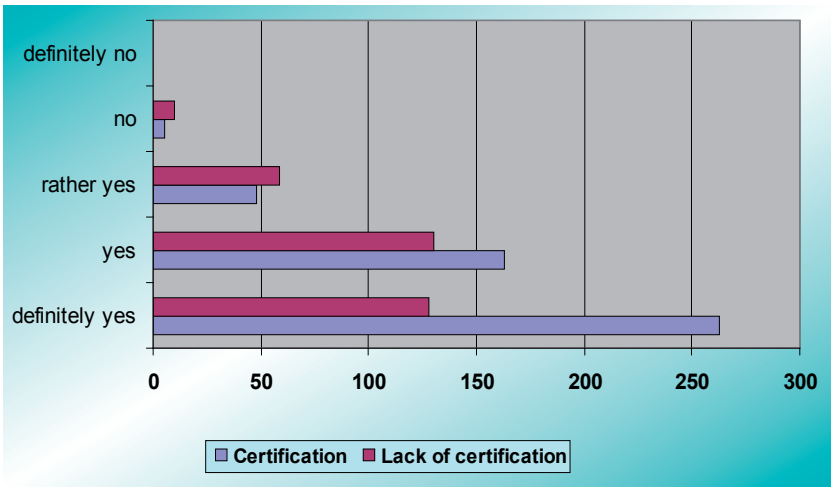

Figure 3. The readiness to recommend a particular hospital to the family or friends
Source: own study

services performed by the facility. Moreover, the development of the quality and care of enhancing the patient's satisfaction correlates with the decreased number of claims made by patients regarding the unit [11]. It is extremely important as it points to the fact of the increase of the quality standards in the unit.

Moreover, the results of many studies show that a permanent and systematic improvement of the functioning of the inpatient care facilities affects the increase of the quality of the medical services offered and similarly, also the increase of the satisfaction attained by the patients.

Satisfaction is mainly connected with the level of fulfilling the expectations regarding the medical service with reference to its various dimensions. As the study conducted shows, patients expect a high quality of services offered in the conditions of a friendly hospital infrastructure.

The degree of the patient's satisfaction will depend on the extent of the divergence between his or her expectations concerning the service and the perception of how it was performed after it is over. The individual level of satisfaction is determined by its real and objec-

tive parameters as well as the way of communication of the provider of services and it also depends on the patient's expectations towards the service and his or her personal experiences [12].

The Quality Monitoring Centre in Health Care has drawn up a set of measures of the patient's satisfaction, thanks to which one may take measurements of the level of his or her subjective satisfaction in the aspect of:

- interpersonal relations (friendliness, availability, listening in a careful way and speaking in an understandable way, providing privacy),
- standards of living (cleanliness, aesthetics of the rooms, temperature and quality of the meals, adjusting the bathrooms to the needs of the patients, visiting hours),
- procedures (the time and reasons for waiting for the planned admission, formalities in the admissions, discharge from hospital),
- informing patients (about their condition, ways of treatment, complications and the possible risk, planned operations, the prescribed diet, continuity of treatment, the period of convalescence),
- the general assessment of the stay in hospital.

Conclusions

1. The conditions in which medical services are provided have a substantial influence on the patient's satisfaction. What is important for the patient is the material dimension of the service which is the factors connected with the hospital's architecture: fitting out medical facilities with modern medical equipment and apparatus, the layout of hospital rooms, cleanliness in the rooms, lighting, the number and functionality of furniture, adjusting the rooms to the patients' needs, the sleep and rest conditions.
2. The study showed a direct relationship between fulfilling the patients' needs in the dimension of the technical infrastructure of the service by the certified hospitals and the level of the satisfaction with medical services.
3. The level of the hospitalised patient's satisfaction is significantly higher in the facilities which possess quality management systems implemented.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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THE INFLUENCE OF DIET ON THE FORMATION OF NON-CARIOUS HARD DENTAL TISSUES LESIONS – LITERATURE REVIEW

WPŁYW DIETY NA POWSTAWANIE UBYTKÓW TKANEK TWARDYCH ZĘBÓW NIEPRÓCHNICOWEGO POCHODZENIA – PRZEGLAD PIŚMIENNICTWA

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ABSTRACT

In this paper, the attention was paid to improper dietary habits and their influence on the non-carious lesions formation, especially teeth erosions. The factors predisposing for erosion development are mainly chemical ones. The most common cause is attributed to the frequent consumption of acidic products and beverages, especially fruit juices, carbonated drinks, such as Cola, as well as raw fruits, especially citrus. This condition mostly affects young people. The ongoing process of erosion can lead to significant, irreversible destruction of the hard dental tissues and result in teeth hypersensitivity to thermal, chemical and the mechanical stimuli. The acidic environment accelerates the damage of the teeth caused by mechanical factors, that is why dental hard tissue loss associated with erosion is almost always complicated by other forms of tooth wear such as abrasion, at¬trition and demastication. Therefore, it is viewed that necessary preventive measures should be undertaken to avoid the development of pathological processes mentioned above. The authors presented recommendations for the patients with risk of dental erosion occurrence.

KEYWORDS: diet, fruit juices, tooth erosion.

STRESZCZENIE

W pracy zwrócono uwagę na problem wpływu niewłaściwych nawyków żywieniowych na powstawanie ubytków twardych tkanek zęba pochodzenia niepróchnicowego, zwłaszcza erozji zębów. Ubytki erozyjne tworzą się pod wpływem działania czynników chemicznych. Najczęstszą przyczyną ich występowania jest zbyt częste spożywanie kwaśnych produktów i napojów, tj. soki owocowe, napoje gazowane typu Cola jak również owoców, zwłaszcza cytrusowych. Problem ten dotyczy zwłaszcza ludzi młodych. Postępujący proces erozyjny może doprowadzić do znacznej, nieodwracalnej destrukcji twardych tkanek zębów oraz do nadwrażliwości na bodźce termiczne, chemiczne i mechaniczne. Kwaśne środowisko przyspiesza uszkodzenie zębów spowodowane czynnikami mechanicznymi, dlatego z erozją zębów mogą współwystępować inne rodzaje ubytków pochodzenia niepróchnicowego, tj. abrazja, atrycja i demastykacja. Dlatego konieczne są działania profilaktyczne niedopuszczające do rozwoju wymienionych procesów patologicznych. Autorzy przedstawili zalecenia dla pacjentów, u których stwierdza się ryzyko rozwoju erozji zębów.

SŁOWA KLUCZOWE: dieta, soki owocowe, erozje zębów.

In the recent years, the interest in so-called healthy lifestyle has increased in western societies. Many people who want to keep favorable appearance, well-being and a good health for a long time, undergo various types of diets to assist in achieving this goal. In many countries, consumption of fresh fruits, vegetables, flavored drinks, fruit juices, sport and energy drinks has raised. These changes have increased the risk of the hard dental tissues loss of non-carious origin, especially the erosion type.

The teeth erosion (erosio dentinum, denta erosion, erodere, erosi, the former name erosines atypice) is a chronic, painless, irreversible loss of hard dental tissues unrelated to the action of bacteria and mechanical factors [1]. This process occurs as a result of exposure to chemical factors i.e. acids and / or chelating agents.

The current term “biocorrosion”, unlike the corrosion, stands for the chemical, biochemical and electrochemical activity onto the body tissue, i.e. enamel and dentin. Biocorrosion includes endogenous and exogenous, acidic and proteolytic, chemical degradation of the enamel and dentin, as well as the piezoelectric electrochemical actions onto the dentine collagen [2].

In the early stage, dental erosions form in the enamel shallow, wide facets, whose width is significantly greater than depth. If not stopped at this phase, this

process is followed by a gradual exposure of dentin and an increasing destruction of hard dental tissues. In most advanced cases, it can result in pulp exposure [3]. The enamel band along the oral and facial gingival margin remains intact, which is probably due to an acid-neutralizing effect of the sulcular fluid. In 1996, Lussi proposed a simple classification for the clinical evaluation of dental erosions advancement [4] :

Evaluation of buccal surfaces:

score 0 – no erosion present, the enamel surface has smooth, silky-glazed, shiny appearance;

score I – the loss of enamel surface is present; enamel along the gingival margin remains intact, changes result in developing a concavity in enamel, with the width exceeding its depth, this allows to differentiate the latter from abrasive defects caused by teeth brushing; dentine is not involved;

score II – distinct defect, involves dentine of < ½ of the tooth surface;

score III – distinct defect, involves dentine of > ½ of the tooth surface.

Evaluation of buccal and occlusal surfaces:

score 0 – no erosion present, the enamel surface has smooth, silky-glazed, shiny appearance;

score I – initial erosion, rounding of the cusps and restorations edges on occlusal surfaces rising above the level of the adjacent tooth surfaces and occlusal fissures; the loss of enamel surface; dentine is not involved;

score II – severe erosion, more advanced changes than in stage I, dentinal involvement, in severe cases the whole occlusal morphology disappears.

The erosive change is distinctly demarcated from healthy enamel in case of the causative agent elimination. As a result of the closure of the dentinal tubules with mineral deposits, dentine in the lesion becomes dark yellow or brown. Non-distinct borders of the erosive lesion are characteristic for active change, still being exposed to the action of acids, so in that case the dentin is not discolored [5, 6].

In the macroscopic examination, enamel and dentin within erosive lesions are hard and it can be a differentiating feature with the dental caries. Dental erosion may result in teeth hypersensitivity to thermal, mechanical or chemical stimuli, but sometimes, especially in early stages, it may give no immediate symptoms.

The localization of these defects depends on the source of acidic substances. In the case of endogenous acids action, during reverse regurgitation into the mouth, erosive lesions are present at occlusal and buccal surfaces of the posterior teeth and the palatal surfaces of all upper teeth. Patients at risk for this kind of the hard dental tissues damage are those suffering from gastro-esophageal reflux, persistent vomiting, anorexia, bulimia and alcoholism. If the source of harmful action are exogenous acids, at the greatest risk of erosive lesion development are labial surfaces of the upper incisors. Extrinsic factors can be associated with the work environment (e.g. in some branches of industry, particularly chemical and metal), leisure (frequent swimming in the swimming pools with chlorinated water), taken medications with a low pH value and dietary habits. Among the external factors, diet plays the most important role. Excessive intake of fresh fruits, especially citrus fruits, apples, berries, fruit juices, carbonated drinks of the cola type, fruit teas, salad dressings, as well as effervescent tablets containing vitamin C may lead to enamel demineralization and consequently, to the development of erosions [6–9]. The erosive potential of consumed food products depends on its titratable acidity ("the buffering capacity"), pH value, type of acids, their adhesion to the tooth surface, chelating properties, as well as the concentration of calcium, phosphate and fluoride. It is believed that a greater destructive effect of solid foods have acidic soft drinks, especially at low temperature. The risk of erosion development increases with the frequency of acidic fluids introduction in to the mouth [9–14]. The clinical research results indicate that the pH value of 5.0 is the critical value, below which enamel demineralization starts and consequently, the process of erosion is initiated. Although the formation of erosive lesions was shown with solutions at pH 6.3, it required large volumes of solutions as well as the long action time [15, 16].

The demineralization process is caused by the ions concentration imbalance between the enamel hydroxyapatite and the oral cavity environment. After the exposure to the acidic solution, for example: after citrus fruit or juices digestion, calcium ions contained in saliva are bounded by chelating compounds, such as citrates. The decrease of ionized calcium concentration in saliva results in the release of calcium ions from enamel hydroxyapatites and consequently, in the dissolution of hard dental tissues. This process continues until a new balance between ions concentration is set [17].

Enamel demineralization proceeds in a linear manner in the pH values ranging from 6,3 to 2,9 and the rate of hard tissue loss rises rapidly with a decrease of pH [18].

In the literature, there are many scientific research papers confirming the relationship between dental erosion and frequent consumption of acidic products, especially sweetened carbonated drinks, fruit juices and fruits [3, 19–22]. According to Johansson the development of erosive changes can be affected not only by the frequent consumption of acidic beverages, but also their prolonged detention in the mouth before swallowing [21].

What seems to be interesting is the fact that the yogurt or another milk-based food of pH below 5 have hardly any erosive effect. This is due to its high calcium content, which makes it supersaturated with respect to hydroxyapatite [23].

Prevalence studies of dental erosion were conducted by a number of scientific research centers in Poland and other countries [3, 24–34]. Results have shown great diversity in erosions prevalence. Mungia et al. observed a low, 5.5% prevalence of erosions among 12–17 year old adolescents in the U.S. Erosive changes were not advanced and limited to the enamel. The authors of this study did not show a strong relationship between the prevalence of dental erosion and diet [25]. However, most reports suggest frequent occurrence of this type of hard dental tissue damage, especially among young patients. Dugmore and Rock have observed 59.7% prevalence of erosions in 12 -year-old British children [34]. High prevalence was noted by Kaczmarek et al. in 36.1% of Polish 15-year-old adolescents [30]. Detailed results of dental erosion prevalence obtained by different authors are summarized in **Table 1**.

Among the various models of so called "healthy lifestyle" and diets, the attention should be paid to recently very popular vegetarian diet, which eliminates intake of meat. There are several varieties of vegetarianism. Veganism is one of the complete elimination of all products of animal origin, and thus not only meat, but also milk, milk-based products and eggs. The extreme form of veganism is a fruitarianism, whose adherents eat only raw vegetables and fruits. Less radical and, therefore, more common types of a vegetarian diet are lacto-vegetarianism and lacto-ovo-vegetarianism accommodating consumption of dairy products, and in the latter eggs as well. Some vegetarians also include fish in their diet [35].

Patients on a vegetarian diet, which includes the consumption of large amount of fresh fruits and vegetables, are thought to be at high risk of dental erosion development [36–38].

A study conducted in Finland showed that the products of high erosive potential, such as vinegar, fruit or drinks with low pH were consumed by vegetarians more often than people on traditional diet: the percentage of people who consumed these products daily was 30% and 8% respectively [36, 37]. Similar habits were found among Polish vegetarians. Statistically significant the more frequent consumption of raw fruits and vegetable salads were observed. There was also more frequent consumption of fruit juices and teas, but in case of beverages there was no statistically significant difference. Carbonated beverages were consumed significantly more frequently among patients having a diversified, traditional diet [38]. More frequent consumption of acidic foods by vegetarians was found in Sweden [39, 40] and the United Kingdom [41].

In the above cited Finnish studies, among vegetarians there was observed very high prevalence of erosive changes: up to 76.9%, from which advanced changes with dentine exposure of more than 1/3 of tooth surface comprised of 30.8%. None of the patients who consumed traditional foods had dental erosion [36]. In Poland, the prevalence of these changes was also higher in the vegetarians group, but the difference was not statistically significant. The percentage of vegetarians with teeth erosion was 39.1% and non-vegetarians 23.9 % accordingly. The mean number of teeth with erosion per patient on meatless diet was 1.7, and 0.6 for the control group and the difference was statistically significant. In these studies, the severity of erosive changes was similar for the two compared groups. The majority (about 60%) of erosive lesions were classified as initial, limited only to enamel (score I of Lussi's classification). Remaining erosive changes were classified as score II by Lussi's: erosions with exposed dentin, not exceeding more than ½ of the tooth surface. More advanced defects were not observed in any subject. In both groups, 70 % of erosive lesions were active changes with diffused borders separating them from healthy enamel. This clinical picture denotes that erosive agent has not been eliminated [38].

Some researchers have not found greater consumption of acidic products by individuals on the meatless diet [42, 43], as well as higher prevalence of dental erosion in this group [41].

Although the effect of acidic food on the formation of dental erosions is very well known and has been documented in numerous publications, it should be remembered, that this process is modified by many factors. The action of erosive agents onto the hard dental tissue, does not have to cause a tissue damage. An important role may play the degree of hard dental tissues mineralization, the influence of the soft tissues surrounding the teeth, especially the lips, cheeks and tongue, occlusion, the composition and properties of saliva, as well as mechanical factors. In some individuals dental erosions can be idiopathic and in this case etiologic factor cannot be established [44, 45].

The saliva plays a significant role in maintaining the oral cavity homeostasis. The flow rate of saliva is an important host factor and can be affected by several physiological, pathological and psychological factors. The normal unstimulated flow rate should be about 0.33 - 0.55 ml/min and after stimulation about 1, 5 - 2,3 ml/min [46]. Reduction in the salivary flow rate results in decreased food acids neutralizing action and in con-

sequence the increased risk of erosions development. Järvinen et al have found that the unstimulated salivary flow rate of 0.1 ml/min or lower, increases the risk of erosion five times [47]. Of relevance is also saliva pH and buffering capacity [48]. Protective effect of the proteins contained in saliva onto hard dental tissues is suggested [49]. Calcium and phosphate ions play an important role in the remineralization and demineralization of hard dental tissues [17].

The hard dental tissue loss is faster in a low pH environment when it comes to interaction of chemical and mechanical factors. In practice, this is often the case, when the teeth are toothbrashed immediately after acidic food intake. The incorrect horizontal tooth brushing technique, cleaning with applying too much force and the application of highly abrasive dentifrice increase the damage to the enamel and dentin [44].

Due to the rapid destruction of dental hard tissues subjected to different mechanical interactions in an acidic environment, it should be noted that frequent consumption of acidic foods not only promotes the formation of erosion, but also other types of non-carious lesions such as attrition, abrasion and the demastication.

A common cause of the abrasive lesion formation is a process involving foreign objects or substances repeatedly introduced in the mouth and contacting the teeth. This is often, as mentioned previously, a result of using toothbrush with too stiff bristles, incorrect brushing method with the use of abrasive dentifrice, improper use of interdental brushes. Therefore, this type of teeth wear is frequent among individuals with a good oral hygiene. The formation of abrasive lesion is promoted by gingiva recessions exposing root cementum as well as the lack of contact between the enamel and root cementum in the neck region of the tooth causing the dentin exposure [50]. Abrasive lesions are localized in the cervical area of the tooth and have wedge shape. Hara et al demonstrated that the cementum and dentin, as less mineralized tissues, are more susceptible to abrasive factors than enamel. The acidic environment accelerates the destruction, since the critical pH for these tissues is higher than that of enamel and it is of 6,2-6,7 [51]. In clinical practice it is the coexistence of non-carious erosive and abrasive lesions is often found, especially during the simultaneous action of the chemical and mechanical factors.

In such conditions, lesions with characteristic futures for abrasion and erosion can develop with a predominance of one component, depending on the predominance of mechanical or chemical agent, what sometimes causes great diagnostic problems. The diagnosis must therefore be preceded by a detailed clinical interview of potential destructive agents [52].

In the studies of individuals on vegetarian diet not only an increased incidence of dental erosions was observed but also dental abrasion: the latter was found in 26.1% of cases, and in the control group in 10.9% of patients. The mean value of abrasive lesions, as well as erosive changes, was significantly higher among vegetarians. Since in this group of patients more frequent consumption of certain acidic products was found, it can be concluded that the concomitance of mechanical and chemical factors increases the risk of both: erosion and abrasion of the teeth [38].

Attrition is a process of wearing away dental hard tissues as a result of tooth-to-tooth contact between opposing teeth. This is a physiological process, but in some circumstances it may cause excessive, pathological destruction. Demastication, however, is the process of the tooth wear caused by the contact with food. Some authors have suggested a tendency to consume very large quantities of hard foods by vegetarians [42]. The frequent consumption of hard, raw products may cause significant damage to the teeth. The clinical picture of attrition and demastication is similar, and the diagnosis is established on the basis of the clinical interview. Likewise in these cases, an acidic environment accelerates the destruction of hard dental tissues [6].

Presented results show, that nowadays in many countries including Poland, there is a high risk of non-carious lesions development, especially dental erosions. This is due to worldwide trends towards the frequent consumption of carbonated drinks such as Cola, fruit juices, raw fruits including citrus, as well as energy drinks. All of these products have a high erosive potential and consumed frequently are the main cause of teeth wear. The problem concerns especially young people. Permanent teeth at this age are immature, less mineralized than in adults, and thus particularly vulnerable to harmful environmental factors. If the unfavorable eating habits are maintained, with the time this may lead to excessive, irreversible hard dental tissues destruction among these individuals. Huew et al. have found erosive changes in as much as 40.0% of 12 - year-old children, of which 32.5% affected only the enamel, 8% were exposing the dentine and in 0.3% of cases pulp was exposed [3].

Therefore, it seems essential to educate the society regarding dental erosions, to eliminate negative habits as well as implement pro healthy attitudes.

Dietary recommendations for the patient should include [6]:

- the reduction of dietary intake of acidic beverages and foods,
- limiting the consumption of acidic foods to main meals,

- consumption of the pH neutral food at the end of the meal (for example: cheese), not the fruit
- fast drinking of acidic beverages, or drinking using a straw,
- limiting contact time of drinking acidic beverages with teeth,
- rinsing the mouth with water or a solution of sodium carbonate immediately following the drinking of acidic beverages, it will accelerate the clearance of acids and help return the oral pH to neutral,
- replacement of soluble vitamin C tablets for swallowing tablets,
- the use of tooth brushes with soft or medium bristles,
- the use of low-abrasive (RDA <40) dentifrice with fluoride and sodium bicarbonate,
- avoiding brushing teeth immediately after an acidic meal,
- the replacement of horizontal teeth brushing technique with vertical technique,
- rinsing the oral cavity twice a day with low concentrated, containing stannous fluoride mouth rinses (0.025–0.05%),
- twice a week application of fluoride gel at a concentration > 1%,
- the use of sugar-free chewing gum,
- avoiding or reducing frequent intake of very solid foods.

Professional prophylaxis in the dental office should include:

- oral hygiene instructions,
- application of fluoride preparations,
- reconstruction of advanced lesions using adhesive materials,
- monitoring of the lesions development (preferably preparing plaster models from the lesions impressions every six months).

Summing up, the above mentioned simple recommendations, plays an important role in the prevention of the non-carious lesions development. Therefore, it seems essential to educate dental professionals, emphasize the need of early and precise diagnosis with the detailed clinical examination and patient interview focused on the risk factors predisposing to teeth wear development. Initial changes are usually asymptomatic, thus can be easily overlooked in a clinical examination. The early diagnosis and rapid implementation of preventive measures can protect patients from severe and irreversible damage of dental hard tissues caused by dietary factors.

Table 1. The results of dental erosion prevalence obtained by different authors

Author	Year	Country	Children and adolescent		Adults	
			age (years)	%	age (years)	%
Kaczmarek et al.[30]	2012	Poland	15	36.1		
Wierzbicka et al.[28]	2012	Poland			18	42.3
Wierzbicka et al.[27]	2011	Poland	15	24.7		
Huev et al. [3]	2011	Libya	12	40.8		
Okunseri et al. [32]	2011	USA	13–15 16–17	39.6 44.5	18–19	55.5
EL Aidi et al. [33]	2010	Netherlands	11	30.4		
Mungia et al. [25]	2009	USA	12–17	5.5		
Correr et al. [26]	2009	Brazil	12	26		
Kaczmarek and Sołtan [29]	2008	Poland			38.8 (mean age)	25.8
Dugmore and Rock [34]	2004	United Kingdom	12	59.7		
Arnadóttir et al. [24]	2003	Iceland	15	21.6		
Waszkiel [31]	2000	Poland			18–20 25–30	15 19.44

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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TRANSFORMATION OF THE POLISH HEALTHCARE SYSTEM IN THE YEARS 1920–1999

TRANSFORMACJA SYSTEMU OCHRONY ZDROWIA W POLSCE W LATACH 1920–1999

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ABSTRACT

The research conducted on Polish healthcare system, the subject defined in literature as a group of individuals and institutions in charge of providing healthcare to people, indicates that it has evolved over the years taking a cue from the other countries' solutions. The healthcare system has gone through essential structural changes several times. The major changes aimed at developing free and universal healthcare.
The need for these changes originated from constitutional conditions aimed at subodination of healthcare structures to the authorities. Despite many attempts to reconstruct the system, the functioning of healthcare sector was not effective. There were different causes of healthcare poor condition and they all resulted from political and economical systems' conditions as well as the low living standard and the state's poor development.

KEYWORDS: healthcare system, free and universal healthcare, effective functioning of the healthcare system.

STRESZCZENIE

Badania nad systemem ochrony zdrowia w Polsce, w literaturze przedmiotu definiowanego jako zespół osób i instytucji mających za zadanie zapewnienie opieki zdrowotnej ludności, wskazują, iż ewoluował on na przestrzeni lat, czerpiąc wzorce rozwiązań z innych państw. System ochrony zdrowia kilkukrotnie przechodził istotne zmiany strukturalne. Podstawowe zmiany miały na celu rozwinięcie bezpłatnej i powszechnej opieki zdrowotnej.
Konieczność zmian wynikała z uwarunkowań ustrojowych, mających na celu podporządkowanie struktur lecznictwa organom państwa. Pomimo wielu prób przebudowy systemu, nie doprowadziły one do efektywnego funkcjonowania sektora ochrony zdrowia. Przyczyny złego stanu służby zdrowia były różne i wynikały z uwarunkowań ówczesnego systemu politycznego i ekonomicznego oraz niskiego poziomu życia i rozwoju państwa.

SŁOWA KLUCZOWE: system ochrony zdrowia, bezpłatna i powszechna opieka zdrowotna, efektywne funkcjonowanie systemu ochrony zdrowia.

Introduction

The Polish healthcare system underwent fundamental changes in the years 1920–1999. The criticism of the multi-sector healthcare system growing after the year 1946 was a sign of the political elite's aspirations to establish a central management system. The legal and organizational merger corresponded to the idea of social medicine in regards to objectives and structure, conforming with the requirements of central planning, management and financing. During the Polish People's Republic (PRL) period the system was modified multiple times. Improvements involved primarily organizational changes within the system. At the end of the 1990's the government became decentralized. Changes to the political system lead to a transference of management and ownership functions of most public healthcare facilities to local governments: communes, districts and provinces.

Evolution of the healthcare system in the years 1920–1999

The first legal act of the interwar period which regulated the healthcare system was the health insurance act [1], which became effective in the year 1920. According to the adopted legal solutions, the Polish healthcare system was modeled on the German system of health funds (the so called Bismarck model), although it more strongly focused on their territorial structure and self-governance. Health funds were local government institutions with their own legal personality. There was to be one in every district, and in cities above 50 000 inhabitants the bill allowed the establishment of separate municipal funds [2]. The primary objective of health funds was securing of benefits in case of illness, payment of monetary allowances and free of charge medical aid. Legal protection covered only hired workers, for whom health insurance was obligatory, while the amount of benefits paid out was dependent on the contributions paid by the employee, as well as the employer. The state did not bear any financial burden associated with the functioning of the insurance benefit system. Until 1931 there were 243 Health Funds of various types (communal, industrial, common, trade guild, associational). The organization of Health Funds was modified in 1931 [3]. The 243 district Health Funds existing up to that point were merged into 61 Territorial Funds.

The insurance in case of illness and maternity, incapacity for work or death of the insured, due to a fall from height during work, occupational illness and due to any other reasons was introduced by the 28th of March 1933 law [4] on social insurance. The law specifies the functioning of the healthcare system in the area of providing medical aid through the social insurance. Health funds were abolished and replaced with the newly established Chamber of Social Insurance, which consisted of Social Insurance and the Social Insurance Institution, which included:

- Insurance in Case of Illness Institution,
- Insurance Against Accidents Institution,
- Worker Pension Insurance Institution,
- White-Collar Worker Insurance Institution.

The operation of the insurance system was changed by the resolution of the President of the Republic of Poland dated 24th of October 1934 [5] amending the 28th of March 1933 social insurance law. The act closed down the abovementioned institutions, in their place appointing the Social Security Institution (ZUS) and social insurance companies, called social security companies in the act's text. The Social Security Institution was appointed in order to carry out all operations in the area of insurance, which were supervised by the minister of social welfare. The objectives of insurance companies, which reported to the Social Security Institution, were: establishing insurance obligations, administering illness and maternity benefits, calculation and collection of insurance contributions, as well as insurance record keeping [6].

The tasks of the State in the area of overseeing citizens' health were specified by the 15th of June 1939 public healthcare act [7]. The act established the objectives of public healthcare which especially included the following matters: combating and preventing diseases, treatment and preventive facilities, health resorts, cemeteries, hygienic and medical care of the mother and child, especially in public and training schools, schools hygiene, physical education, care over summer camps and summer play centers, provision of water for the public and removal of waste, sanitary control of food articles and utility products, domestic and work hygiene, bathing resorts, public transportation hygiene, sanitary control of the production and circulation of medical and prophylactic products, pharmacies and drugstores, supervision over active professions within healthcare. The minister of social welfare was responsible for the execution of tasks established in the act and authorities of the general administration, local government, economic self-government, as well as social security companies and other public and social organizations [8].

The 1939 act was the culmination of hitherto work and almost nineteen year experience of Poland in the area of institutional and social organization of a healthcare system, highlighting the medical treatment and preventive obligations, care for the development of treatment facilities and health centers [9].

The Polish Committee of National Liberation (PKWN), which in its manifesto [10] from 1944 announced restoration of social security companies, had significant meaning in the organization of healthcare after the World War II. Restoration of the insurance companies in the scope of organizational form began by appointing the insurance companies' self-governments and boards.

The same year saw the creation of the Commissioner's Office of Epidemic Control, which began establishing the central administrative structure in the area of healthcare. The Ministry of Healthcare was established in 1945 as a result of separation of the Ministry of Labor, Social Welfare and Healthcare. The actions taken by the state in terms of healthcare organization were aimed at covering the broadest possible social masses.

A change in supervision over healthcare took place in association with the entry into force of the 3rd of January 1946 act on medicine supervision [11]. The Minister of Healthcare was tasked with establishing a general healthcare supervision plan, taking into account the needs of the population in tis area and the potential of facilities, institutions and organizations providing medical care.

The dominant organizational form of providing medical services during that period were free-practicing physicians and surgeons, while hospitals continued to function based on the rules specified in the 1933 act.

The functioning of healthcare based on the state and self-government model was introduced with the 22nd of July 1948 act on public healthcare facilities and planned economy in healthcare [12].

It was a model based on Soviet templates called the Siemaszko model [13]. According to that model, healthcare was [14]:

- state-governed – a part of the state's organizational structure and financed from its budget;
- public – provided care for the entire population by ensuring available and free of charge medical services to all citizens;
- unified and comprehensive – i.e. all healthcare institutions constituted one organizational and functional whole, which reported to the central state management, aimed at prophylactics and maintaining continuous care.

The law began a process of unifying the healthcare structures in line with central planning, management

and financing. In subsequent years the following acts were passed: the 20th of March 1950 act of territorial unified state authority bodies, the 20th of July 1950 act on the establishment of the Worker's Medicine Institution, and the 15th of December 1951 act on the state takeover of healthcare institutions, which would lead to the creation of a unified healthcare system. The minister had full supervision over healthcare, in particular: its financing, organization and operation of open and closed healthcare facilities and their workforce. Healthcare was financed from the state budget regardless of the inflow from contributions, which employers were charged with. The only groups not covered with free of charge medical services until the year 1972 were individual farmers and their families.

The transfer of multi-sector medical facilities to state authorities took place in two stages. In the first instance, private, local-government and congregational healthcare was abolished, followed by insurance-based healthcare [15].

The newly appointed institution named the Employee Healthcare Institution (PL – Zakład Lecznictwa Pracowniczego, further ZLP), which directly reported to the minister of healthcare, played a significant role in the process of administrative unification of healthcare facilities. The task of ZLP was swift takeover of the estate belonging to Social Insurance Companies, local-governments, the Polish Red Cross, Children's Friends Association, among others [16].

The merger did not cover medical facilities under the Ministry of Public Safety, Polish Military and Polish State Railways. These institutions had separate rules regarding financing, medical equipment and pharmaceutical supply [17].

The nationalization of the healthcare system in Poland led to the matters of health protection dependent on socialist ideology, which ultimately did not serve to improve its functioning.

In the 1950's and 1970's there was further work performed on the improvement and development of the Polish healthcare system's organizational structures. Scientific facilities and schools educating medical and medicine-related staff were established. There was an increased significance of industrial medicine, which contributed to the creation of company clinics. Large emphasis was put on prophylactic actions, care of women and children, while periodic medical examinations became a priority in healthcare. The general and specialized care system, open and closed medicine, medical care and social welfare became integrated into a basic healthcare system [18]. The changes which happened in the healthcare system did not lead to its proper functioning. The established system was seemingly free of charge, the public was provided with free or very low cost medicine, while the burden of decisions regarding medical actions taken was transferred from the citizens to officials and healthcare employees. As a result of this healthcare system citizens lost the awareness of moral and material responsibility for their own health and life [19]. The irregularities of the system operation became much more apparent. The economic crisis growing at the time, which also affected the healthcare system, additionally contributed to its deteriorating condition.

Among the reasons justifying the necessity to reform the Polish healthcare system, the most important were [20]:

- excessive centralization and bureaucratization of decisions,
- insufficient funding compared to the needs of healthcare and omission of economic tools, including simple cost calculation, as mechanisms of medical action rationalization and exploitation of reserves present within the system,
- unsatisfactory utility of motivational instruments, which could positively influence the effectiveness of work of personnel employed within the system,
- insufficient knowledge of the management staff in the area of public healthcare, especially in relation to the so called managerial issues, i.e. system organization, management and economics,
- impracticality of organizational structures of the system compared to local conditions and requirements,
- formal treatment of the public's participation in the system's functioning and control over its operation,
- underestimation of the rights and responsibilities of the public and patients in the area of contributing to decisions in matters related to their health.

Change in the functioning of the healthcare system became a necessity. Central management failed to bring the expected results in terms of the system's efficiency, which resulted in the commencement of work on changes which were aimed at introducing market-based mechanisms. Work on changing the rules of healthcare functioning began with the 30th of August 1991 act on healthcare facilities [21]. According to the new law, a healthcare facility was an organizationally separate group of individuals and assets, established and maintained for the purpose of providing healthcare services, health promotion, conducting scientific research and research and development work, didactic tasks in relation with the provision of healthcare services and health promotion.

A facility, providing healthcare services, undertakes actions in order to maintain, save, restore and improve

health. The passed bill made it possible to introduce radical changes in the area of financing and organizational authority of all institutions which formed the healthcare system. The functioning of public healthcare could be supported by market mechanisms. The public resource circulation market was to bring benefits in the form of competition between medical service providers, which would in turn result in rationalization of expenditures and improvement of the quality of services provided.

The healthcare facilities act in its mode, which was based on community care, did not bring the intended result, which was improvement of the health of the general population. Additionally it became apparent, that the model became too costly and poorly integrated. The healthcare system became inefficient, which is why the government and Sejm of the Republic of Poland adopted the "Strategy for Poland", which included a reform program of the citizens' social security, including the establishment of public healthcare insurance together with specifying the range of healthcare benefits guaranteed by the state from public funds [22].

In 1994 the minister of healthcare and social welfare presented a policy document titled "Strategy for health", which included a reform program of Basic Healthcare (PL - Podstawowa Opieka Zdrowotna – POZ) [23]. The organization of POZ was based on a family physician as the coordinator of the medical process, supported by a pediatrician, as the objective of family medicine was provision of patient care throughout their entire life. The activity of a family physician was supported with mid-level personnel, i.e. an obstetrics nurse and medical personnel trained in diagnostics and rehabilitation.

The „Strategy for health" also included the following proposals of changes:

- decentralization of basic healthcare,
- replacement of the financing of healthcare from the state budget with a mixed system of insurance and state budget financing,
- organization of benefits transferred to local governments,
- transformation of healthcare facilities into self-government entities,
- restructuring of hospitals and categorization.

Work on reforming the healthcare system were completed in 1997, which in February that year made it possible for the Sejm to pass the public health insurance act. The act became effective on the 1st of January 1999 [24], changing the budgetary (command and quota) system to a public system of health insurance. The state abandoned the role of monopolist in the area of healthcare, however retaining the obligation of its financing and control. 17 health funds were established (one for each voivodship and one for uniformed services), which managed the accumulated financial resources and at the same time served as payers for health services. As a result of the transformation, the transfer of funds to healthcare facilities was abandoned and replaced with the purchasing of medical services.

Health funds, ensuring performance of services to the ensured, did it by purchasing appropriate products, which could be a medical service, medical procedure, package of services and medical procedures [25]. They specified the number of services purchased based on data associated with the performance of services in prior periods. The main objective of health funds was more efficient use of the resources at their disposal, creating a supply of medical services. Contracts on medical services were limited by the budget at the disposal of health funds in a given calendar year, not the actual demand. Such operation was made possible as a result of introducing the term of cost carriers based on the resolution issued by the minister of health and medical care regarding detailed calculation of costs in public healthcare facilities.

Contracting of medical services took place in the form of an agreement, in which the quantity and price were a result of negotiations. On one hand service provision agreements ensured the financing of healthcare entities, while on the other hand they specified the description and pricing of services and settlement procedures. The possibility of concluding contracts was also given to non-public healthcare facilities, which were to provide competition for public healthcare facilities on the medical service market. Competition in the provision of services was to bring about increased availability, as well as improved quality. The consequence of such a solution was, on one hand, limitation of financial resources transferred to public healthcare facilities, which later turned out to cause an upset or loss of financial liquidity, as health funds specified the pricing of medical services, procedures and hospitalization at their own discretion, since there were no unified contracting rules. On the other hand this resulted in rapid development of non-public healthcare facilities, especially in the area of basic healthcare.

With the effective date of the public health insurance act, the second local government reform was introduced, which led to a takeover of healthcare facilities from voivodes in relation to the execution of so called own objectives by local governments. Apart from holding ownership functions over healthcare facilities, local governments were tasked with establishing healthcare policies within broadly understood healthcare, covering organization of a local health protection system.

Final remarks

In the years 1920–1999 the Polish healthcare system underwent radical changes. The interwar period was characterized by health funds achieving a stable economic situation, at the same time securing illness benefits, payment of monetary allowances and free of charge medical aid. All the while a very significant flaw of the system was the coverage of only hired workers. Centralization of healthcare also failed to achieve its objectives. Top-down management of the healthcare system led to housing difficulties, lack of instruments and equipment, as well as a decreased quality of provided medical services. Discontinuation of reform resulted in the system finding itself in a state of serious crisis, not only of a regulatory, but also financial nature. Subsequent changes with the purpose of decentralizing the system failed to bring the expected results in the area of healthcare functioning. In the author's opinion, the failure of reform was not a result of a fallacious concept, but difficulties in its execution and much too rapid abandonment of the concept in favor of a different direction. The success of changes to a large degree depended on the system's level of financing and development of multi-sector medical care structures.

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The manuscript accepted for editing: 25.09.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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CHANGE MANAGEMENT IN HEALTH CARE – OVERCOMING MENTAL AND ORGANISATIONAL BARRIERS

ZARZĄDZANIE ZMIANĄ W PLACÓWKACH MEDYCZNYCH – POKONYWANIE BARIER MENTALNYCH I ORGANIZACYJNYCH

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ABSTRACT

The need for drawing up a change management model which takes into account the specificity of medical facilities and makes it possible to overcome mental and organizational barriers is beyond doubt. The legislative dynamics, multiplicity, diversity and sometimes contradictory requirements imposed on medical institutions (on the part of: patients, competitors, suppliers, the government, the payer, insurers, etc.) constitute a vital incentive to standardise the change management process. A lack of well-thought-out mechanisms of implementing changes results in the creation of bogus solutions damming bureaucratic absurdities. Maintaining elementary rules of change management logic, a sequence of actions supported by the right motivation as well as communicating benefits significantly increase the likelihood of a successful implementation, thereby building an atmosphere of openness and communication.
The change management model proposed to medical facilities is universal. However, in the case of medical facilities, due to their specificity, the mentality of the personnel, repeated organizational failures, specific steps as part of the process are of fundamental importance. They determine the success of the implementation of changes. In order not to commit elementary errors while creating the model, it is necessary to obtain the answer to the question what the basic mental and organizational barriers accompanying the change management process are. The knowledge ought to be transformed into systemic solutions, which should then be skillfully weaved in the model and applied with unrelenting consistency.

KEYWORDS: change management, mental barriers, organizational barriers.

STRESZCZENIE

Potrzeba opracowania modelu zarządzania zmianą, uwzględniającego specyfikę placówek medycznych, pozwalającego pokonywać bariery mentalne i organizacyjne jest niekwestionowana. Dynamika legislacyjna, wielość, różnorodność, a czasem i sprzeczność wymagań nakładanych na placówki medyczne (ze strony: pacjentów, konkurencji, dostawców, rządu, płatnika, ubezpieczycieli etc.) stanowi istotny bodziec do standaryzacji procesu zarządzania zmianą. Brak przemyślanych mechanizmów wdrażania zmian skutkuje tworzeniem fikcyjnych rozwiązań piętrzących biurokratyczne absurdy. Zachowanie elementarnych zasad logiki zarzadzania zmianą, sekwencja działań wspartych odpowiednim umotywowaniem, zakomunikowanie korzyści, istotnie zwiększają prawdopodobieństwo sukcesu wdrożenia, budując tym samym atmosferę otwartości i komunikacji.
Proponowany placówkom medycznym model zarządzania zmianą ma charakter uniwersalny. Jednakże w przypadku podmiotów leczniczych, ze względu na ich specyfikę, mentalność personelu, powielane błędy organizacyjne, określone działania w ramach procesu, mają znaczenie zasadnicze. Decydują o powodzeniu implementacji zmian. Aby uchronić się przed popełnieniem elementarnych błędów przy tworzeniu modelu, niezbędne jest uzyskanie odpowiedzi na pytanie, jakie są podstawowe bariery mentalne i organizacyjne towarzyszące procesowi zarządzania zmianą? Wiedza winna przekształcić się w systemowe rozwiązania, które następnie należy umiejętnie wpleść w model i stosować z żelazną konsekwencją.

SŁOWA KLUCZOWE: zarządzanie zmianą, bariery mentalne, bariery organizacyjne.

What is held responsible for creating ossified structures, building an organizational fiction supported by ungrounded bureaucratization of actions is in a substantial majority the ill-considered, improperly planned change implementation system. Omitting elementary rules in the process of change management almost always ends in an organizational paralysis. Disorganization and chaos translate into a lack of cohesion of action and an inability to perform tasks in an organized and predictable way. It results in an increase of the level of frustration among the employees and a decrease of the level of the employees' trust in the organization. Although the decision-makers know the rules and perceive their sense, it happens that in practice there is no common-sense approach. The problem of difficulty in implementing changes concerns especially large or-

ganizations with a high degree of complication of actions. An example of such organizations are hospitals, especially clinical hospitals which accomplish medical and didactic aims, not infrequently aims that remain in strongly antagonistic relationships with one another. The hospitals which have been subsidized by the State for years, have not managed to develop effective organizational-managing mechanisms. And probably the organizational powerlessness would still remain an immanent trait of medical facilities if it were not for the changes which have taken place in the recent years as well as the announcement of changes which in the following years are to be introduced. Those changes and restrictions will force medical institutions to take radical actions in the reengineering dimension. The institutions which will find determination and strength in themselves as well as draw up a proper key to implementing systemic changes and maintaining a new status quo will succeed in this process.

The process of transforming hospitals in subjects acting according to the market rights began on April 15th 2011 when the new act of medical activity was implemented (Journal of Laws from June 1st 2011). The regulations significantly limit the State's interventionism in maintaining hospitals in good financial condition at all costs. The institutions were coerced into financial balancing under penalty of the necessity of transformations into corporations (art. 6 sec. 1) in a situation in which the founding body (for clinical hospitals these are medical universities) will not demonstrate willingness or will not have a possibility to cover the hospital's financial losses [1]*.

The National Health Service is announcing further changes, for example implementing new legal solutions which concern contracting the services. For the first time points for treatment quality will be granted. The hospitals which possess the Accreditation of the Quality Monitoring Centre will be appreciated. The value of the Accreditation Certificate will be priced at a few per cent of the value of the contract (3–5%).

Moreover, the facilities which will decide to implement systems in conformity with the following norms: ISO 9001, 14001, PN-N 18001 and ISO 27001 will obtain additional sums to their contracts. What is important, the institutions possessing the above-mentioned systems already at the stage of competition will be assessed more favourably. The financial incentive will most certainly motivate medical facilities to implement the systems and apply for appropriate certificates. However, maintaining and implementing the systems entails a skillfully applied systemic approach inseparably connected with change management. This is the basis for creating a comprehensive and complementary management system which takes into account the requirements of the aforementioned accreditation standards and norms. A lack of a well thought-out plan of change implementation will result in creating autonomous systemic entities functioning in isolation from the organizational prevalence. This will lead to introducing irrational solutions which will not be able to defend themselves for a long time.

The purpose of a change is to order and/or improve. It is definitely easier to implement improving changes in an ordered system than changes the aim of which is to impose a new order. Thinking about complex change management one should first of all undertake these actions which aim at regulating the system. Otherwise there is a substantial likelihood that we will encounter organizational mines which, unless they are effectively annihilated, will constitute a persistent obstacle for all the systemic movements. Moving on the paved paths will definitely facilitate the implementation of further changes.

While making an attempt at building an effective change management model, one should search for the hints in the literature on the subject.

What is of key importance in the process of change management is to determine subsequent, logical, consecutive stages; in other words – setting the methodology of proceedings. The literature on the subject shows that a correct approach to change management occurs when the change is preceded by the following actions [2]:

- defining the aims of the organization, both the main ones and the secondary ones;
- analyzing the network of the interaction of mutual influence in the present situation of the organization;
- making an analysis of the strong and weak points of the organization;
- analyzing the possible scenarios of changes;
- drawing up the strategy of action;
- implementing the solution chosen.

Complying with the above-mentioned hints constitutes an expression of a holistic approach to change management, thanks to which the organization significantly increases its chances of succeeding in obtaining desirable results of the changes implemented.

While reviewing the knowledge connected with the subject matter presented, one may not forget to mention the most popular model of planning and implementing changes, perceived as a flagship model. The model in question was designed by K. Lewin and it consists of three stages of a crucial importance to the success of the undertaking planned [3]:

* The act of medical activity (Journal of Laws, June 1st 2011).

- 1st stage defrosting – leading to a situation in which the need for a change becomes obvious for the organization, and first of all for their members. It is based on creating a need for changes in people. It may be achieved either as a result of increasing the driving force or by reducing the hindering force as well as by applying a combination of the aforementioned ways;
- 2nd stage change (transformation) – it means a transition from the present state to the new, desirable one. This stage encompasses the following actions: communicating the vision, obtaining the support for the changes, planning the changes, implementing specific projects, eliminating opposition towards the changes;
- 3rd stage re-defrosting – it encompasses stabilization and integration of the transformations as well as institutionalization of these changes and their assessment. The organization must develop new action practices, a policy of proceedings and new attitudes among its members.

The effectiveness of implementing the change depends largely on the unity of vision, aims and synchronization of actions as well as a division of roles. The importance of the above-mentioned elements was perceived by J. Kotter who presented the rules of change management in the following points [4]:

- developing a sense of the necessity for a change;
- creating a coalition directing the change process;
- drawing up the vision and strategy;
- informing the members of the organization about the new vision;
- entitling the members of the organization to take actions in a wide scope of the ability to make decisions;
- developing short-term benefits;
- consolidating the initial benefits with a simultaneous encouragement for further changes;
- reinforcing the new changes in the organizational culture.

The concepts presented have a lot of elements in common; however, each one brings an original look. The decision of applying a particular concept depends on the character of the change implemented and the degree of readiness as well as the level of acceptance in the organization. The model presented at the end of the literature review is the Clark model. What is interesting, an unconventional approach to change management is included in the methodology of seven stages of the change process. Clark puts strong emphasis on the problem of the resistance which occurs with reference to the changes; therefore, the model presented finds application in change management in medical facilities where overcoming barriers constitutes a significant challenge for the managers. The model encompasses the following stages [5]:

- anticipating and overcoming resistance with reference to the changes;
- accomplishing visionary leadership;
- status quo destabilization;
- an intensive and wide process of communication;
- the choice of the right moment and expectation of introducing the change;
- implementation of the change;
- reinforcing the changes implemented.

Thus, in order to use the literature data to create a change management model which becomes part of the specificity and problems of medical facilities, one should begin with the analysis of their problems and then skillfully weave the solution in the model designed. The barriers, which frequently thwart the plans intended, may have both a mental and organizational basis. Most frequently, however, they constitute a compilation of the first and the second one.

Among the barriers of a mental basis the following ones should be indicated:

- **Resistance to ordering.** Standardization of actions gives rise to pejorative associations. Employees equate order with implementing rigorous procedures which do not give them a free hand to decisions, interpretation. Therefore, it is so important to leave a margin of flexibility in the diagnostic interpretation and therapeutic actions. It guarantees a progress in the development of this very important discipline. Order is, nevertheless, an essential condition of treatment security, action schedule, predictability of the results of the actions undertaken. While introducing changes, one should strongly emphasize the fact of constant improvement. Each change, each new / changed standard is subject to assessment and further improvement. Yet exceptions to the rules established cannot be accompanied by chaos or incertitude of results. The fear of ordering may also have a different, less ethical nature. A transparent system generates a risk of a quick and relatively easy identification of errors which surely occur in health care. The reason for the errors is negligence, actions supporting particular interests. All this becomes more visible when an organisational order is imposed.
- **Equating change with a deepening bureaucratization.** Indeed all the steps of the medical

personnel are strongly formalized. Each action needs to be taken note of, each activity must be supported by a standard. The border between logic and absurdity is thin in this case. Such disgraceful bureaucracy is, on the one hand, substantiated in the form of: a concern for security of the patient, employee, hospital, the need for settlements with the payer, judicature which does not leave any doubt that the lack of a regulation is tantamount to the lack of action. Yet on the other hand, this border is often shifted by the employees themselves. Unwilling to obey common-sense rules, they force creating more and more restrictive monitoring mechanisms according to the rule: the less willingness to the proper execution of tasks, the more prescriptive and monitoring mechanisms.

- **Unwillingness to learn and the necessity of adjusting to the changing rules.** In an intelligent organization employees are required to be fully involved in the development of the company as well as their own by participating in trainings, courses and cooperating with others. It means a necessity for a continual improvement of one's own qualifications, which is putting a substantial educational effort on the part of the employees. It happens that the employees, convinced of their own infallibility and omniscience, are not willing to learn, take part in trainings or change their approach. This attitude constitutes a significant barrier in the improvement of the organization.
- **The atmosphere of supervision, fear, tension instead of support and cooperation**. The atmosphere in the institution depends on the people. One wonderful boss will not guarantee a good atmosphere of work in the whole unit. In a situation when plenipotentiaries, directors at different levels will arouse negative emotions, any organizational movements will give rise to anxiety on the part of the employees and provoke sabotage actions. Solely cooperation of the whole managing team, their attitude, creation of an appropriate atmosphere as well as clear formulation of the values of the organization guarantee the achievement of success in implementing changes [6].

Among the barriers of an organizational basis the following ones should be indicated:

- **Failure to impart extensive knowledge of the changes introduced and their functionality by the managers.** Fragmentary knowledge of the actions does not allow the employee to learn the sense and essence of the changes introduced. In this situation it is impossible to expect involvement. The knowledge of the functionality of the change is the fundamental factor conditioning willingness and support on the part of the employees.
- **Introducing useless changes or an inability to show benefits**. Medical facilities are forced to frequent changes. In response to each one of them a useful solution should be drawn up. The objective of the managers is to find these benefits and skillfully weave them in the change designed. While implementing a change where the only incentive is the external pressure, any chances of maintaining it in a longer perspective are lost.
- **Discussing solutions at managerial levels**. Implementing changes pursuant to some notions and not pursuant to a real, objective assessment of the situation. If managers think that they hold a monopoly on knowledge and accuracy of decisions without the necessity of confronting their notions with the employees' opinions, the change introduced may end in a fiasco. In this case the image loss of the decision-makers in the eyes of the employees may turn out to be more acute.
- **The lack of a tested implementation model.** Each change should be introduced in accordance with a common and tested methodology which is known to everyone. When every time the implementation model is different, incomplete and does not take into consideration such important elements as: information and promotional actions, trainings, a pilot study on a small sample and implementation in accordance with the PDCA Deming cycle or the necessity of providing feedback, it is difficult to expect employees to adapt easily to the process of change as the process takes on a different form each time.

The model of a comprehensive approach to change management presented below (**Figure 1**) takes into consideration the answers to the above-mentioned problems which accompany the process of change management in medical facilities.

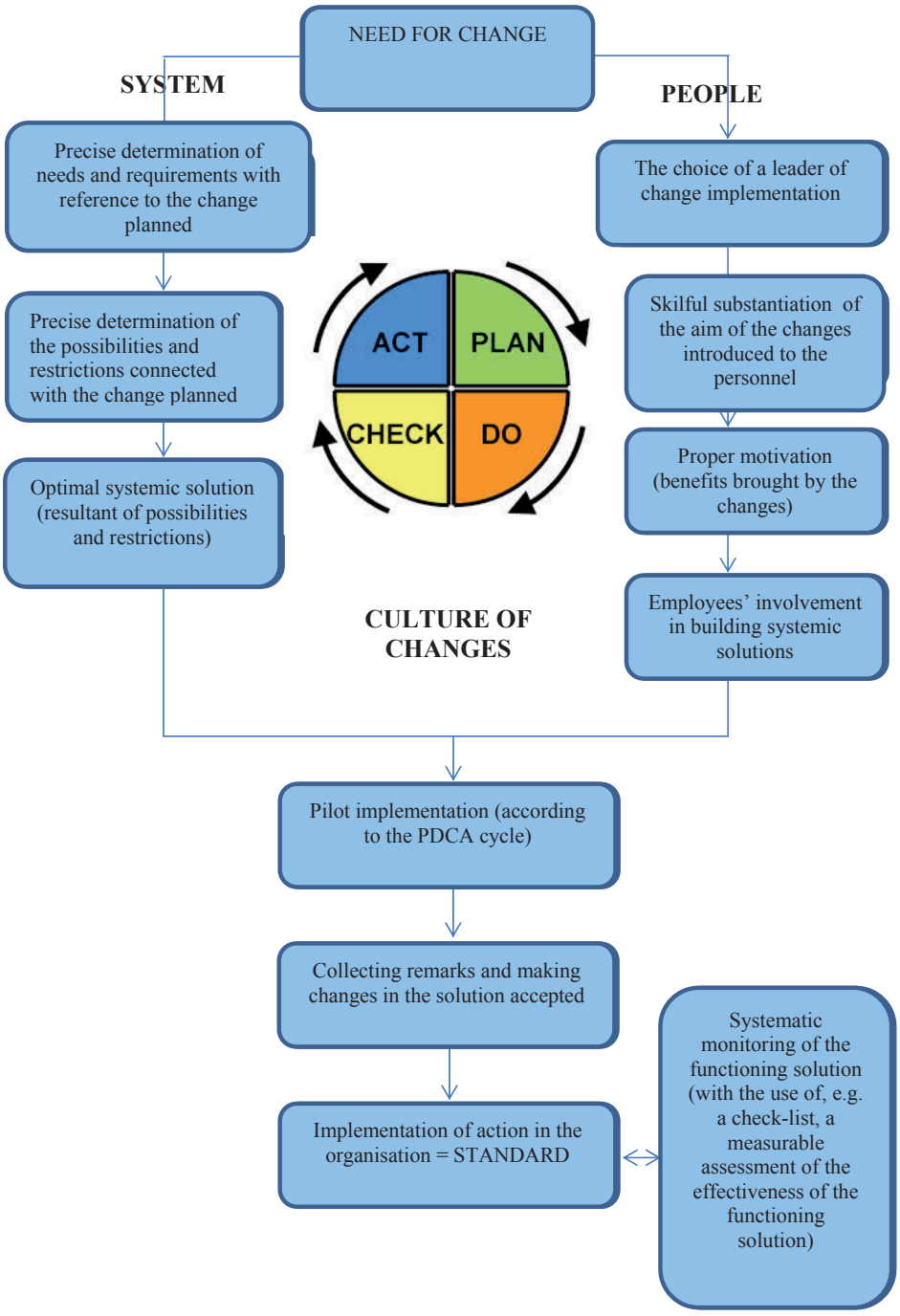

Figure 1. The model of a comprehensive approach to change management
Source: Authors' own study

The improvement of managing Polish hospitals is the condition of the success of inevitable reforms which are going to be implemented soon and the aim of which is to introduce market elements to hospital management. This improvement is possible thanks to, among others, using the knowledge of the people who are employed there: managers, doctors, nurses and midwives [7].

The application of the model presented in practice does not provide a hundred per cent success, yet it significantly increases its probability. Success depends on people. Involving employees in designing changes is characteristic of mature organisations which distinguish themselves by higher awareness culture.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.10.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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THE USE OF THEORETICAL MODELS OF HEALTH BEHAVIOUR TO EVALUATE HEALTH BEHAVIOUR

MOŻLIWOŚCI WYKORZYSTANIA TEORETYCZNYCH MODELI ZACHOWAŃ ZDROWOTNYCH DO OCENY ZACHOWAŃ ZDROWOTNYCH

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ABSTRACT

To understand the evolution of health behaviours and planning efforts to change them, the system prospects of these behaviours determinants are needed. Complex theoretical models to explain taking and maintaining health behaviours are designed for it.
The aim of the manuscript is to analyse theoretical models of health behaviours with regard to the possibility of using them to evaluate health behaviours.
Summarizing the possibilities of applying theoretical models that explain taking and maintaining health behaviours, it can be confirmed that all models may be used to explain health behaviours. In practical actions the most convenient is to apply general rules of behaviour shaping and changing based on using all methods. However, no single theory or model explain and predict all possibilities of health behaviours and therefore, further research of this problem is essential. Models should be perceived as a description with a formalized structure helping understand factors that influence individual decisions and behaviours helpful in planning effective interventions of health promotion.

KEYWORDS: health behaviours, theoretical models.

STRESZCZENIE

Aby zrozumieć kształtowanie się zachowań zdrowotnych i planowanie działań zmierzających do ich zmiany, potrzebne są systemowe ujęcia wyznaczników tych zachowań. Służą do tego złożone modele teoretyczne wyjaśniające podejmowanie i utrzymywanie zachowań zdrowotnych.
Celem pracy jest analiza teoretycznych modeli zachowań zdrowotnych pod kątem możliwości wykorzystania ich do oceny zachowań zdrowotnych.
Podsumowując możliwości zastosowania modeli teoretycznych wyjaśniających podejmowanie i utrzymywanie zachowań zdrowotnych można potwierdzić, że wszystkie modele mogą posłużyć do wyjaśniania zachowań zdrowotnych. W działaniach praktycznych najlepiej zastosować ogólne zasady kształtowania i zmiany zachowań zdrowotnych oparte na wykorzystaniu wszystkich metod. Jednak żadna pojedyncza teoria ani model nie tłumaczą i nie przewidują wystarczająco wszystkich możliwości zachowań zdrowotnych i dlatego niezbędne są dalsze badania tego problemu. Modele powinny być postrzegane jako mający sformalizowaną strukturę opis pomagający zrozumieć czynniki wpływające na indywidualne decyzje i zachowania oraz być pomocne w planowaniu skutecznych interwencji dotyczących promocji zdrowia.

SŁOWA KLUCZOWE: zachowania zdrowotne, modele teoretyczne.

Introduction

To understand the evolution of health behaviours and planning efforts to change them, the system prospects of these behaviours determinants are needed. Complex theoretical models to explain taking and maintaining health behaviours are designed for it.

It is easier to change behaviours if the person knows he/she can influence these changes and believes that he/she is able to take actions which will help achieve desired results [1]. Such assumptions are respected by a construct of the "perceived self-efficacy" introduced in 1977 by Bandura [2] to the model of the cognitive alteration of behaviours. While result expectations refer to possible consequences of the action, the perceived efficacy refers to the personal control over the action. The person convinced that he/she is able to cause a given event becomes more active. In literature, plenty of models explaining the process of health behaviours alterations were presented. It is possible to distinguish two attitudes among them: the first one refers to the decision making theory (e.g. the model of health beliefs by Rosenstock and Becker), in the second one beliefs and expectations play a first-rate role (e.g. the process model of health behaviours). The exemplification of the second approach is the competence, much more popular nowadays [3]. The model is based on the cognitive-behavioral theory and refers to process presentations by Schwarzer [4] and the will theory by Kuhl [5].

Complex theoretical models that explain taking and maintaining health behaviours can be divided into three groups [6]. The first one comprises incentive models, the second – explaining theories on the intention implementation, and the third one – concepts which explain stages of behaviour changes.

Incentive models include: the model of health beliefs, the theory of motivation to protection and the theory of reasoned action and planned behaviour. They concern incentive factors which explain whether the individual formulates the intention of attitudinal changes. They take into account such variables as: the behaviour inspection, the severity of the disease, susceptibility to fall ill, expectations concerning results of the behaviour change or subjective norms concerning behaviours.

The next presented group are models which explain stages of the attitudinal change. The examples are: the model of noticing the risk process, the transtheoretical model and the process approach.

The aim of the manuscript is to analyse theoretical models of health behaviours with regard to the possibility of using them to evaluate health behaviours.

The Theory of Reasoned Action and Planned Behaviour

The most frequently tested is the Theory of Reasoned Action and Planned Behaviour (**Figure 1**). According to this approach, health behaviour has one main indicator – intention.

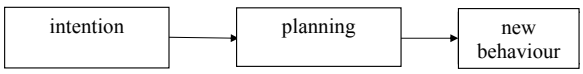

Figure 1. The Theory of Reasoned Action and Planned Behaviour
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

The Theory of Reasoned Action (Ajken & Fishbein 1980) and its extension in Planned Behaviour (Ajken 1988) are being used for explaining, as well as predicting intention determined by behaviours [7]. These models are based on the hypothesis, according to which a factor that forecasts behaviour most effectively is the behaviour intention. In accordance with this model, the intention of a particular person's behaviour may be deciphered based on three elements: attitude, perception of the social pressure to behave in a specific way and the perceived control over behaviour.

A drawback of the presented theory is accurate operationalization of all variables which allows to create specific templates or even mathematical formulae [6]. At first the intention appears, i.e. the willingness to perform the activity in order to achieve a desired effect. The next stage is planning after which only an attitudinal change follows. The verification of incentive models does not allow to state whether variables influence changes in behaviour or its stabile maintaining.

This theory refers in particular to individuals, for who the main indication is the intention to change one element of pro-health behaviours under the influence of different impulses. Examples from authors' own research may be intentions expressed, for example, by students in the context of subsequent changes of their behaviours with reference to the motherhood and fatherhood [8]. These intentions contained basic information determining behaviour (each student individually determined what he was going to change, e.g. stop smoking or eat properly) and indicating, simultaneously, the onset date (the most frequent date was graduation). Unfortunately, this method did not allow to state whether variables given by respondents would influence behaviour changes. The method is based on the simple reasoning that the man is first subjected to cognitive processes (e.g. knowledge about the harmfulness of stimulants for future mothers), later he/she takes the conscious decision of doing something (e.g. I will stop smoking) and gives the time when the adequate situation will take place (e.g. when I become pregnant).

In research on a diet, for example, the TPB/TRA model enables to compare the influence on the individual and the influence on examined groups [7]. It can also be used to better understand determinants, e.g. the food choice. The TRA model worked in explaining such behaviours as consuming fat, salt and milk. The TPB model was also used for explaining British attitudes and beliefs concerning food with much starch [9].

Postintentional models

Postintentional models (belonging to the group of incentive models) are the ones that list factors acting after the intention and admit that their action leads to increasing the probability of desired behaviours [6]. In these models it is assumed that those factors constantly influence in the similar manner, if only the individual decided that he/she would like to commence a defined action (**Figure 2**).

The aim of these conceptions is to show factors influencing behaviour of the individual who has already taken the intention. An example is a model of implementing the intention that considers two behaviour indicators: intention and planning. Planning is a total mediator of the intention which means that the intention is not directly associated with behaviour, but it is an effect of creating action plans. The intention is influenced by factors which determine its implementation in action, such as: the attitude towards health, i.e. expecting self-

efficacy, a subjective norm or expecting the positive outcome, perceived control, e.g. risk.

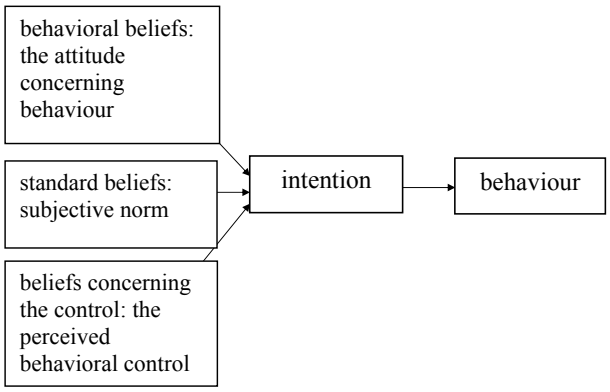

Figure 2. The model of bringing intention into force: the role of planning
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

A disadvantage of presented models is that planning is one variable deciding on behaviour and that even though they explain, which leads to one-time involvement into a given action, they do not specify, which causes that behaviour can be maintained for a longer time [6]. Postintentional models do not consider factors which lead to formulate the intention of changing behaviour.

The analysis of one's own research results shows that it is possible to use this model to change behaviours of examined students concerning the number of meals, for example [8]. The intention is influenced by the attitude towards behaviour, expressed by a disadvantageous evaluation of the meals number and acquired knowledge on a recommended norm, which is 5 meals a day. The next norm is subjective, expressed by the willingness to submit to recommended norms and perceived behavioral control which contains past experiences (the low frequency of meals causes hunger and no power for further work) and other factors determining problems (the lack of time to eat regularly caused by the wrong organization of activities).

The Social Cognitive Theory

The Social Cognitive Theory, which represents the next group of models that explain taking and maintaining health behaviours, is a concept of self-efficacy, in which this efficacy treated as an optimistic conviction of the individual about his/her possibilities of acting according to the chosen purpose – irrespective of obstacles to achieve this objective – is a factor modifying behaviours [6]. Along with a stronger belief that one is able to solve a specific problem, the motivation to formulate the intention and start action grows as well. The attitudinal change depends on the feeling of control over one's own action. The person who believes that he/she is able to take action and solve a problem this way, has a stronger motivation to do it and is more involved in the process of decision making.

According to the social-cognitive theory, our behaviours are managed by the following expectancies: situation-outcome expectancies, action-outcome expectancies and self-efficacy expectancies [10].

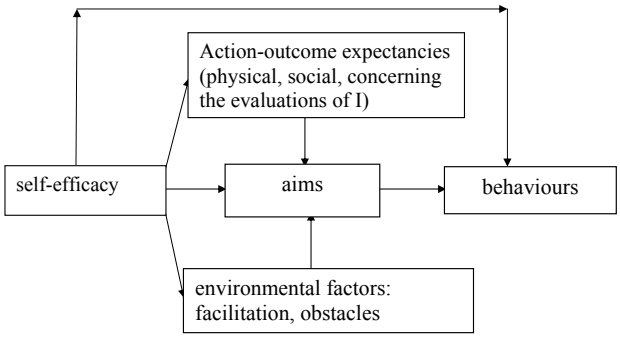

Figure 3. The Social Cognitive Theory
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

In the Social Cognitive Theory self-efficacy influences behavior also indirectly, affecting the choice of aims (the stronger efficacy, the more ambitious aims) and expected profits and losses (the stronger self-efficacy, the more profits and the fewer losses resulting from behaviour are noticed by an individual) [6]. The generalized self-efficacy can be defined as the personality trait which determines behaviours in different situations. This theory also takes into account environmental variables, i.e. barriers and factors facilitating behaviour that appear in the individual's surrounding.

In relation to findings of the conducted research on the sense of self-efficacy, which for the examined group of students show a very high level of their self-efficacy (higher than in control groups), one could use the model based on the social-cognitive theory, in which self-efficacy influences the choice objective changes, expected profits and losses, one's own expectations and directly – behaviours. Self-efficacy becomes an incentive factor then [8]. However, authors' own research on the relation between health behaviours and the level of efficacy did not confirm it. People with a high level of self-efficacy do not show positive pro-health behaviours at all. Their efficacy influences only a bigger amount of time devoted to physical activity and the smaller amount of stress.

It was shown that the sense of self-efficiency enables to predict intentions and actions in various areas of human activity, including also health behaviours [10].

The sense of self-efficacy involves such health behaviours, as: preventing uncontrolled sexual behaviors, taking up regular physical exercises, controlling weight and behaviours associated with eating, preventing and giving up smoking and other addictions [11].

The Precaution Adoption Process Model

According to the Precaution Adoption Process Model, in order to effectively change behaviour, the individual must undergo stages of the attitudinal change in a specific sequence [6]. Health behaviours can only be changed when the individual starts noticing the risk resulting from failing to care about one's own health.

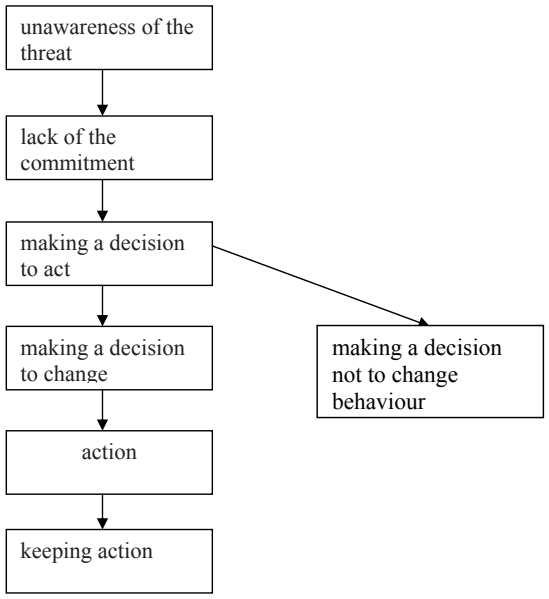

Figure 4. The Precaution Adoption Process Model; the course of the attitudinal change stages
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

The stage model, which includes the Precaution Adoption Process Model, takes into account stages of risky behaviour changes, beginning from the unaware threat through taking decisions on changes and action, to keeping this action [6]. Health behaviours can only be changed when the individual starts perceiving the risk resulting from failing to care about one's own health and undergoes all cycles.

However, this model was not significant for a researched group since students declared great satisfaction from their state of health, ways of spending free time, as well as the appearance, in spite of not respecting principles of pro-health behaviours [8].

The Transtheoretical Model

In the Transtheoretical Model (TTM) five stages of the attitudinal change are distinguished and the order of changes in behaviour explained [6]. This model does not take into account factors causing the change which appears out of nowhere. In the Transtheoretical Model the first stage is procontemplation, i.e. the period, in which the individual does not consider the need to change the current behaviour. At the next stage a given person considers pros and cons of the change in behaviours, and then gets ready for changes. Two next stages are: action (the change of behaviour) and maintenance (the stabilization of behaviour and avoiding returns). Current verifications of the model concerned different health behaviours and confirmed the existence of individual stages.

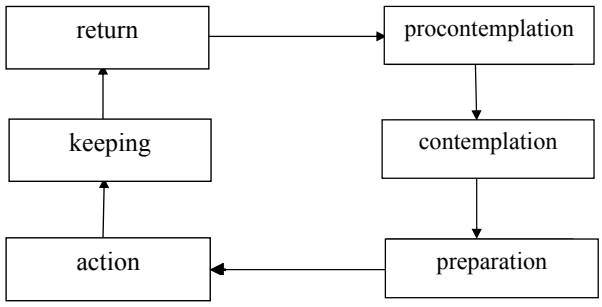

Figure 5. The Transtheoretical Model: the course of the attitudinal change stages
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

The model of change stages is based on the assumption that changes are made constantly and they are never ultimate [12]. One can go back to earliest stages repeatedly, but it does not necessarily mean that then we must start again. The behaviour of humans in this model is described through the progress in overcoming a few successive behavioral states along with derivative factors, such as the readiness to change. Information about these behavioral states should be taken into consideration in adjusting the educational data referred to a specific person which should take into account individual needs and readiness to receive different types of information. The model of change stages can be more useful for simple and closely defined dietary behaviours, such as eating five portions of vegetables and fruits or drinking low-fat milk every day (aims concerning food) and less useful for the description of complex changes of dietary habits, such as limiting fat consumption (aims concerning nutrition). It seems that behavioral alternative models are more appropriate to describe purposes concerning nutrition. Nevertheless, the model of change stages was repeatedly applied in

order to better understand changes concerning dietary habits and it allows to single out social groups differing in the attitude towards pro-health nutrition. The best test for this model is its practical verification, i.e. checking whether dietary interventions based on stages of behaviour changes are effective

In the Transtheoretical Model which distinguishes stages of behaviour changes but does not consider factors causing changes, a person that makes changes, goes through the cycle of following stages and can go through the entire cycle several times. This model is suitable for presenting the lack of positive effects of pro-health education. Students underwent individual stages several times, starting from realizing problems during talks on pro-health behaviours (e.g. concerning harmfulness of smoking), through taking decisions about the change (I will stop smoking), all the way to the recurrence stage (after all, nicotine addiction) [8].

The Health Action Process Approach

The Health Action Process Approach (HAPA) assumes existing two qualitatively various stages of the behaviour change, referring to pre-intentional processes (the incentive stage) and post-intentional processes (the willing stage which is putting intention into action) [6]. At every stage a lot of social-cognitive variables which influence formulating intentions and behaviour were taken into account. The role of social-cognitive variables is discontinuous, which means that other variables play a role at the incentive stage and the other ones – at the willing stage. The self-efficacy is an only variable which is significant at both stages. The first social-cognitive factor influencing the intention is a spotted risk. It is assumed that behaviour can be changed, if the individual notices the increased risk of the health loss. The next factor are expected profits and losses coming from the attitudinal change, i.e. its predicted positive and negative consequences. The last factor is a sense of self-efficacy, i.e. optimistic conviction about one's own possibilities and abilities to reach an assigned objective. After formulating the intention, the individual goes to the willing stage. Here two factors play the essential role: self-efficacy and planning. Self-efficacy is having competence associated with the health purpose and it depends on the general personality changeability to a large extent [13]. The HAPA is a model stage, however simplified to a large extent as far as the number of attitudinal change stages are concerned. Seeking variables that explain maintaining behaviour and limiting returns caused the appearance of the widened HAPA model, in which the role of self-efficacy was elaborated, assuming that there were its specific kinds which influence at different stages of the attitudinal change.

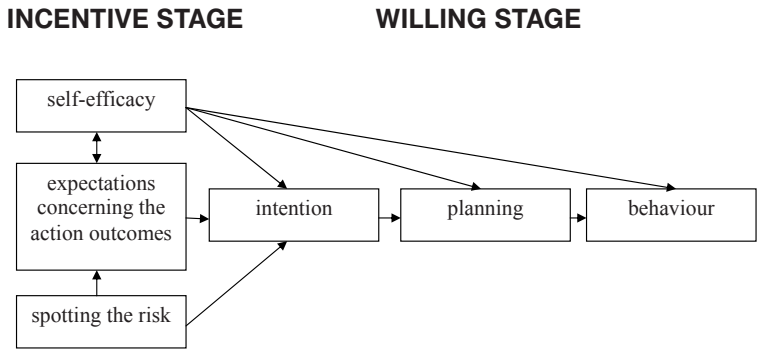

Figure 6. The Health Action Process Approach (HAPA): the relation between variables
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

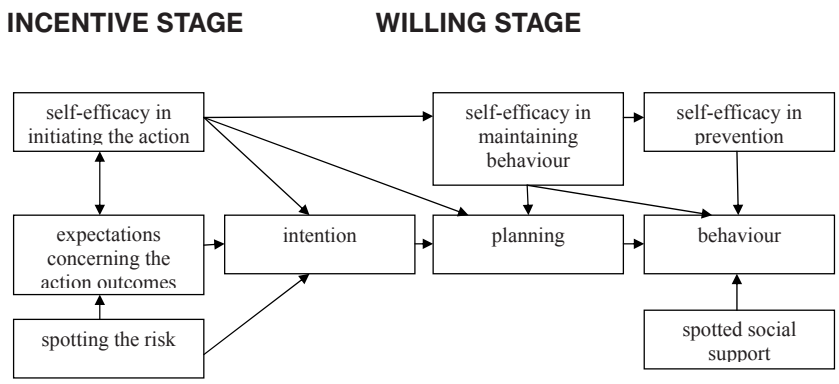

Figure 7. The widened HAPA model: the relation between variables
Source: Łuszczyńska A. Zmiana zachowań zdrowotnych. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004, s. 22–46.

Two last models belonging to the process models of health actions: the HAPA model and the widened HAPA model, are the most useful ones when it comes to describing changes of health behaviours [8]. In the process of forming and strengthening health activities, two stages can be distinguished: the stage of motivation and forming intentions, and the stage of putting intention into action and consolidating new behaviours [13]. At the first stage essential predictors are result expectancy and self-efficacy expectancy. At the second stage self-efficacy helps maintain action and turns into self-efficacy in reducing recurrences. An important thing at this stage is also noticing social support. In relation to the noticed very high level of self-efficacy, noticing the risk and family support, the extended HAPA model seems to be the most advantageous in forming and changes of health behaviours. Therefore, all current and future actions oriented to forming and changing health behaviours should be based on this model.

Summing-up

Summarizing the possibilities of applying theoretical models that explain taking up and maintaining health behaviours, it can be confirmed that all models can help explain health behaviours. In practice, however, it seems the most appropriate to apply general rules of forming and changing health behaviours based on all methods.

Nevertheless, no single theory or model can explain or predict all possibilities of health behaviours and therefore, further research of this problem is essential [12]. Models should be perceived as a description with a formalized structure that helps understand factors influencing individual decisions and behaviours. These models can also be of help in planning effective interventions concerning health promotion.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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PREGNANT WOMEN 'S PARTICIPATION IN ANTENATAL CLASSAS AND THE PROCESS OF LABOUR

UCZESTNICTWO KOBIET CIĘŻARNYCH W SZKOŁACH RODZENIA A PRZEBIEG PORODU

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ABSTRACT

Introduction. Antenatal classes are a form of training addressed to parents expecting a baby. Participation in activities expands knowledge about the proper preparation of a pregnant woman and her partner for delivery through teaching about delivery and changing the attitude about it, and prepares parents to care for the child after birth. The Program includes theoretical issues (such as mode and lifestyle in pregnancy and lifestyle in pregnancy and in the postpartum period, physiology of: labour, the postpartum period, infant period; psychiatric perinatal disorders; legal issues related to giving birth), practical activities (such as: learning effective pushing, breathing during the labour, relaxation in the intervals between the contractions) and introducing parents to their caring tasks (such as care of a newborn). Research confirms that women attending antenatal classes better cope with stress in the delivery room, and their labour is faster and easier.

Aim. To evaluate the impact of pregnant women's participation in antenatal classes on the labour.

Material and methods. The study included 35year old pregnant patient II., labour II., in the 40th week + 4 days of pregnancy, admitted to the delivery room. In this work a single case method was used, which was carried out with the help of an interview, conversation, observation and analysis of the medical documents. The study was conducted while a patient was in the delivery room.

Conclusion. The education before giving birth resulted in a positive attitude of women towards labour. Participation in antenatal classes had an influence on the woman's activity during her labour and birth took place more efficiently and easier. The presence and help of a partner increased the sense of woman's during her labour.

KEYWORDS: school of birth, pregnant woman, labour, clinical case.

STRESZCZENIE

Wstęp. Szkoła Rodzenia to forma kształcenia adresowana do rodziców spodziewających się dziecka. Uczestnictwo w zajęciach poszerza wiedzę na temat odpowiedniego przygotowania ciężarnej i jej partnera do porodu, poprzez pogłębienie wiedzy o porodzie i zmianę nastawienia do niego oraz przygotowanie rodziców do odpowiedniej opieki nad dzieckiem po porodzie. Program Szkół Rodzenia obejmuje zagadnienia teoretyczne (m.in. tryb i styl życia w ciąży i w połogu; fizjologię: porodu, połogu, okresu noworodkowego; zaburzenia psychiczne okołoporodowe; zagadnienia prawne związane z porodem), zajęcia praktyczne (m.in.: nauka efektywnego parcia, oddychania podczas porodu, relaksacji w przerwach między skurczami), oraz wprowadzenie rodziców do ich zadań opiekuńczych (m.in. pielęgnacja noworodka). Badania potwierdzają, że kobiety przygotowane w Szkole Rodzenia lepiej radzą sobie ze stresem na bloku porodowym, a poród przebiega sprawniej i łatwiej.

Cel pracy. Ocena wpływu uczestnictwa kobiet ciężarnych w zajęciach Szkoły Rodzenia na przebieg porodu.

Materiał i metody. Badaniem objęto pacjentkę lat 35, będącą w ciąży II, poród II, tydzień ciąży 40+4 dni, przyjętą na salę porodową. W pracy wykorzystano metodę indywidualnego przypadku, którą zrealizowano przy pomocy wywiadu, rozmowy, obserwacji i analizy dokumentów medycznych. Badanie przeprowadzono podczas pobytu pacjentki na sali porodowej.

Wnioski. Edukacja przed porodem spowodowała pozytywne nastawienie kobiety do porodu. Udział w Szkole Rodzenia miał wpływ na aktywność rodzącej podczas porodu, a poród przebiegał sprawniej i łatwiej. Obecność i pomoc partnera zwiększyła poczucie bezpieczeństwa kobiety w trakcie porodu.

SŁOWA KLUCZOWE: szkoła rodzenia, ciężarna, poród, przypadek kliniczny.

Introduction

Lamaze courses are a form of education for parents expecting their child [1]. Those are meetings for pregnant women and their partners that prepare future parents both physically and mentally for the childbirth, postpartum period, and later infant care. They also educate about the importance of the breastfeeding [2]. Participation in such course helps, through the education about the childbirth and changing the attitude towards it, broaden knowledge about proper emotional preparation for the labor. The agenda of Lamaze courses includes group meetings (theory), physical exercises and introducing parents to their nurturing activities. Waiting for a child is a good time for parents to gather information about changes happening in mother's body, child's health and development.

Theoretical meetings cover following issues:

- Psychological aspects of pregnancy and the postpartum period;
- Mode and lifestyle in pregnancy and in the postpartum period;
- Physiology of a childbirth;
- Physiology of the postpartum period;
- Breastfeeding;
- Physiology of the infant period;
- Postnatal mental disorders;
- Fertility recovery after the childbirth;
- Legal issues.

During the practical classes attention is paid to physical exercises, muscles strengthening and overall exercises. The exercises are tailored, depending on health of the pregnant women and the stage of pregnancy [1]. It is important to discuss in details how to breathe during labor and effectively push and relax between contractions. Pregnant women prepared in such a way are able to cooperate with a midwife, doctor and the medical staff [3]. There is also a possibility to take part in some extra classes where the theory is explained and where the bond with an unborn child is developed. Moreover, it is also possible to participate in shows regarding breastfeeding, nurturing and bathing an infant [1].

The program implemented by Lamaze courses is subjected to constant changes. They are extremely important, as the idea of such courses is to adapt to the needs of women giving birth and prevailing principles of modern obstetrics [4].

Ways of preparing for the natural childbirth at Lamaze classes

- theoretical preparation

Knowing the basic events that make up the process of birth gives a woman the knowledge which is necessary for the fearless and conscious childbirth. Every woman prepared for this amazing event knows what her rights are, cooperates with a midwife and doctor during the birth and effectively goes through the act of the childbirth, without unnecessary stress and tension [2]. The woman giving birth, who knows modern labor techniques, may select a mode of delivery, optimal for her position and experience. Women who have gained the knowledge at Lamaze courses are familiar with the process of childbirth and the postpartum period, they know what to expect and are less likely to experience emotional disorders and depressive states [1].

It is equally important to prepare the father for the birth of his child. A partner familiar with the childbirth understands the mother and accompanying emotions. Prepared father-to-be is a huge support for a woman, gives her a sense of security and motivates her. The man is able to use knowledge acquired in the classroom in the form of various relaxation and pain relieving methods [1]. Parents who on their Lamaze courses have found out about complications and unplanned treatments that can occur during the childbirth, and have been presented to the reasons, advantages and disadvantages of such actions, can easier and faster make difficult decisions, which allow for the immediate intervention [5].

- psychological preparation

Parents' psychological preparation for the childbirth aims to eliminate fear, reduce emotional tension, and familiarize parents with an active and conscious childbirth without fear [6]. Anxiety causes tissues tension which, in turn, through hypoxia leads to pain. Fear, on the other hand appears when you lack knowledge about the course of the childbirth. Women are afraid of the pain during the labor, scared of possible complications during their childbirth and they are worried about the health of the infant [7]. The short-lasting fear is helpful during labor, because the adrenalin is released to the body. In the second part of a labor a short lasting fear appears before contractions and helps in giving birth to a child. However, the long-lasting fear, so called tocophobia, which is the fear of pregnancy and childbirth, is not favorable during labor; it makes women suffer and feel disoriented. The women with tocophobia are convinced that something wrong is going to happen to them during labor. Such an emotional state leads to the increasing number of Caesarean sections [5]. Emotions can be positive during childbirth but it is important to control them through the whole pregnancy. When a woman has a positive attitude to her childbirth, she is more likely to adapt to the situation in the delivery room [6].

Aim

The purpose of the study is to present the impact of pregnant women's participation in Lamaze classes on the course of childbirth.

Material and methods

A 35 years-old patient, second time pregnant, 40+4 week of pregnancy, admitted to hospital, participated in the study. In this study a single case method was used. It was implemented by an interview, conversation, examination and analysis of the medical documentation. The study was conducted during patient's stay in hospital.

Case description

A 35 years-old patient, second time pregnant, 40+4 week of pregnancy, was admitted to hospital at 7:50 because of regular (every 3–5 min) uterus contractions. General and obstetric interviews were positive.

Course of pregnancy

The patient was under the gynecological care from the 8th week of her pregnancy. She was regularly attending the appointments planned by her doctor. All assigned examinations were completed, the results were good. The blood pressure during pregnancy was between 125/80 100/70. The GBS (-) result was negative. Pregnancy was without any complications. During the last ultrasonography the approximate weight of the fetus was 3800g.

Course of labor

The patient was admitted to hospital at 7:50 with the regular (3–5 min) uterus contractions. FHR at the admission was +/- 130 beats per minute. General parameters of patient's health were obtained:

– RR 120/80 mmHg,
– pulse 80 u/min,
– temperature 36.6°C.

The outer measurements of the uterus were also taken:

– Distantia spinarum 25 cm,
– Distantia cristarum 27 cm,
– Distantia trochanterica 30 cm,
– Conjugata externa 20 cm,
– Rhombus of Michaelis 10/10 cm.

Gynecological examination:

– occiput anterior fetal position,
– vaginal part almost disappeared,
– heavy pressure from the fetus head,
– dilation of the cervix 3–4 cm,
– fetal bladder intact.

The patient was wired to the KTG, in order to monitor and record the contractions of the uterus and heartbeat of the fetus.

The patient was predisposed to have natural labor. She had a positive attitude towards labor, was in a good mental and physical condition. Together with her husband she was attending Lamaze classes. The childbirth was active in vertical positions. The patient in the first stage of the labor was choosing active positions, she was cooperating with the midwife and listening to her advice. At the beginning she was suggested to be in a vertical position called "stork walk" and to perform rhythmical pelvis movement. The women knew the advantages of such position and knew how to walk. During contractions she instinctively was leaning against her partner, facing him with her hands crossed on his neck and lowering her body on bended knees. She was instructed to move her whole body weight on her arms, that is on her partner and to relax her buttocks and hips. At 8.40 am in the vertical position the fetal bladder burst, releasing bright amniotic fluid, contractions escalated. At 10.20 pm the patient was disconnected from KTG. The midwife suggested taking shower for 20 minutes to reduce pain and to relax. The partner was helping during immersion, which brought some relieve and relaxation. After 20 minutes the patient was connected to KTG. The patient wanted to take position on the ball, because she knew that that position would help the head of the fetus to get to the birth canal. She was sitting with her legs open on the ball, circularly moving her hips and during contractions she was lightly jumping on the ball. The partner was behind the patient and was protecting her. He was giving his wife water to keep her hydrated. During contractions he was massaging her lower back, supporting her and controlling the way she was breathing. The patient was very well prepared to the labor, thanks to which she was focused on the actions, and her husband was supporting her mentally and physically.

At 12.50 the patient was examined:

– dilation of the cervix 5,5,
– vaginal part almost disappeared,
– very heavy pressure from the fetus head,
– very painful contractions every 2–3 min.

The doctor made the staff administer Dolcontral painkiller. It was administered at 1.00 pm by the midwife. The patient had to lie down in bed because of the possibility of dizziness and nausea after taking the drug.

The general condition of the patient:

– RR 130/80 mmHg,
– pulse 88 u/min,
– temperature 36.5°C.

The lying position only intensified the pain so after one hour from administering the drug, the patient got up from bed. She sat down on the birthing chair, which helped to bring the baby down to the right position and move in the birth canal (thanks to the gravity forces). When she changed her position, her mood also improved, she regained the control over the childbirth, she could actively take part in the process of labor again. The midwife suggested the squatting position-during this position there is the strongest pressure on the cervix. The patient got to that position and her partner was supporting her from behind and was helping her to get to the vertical position in the break between contractions. The woman started to feel the pushing contractions.

At 3.40 pm the complete dilatation was diagnosed, sagittal suture was straight. The second stage of the labor started. The patient started to feel pushing contractions, the head went down to the bottom of the uterus. She decided to give birth to her child sitting on the birthing bed. She was concentrated on pushing.

The patient was breathing after contractions, listened to advice and guidance of the midwife. The part-

ner assisted during pushing, pulling partner's head to the chest. After contraction he was reminding of breathing, and giving his wife emotional support. The partner was constantly close to his wife, giving her sense of security. At about 4.20 pm without episiotomy a male baby was born. Immediately after giving birth, the newborn was put on the mother's chest (contact skin-to-skin). After the pulsation of the umbilical cord stopped it was cut by father. The first stage of childbirth lasted 10 h and the second 40 min. After the childbirth an assessment of the reproductive tract continuity was performed and there were no cracks in the crotch. The patient was moved from the delivery to the postpartum room in good general condition:

- RR 110/80 mmHg,
- pulse 84 u/min,
- temperature 36.8°C,
- uterus was correcly constricting.

The infant

The infant was born in the natural labor, male weighing 4020 g and being 56 cm long. According to the Apgar scale, the newborn was rated 10 in 1st, 3rd, and 10th minute of life. Arterial cord blood: 7.15 (-6.3); 7.32 (-5.5). The newborn was dried, warmed up, was given to mother and placed against her breast.

Summary and conclusion

Active childbirth, to which women can be prepared during Lamaze courses, is natural childbirth-the best way of giving birth to a child. Research shows that women prepared by Lamaze courses better cope with stress in the delivery room, and childbirth is better and easier. However, for women who feel greater anxiety and have not been enrolled in classes, childbirth is often difficult and complicated [5]. Woman who actively participate in the process of childbirth, keenly use the vertical position and birthing amenities. Focused on task, are not disassociated and passive.

Based on the observation of childbirth of a woman who attended Lamaze classes along with her husband, it can be stated that such preparation was needed and had a beneficial effect on the course of childbirth. The woman had a positive attitude towards the act of birth. Her physical and mental preparation affected an active delivery in vertical positions. The patient was focused on the task. At the I and II stage of childbirth the woman used relaxation and proper breathing to relieve pain, and was effectively pushing. The woman knew the vertical position, their benefits and was aware how the childbirth can progress thanks to them. A woman, who knows new labor techniques, can choose the appropriate vertical position for herself, in which the sensation of pain would be the weakest. She effectively passed through the act of the childbirth.

Changing the position on the lying one badly affected the well-being of the patient as she lost control over the course of birth. The lying position is contrary to nature since the birth canal is upward. Immediate desire to change the position to the vertical one, in spite of the fatigue of the body, shows how well the patient was prepared for childbirth. She was supported by her husband who was familiar with the course of childbirth, knew how to help the partner, reminded about breathing and helped her to relax. He has giving the future mother the back massage and water which she was forgetting about because she was focused on delivery. He was with her constantly, giving a sense of security. The knowledge gained at the course, allowed him to effectively participate in the act of childbirth. The man did not feel useless in the delivery, on the contrary, he felt needed and helpful to his partner.

The materials included in this study show how important it is to prepare women for childbirth. Even basic knowledge gives the woman the sense of security, control leveling unnecessary anxiety and a sense of helplessness. A woman prepared for childbirth, effectively goes through this act. She is not taken away by unnecessary emotions, consciously cooperates with medical staff [1]. Proper breathing allows the patient to deal with pain, as well as relaxing in brakes between contractions [8]. The prepared woman is active in a delivery room, changes positions, uses birthing facilities so the labor goes faster and more efficiently, she does not passively wait for clues from the midwife [9]. Preparing father who wants to participate in the act of birth is as important as the woman's preparation. The man must have knowledge of what will happen step by step and how he can help. Only this way he does not feel useless in the delivery room. A close person gives the woman sense of security [9].

Lamaze courses emphases the importance of pain relief techniques and their effective usage during delivery. Research shows that knowledge of pain relief methods and their appropriate usage is much better among women attending Lamaze classes [4]. The participation of both parents in the course should lead to less fear and anxiety related to pregnancy and delivery [4]. The fact that more and more men want to participate in labor is very positive [10]. Research show that educated woman after 25 year of age, who want to be prepared for delivery and infant care, decide to take part in Lamaze course [11].

The best form of preparation for childbirth are Lamaze courses. Research confirm the need for pre labor education – 94,4% of women attending antenatal classes and 89,1% of women not attending them believe that it is a necessity [4]. Participation in classes affect the

pro-health behaviors in pregnancy, a better physical condition of women, reduces the pain sensation during childbirth and affects the positive attitude of the patient [7]. Those meetings prepare future parents both physically and mentally for the childbirth, postpartum period, and later infant care. They also educate about the importance of breastfeeding. Such classes teach relaxation techniques, breathing, coping with labor pain and other discomforts, as well as the contact with the unborn child. They actively prepare the father for participation in childbirth.

On this basis, one can make the following conclusions: education before giving birth resulted in women's positive attitude towards childbirth;

- participation in Lamaze courses had an influence on women's activity during childbirth, and the labor was easier and faster;
- the presence and help from a partner increased the sense of women's security during childbirth.

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The manuscript accepted for editing: 25.06.2014
The manuscript accepted for publication: 27.08.2014

Funding Sources: This study was not supported.
Conflict of interest: The authors have no conflict of interest to declare.

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Tekst powinien być napisany 12-punktową czcionką Times New Roman, z odstępem między wierszami 1,5 (półtora odstępu), 2,5 cm marginesem z każdej strony, bez adiustacji, tj. bez twardych spacji, znaków końca linii (tzw. miękkich enterów) oraz powinien być wyjustowany (wyrównany do lewego i prawego marginesu). Plik należy zapisać w formacie: DOC lub DOCX. Kolejne strony należy ponumerować, zaczynając od strony tytułowej. Należy pisać wyłącznie zwykłą czcionką (tytuły wytłuszczone), bez wyróżnień dużymi literami, bez rozstrzelania, podkreśleń linią ciągłą itp.

Pierwsza strona pracy powinna zawierać:
- tytuł pracy w języku polskim i angielskim,
- imiona i nazwiska autorów bez tytułów i stopni naukowych,
- afiliację autorów – nazwy instytucji, w których praca powstała z nazwą miasta i kraju,
- nazwisko kierownika jednostki,
- pełny adres, numer telefonu oraz adres e-mail autora, do którego będzie kierowana cała korespondencja.

W dalszej kolejności, od drugiej strony począwszy powinno znajdować się streszczenie w języku polskim i angielskim przedstawiające istotną treść publikacji, a poniżej polskie i angielskie hasła indeksowe wg wymogów międzynarodowych indeksów lekarskich (MeSH).

STRESZCZENIE

Streszczenia w języku polskim i angielskim powinny mieć charakter strukturalny – zawierać w sobie cel, materiał i metody badań, wyniki oraz podsumowanie i nie powinny przekraczać objętością 200 słów.

Słowa kluczowe – nie więcej niż pięć, w języku polskim i angielskim.

PRACA ORYGINALNA

Artykuł oryginalny przedstawia wyniki oryginalnych badań przeprowadzonych w dziedzinie pielęgniarstwa oraz szeroko pojętej medycyny. Artykuł powinien być podzielony na: „Streszczenie", „Wprowadzenie", „Materiał i metody", „Wyniki" i „Dyskusję". Tekst nie powinien przekraczać 6000 słów tj. ok. 12–15 stron (łącznie ze „Streszczeniem" i „Piśmiennictwem").

GUIDANCE FOR CONTRIBUTORS

"Pielęgniarstwo Polskie" prints reviewed original research, opinion articles, case studies, conference reports, book reviews and studies in history of nursery in both Polish and English. "Pielęgniarstwo Polskie" is a quarterly published in the open-access as well. A hard copy of "Pielęgniarstwo Polskie" is original.

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Papers should be submitted to the Editor`s Office by e-mail as an attachment to the following address: pielegniarswopolskie@ump.edu.pl. Hard copies are not required.

Submitted papers should include:
- manuscript,
- tables,
- figures,
- author`s (authors`) statement(s).

MANUSCRIPT

The text should be written with 12 spot font Times New Roman, with the space between the lines 1.5 (one and a half space), 2.5 cm margin from every side, without editing, i.e. without hard spaces, end of the line signs (so-called soft enters) and should be justified (balanced to the left and right-hand margins). The file should be saved in the format: DOC or DOCX. Pages should be numbered, starting with the title page. One should write with an ordinary font exclusively (greased titles), without upper case distinctions or underlining with the solid line, etc.

The first page of a paper should include:
- paper title in Polish and in English,
- author`s (authors`) first name(s) and surname(s) without academic titles or degrees,
- author`s (authors`) affiliation – names of institutions where the paper was written along with the name of the city and country,
- head of the research unit`s name,
- full address, phone number and e-mail address for correspondence.

The following pages should include the summary in both Polish and English with the essential contents of the paper and below Polish and English Medical Subject Headings (MeSH).

ABSTRACT

Structured abstracts of up to 200 words in Polish and in English should include study objectives, material, methods, results and summary.

Keywords – up to 5 words, in Polish and in English.

ORIGINAL RESEARCH

Original research presents results of original investigations conducted in the field of nursery and medicine in general. The paper should be divided into: "Abstract", "Introduction", "Material and methods", "Results" and "Discussion". The text should not exceed 6000 words, i.e. about 12–15 pages (including "Abstract" and "References").

PRACA POGLĄDOWA

Manuskrypty w tej kategorii dotyczą ważnych, fundamentalnych odkryć w dziedzinach będących w zakresie pielęgniarstwa oraz szeroko pojętej medycyny. W pracach poglądowych zalecany jest podział na rozdziały. Artykuł poglądowy nie może przekraczać 8000 słów, tj. ok. 15–20 stron (łącznie ze „Streszczeniem" i „Piśmiennictwem").

PRACA KAZUISTYCZNA

Praca kazuistyczna opisuje jeden lub więcej interesujących rzadkich przypadków lub stanów klinicznych. Praca powinna mieć następujący układ: „Streszczenie", „Wprowadzenie", „Opis przypadku" i „Dyskusja". Streszczenie (limit słów 250) powinno zawierać „Założenia", „Prezentację przypadku" i „Wyniki". Objętość słów nie może przekraczać 2500, tj. ok. 3–4 stron (łącznie ze „Streszczeniem" i „Piśmiennictwem").

KRÓTKIE DONIESIENIA

Prace w tej kategorii powinny dotyczyć wstępnych wyników badań przeprowadzonych na małej grupie i/lub przy użyciu nowej metodologii. Struktura pracy powinna być podobna do artykułu oryginalnego, a objętość słów nie przekraczać 2500 (łącznie ze „Streszczeniem" i „Piśmiennictwem").

DONIESIENIA ZJAZDOWE

Podsumowania zjazdów i warsztatów z uwzględnieniem tematyki czasopisma. Artykuły w tej kategorii nie powinny przekraczać 1000–1500 słów (2 strony).

PIŚMIENNICTWO

Piśmiennictwo powinno być napisane na oddzielnej stronie – w systemie Vancouver. Cytowania powinny być numerowane w kolejności ich występowania w tekście i powinny być oznaczane cyframi arabskimi w nawiasach kwadratowych.

W przypadku cytatu z czasopisma należy podać: nazwiska autorów i pierwsze litery imion, następnie: tytuł artykułu, tytuł czasopisma z zastosowaniem obowiązujących skrótów (wg bazy danych MedLine (zawsze zakończone kropką), rok publikacji, tom, rocznik, numer wydania, numer strony pierwszej i ostatniej:

1. Kowalski J, Nowak J. Nozologiczne aspekty bólów głowy. J Med. 2007; 1: 12–27.

W przypadku cytatu z książki należy podać: nazwiska autorów i pierwsze litery imion, następnie: tytuł książki, nazwę i siedzibę wydawnictwa, rok wydania, numer strony pierwszej i ostatniej:

2. Pawlak P. Życie i umieranie. Warszawa: PWN; 2007. 12–32.

W przypadku cytowania rozdziału pochodzącego z książki należy podać: nazwisko/nazwiska i pierwsze litery imion autora/autorów tegoż rozdziału, tytuł rozdziału cytowanej książki, nazwisko i imię autora (redaktora) książki, tytuł książki, siedzibę i nazwę wydawnictwa, rok wydania, numer pierwszej i ostatniej strony cytowanego rozdziału:

3. Pawlak P. Życie i umieranie. W: Malinowski A (red.). Gerontologia. Warszawa: PWN; 2007. 12–32.

W przypadku cytatu z materiału elektronicznego (Internetu) należy podać: nazwiska autorów i pierwsze litery imion, następnie: tytuł artykułu, pełny adres strony internetowej oraz datę dostępu (datę wejścia).

OPINION ARTICLES

Opinion articles concern fundamental findings in the field of nursery and medicine in general. The papers should be divided into chapters. The text should not exceed 8000 words, i.e. about 15–20 pages (including "Abstract" and "References").

CASE STUDIES

Case study presents one or more interesting rare cases or clinical conditions. The paper should be divided into: "Summary", "Introduction", "Case Description and Discussion". The Summary (up to 250 words) should include "Assumptions, Case Presentation and Results". The text should not exceed 2500 words, i.e. about 3–4 pages (including "Abstract" and "References").

SHORT REPORTS

Short reports should concern initial research results conducted in a small group and/or by means of new methodology. The paper structure should be similar to original research and the text should not exceed 2500 words (including "Abstract" and "References").

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Conference and workshop reports should include the topic and references. The text should not exceed 1000–1500 words (2 pages).

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The sequence for a journal article should be as follows: author`s (authors`) name(s), title of paper, journal name abbreviated as in MedLine database (always ended up with a dot), year of publication, volume number, first and last number of pages, for example:

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2. Pawlak P. Życie i umieranie. Warszawa: PWN; 2007. 12–32.

The sequence for the book chapters should be as follows: chapter author(s), chapter title, book author(s), book title, edition and place of publication, year of publication, chapter first and last pages, for example:

3. Pawlak P. Życie i umieranie. W: Malinowski A (red.). Gerontologia. Warszawa: PWN; 2007. 12–32.

The sequence for the Internet should be as follows: author`s (authors`) name(s), title of paper, full address of the website, access date.

TABELE

Tytuły w języku polskim i angielskim nad tabelami. Tabele powinny być oznaczone numerami arabskimi. Szerokość tabeli nie powinna przekraczać 8 cm lub 16 cm. Wnętrze tabeli również oprócz wersji polskiej powinno zawierać wersje angielską.

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Ryciny należy podpisywać w języku polskim i angielskim z użyciem numeracji arabskiej.

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