Challenges of the current medicine

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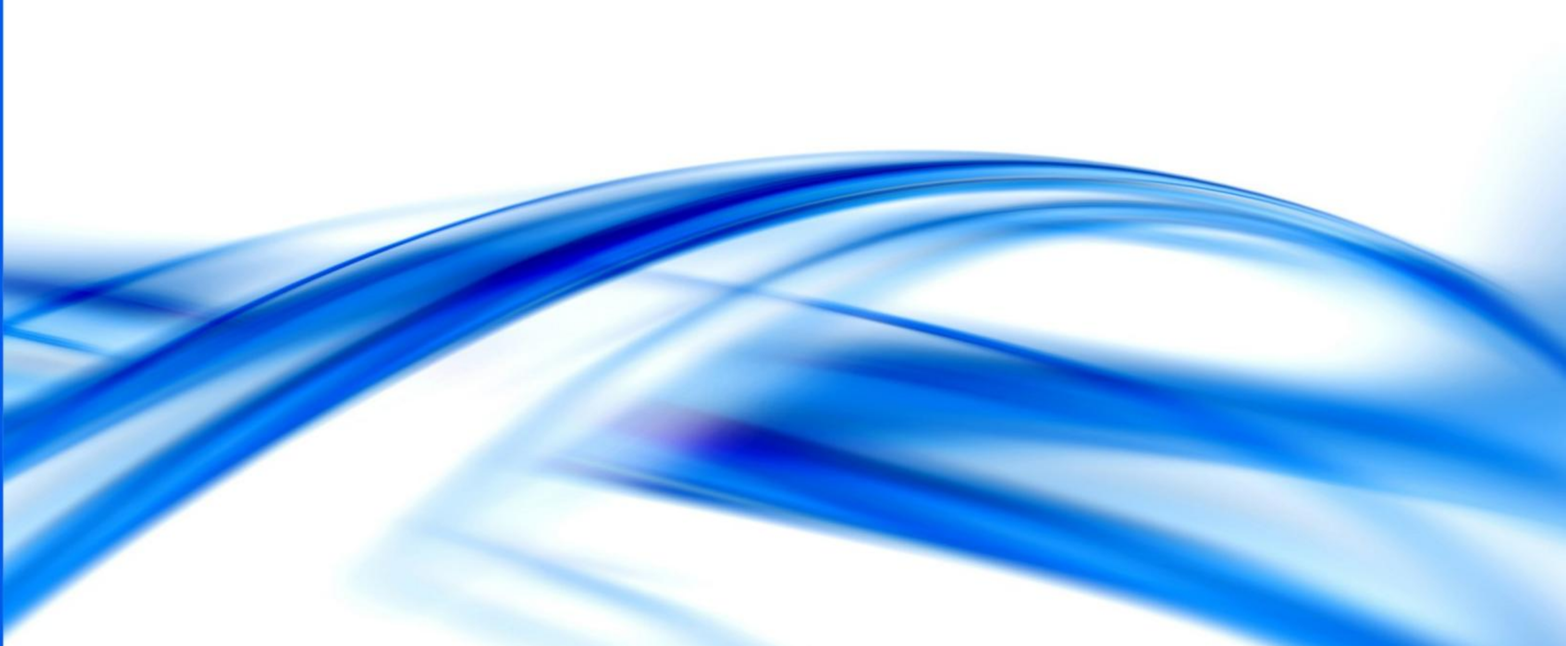

Challenges of the current medicine

Volume II

Medical University of Białystok
Faculty of Health Sciences

Challenges of the current medicine

Vol. 2

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There are moments to act, and so when you need to accept with what fate brings.
Paulo Coelho

Dear Colleagues

The monograph periodical “*Challenges of the Current Medicine-Second Edition”* is a collection of works written by authors from many different medical centers.

The authors were invited to attempt to describe the difficulties of therapeutic and interdisciplinary patient care when it comes to improving the quality of life for patients. According to Paracelsus, "good medicine without good care is unusable, as is good care without good medicine."

There are a number of chapters in this monograph in particular that include content related to patient care, including Edward Kolda’s synopsis that the proper care leads to hope.

One of the overriding goals of this periodical is to show that respect for the dignity and overall autonomy of a patient, in addition to his/her bio-psycho-social comfort, should be the main approach a therapeutic team takes when working with a patient. Another theme of the periodical is medical practitioners should treat patients, not treat diseases.

Members of a therapeutic team should not only focus on the physical and psychological symptoms of a patient, but should also ask such as: do you feel fulfilled by your job? how are your relationships with others? How do you respond to complaints? Do you ever manifest signs of discouragement, sadness, or mental suffering?

Patients should also be treated individually, just as how Albert Camus says, “a disease is like a monarchy, it has its own rules, asceticism, peace, and inspiration.”

It is the goal of this periodical that all readers will be convinced of the truth stated by Albert Schweitzer, “open your eyes and see when someone needs a little time, a little sympathy, a little company, and a little care. Perhaps an elderly person, perhaps a child.”

Who can enumerate all the possible uses of the valuable operating capital of humanity? We are needed in all parts. Therefore, seek you for an opportunity to set your humanity to work. "

Prof. Elżbieta Krajewska-Kułak MD, PhD
Cecylia Łukaszuk PhD
Jolanta Lewko PhD
Prof. Wojciech Kułak MD, PhD

Review of monograph by Prof. Irena Wrońska PhD
Challenges of the current medicine Vol. 2

The monograph "*Challenges of the current medicine"* Volume II edited by Krajewska-Kułak Elżbieta, Łukaszuk Cecilia, Lewko Jolanta, Wojciech Kulak is an interesting overview of the issues related to education and attitudes toward death and dying.

This monograph is a collective work with the participation of academics from various universities in Poland. The monograph presents knowledge of contemporary issues of multiculturalism in health care for people dying.

Information contained within this monograph accurately reflects the diversity and complexity to the problems of interdisciplinary patient care, so important in the holistic patient care.

These themes reflect well on Editors and Authors who created the monograph as an interdisciplinary platform for further reflection of the patient problems and education for health workers in all sectors.

Prof. Irena Wrońska PhD
Medical University of Lublin

Review of monograph by Prof. Jerzy T. Marcinkowski MD, PhD
Challenges of the current medicine Vol. 2

Volume I of the book "Challenges of the current medicine" met with exceptional interest your readers. This is because the news in medicine appears more quickly; that is not a way to make it all appear in textbooks.

Therefore, as soon it was time for Volume II of the book "*Challenges of the current medicine.*"

It includes news from various areas of medical knowledge, which is necessary to preserve the high standards of modern medical education.

That is why the book should be of interest to medical universities and postgraduate organizers.

This volume - containing news from various areas of medicine - as recent data on cancer pain, transplantation of organs, sexually transmitted diseases, the impact of general practice during the course of the perinatal period and rheumatoid arthritis, problems of quality of life in patients with various diseases, the impact of posture on feeling the pain of labor, psychological strategies for mothers whose children are in the care of hospice - will also meet with great interest the readers who will probably look at very next volume of "*Challenges of the current medicine*."

So create a legend that educational books issued to date!

Prof. Jerzy T. Marcinkowski PhD
Poznan University of Medical Sciences, Chair of Social Medicine

MEDICAL PROBLEMS OF PALLIATIVE CARE

Masłowiecka Agnieszka

Psychological strategies of managing by mothers whose children are under house hospice care

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Fear of: one's own death, loneliness, lack of control and the sense of life is one of so called 'man's ultimate concern' [1], which most of the people face regardless of personality traits and social environment. It can also be presented through the words of the poet: "*Neither the sun nor death can be looked at steadily*" (de La Rochefoucauld.) In some situations the fear of losing one's own life gives place to the desire to rescue the live of another person [2] by all means. Moreover, the devotion to protect this life is stronger than to protect oneself. It is particularly true for parent-child relation, especially motherhood relation. That is because biological, instinct, social and cultural conditions predestine mothers to take care of a child's life on the first place and one's own life on the second place (When it comes to families with terminally ill child there can be observed a strongly traditional division of duties connected with taking care of the child and earning a living, causing polar division of duties. It forces particularly intensive relation between the child and mother, who spends 24 hours a day mostly and mainly with the child.) Consequently, it is easy to imagine that the situation when the life of a child is threatened, or bearing the imprint of inevitable fast death, as with the terminal disease, is a huge crisis and demands mobilization of mother's mental forces inter alia applying numerous defensive mechanisms [3,4,5].

Psychological literature usually treats dying as loosing yourself and the world [6,7], describes the phases of condoning inevitability of death, and various reactions on diagnosis forecasting death [4,8,9], presents the ways of therapeutic work with dying people [3,10], mourning after the death of a close person and types of care of mourners.

The situation of mothers having terminally ill children is, however, different that the situation depicted by the works herein above. Mothers aware of the terminal disease of their child have to face the death, but it is not the kind of death a person can prepare for alone (that is 'experienced' as one's own); a person does not lose the world, but from the point of view of the women – they lose their entire World.

It is not exactly mourning (not yet), however, despite the fact that there was not a death, the elements of mourning are already being experienced (inter alia symptoms connected with shock, anxiety, persistent stress, emotional conflicts, anger, guilt, resignation from contacts with other people [5]). This is the special situation of loss, that according to C.M. Sanders ‘cannot be mourn’, as the death of a child violates ‘the natural order of things’ (children should not die first), and moreover the relation with a child is for many mothers stronger than any other (with a partner, parents, siblings, friends).

The perspective of a child’s death bumps, changes. The situation is conditioned mainly on the posted diagnosis – cerebral palsy or multiple congenital anomalies as well as various neurological disorders have completely different run of life and death than oncological disorders. The phase of a sickness is extremely important (periods of improvement and deterioration change the perception of a child’s death). The level of mother’s maturity to accept the situation and the social, structural and informal support she receives cannot be leaved unnoticed [10].

Hospice care – the research presented herein concerns the mothers having children under the house hospice care – is another element emphasizing the forthcoming death of a child. Connotation of the name is the reason why many families delay the visit to the hospice trying not to dot the i’s and cross the t’s too fast. There are also many mothers, who even despite being under the hospice care, deny the possibility of their child’s death, and the whole situation is in their view a kind of a hospital at home or rehabilitation for free (when the rehabilitation refunded by National Health Service is not sufficient free treatment is very valuable and worth trying).

Owing to the variety of attitudes and perception of one’s own situation presented by mothers, as well as the perspective of a child’s death the questions relating to the methods of managing, relations with the social surroundings, attitude towards a child’s death and the presence of the subject arise. How do the mothers, having children under house hospice care, perceive the view of their children’s death? Do their attitudes change over time? What methods of managing do they apply? Is it possible to face the long-lasting perspective of losing a child while the child is still alive and demands care?

The thesis applies qualitative measures: free-form interviews with the mother of the child, interviews with the hospice workers, analysis of official materials (medical data and others), and participant observation.

Research group comprises 25 mothers having children under Children House Hospice in Białystok care. The women are between 21 and 35 years old. 52% of the group have secondary education but only two of them are working (80% stay at home with their children). The greater majority is married (84%), more than a half of them reside in a city or a town (8 women reside in the village). Almost 70% of the group have no more children apart from the ill one. The vast majority (88%) are religious, church-goers, following the truths of the Christian faith, using devotional objects and religious rituals as (in all probability) the way to move child's death or health crisis away, believing in the life after death and possibility to meet the child after his and one's own death. Less than a half of the mothers take care of the ill child for 2-10 years, and as many as 12 of them for more than 10 years (the most often being with the child all the time at home and in hospital). Contrary to the popular belief, during the research period (2009-2011) there were mainly children with neurological disorders (92%) cerebral palsy and other inherent defects (or damages), and only single cases of oncological disorders in the hospice. The consequences of the situation described above are as follows:

- first of all, intellectually disabled children function completely different than children with full emotional and cognitive capacity – it has an obvious influence on life situation and actions of mothers (different consequences on mother's identity are the result of having a child with development disorders, different – having a child who on a certain level of development is affected by neoplastic disease; the way of treatment on an oncological ward is also special – stress, fight, participation in a group of parents;
- moreover, the course of a disease is different when it comes to children with neurological disorders and children with neoplastic disease (the moment of death is less specified, it is easier to live with hope).

The interviews conducted with the mothers of ill children as well as the observation made during the visit in their homes suggest that contrary to the fear at the beginning, being under the hospice care is usually perceived by the women as a particularly positive situation, giving social support (‘*Starting of a hospice was like a ray of hope inside my heart. So there is a way! I stopped being a dead island that none can reach. I can accept help. But it is a matter of honour for me to also give help. It turned out that, thanks to M., her illness, I got to know the world I have never heard of*’), the feeling of being taken care of, security (‘*From the time we are in a hospice, I am finally calm. Worlds cannot express how beautiful thing the hospice* *is… However earlier I defended myself from the hospice, the place gave me heebie-jeebies all over my spine; it was always associated with death. But this is a house hospice and none will take away my D., so I decided to take a risk. Not until the doctor came to ER to talk to us and said that it is necessary to fatten D. at home did I realize that he would come back, that he would live, that there is a hope*') the hope to prolong life, and even improve the general functions. Sometimes being under the house hospice care is treated as fulfilment of tiny, selective needs ('I *know that you have the obligation to present the visits for the NHS, no problem. I simply need the tube /tracheostomy/*') – what can be understood as a negation of the fact that a child needs palliative care, that his condition is very serious and can lead to death.

This favourable attitude towards the hospice, its workers and their treatment would evidently not exist if the chronic incurable illness did not allow for the child and a parent(the most often mother) to stay at home (thanks to the house hospice, not in the hospital). The hospice is thus from the mother's point of view a 'salvation' from hospitalization, and the risk of infection every time, the necessity to spend long weeks in a room environment friendly neither for the child nor for the parents.

The necessity to take care of an incurable child still significantly limits the mother's social relations; it forces them to stay at home and gives no possibility to freely leave home for even over a dozen years. This is the result why the women feel strong loneliness (stronger than the mothers of healthy children), however the perception of this condition can be varied:

'*I am and I am not lonely (...) Sometimes I just want to leave the house and shout: I am so miserable! I am so lonely!'*

'I have to be alone. I have a difficult character. I still have to work on myself…'

'Loneliness, in a negative sense, is something we can do to ourselves. Then it cannot be cured by any medicines, or therapy. You have to learn how to live and teach people around you that the situation you are in is normal.'

Intensive contacts with the hospice workers (several phone conversations every day, one or more visits of a nurse, rehabilitator a day, less often but also systematic visits of a doctor, psychologist, and volunteers) cause that the social relations of mothers of the child broaden. What is more, there appear new possibilities to divide domestic duties, especially taking care of the child, what gives the mother the opportunity to fulfil her basic needs outside the house. It is the phenomenon that gladdens most of the mothers; however those withdrawn so far are worried and aloof.

Adaptation to being under house hospice care and to an incurable illness consists of phases and is a long – lasting process, that rarely ends in an acceptance and agreement (*'We have to learn everything from the very beginning – nursing, care, acceptance – well no, not acceptance, I will never accept the fact that my child is ill and will die).*

The results of the conducted research indicate that the perspective of quickened death of a child greatly increases the level of mother's stress, what fosters applying more or less adequate methods of managing (going beyond the division into: focus on the task, emotions, avoidance [11, 12]). The ways of reacting in the crisis situation, observed in the research group, are divided into more or less constructive.

The constructive ways of dealing with a crisis situation are as follows:

- focus on the presence, changed time perspective (what counts is 'here and now', planning is banned),
- selection of 'important and irrelevant matters in life' (lack of time on rivalry, focusing on mundane matters),
- care of internal piece and well-being of one's own ('for the child'),
- focus on care, rehabilitation, therapy, fulfilling child's dream (things that are important and available now),
- elating relation with a child and family,
- discovering and analysing the sense of life (need and willingness to discuss these subjects).

The listing presented herein above can be illustrated by one of the mother's words: *'Our life, the life of parents having ill, disabled children must be organized. I mean that we need an order in our life, because otherwise there will be a catastrophe. (...) My child needs me in a good condition. It is like taking care of a garden, you have to weed it regularly.'*

Non-constructive ways of dealing with a crisis situation are as follows:

- obsessive analysis of every symptom ('contagious hypochondria'),
- not following the medical decisions of doctors, constant negotiations, conditional trust for the doctors (*'I know better what my child needs'*),
- negation (superseding of the thought) of the fact that the child is in a terminal condition,
- withdrawal from the social life, isolation, aversion to meetings,
- avoidance of contacts with parents having children with the same illness,
- magic thinking, 'devotional objects',

- overprotective, infantilizing the child, possessive attitude towards the child,
- messianic attitude, the feeling of uniqueness, lack of empathy towards other people,
- mixing the anger and sorrow caused by the child's illness,
- demanding attitude,
- refusal of cooperation, threatening with autoaggression and suicide.

One of the constructive strategies, namely focus on the presence, is an absolutely positive ability worth copying. It also means shortening of the perspective, blocking the images showing the future, what will happen when the child dies. The loss itself is obviously difficult to imagine, but it cannot be forgotten than the life with ill child, very often for long years, has an enormous impact on mothers' well-being. The mothers, who in the harness of twenty-four-hours nursing and carrying activities, 'enslaved' in the child's room, isolated from professional and social life, generate strong fears concerning the situation when the sense of their existence will be different (unknown, yet to be created), and they will have not only to survive and go on but to live 'somehow', and face the world outside – the world they do not want to think about now, the world that with high probability terrifies them [13].

Summing up the results of the conducted research and analysis it should be indicated that the statement saying that the family of the child, being under palliative care, is constantly in depression and despair is incorrect. The perception of happiness and unhappiness, experiencing depression are conditioned on the whole range of different factors (inter alia personality) not only the situation (as illness, the view of the child's death). Moreover, according to the words of the poet quoted herein above, death cannot be looked at steadily (for a long time) because the ways of psychic defend, characteristic for the person, appear quickly. When it comes to this most of the women completed their task to distance from threatening thoughts correctly, however sometimes they led to non-constructive strategies.

Nevertheless it can be observed that confrontation with the perspective of the child's death makes some mothers more mature and focus on what is 'here and now', what fosters taking care of the best quality of the child's life in the final stage. At the same time neither of the mothers could avoid less positive consequences concerning functioning of her and the family. Constant change of the situation is also of a great importance. Worked-out ways of dealing applied during the improvement are of no use in the crisis, which is possible every time. Therefore, it cannot be said that the women have one (or even a few) strategy of behaviour, but it is a kind of constellation of behaviours which is influenced (apart from the features of the child's illness, family situation and one's own personal capacities) by such factors as: the phase, flow of the time, ‘chronicity’ of the situation and stress. Thanks to extreme tiredness and psychic burnout using more constructive strategies becomes impossible, which can lead to extreme behaviours threatening the well-being of a mother, child and family. In this situation the presence, bountifulness, variety of the social support network is unspeakable. Whereas the knowledge how mothers, having terminally ill children, behave gives the surrounding greater opportunity to give help, adequate to their needs.

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Boundaries of life and death, and legal aspects of futile medical therapy – a dogmatic and comparative analysis of selected literature

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Introduction

Suffering, illness, issues related to death and passing are concepts often repressed by the society. As a result of development in new technologies and medicine as well as mental and cultural complexity of our times, legal and moral norms must evolve and be adjusted to the current reality [1]. Interest in ethical considerations at the end of life, and especially in choices connected with the end of life and euthanasia, is growing rapidly. There are many conferences discussing multiple aspects of human life boundaries [2]. The issues connected with the end of human life are closely related to the branch of medicine growing very dynamically in our times, that is with the palliative care. That is why the issues connected with the ethical side of the end of human life are closely related to the palliative care. The question arises if the palliative care is a type of futile medical therapy.

The aim of study

The aim of this study is an attempt to answer the question of whether, from a strictly medical or legal point of view, a person facing terminal illness has a right to make choices, and especially to reject the therapy used with them and in consequence to dignified death.

Therefore, based on the quoted literature, are we able to answer the question if the palliative care used at the end of patient's life is a form of futile medical therapy?

Methodology

In the study the selected literature data based on the current Polish legal status as well as ethical theories in deontology and consequentionalism have been analysed, using the dogmatic and comparative method.

Results

The term “futile medical treatment” is not used in the legally binding provisions in Poland. Saying that medical therapy is “futile” does not impose an obligation to withdraw from it, nor does it exempt from other obligations specified by law. Futile medical treatment means using “burdensome and costly medical treatment without a likelihood of achieving a good outcome”. Discontinuing it in the case of an indubitable lack of hope for improving the condition of a terminally ill patient is commonly regarded as righteous [3]. The clinical measures aiming to prolong the life of an ill person applied at the end stage of life may only postpone their death.

On the other hand, the palliative care for the terminally ill patients at the end stage of life, after discontinuing regular therapy has as its aim to improve the quality of their life in its last stage through the activities intended to reduce pain and suffering related to illness. The routine palliative treatment covers broad aspects of medical, nursing, psychological, social and spiritual care. This task is fulfilled in Poland by the palliative care institutions, hospice homes and other similar facilities [4].

With regard to the above the palliative care focuses on the improvement of quality of life until death and does not include euthanasia, or to be more precise, passive euthanasia. Euthanasia in its strict and proper sense is to be understood as an act or negligence which, by its nature or by the intention of the agent, causes death for the purpose of removing all suffering [5]. Euthanasia should be made distinct from the decision to renounce the so-called futile therapy, that is the medical treatment which ceased to be adequate to the real medical condition of an ill person since it is not compatible with the results that can be expected, or too burdensome both for the patient and their family [6].

Boundaries of life and death in medicine

Dying is the last stage of human life. Perceiving death of man as a fragment of their life allows for understanding that death of man is subject to the same principles as their life. That is why the concept of “dignified death” is closely related to the idea of “dignified life”, complementing it. Dignity of dying and dignity of life are anchored in our human nature, and the way of understanding them is conditioned by anthropological assumptions [7].

That is why the right to dignified death may be understood as the right of an ill person to euthanasia. Then, the basis for this kind of right is the autonomy of human beings which allows for making choices about themselves and their life. In turn, the consent to euthanasia on a terminally ill patient in the name of their autonomy may be treated as abuse. There is no sufficient reason why in the name of autonomy agree to resign from the right to life in the situation of death from a terminal illness [8]. The palliative medicine helps terminally ill patients to come to terms with death, go through this difficult time in their life in a dignified way, in consequence not leaving them choice about their further life or death [9]. The idea of palliative care makes euthanasia unnecessary as its goals do not include the intention to end a life, but a guarantee of providing support before death. Undertaking special activities in the palliative care requires a broad approach to the patients and their rights. The fundamental requirements in this scope are the activities intended to obtain psychological, social and spiritual help as regards fulfilling physical needs [10].

The personalistic concept of dignified death assumes that a dignified death is a natural death, occurring as a consequence of incurable disease or a lack of biological possibilities of the human body to continue life because of the ageing process, without hastening or prolonging it in an artificial way. Only this kind of death does not infringe the fundamental right to life. Dignified dying also means, to the extent possible, maintaining personal integrity, that is such fundamental features inherent in man as awareness and subjectivity, which are revealed in this stage of life by the patient's participation in a therapeutic process. An important element of dignified death is a possibility to continue basic roles and relations in the society, such as maintaining contact with relatives, family and friends, which brings comfort to the person awaiting death. Finally, dignified death is ensured by a lack of pain and other negative symptoms which disturb and distract the dying person, and hinder their relations with the surroundings [11, 12]. The above concept of “dignified death” is advocated among the circles opposing the legalization of euthanasia.

In Poland one of the boundaries of life and death in medicine has been marked by the palliative medicine whose task is to ensure that the ill person has a right to dignified death. According to Art. 31 of the Polish Medical Code of Ethics, a doctor is not allowed to use euthanasia or help the ill to commit suicide. However, in accordance with Art. 32, sections 1 and 2, a doctor is not obliged to start and conduct resuscitation activities, a futile medical therapy and use extraordinary clinical measures with terminally ill patients, and the decision to discontinue resuscitation lies with the doctor and is connected with estimating chances of a cure. The palliative care of the ill patients at the end of their lives, known in the English language literature as the terminally ill patients, is an alternative to euthanasia. That is why the principles of palliative care should be particularly based on respecting human dignity. The palliative care should neither hasten or shorten, or prolong the life of a patient as it accepts death as a natural phenomenon and is against the idea of prolonging the life of a dying life at the cost of additional suffering [13]. In view of that the contents of Art. 32 of the Medical Code of Ethics should be considered when making therapeutic decisions. It is one of few provisions which define the autonomy of doctors. As regards the evaluation of ethical conduct, it exempts physicians from using futile medical treatment and extraordinary clinical measures in terminal illnesses, emphasizing that the decision on the matter lies with the doctor and should depend on the assessment of curing chances. This legal status indicates that the decisions concerning futile medical therapy as well as medical decisions should be based on the generally binding principles.

Ethical theories

Ethical theories have had a considerable impact on the morality of contemporary society. Along with the ethical principles having an influence on the current medical care, they form a basis for ethical admissibility of clinical decisions, and especially in the palliative care. There are also a few ethical theories available, which may be used to consider clinical dilemmas and decisions.

The theory of approach based on obligation is deontology. This is a normative position related to basic decisions concerning the obligation resulting from certain principles which should always be adhered to, regardless of the circumstances. The deontological approaches used to solve ethical dilemmas are based on individuals adhering to certain principles. Activity or a lack of it is regarded as ethically inadmissible if these principles are infringed. The principles are absolute imperatives that should be followed in all situations whatsoever. They are universal and include the rules of not killing and telling the truth. The problems of physicians and nurses in this approach occur when, for instance, the truth may do a harm to a patient or their family, or when a treatment which may have predictable side effects for the patient, or the one causing termination of their life is used [9].

The other theory reflects the approach based on consequences – the consequentionalism. Ethical approaches based on this theory are wholly connected with making decisions in reference to the consequences taking place as a result of undertaken activities. This approach is focused on the maximal increase in benefits and diminishing the number of harmful activities or eliminating them. Some activities are admissible even if it means that certain principles will have to be broken. In the consequential approach hastening the end of a person's life is ethically admissible if the consequences of this action would maximally increase the benefits of the person involved. There are two known versions of consequentionalism. The first one is the act utilitarianism including the debate over the good and bad consequences for each individual set of circumstances. The other one is the rule utilitarianism, concerning the actions based on defining overall consequences in similar circumstances, which are then applied in all comparable situations [9].

In reference to the above, medical ethics is based on analysis and determining principles guiding the conduct of the patient and physician. In ultimate existential situations it is necessary to answer the question about what decisions and activities truly serve the patient's well-being. In the stages of illness where only the palliative patient care is possible, the activities of doctors and patients' will may be completely different. Then, ethics may become a helpful tool, which seems to be an intermediary element between different perspectives of moral engagement of the parties. The purpose of clinical ethics is to provide justification in complicated matters requiring decision as well as mediating and guiding the course of thinking of the persons involved in such a way that a consensus may be reached about the course of action to be taken. An important task set for medical ethics is also describing the morality applicable to the clinical practice and verifying its significance in argumentation [14].

In a situation where we have competing types of morality, there is no need for one fundamental moral principle, but for the negotiation scenario within which a type of morality is selected where a consensus can be reached [15].

The right to information and the right to refuse treatment

The Polish law bans the so-called termination of life on request, be it the patient's or their family's request. Article 150 of the Polish Penal Code provides that whoever kills a human being on his demand and under the influence of compassion for him shall be subject to the penalty of the deprivation of liberty for a term of between 3 months and 5 years. The Polish legal doctrine emphasizes that the crime of euthanasia occurs if two cumulative necessary conditions are fulfilled, that is a human being's demand and compassion on the part of perpetrator. The crime under Art. 150 of the Polish Penal Code is common in character although the perpetrator of the act is a doctor or another member of the medical personnel [16, 17, 18, 19].

The contemporary medical ethics and medical law make sure that the patient has a right to information about their health. This concerns the right of patient or their legal proxy to obtain accessible information from a physician about the condition of their health, diagnosis as well as the suggested or possible diagnostic and treatment methods, the consequences of applying or renouncing them, and results of treatment and prognosis. A doctor may be exempt from the obligation only at the request of patient. A physician may spare the above information to other people solely with the consent of patient [20]. The information about the patient's condition of health is their personal interest and must be accessible and comprehensible.

According to Art. 32 and 34 of the Law from 5 December, 1966 on the profession of doctor and dental surgeon [21], each diagnostic and medical activity requires a patient's consent, which also means that a lack of consent expressed in the form of disagreement with or opposition to any element of treatment results in the obligation not to perform this treatment. The obligation is imposed regardless of the assessment and purposefulness of therapy by the doctor. The therapy does not need to be viewed by doctors as purposeless, invaluable or futile for the patient to decline it. Articles 33 and 35 of the Law from 5 December, 1966 on the profession of doctor and dental surgeon show that the decision to use or not to use a certain type of therapy lies with the doctor when it is necessary to act promptly, when the will of the patient (or their representative) is unknown and there is no possibility to obtain their consent without delaying indispensable treatment activities.

Each written declaration made by the patient about their resignation from the proposed form of treatment has an evidence value. The principle is that the patient's hospitalization may take place with the patient's consent. According to Art. 16 of the Act from 6 November, 2008 on the rights of patients and the Ombudsman for Patients' Rights [22], the patient, after obtaining relevant information, has a right to either give consent or refuse to be given a certain kind of medical treatment, including the one provided in hospital. The person who is a hospital patient may resign from treatment at any time having obtained information about the possible consequences of terminating the treatment in hospital. In this kind of situation a patient makes a declaration about discharge from hospital at their own request, and if they fail to do so, the doctor makes a suitable note in medical documentation (Art. 22, section 1, point 3 of the Law from 30 August, 1991 on medical care facilities, J. of Laws from 2007, No. 14, item 89 with later amendments). Similarly, this principle may apply in the work of family doctor.

The patient's consent as a factor morally sanctioning the diagnostic, treatment and prevention activities is also provided for in the Code of Medical Ethics, Art. 15, section 1. The patient's consent from the point of view of civil law is a classical declaration of will. The declaration of will, in accordance with the provisions of civil law, should be an informed, free and serious act, which is made with the intention of causing legal effects. It should be remembered that this consent must be an informed one, that is expressed after receiving exhaustive information from a doctor [23]. In the case of a patient's refusal despite receiving the above information from the doctor, the latter does not bear responsibility for the adverse effects of a lack of patient's hospitalization [24].

Declarations of will made by patients emphasize their autonomy. A declaration of will is a way of expressing a will by a patient with regard to their future therapy, and especially in reference to the period of the end of life. It must be expressed when a patient is fully compos mentis and does not act under duress. A declaration of will may concern the limitations and trends in the patient's therapy in the terminal stage of illness.

One of the patient's rights is also the right to die in dignity, which may be realized only when an ill person has sufficient information about their situation and may independently decide about the place, conditions and scope of the conducted therapy.

Discussion

The knowledge of basics and principles of ethics should facilitate making ethical decisions in the work of palliative medicine specialists who, working with terminally ill patients make ethical decisions on a daily basis. A principal problem in ethical conflicts is a lack of patterns and ready-made solutions. What conduct on the part of physician in a given case will be best for the patient should be determined with the use of a reliable analysis of values. There are situations where a doctor has a right to withdraw the life-sustaining treatment of a patient, that is renounce or discontinue it. We may renounce something only when this thing is possible for us. The therapy which a doctor may renounce or discontinue is therefore optional for them. However, in a situation where such cases do occur it is harder to reach an agreement. The difficulty in reaching an agreement results first of all from the fact that the obligatory or optional character of a possible therapy depends on two different criteria. It depends on whether a given therapy is advisable or inadvisable on account of the patient's well-being, and depends on the patient's will, on whether the patient really wants the therapy, merely agrees to it, or opposes to its use. Two of the above-mentioned criteria are often ambiguous since a doctor tends to have a problem even when they are only supposed to decide if a given therapy is really advisable for a given person or if it is truly desired by the person. The dilemma is heightened when one of the criteria collides with another, or when a given therapy is medically advisable but not desired, for instance the puncture of the pleura in the patient with fluid in the pleural cavity causing dyspnea or a diverting stoma of the gallbladder in the patient ill with icterus or, on the reverse, the therapy is desired but inadvisable, for instance in chemotherapy, radiation treatment in an advanced multiple neoplastic processes or a parenteral nutrition in palliative patients /radiotherapy consensus, nutrition consensus/. In the cases where this kind of criteria collide, the question whether a doctor is ultimately obliged to support the life of a patient does not only depend on the assessment of medical usefulness of a prospective therapy for improving the patient's condition, but also how they understand the will of the very patient. What is co-decisive here is a relative value attributed to both of these factors, and therefore their ethical orientation in the dispute between the exclusive welfare of the patient and their exclusive will [25].

I think that the ethical principle which is of fundamental importance when it comes to decisions regarding therapy at the stage of termination of life is the principle of autonomy. In practice it is often limited by the right of other participants of the process of treatment to self-autonomy and by objections regarding the capacity to make autonomous decisions. In very difficult, complicated and highly emotional situations related to the threatening of life and closing to death, there are conflicts between treatment providers and patients, and their caregivers. In most cases patients rely heavily on treatment providers and do not emphasize their own rights, but they are sorely affected when their autonomy and right of choice are infringed. Doctors should support and encourage their patients' autonomy, maintaining their own autonomy as regards evaluating the medical usefulness of the discussed forms of therapy. The complexity of situations where decisions to continue or discontinue therapy in the terminal stage of illness are made, and unavoidable coincidence of the autonomies of situation participants cause that the only mode of conduct that allows for avoiding conflict is dialogue and understanding. However, making decisions should be a process which is to be started very early, in an open and tactful way, bringing up the issues related to the possibility of unfavourable course of illness and death. Determining and communicating what a patient expects and what they do not agree to will allow for avoiding misunderstanding and conflict in the majority of situations. If, despite that, a position cannot be agreed on, legal action remains. We should bear in mind that at the last stage of life each day may appear to be very important for an ill person. There should be an individual and subjective approach to each patient's case and situation. Discontinuing futile medical therapies prolonging the life and suffering of a patient with their consent may be regarded as their agreement to dying, being a consequence of started and ongoing pathophysiological processes [26].

Conclusion

The patient's well-being is the main purpose of the activities of the medical personnel and when the active treatment does not serve their welfare it should be discontinued, but still the patient should be taken care of in the atmosphere of understanding and trust, which is the idea of palliative medicine.

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Wróblewska Izabela, Błaszczuk Jerzy, Pilarska Zofia

Spiritual aspect of elderly people care

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Introduction

Holistic point of view shows that senescence concerns both physiological and spiritual level of human life. The main difference is that while biological component is the reason of disturbance in homeostasis and diminishes QoL, spiritual senescence on the other hand should be responsible of human development.

Properly functioning spiritual component gives strength and acceptance of on-going physical changes. In order to take care of elderly properly its of vital importance to remember of all needs: psychophysiological, psychosocial and spiritualo-material [1]. They are responsible for wide range of human needs. Fulfilment of those is crucial on every stage of life and its realisation create so called quality of life [2]. This is the most evident in elderly people. Old age is normal stage of human life. Well-developed spiritual aspect of our nature allows to accept that period of life and helps to enjoy it. It can give to the elderly people self-consciousness and acceptance of natural physical limitations. So in caring of elderly its crucial to remember of their physiological needs and in the same time on fulfilment their spiritual needs either.

Authors dealing with elderly people care problems are increasingly aware of the crucial role of the psychic and spiritual attitude towards reality observation. In the medicine we can observe return to basics by individualised and holistic treatment of patient. Some scientists (A. Cencini, A. Manenti, V.E Frankl) have divided three specific levels of human activity. They are: physiological, psychic and spiritual and each has its individual importance and they influence each other. Any human being is different and is interacting with the surrounding in its own specific way [3, 4].

Basic physical level is characterised by physiological needs. They are: famine, thirst, need for rest and sleep, and instincts, drive, what one learns, and what meets. The survival of the population and thus our life is closely related to that level. According to Maslov theory satisfying these needs is the foundation of human functioning, when they are frustrated one is not thinking about the needs of higher level. This does not mean, however, that they are not important. In this case, the other two levels are functioning, but the main concern is the physiology therefore it is from which perspective one assesses the surrounding world. The problem occurs when the body (which is natural with age) no longer meets our expectations.

On the higher level there is a second important group of human needs – psycho-social needs. Thanks to them, a person can achieve psychological satisfaction in a relationship with another person. This means, as Richard J. Gilmartin said that taking care of your own appearance is not enough. Because by nature we are social beings, we ought to seek relationships with other people. Such conduct is a fundamental pursuit, on which depends the survival of the human species [5]. This means that friendships are valuable appreciation of human values, as well as confirmation of acceptance by other people. Man by nature wants to belong to a community, to provide for others, but also wants recognition of own problems. This need is clearly seen in the elderly, where the existence of the so-called friends network dramatically improves the quality of life of seniors. Psychosocial problems of older people show the validity of holistic and empathic approach to each of them. So subjective treatment of human beings, always as an individual person is priority thou.

These factors affect the performance of people, and major issue is the social attitudes towards those who are in the last stages of their life. Important is the level of services that will enable the manifestation of social activity, availability of medical assistance or rehabilitation [6].

If the social dimension is dominant than the difficulty or disturbance of the relationship with another man will result in the situation when meeting physiological needs only will be insufficient. It is highly likely that the lack of satisfying these needs will affect the overall well-being of seniors and can be the cause of physical illness [7, 8].

The next level of functioning is that of the human spirit, which is typical for humans only. It is based on a reflection on the meaning of life. This dimension includes the mental activities associated with the need to know the truth, corresponding to the human capacity of understanding the nature of things by separating it from the sensory data. At that level, man is able to break away from what is instinctive, socially conditioned and from the potential determinism [3]. So human value does not depend on how one looks and how its body works or how a person functions in society. Every person is valuable by simply being human, and it constitutes his very dignity. In this dimension all of human intentions have spiritual value. This level should be guiding and enriching our look at the surrounding world and the people. However, in everyday life it is often, for various reasons, dominated by physiology or social needs [2, 3].

According to Victor E. Frankl, a man has the freedom of shaping his own character and is responsible for who he is becoming also. Character, drives and instincts lose its significance and only attitude we adopt towards them becomes important. According to the author a man climbs to the level discussed when he lives his life, "dwelling on it" [3, 4]. Unfortunately, in modern times a man does a lot of things without thinking, in a hurry causing jamming of the spiritual realm. This underlines the importance of the human conscience, morality and ethics which distinguish man from other creatures. Not without significance is the love that allows us to understand another human being in all its uniqueness while conscience allows embracing sense of the situation in all its circumstances [4].

All of the issues affect the quality of life. So when a person begins to think about its meaning also begins to open up to the *sacred*, which according to Erich Fromm is inscribed in his life and influences our behaviour [7]. Spiritual sphere is very important, it helps in functioning in the physiological, biological and social areas giving them more mature and more human dimension. It affects human behaviour by stimulating to learn each other, overcoming what egotistical and selfish, helps in discovering the meaning of life and death also. The spiritual area concerns not only selected people but along with the other spheres is a part of every human being. In taking care for a senior it is important to deal with him/her as thoroughly as the care of the human body.

For most people old age is a difficult time relating to partial or total dependence on others. In the modern world, the perception of positive values in the lives of older people becomes vulnerable. Therefore in senior care we have to try to pay enough attention to every sphere of existence and all human needs [9, 10].

It seems that in the care of older people we are focusing on the physical aspect while in the functioning of a human mental and spiritual health turns out to be equally important. Hence, analysis of the problems of the every senior should include messages regarding an individual hierarchy of values.

Patients opinion on the its role and place in the surrounding world is affected by many factors. Among these are the changes which occur both in the body and in the spiritual realm which increases with the arrival of old age. It can be concluded that aging starts from the moment of birth. However, when discussing its quality we can talk about two types of this process. The first - the correct runs quietly, without complications of disease. This is influenced by many external and internal factors including lifestyle and genetic load. Yet another type of aging – pathological is the most common that is when the disease accelerates process, and therefore this stage of life experience becomes more difficult [9].

Great number of attempts to explain the reason of the phenomenon of human biological aging is undertaken. The first group constitutes of so called the stochastic theories which believe that aging is something progressive in time happening by chance: crosslinks theory, consumption theory, major errors theory by Orgel and free radical theory by Harman. The second group are so called – the nonstochastic theories according to which the aging process is primarily determined – biological clock theory, theories of genetic aging [3]. P. Baltes distinguished two phases of old age - the so-called the third and fourth age. Early retirement is a phase of the third age, and its late period is called the fourth age (people over 75 yrs.). Classification according to WHO looks a bit different it distinguishes pre-elderly age (45-59 yrs), aging (early old, young-old 60-74 yrs), old age (late old age, old-old 75-89 yrs.), longevity (long life, at least 90 yrs) [11)]. Regardless of the scientific divisions adjusting to the process of the human body aging man is afraid of somatic changes which relate to appearance, overall organ function, psychological and characterological changes [10, 12, 13, 14].

People are afraid of this stage of life, which as the process occurs gradually, but leads to significant biochemical changes at the tissue level, reducing the efficiency of the organism and its ability to adapt to environmental changes thereby increasing susceptibility to disease [13]. With the emerging signs of aging concern about the quality of future life is growing along with the fear of the inability to stop the on-going process. Old age is the stage in human life which among all the other phases of human life causes the highest reflection and a desire to stop time.

Biological aging affects all spheres of human life. Mental attitude to old age turns out to be a decisive, which stays in close relation to the biological processes in the aging organism and determines the social role of the elderly also [10]. For many people, retirement is waiting and preparing for death depending on the individual human beliefs to what will be afterwards. This is particularly important at the time of life in which because of the disease and the difficulties that brings old age a person can feel stripped of their identity.

Seniors often feel alone which is caused by the change of social role or the of change live environment [15]. It is the stage of life when questions about the meaning of human existence, lived days values begin to emerge, which consequently leads to the crises in the meaning of life [16]. In the care for the elderly diminishing fear is crucial and the attempt to rebuild the spiritual level and help in learning to ask the existential questions and not jamming someone's thoughts is important also. The fear of loneliness and death is in many cases greater burden for seniors than dysfunctions of their bodies.

Help in finding the meaning of life and support in realizing their own hierarchy of needs are the basic tasks of caregivers. An attempt to transfer the weight of the validity of physicality to spirituality helps the older man feel wholesome person. Such actions is not easy, because providing basic physical comfort is time consuming. However, you can try to connect taking care of the body and spirit of the patient in the same time. Important in the care of elderly is it's perception of old age as a particular period of life. Important is a form of pre-run activity, as cessation of work is one of the major psychosocial problems of an elderly person. Esteem, aspirations and prestige associated with the pursuit in work become a thing of the past and their place remains unfilled void. This may induce a feeling of being worthless seniors. When there is a problem of death of a spouse, elderly person is exposed to stressful and difficult emotional experiences. During this period, we may see doubt about the meaning of further life. No partner, the end of their career, getting worse functioning of the body, lack of acceptance in society all have the right to cause negative emotions.

In addition, the stereotypical treatment of seniors usually negatively affects their quality of life. Those stereotypes does not allow for a sense of equality among the members of society, and limits the possibility to make decisions about their lives [17, 18]. This situation is another difficulty in the life of an elderly and the most common consequence is to put seniors in institutions. Alien environment, complete and are not always a voluntary change of residence, cause stress, confusion and loneliness which is compounded by the lack of positive relationships with others.

There are three different groups of human experience loneliness. The first is that in which lack normal relations between people. Man lives next door by choice or is unwanted. The second is the mental solitude in which an older man feels lonely in the modern world the reason is the growing technology and globalization. Senior is then lost in the everyday life around him, which is his subjective feeling. The last type of loneliness is the moral loneliness so-called spiritual emptiness [19]. It often occurs when, instead of care in the home, among family members, an elderly person for the alleged good is placed in a nursing home. Some of the seniors feel the life in it as being in a "golden cage". Typically, these people appreciate the professional and full-time care, but the family home, relationships with neighbours are more important to them. The big problem is thus replacing the previous environment by a room in the senior house, which involves a change in lifestyle, braking habits and constantly being in a foreign environment. Additional and important difficulty is disease causing total human dependence on foreign caregivers, which evokes a feeling of being trapped in your own body.

Increasingly, due to lack of time, skills, fear, and sometimes because of the selfishness and laziness young people decide to donate their loved ones to the care of the various institutions. In these institutions, in order to provide comprehensive assistance for the acclimatisation of the oldest the new environment is created and the special care and therapy team is created. Its task is to resolve any problems as well as the care of the seniors time whose condition is very different and requires an individual approach. The procedure is therefore dependent on the needs of the oldest and most of all of his health. Loss of efficiency also leads to loss of independence and control over life, and this limits the elderly living space and makes them dependent from other people.

It consists of different physical and mental problems of old age [6, 19, 20]. If senior requires only care minimal then the emphasis is put on the activation. If his/her the functioning is limited by various factors caregiver has to focus on the support of self-service activities especially but only relieving and not substituted patient’s activity.

A modern and comprehensive geriatric patient care should take into account dealing with all bio-psycho-social problems of seniors [21]. An important part of care are communication skills, which in relation to an elderly person is not an easy task. The mentality of older people, their emotions, lesions, and attenuation of sensory functions may hinder proper course of taking care. Awareness of and appropriate attitude toward seniors is essential, and the intellectual and mental abilities of carers have a significant impact on the result. It will also make it easier for carers to take issues related to the patient's mental sphere, allowing it to break away from the somatic dysfunction and direct your thinking toward spiritual topics [22]. In the relationship with the patient it is important to subjective approach. Noticing primarily endowed human dignity and freedom, partner relationships is key to the effective care [23, 24]. Carers often take responsibility for seniors. They should, in accordance with the humanistic principles of contact with the patient, treat it in an individual, kind, honest manner with respect for his/her dignity and autonomy [23]. The nature and characteristics of personal carers for the elderly and their relationship to the senior have a significant impact on quality of life and sense of security [22].

Summary

A man in every stage of his/her life is the unity of psycho-physical-spiritual. Different types of malfunctions and failures do not diminish the dignity of humanity and do not release out of respect for these people. The relationship with other people is one of the conditions for a dignified life of every human being therefore, in the care of senior do not forget that the patient is always a man in the full sense of the word. The number of days lived by is not as important as the quality of each of them. In dealing with seniors one should pay special attention to the reflective component because it affects the development of the spiritual level of life which contribute to the better functioning of the physiological, psychological and social realm.

It is important to recognize the need for the care of dependents, as it helps to live life with dignity. In addition, humanitarian attitude of the members of the therapeutic team provides the information regarding the level of their humanity. Respect for human dignity can never be left out in the work of the patient [12, 24, 25].

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The role of a nurse in estimation and management of postoperative pain among patients suffering from breast cancer

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Introduction

Breast cancer is the most common and dangerous malignancy that affects women in Poland as well as in the world. Nonetheless, thanks to the development of oncology and early detection, the standards of living and the survival rate of patients has been improved. Resective surgery (radical resection, also known as Breast Conserving Therapy) is still the most effective method in treating breast cancer and it poses a great emotional shock for women. The resection of breast, similarly to any other surgery, is extremely painful. The pain is the most dominant and negative impression of the postoperative period. Therefore, easing the pain among patients is priority during that period, and the antalgic therapy is the most important part of the postoperative treatment [1].

Estimation of the pain by patients is supposed to be made with simple methods, which imply marking the pain intensity on a proper scale. The most common scale types are: Visual Analogue Scale, Verbal Rating Scale and Numerical Rating Scale [2].

Verbal Rating Scale (VRS) represents a descriptive approach.

It is an ordinal, five ordered response levels scale, which consists of organized numbers. The numbers represent different levels of pain intensity [2].

mild	moderate	Severe	very severe	overwhelming

Figure 1. Five ordered response levels scale of pain (Likert scale).

This scale is commonly used, but its disadvantages are differences in subjective interpretation and its difficulty. The patients may misunderstand the terms and the expressions may mismatch the patients' description of their pain [3]. Numerical Rating Scale (NRS) is a 10-point scale, in which 0 stands for 'no pain' and 10 stands for 'worst possible pain'. The scale is of high sensitivity and reliability. Comparing to other scales, this particular one measures the intensity of pain, it is user friendly and the most recommended due to the correct diversification of the given answers [2].

0	1	2	3	4	5	6	7	8	9	10

Figure 2. 11-point rating scale.

Visual Analogue Scale (VAS) is an image descriptive scale, on which 0 stands for 'no pain', 10 stands for 'worst possible pain' and the intensity of the pain is marked by a patient with a point on the line [4].

| --- |
0 10
no pain worst possible pain

Figure 3. Visual Analogue Scale.

The length of a marked part of the line is noted as e.g. VAS 3, which means that the patient has marked a 3 centimeters long part, starting from the beginning of the scale. The values from 0 up to 3 represent a proper treatment. The values above 7 imply very strong pain and the necessity for an immediate intervention. The VAS is very useful as it allows to mark the description of pain anywhere on the scale [3].

Treatment of the pharmacological pain involves both strong and weak opioids, as well as non-opioid analgesics and adjuvant medications [5]. Non-opioid analgesics include paracetamol and non-steroidal anti-inflammatory drugs.

Both paracetamol and non-steroidal anti-inflammatory drugs are used to treat mild and moderate pain [6].

The group of weak opioids includes codeine and dihydrocodeine. They are stronger than non-opioid analgesics but weaker than strong opioids. Moreover, they are very effective when used to treat mild and moderate pain [2].

Strong opioids are morphine, dolophine and fentanyl.

The postoperative pain is treated according to the analgesic ladder by World Health Organization (WHO).

The analgesic ladder suggests that according to the intensity of pain, pharmacological treatment starts with weak non-steroidal anti-inflammatory drugs or paracetamol to strong opioids, like morphine, dolophine and fentanyl [7].

Treatment of postoperative pain is crucial for patients' recuperation after the resective surgery. A nurse plays a key role in treating patient’s pain as she spends a lot of time with the patient and simultaneously, has the greatest opportunity for their observation.

A nurse plays a very important role in treating the postoperative pain among patients who underwent mastectomy. Every patient should be informed about the ways of treating pain before the surgery, since the awareness and knowledge about the experience of the process allows for a better preparation before the pain occurs [8].

After the surgery some pain may occur but the patients should be aware of the ways of easing and controlling it. The nurse, having custody of the patient who has undergone the surgery, is required to notice and recognize non-verbal signs of pain, such as: rapid breathing and heart rate, excessive sweating, high blood pressure, winces, crying or sighing. In response to these signals, she is required to react quickly in order to prevent any harmful results of pain [4]. Furthermore, the nurse’s job includes regular noting and marking the intensity of the patient's pain in the Case Report Form (CRF). It is also important to notice any possible postoperative complications such as: respiratory depression, retching, nausea, skin itching, paralytic intestinal obstruction, which would be the result of using analgesics. In order to avert the complications, except for the marking of the intensity of the pain, a nurse is required to check blood pressure regularly, heart rate, saturation, breath frequency and peristalsis in bowels. It is a necessity to pay attention whether the postoperative wound is not bleeding or dehiscing and control the wound drainage system. A nurse, cooperating with a doctor, should provide the patients with analgesics, which choice depends on patients' age, weight, diseases and kind of anesthesia used during the surgery. Analgesics are being given in such an advance so that the patient does not feel pain [4].

Since it is a nurse with whom the patient spends most of the time, she plays the major role in pain management of the patient who has undergone mastectomy. Summing up, the nurse's task is to identify the pain, estimate an intensity of the pain, closely cooperate with the multidisciplinary medical team, start averting pain, estimate the efficiency of the analgesic treatment and educate the patients and their families. Since the role of a nurse is of great importance, she is required to possess a great knowledge of the process of pain transduction, ways of estimating pain and providing education [2].

Paper's assumptions and goals

Postoperative pain monitoring and estimation of analgesic treatment efficiency among patients who have undegone mastectomy are extremely important in treating breast cancer as these factors influence patients' motivation to overcome the disease as well as their standards of living. Therefore, the main goal of the paper is estimation of nursing care quality in terms of treating the postoperative pain among patients who have undergone resective surgery.

The research was carried out in MSWiA hospital and WMCO in Olsztyn.

Questionnaire of my own design served as a research tool. Next, the results were submitted for statistical analysis, which employed, among others, the method of multivariable analysis based on median, mode and standard deviation [9].

The research was conducted among 60 women from oncology ward, among whom 30 had undergone mastectomy and 30 of them, breast conserving therapy (BCT). The questionnaire that has been designed for the research includes an imprint, consisting of such data as: age, education history and address.

Among the interviewees, women in age of 50-59 and 60-69 were majority (20, which is 33.33% of the total 60 for the first group and 16, which is 26.7% for the second). The smallest group consisted of 2 women in age of 70 (3.3% of the total 60) The research also included 11 women in age of 28-39 (18.3%) and 11 women in age of 40-49 (18.3%).

In terms of educational background, the biggest group consisted of women with secondary education (36.67%, which is 22 women) and vocational education (31.67%, which is 19 women). There were also 13 women with higher education (21.67%) and 6 women with primary education (10%).

Women, who took part of the survey, were also asked to provide their address. Majority of 19 women (31.67%) lives in towns not larger than of 50 000 inhabitants (31.67%). Smallest group included 12 women (20%) living in towns of more than 50 000 but less than 200 000 inhabitants. There were also 15 women (25%) living in cities of more than 200 000 inhabitants and 14 women living in villages (23.33%).

Estimation of nurses' commitment to treating the postoperative pain in patients.

Most of the asked women (60%) claimed that they had been informed about the ways of treating pain during the postoperative period. Still, 40% had not been informed (Table I, Fig. 4).

Table I. Statistics concerning answers on a question: 'Had you been informed before the surgery about the ways of treating pain that would be chosen after the surgery?'

Had you before the surgery been informed about the ways of treating pain, that would be chosen after the surgery?		
Yes	n = 36	60%
No	n = 24	40%
Average		1.40
Standard average error		.064
Median		1.00
Mode		1
Standard deviation		.494
Variance		.244
Minimum		1
Maximum		2

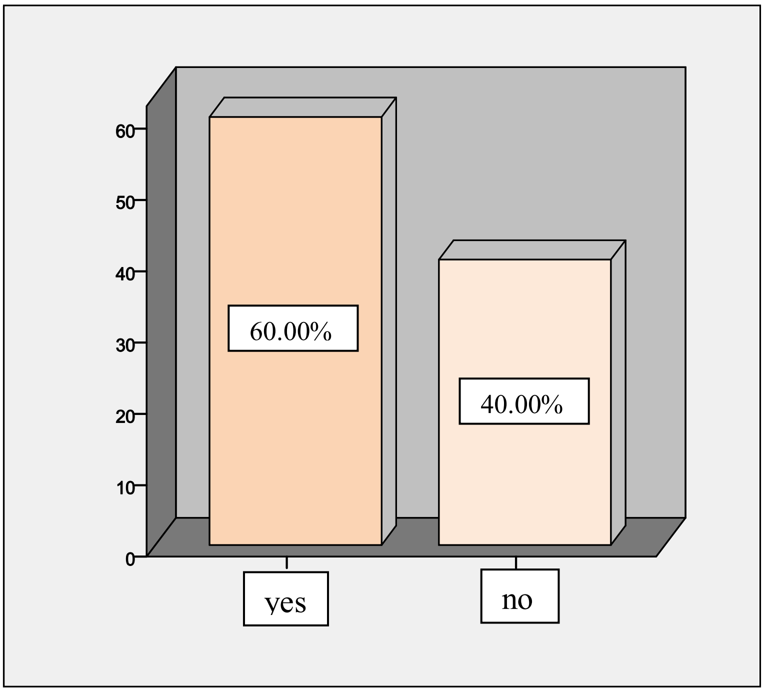

Figure 4. **Statistics concerning answers on a question: 'Had you before the surgery been informed about the ways of treating pain that would be chosen after the surgery?'**

Most of the asked women (55%) claimed that before the surgery they had talked with a nurse about how they would like their analgesic therapy to look like. Still, 45% had not had this conversation (Tab. II, Fig. 5).

Table II. **Statistics concerning answers on a question: 'Did you talk with a nurse about how you would have liked the analgesic therapy to look like?'**

Did you talk with a nurse about how you would have liked the analgesic therapy to look like?		
Yes	n = 33	55%
No	n = 27	45%
Average		1.45
Standard average error		.065
Median		1.00
Mode		1
Standard deviation		.502
Variance		.252
Minimum		1
Maximum		2

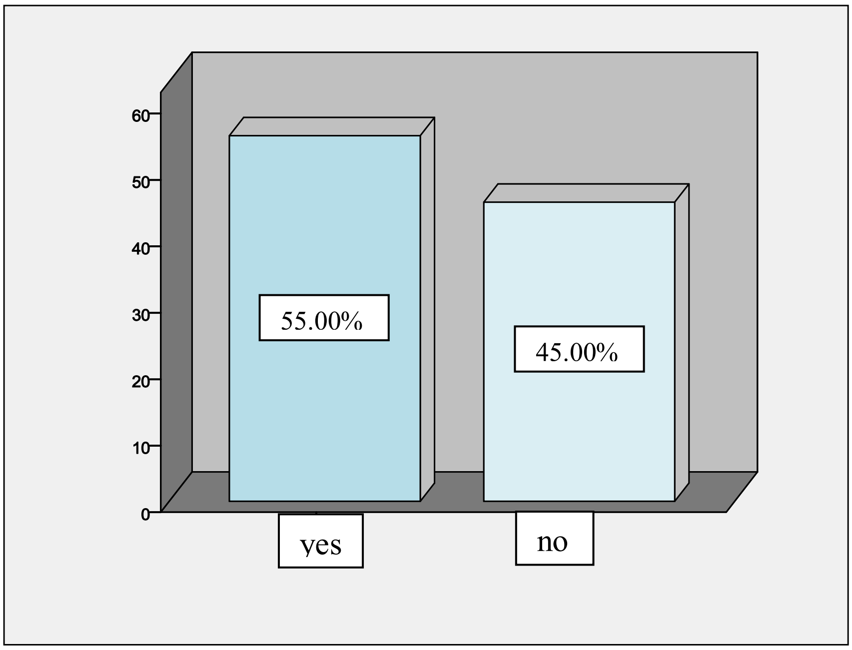

Figure 5. **Statistics concerning answers on a question: 'Did you talk with a nurse about how you would have liked the analgesic therapy to look like?'**

Most of the asked women (71.7%) claimed that when their behaviour suggested feeling pain, a nurse asked them if they had any pain or discomfort . Still, 28.3% had not had been asked that question (Table III, Fig. 6).

Table III. **Statistics concerning answers on a question: 'Did the nurse ask you about any pain or discomfort when you were restless, breathing deep or changing position?'**

Did the nurse ask you about any pain or discomfort when you were restless, breathing deep or changing position	
Yes n = 43	71.7%
No n = 17	28.3%
Average	1.28
Standard average terror	.059
Median	1.00
Mode	1
Standard deviation	.454
Variance	.206
Minimum	1
Maximum	2

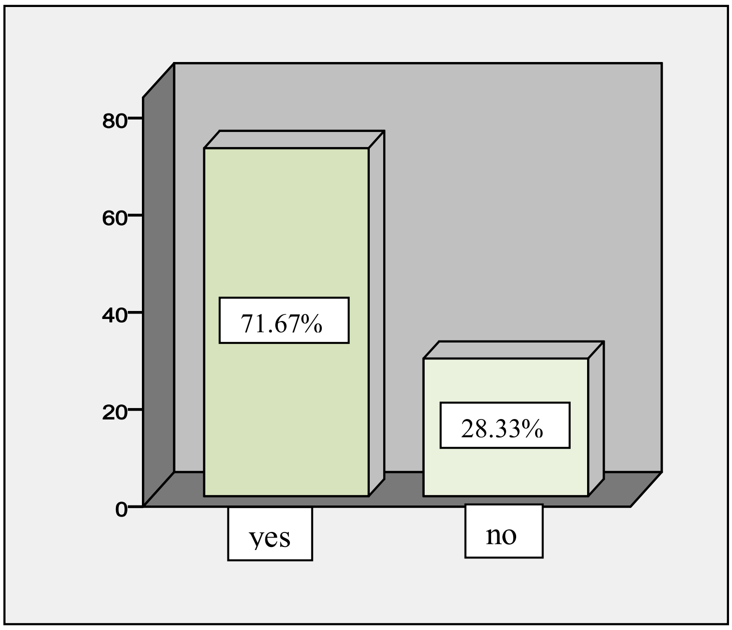

Figure 6. Statistics concerning answers on a question: 'Did the nurse ask you about any pain or discomfort when you were restless, breathing deep or changing position?'

Among the questioned, 50% received help in getting a comfortable pain easing position in bed and 50% did not receive this kind of help (table IV, Fig. 7).

Table IV. Statistics concerning answers on a question: 'Did you receive help in getting a comfortable position in bed, which eased your pain?'

Did you receive help in getting a comfortable position in bed, which eased your pain?	
Yes n = 30	50%
No n = 30	50%
Average	1.50
Standard average terror	.065
Median	1.50
Mode	1^a
Standard deviation	.504
Variance	.254
Minimum	1
Maximum	2

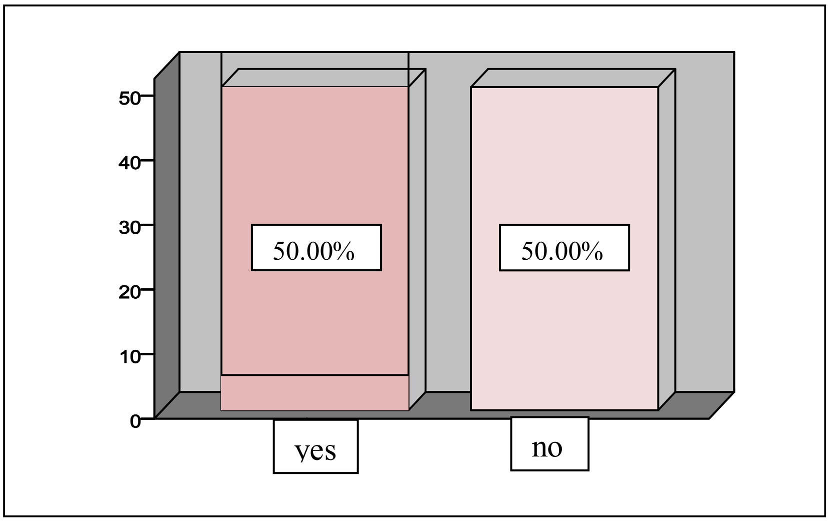

Figure 7. Statistics concerning answers on a question: 'Did you receive help in getting a comfortable position in bed, which eased your pain?'

Among the questioned women, 56.7% were asked to estimate the intensity of their pain using a 10-point rating scale, each morning, evening and afternoon. Still, 43.3% of the women were not asked to do that (Table V, Fig. 8).

Table V. Statistics concerning answers on a question: 'Did the medical staff ask you to estimate the intensity of your pain using a 10-point rating scale at least once, each morning, evening and afternoon?'

Did the medical staff ask you to estimate the intensity of your pain using a 10-point rating scale at least once, each morning, evening and afternoon?	
Yes n = 34	56.7%
No n = 26	43.3%
Average	1.43
Standard average error	.065
Median	1.00
Mode	1
Standard deviation	.500
Variance	.250
Minimum	1
Maximum	2

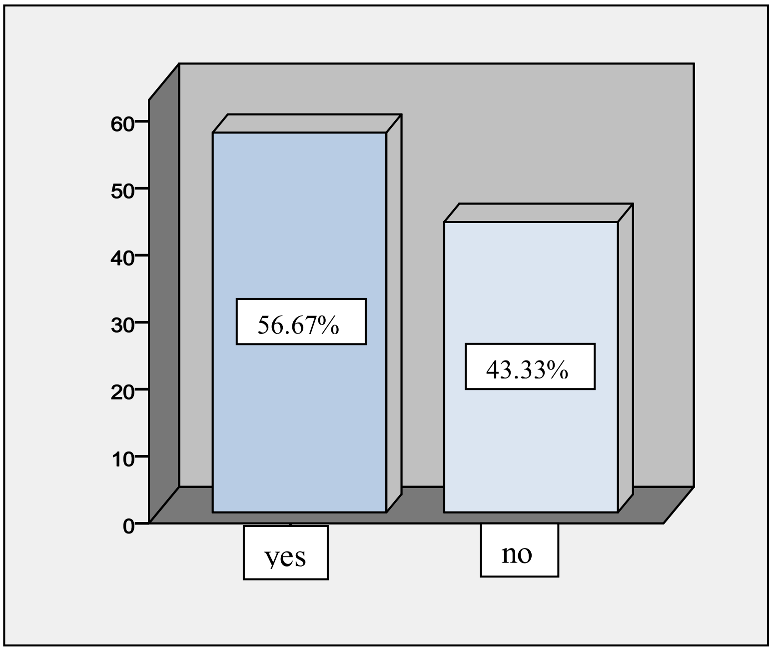

Figure 8. **Statistics concerning answers on a question: 'Did the medical staff ask you to estimate the intensity of your pain using a 10-point rating scale at least once, each morning, evening and afternoon?'**

Most of the questioned women (73.3%), claimed that nurses starting their shift knew all about their patients' pain, 18.3% of the questioned women claimed otherwise, and 8.3% of them did not know (Table VI, Fig. 9).

Table VI. **Statistics concerning answers on a question: 'Did the nurses starting their shift know all about your pain and how it had been treated?'**

Did the nurses starting their shift know all about your pain and how it had been treated?	
Yes n = 44	73.3%
No n = 11	18.3%
I don't know n = 5	8.3%
Average	1.35
Standard average terror	.082
Median	1.00
Mode	1
Standard deviation	.633
Variance	.401
Minimum	1
Maximum	3

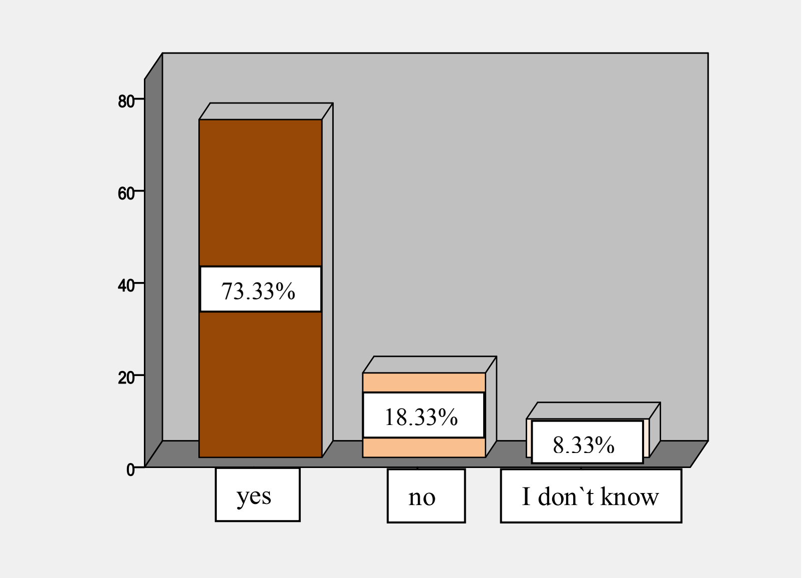

Figure 9. **Statistics concerning answers on a question: 'Did the nurses starting their shift know all about your pain and how it had been treated?'**

The question, whether the patients were receiving analgesics even when they did not always ask for the, was mostly (40%) answered in the negative. 33.3% of the questioned women answered in the positive and 26.7% claimed that they received analgesics sometimes (Table VII, Fig. 10).

Table VII. **Statistics concerning answers on a question: 'Were you receiving analgesics even when you did not always ask for them?'**

Were you recieving analgesics even when you did not always ask for them?	
Yes, always n = 20	33.3%
Yes, sometimes n = 16	26.7%
No n = 24	40%
Average	2.07
Standard average terror	.111
Median	2.00
Mode	3
Standard deviation	.861
Variance	.741
Minimum	1
Maximum	3

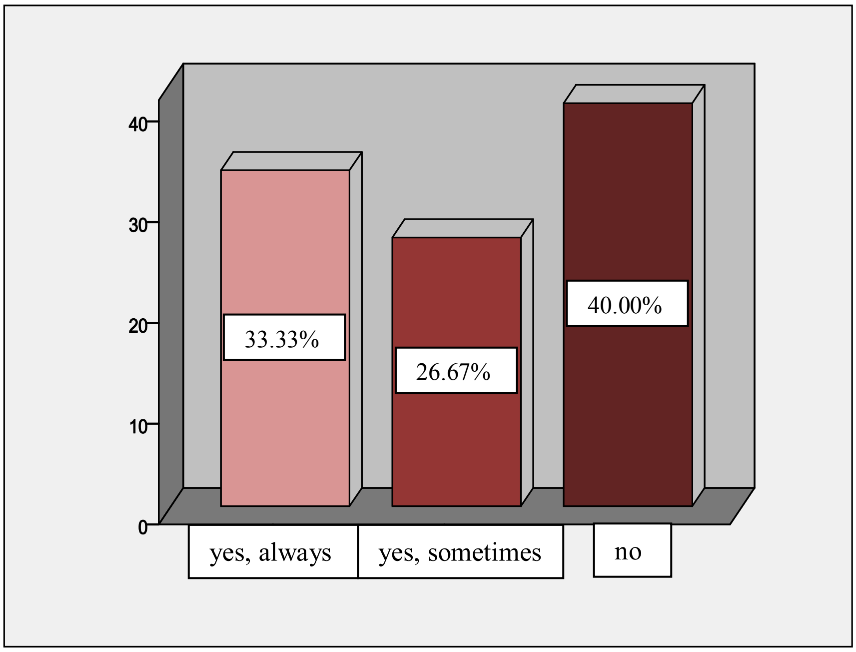

Figure 10. **Statistics concerning answers on a question: 'Were you receiving analgesics even when you did not always ask for them?'**

Most of the questioned patients (88.3%) claimed that nurses helped them in easing their pain until amelioration. Only 11.7% of the patients claimed not to have received that kind of help (Table VII, Fig. 11).

Table VIII. Statistics concerning answers on a question: 'Were nurses helping you to ease your pain until you felt a relief?'

Were nurses helping you to ease your pain until you felt a relief?	
Yes n = 53	88.3%
No n = 7	11.7%
Average	1.12
Standard average error	.042
Median	1.00
Mode	1
Standard deviation	.324
Variance	.105
Minimum	1
Maximum	2

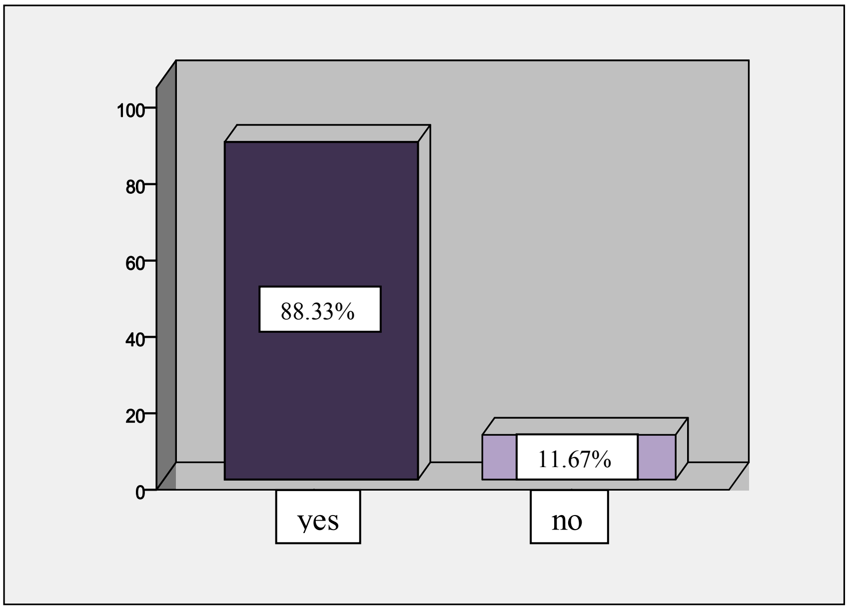

Figure 11. **Statistics concerning answers on a question: 'Were nurses helping you to ease your pain until you felt a relief?'**

Discussion

Nursing care of a patient with breast cancer who suffers from postoperative pain should be comprehensive and wide-ranging. Great qualifications and nursing skills when it comes both to body and mind of a patient are required from nursing staff in oncology ward, as suffering from cancer results in many stressful situations [5,10].

The aim of this paper was the estimation of the quality of nursing care of patients with postoperative pain being the result of radical as well as behavioural treatment. The research was done among 60 women, among which half underwent mastectomy and the other half BCT. Majority of the asked women appreciated the quality of nursing care in the postoperative period very much and represented a high level of satisfaction.

The research on the quality of nursing care among women with breast cancer was conducted also by K. Lewandowska and G. Bączyk. It has been done in Konin. The surveyed women had undergone radical mastectomy and an additional treatment. During the preoperative period, 55% of patients were informed by nursing staff about the pain that may occur in the postoperative period, the analgetic treatment which would be applied and the expected results. Among the questioned, 16.7% did not receive such information. Furthermore, 28.3% received incomplete information. As a result of the knowledge given to the patients during the preparation period, 46 women had positive attitude toward the treatment and estimated the quality of nursing care as satisfying. There were also 4 women, who claimed that this knowledge was useless and 10 women, who claimed that their knowledge came from friends and medical literature. The quality of nursing care was in their opinion unsatisfying [11].

Conclusions

On the basis of research performed by the author, the following conclusions can be drawn:

1. Nurses are very committed to treating the postoperative pain in patients.
2. The nursing staff is properly informing patients about the ways of treating pain in the postoperative period.
3. Nurses are very alerted by changes in patients' behaviour which may suggest that they suffer from pain.
4. Nursing staff makes several estimations of the patients' pain intensity during a day.

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Chmielewska – Ignatowicz Tomira

What do oncological patients pay attention to while watching medical TV series?

University of Cardinal Stefan Wyszynski in Warsaw

Preface

Cancer is the second cause of death in developed countries other than cardiovascular diseases, so a so-called cancerofobia [1] which is a fear of cancer, is quite widespread nowadays. Usually cancerofobia is caused by lack of faith in general information about the disease, ways of treating it and its consequences. However, the moment of gaining knowledge of a cancer diagnosis (especially when it's malignant) from a doctor is without a doubt the hardest moment in life for most patients. Reasons for that are many, such as identifying the disease with a 'death sentence' in social awareness, fear of forwarding the diagnosis to relatives, fear of death or apprehension regarding losing independence connected with limitations that such a disease may carry.

Considering that getting a cancer diagnosis is always marked with a great deal of emotions, especially connected with fear, many people tend to delay the moment of visiting a doctor with disturbing complaints or reluctantly approach preventive examinations in fear of accidental 'discovery' of a disease.

The amount of medical TV series increases every day and gains popularity among the audience. It proves that the issue of health and illness becomes more interesting to us – the viewers who are not doctors. That way, also based on a so-called 'idea placement', the idea of breaking down stereotypes of the way of thinking about cancer as a death sentence and conquering the fear of hearing the diagnosis or the fear of treatments, deterioration of personal, professional, social and family life is being implemented more and more often.

In the opinion of both doctors and patients, the main source of knowledge (for people not connected with medicine) regarding different medical topics is media and internet [2]. In the opinion of doctors also the image of a perfect doctor and excellent communication between a doctor and a patient is being built in the consciousness of patients based on media, and – more importantly – based on the construction of a world presented in highly viewed medical TV series.

Considering social fear regarding cancer, the increasing number of highly viewed medical TV series, the TV series policy of forcing patients to subject to preventive examinations and visiting doctors and building a better PR of Polish medical service and doctor-patient relations through TV series is supposed to make us wonder how exactly the power of TV series and ideas of conquering fear regarding cancer diagnosis presented in them are viewed by people who actually have the experience of hearing such diagnosis and at the same time were and still are people who watch medical TV series in Polish television.

The role and importance of media in creating specific audience attitudes, providing them with specific stimuli and educational content seems to be an interesting research field. It's important to try and analyze (taking high viewing ratings of medical TV series into consideration) how and if TV series affect viewer–patients in terms of preventive examinations, cancer, mutual competences and communication expectations between a doctor and a patient, subsequently comparing the images from medical TV series to real experience with cancer diagnosis. In analysis of those phenomenon it's important to use hermeneutical and phenomenological traditions and look closely not only at personal experience of the oncological patients regarding communication, but also regarding media experience – the experience gained based on media in indirect interaction. It is well known that in a "media" world people turn to media experience more often and it allows them to shape their own ego. Subsequently they gain access to events and social relations happening outside the everyday reality of a viewer. In this aspect it's important to look closely at decoding processes of TV series scenes showing communication in terms of forwarding a hard diagnosis to a patient by a doctor by viewer-patients (people with communication experience regarding that topic).

Elements of such dramaturgy (outlined in movies portraying communication between a doctor and a patient) create an opportunity to reflect on the nature of doctors' work and also visualize the influence such movies have on viewer-patients in terms of communication needs and expectations between a doctor and a real patient.

Assumptions and aim of the study

Considering the fact that:

- Medical TV series broadcasted in Polish public and commercial TV have been highly viewed for ages,
- Real doctors are convinced about great influence that medical TV series have in terms of viewing a doctor's job and a doctor's excellent communication with patients [3],
- Communicating a diagnosis that is unfavorable for the patient is an extremely stressful

situation for both the patient and the doctor, the aim of the study is to explore and confirm what oncological patients pay attention to while watching medical TV series and how hard TV series communication situations – the ones concerning communicating information about an illness by an actor-doctor – are viewed by them (the realism of communication situations presented in the TV series and an attempt to relate their own experiences and expectations to those).

To achieve this goal the following hypothesis has been stated: Viewers who have had cancer diagnosed watch the scenes presenting the moment of communicating information about cancer by a doctor to a patient more closely, whereas those who haven't had such experience view such scenes in a different way on account of not having been oncological patients and not being able to relate presented information to their own experience.

Materials and methods

Between January and March 2012, 12 deep, individual interviews were conducted with viewers of medical TV series who have the experience of hearing an unfavorable cancer diagnosis from a doctor. The character of this research was qualitative and was part of a bigger PhD thesis research project based on doctor-oncological patient communication. The interviews have been recorded and subsequently transcripted. Conditions of participating in the research were: having experienced communicating information about cancer by a doctor and watching medical TV series (knowledge of at least two such TV series and declaration of having seen at least 10 episodes of both series).

Table I. Quantitative characteristics of responding group of viewers – oncological patients.

Sex	Age	Number of people	Education	Home
Female	20-30	1	secondary	Wrocław
Female	31-40	3	higher (2), higher (1)	Warszawa (2)
Female	41- 50	2	higher (1) secondary (1)	Poznań (1), Bydgoszcz (1)
Female	51 and more	0	-	-
Male	20-30	1	higher	Wrocław
Male	31-40	1	higher	Warszawa
Male	41- 50	2	higher (2)	Poznań (1) Gliwice (1)
Male	51 and more	2	higher (1) secondary (1)	Warszawa (1) Łomża (1)

Every respondent was asked individual open questions of the same content to know the afterthoughts of oncological patients regarding:

- medical TV series broadcasted in Polish commercial and public television
- scenes/elements that respondents – oncological patient viewers – pay close attention to while watching medical TV series
- opinions about the image of an in-series oncological patient
- opinions about the image of an in-series doctor communicating information about cancer to a patient

Considering the fact that studying opinions of viewer-patients about medical TV series consisted of 12 individual interviews, each and every one of them being a subjective, well-developed narrative of many plots regarding experience with hearing a diagnosis, emotions accompanying this moment, evaluating experience regarding communication with doctors on many stages of fighting the illness and also opinions about a medical world and doctor-patient relations presented in TV series, to suit the needs of this article fragments of respondents' speeches regarding only medical TV series have been analyzed. This analysis let us express initial observations (based on individual narrations of respondents regarding the experience of illness), which then became a substantiation for research aims and hypothesis stated in the article.

The first part of research was dedicated to easy reflections regarding medical TV series, regarding the image of an in-series doctor and patient and ways of forwarding a cancer diagnosis to patients in TV series. The second part was an analysis of 3 short medical TV series fragments chosen by the article's author ("Na dobre i na złe" ("In good and bad"), "ER", "Dr. House") and played to every respondent, picturing 3 different ways of forwarding cancer information to a patient.

Results and conclusions

Regarding the chosen problem and research aim, the group of respondents consisted of patients who have already heard an unfavorable diagnosis and at the same time are watching medical TV series. At the beginning it has been tried to determine which medical TV series seem to be the most popular among viewer-doctors and viewer-not doctors. The most popular among respondent viewers (male) was presently broadcasted "Dr. House", among female patients – a public, Polish medical TV series "Na dobre i na złe", also broadcasted in public television. The same audience among respondent patients watches an American TV Series called "ER", broadcasted by one of the commercial TV stations, and among female patients it was also an American TV series called “Grey’s Anatomy”, which isn’t being broadcasted in any commercial or public TV station at the moment, but people remember it nevertheless and it is being watched on DVDs or websites.

Regarding the fact that the interviews have been conducted with people who weren’t chosen randomly from all media broadcast receivers, it is possible – according to the concept of media influence psychology suggested by D. Kubicka and A. Kołodziejczyk [4] – to assume that in result of frequent and intentional contact the viewers have with medical TV series it’s possible for them to catch particular regularities and typical characteristics of objects and events, constructing formal interpretative features. Those do not only allow recognition of a television genre that a TV series is, but also allow recognition of a definite pattern of content organization that enforces a way of structuring arriving information and recognizes transfers as particular interpretative categories.

People taking part in the qualitative research emphasized the awareness of a fact that TV series are a fictional, entertaining creation and are in no mean being viewed by them as a reality projection. However, based on answers of 12 respondents regarding general thoughts about medical TV series, it was possible to notice that what absorbed their attention most during viewing of a TV series was firstly medical cases and a way of solving medical cases, secondly: organization of work of the in-series doctors and plots considering the doctors’ private life. After that came ways of communication between doctors and patients, and lastly: patients and their illnesses.

Questions deepening respondents’ answers led to a conclusion that the reason why respondents seek out such genre of movie fiction is an interesting way of presenting medical cases, the ability to get familiar with – for a viewer who is not a doctor – a very puzzling medical world, and as for the in-series patients struggling with illnesses, it seems to be the less interesting topic deciding whether a viewer wants to watch the series or not.

For an inquiry directed towards the respondents regarding the question if, based on hard and stress-inducing situations regarding forwarding unfavorable news to patients by doctors or if based on experience of a patient after hearing a cancer diagnosis such TV series scenes are being viewed with more carefulness, thoughtfulness – all respondents said that they’re trying to avoid watching such scenes and try to think about something else at the time or not pay attention at all. Respondents asked about what kind of thoughts they have while watching such doctor-patient communication said that such scenes seem funny to them and sometimes make them angry because they are not real and idealize the in-series doctor in terms of empathy, willingness to help and understanding a patient. Real patients’ experience has proven this kind of conversation to be snippy, the doctors have not tried to show empathy or suppress the patient's negative emotions and make sure that the patient understood everything concerning his illness and ways of treatment. Based on respondents' narrative answers regarding the question: "How – based also on your own experience in terms of doctor-patient communication – would you rate communication competences of in-series and real doctors?" it is possible to say that, according to respondents, the in-series doctors are much better prepared for this kind of hard conversations than real doctors and that they have higher emotional intelligence and more empathy, which makes them also more understanding.

Statements considering the question: "How – based also on your own experience in terms of doctor-patient communication and hospitalization – would you rate communication competences of in-series and real patients?" show that, according to respondents, the in-series patients are less emotional: they don't show anger, despair or grief after hearing an unfavorable diagnosis, whereas the respondents, as real patients, did. The in-series patients – in opinion of the viewers – are more understanding when it comes to the in-series doctors than real patients are towards real doctors. Yet at the same time in the opinion of those respondents it's impossible to show emotions that accompany patients in a real situation of that type, and even remembering the kind of emotions present while getting a diagnose is an incredibly unpleasant experience that supersedes the need to analyze such moments on screen. This kind of statements were formulated both by patients satisfied with the way they received information about cancer from a doctor and those who were dissatisfied with it (on the level of information range received from a doctor (informative aspect of communication) and the way the diagnosis was communicated to them (emotional aspect of communication)).

The last question connected with this part of interviews concerned free thoughts on medical TV series. After analyzing the respondent's narratives it became clear that in a group of viewer-patients it's common to think that the in-series communication scenes teach non-doctor-viewers humility in the face of particular communication situations that doctors face every day. They find it to be an extremely important, but also extremely hard aspect of a doctor's work. Respondents think that medical TV series can be a material for the audience to reflect on how patients see doctors and how they would like to see doctors. Patient-viewers also emphasize that medical TV series could be incorporated into educational materials for doctors concerning how hard information about cancer, a disease awakening fear and conviction of its death rate, should be communicated to real patients.

Regarding the statements given by respondents in deep interviews it should be said that the research hypothesis: Viewers who have had cancer diagnosed watch the scenes presenting the moment of communicating information about cancer by a doctor to a patient more closely, whereas those who haven't had such experience view such scenes in a different way on account of not having been oncological patients and not being able to relate presented information to their own experience – has not been confirmed.

Discussion

Media broadcasts – even the entertaining ones, such as medical TV series – possess a symbolic dimension, because they transform the symbolic character of social life and at the same time restructure ways in which individuals relate to each other and themselves. Media communication is therefore a social phenomenon placed in a wider context. Because of a particular rank presented people, phenomenon and media topics are given, estimation of specified questions and attitudes is happening during such communication, and at the same time media communication (also using medical TV series) has a function of establishing culture.

Viewers always interpret the content of programs they watch through their own experience, knowledge, the conditions they watch them under and during conversations regarding the subject. It's particularly significant when the broadcasts carry a strong emotional value and greatly affect memories and emotional experience of the viewers.

The group of respondents is mostly a group of highly educated people, skillfully decoding fiction incorporated into the in-series narrative structure, but at the same time representing the real hospital world. They are also people who have experienced strong emotions connected with hearing a diagnosis of cancer. It appears that no matter the age that has passed since hearing the diagnosis and no matter if respondents mark communication competences of a doctor who forwarded the diagnosis as positive or negative, in the moment when a scene showing communicating a cancer diagnosis to a patient appears in a certain episode spontaneously (patient-viewer has no idea that in the episode a scene showing the moment of forwarding a cancer diagnosis to an in-series patient is going to appear and therefore is not prepared to see it), those moments are considered too emotional for all respondents, so they try not to watch it, directing their attention to other aspects of the in-series world construction during such communication scenes.

Supposing that spontaneous thoughts concerning the in-series communication between a doctor and a patient (without referring to a particular movie example) pointed to the fact that respondents do not want to watch this kind of scenes, an analysis of their statements regarding targeted in-series scenes (played to every respondent individually), showing different ways of communicating information about cancer to patients proves that the respondents:

a). individually compare and value their real experience connected with hearing a diagnosis with the way a diagnosis is being communicated in an in-series scene
b). think that TV series have a great potential in shaping mutual expectations between doctors and patients not only during hard situations, such as communicating a cancer diagnosis, but also in shaping mutual images of both doctors and patients who communicate with each other perfectly.

It is known that contemporary media receivers – aware of manipulative treatment – and also medical TV series viewers who are aware of high fictitiousness of an in-series medical world – do not honestly and consciously admit that the in-series media images affect them in any way. However, the important thing is that the respondents noticed that many scenes from medical TV series picturing a hard conversation between a doctor and a patient can serve as an example for an instruction analysis for medical students and doctors who face oncological patients every day.

In the light of respondents' statements it's important to emphasize that the viewer-patients, thanks to hard communication scenes watched in medical TV series, appreciate the medical profession and the fact that doctors have to deal with stressful situations while communicating unfavorable diagnosis every day. And so it is concluded that medical TV series hold a great potential not only in terms of shaping proper doctor-patient communication, but also a PR potential, especially for real doctors who have to face hard communication situations concerning forwarding unfavorable information to patients every day.

The basic source of medical TV series' influence on the viewers are specific stimuli that, because of the subjects they touch (health, fight for life, hard conversations with a patient, fear of confronting a doctor, fear of death and infirmity), build a receiver engagement in the audience higher that just entertainment, trigger very subjective and intimate memories, feelings and experiences, which in turn become the main basis for inferring about the strength of such media broadcasts. This strength is based on an ability to activate hidden emotions and different ways of perceiving reality in a viewer both by a visual representation and by triggering them in the audience. Asking oneself a question about the influence medical TV series have we will never be sure what exactly influences the audience: the image or the context in which the TV series is being watched, or maybe socially created instructions defining desired readings of particular visual representations [5].

It is, however, without a doubt that in the age of general criticism towards Polish health care (concerning both system solutions and doctors' communication competences) highly viewed medical TV series have – in spite of their commercialism, emotionality and movie fictitiousness – some kind of influence on decoding needs and communication shortcomings in a doctor-patient relation.

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The feeling of satisfaction with life and the degree of acceptance of colorectal cancer

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Introduction

The concept of "satisfaction with life", also referred to by many researchers as quality of life, well-being, prosperity, happiness, has many meanings and is a subject of interest of numerous scientific disciplines. It is an ambiguous and multidimensional phenomenon and concept [1].

One of the attempts to integrate – formulate a uniform definition of *Heath Related Quality of Life* (HRQOL) – was made by "(…) Schipper and his colleagues, defining it as the functional effect of an illness and its therapy perceived (experienced) by a patient" [2, 3].

Every person reacts differently to obstacles and crises appearing in their lives; a serious illness can be considered in terms of a life crisis. Then, the situations "(…) characterized by the presence of obstacles to achieve objectives or to meet needs raise an objection – a lack of agreement on the occurrence usually accompanied with anger or depression. Subsequently, this reaction introduces a state of discomfort and disturbs wellness" [2, 3, 4].

Therefore, an illness may affect the quality of life on many levels simultaneously. It happens, for instance, in the case of oncological patients. While undergoing chemo- and/or radiotherapy, they must cope not only with the side effects of the treatment in the physical dimension (a significant decrease in resistance, loss of weight, general weakness of the body), but also with the psychological and sociological one [4].

According to Kowalik, there are two ways to define the concept of the quality of life – emphasising its cognitive or experiential aspect.The first way assumes that a person can evaluate the quality of their own life on the basis of information acquired through cognitive processes. In his publication, Kowalik indicates the function of reflective self-awareness, which allows an individual to make a reflection on the course and current state of life. An illness is something new which appears in human life, therefore raising the need for responding to it and taking on new challenges; it sometimes requires to redefine the meaning of life. The other way to understand the quality of life, according to Kowalik, assumes that a person can feel their own life through the prism of living it [5].

As Wirsching maintains, the way of living and experiencing an illness changes throughout its duration. Thus, the perception of the quality of life can be understood as the sum of the effect of living and the effect of learning [6]. People's reactions to a cancer diagnosis have been quite widely described in the literature. According to Z. Juczyński, when informed about a cancerous illness, the majority of patients go through certain stages of emotional reactions described by Kübler-Ross [7]. First, there is a shock, disbelief, and then an awareness of the diagnosis. Later, anger and haggling – continually asking themselves the question: “why me?”. Then, depression and despair appear, strong emotions of fear, sadness, helplessness and fury together with accompanying sleep deprivation and loss of appetite. The patient becomes temporarily incapable to perform previous social roles. This condition may last for many days and weeks, but eventually the majority manage to adapt to and accept the new situation connected with the inevitable illness [7].

In this paper, an attempt was made to answer, inter alia, the following question: *To what extent is the patient able to accept his/her cancerous illness without experiencing negative emotions or reactions?.*

Assumptions and purpose

The purpose of this paper is to recognise and approach to the issues of satisfaction with life and the degree of acceptance of colorectal cancer in patients during chemotherapy.

Material and Methods

The study included 75 patients with colorectal cancer treated in SP ZOZ MSW (Independent Community Health Care Centre of the Ministry of Interior) with Warmia and Mazury Oncology Centre in Olsztyn from November 2012 to March 2013.

The patients were informed about the purpose of the study; they had an opportunity to ask questions and filled out the Patient Informed Consent Form. The study was conducted by a self-designed questionnaire including questions on basic demographic information (i.e. sex, age, marital status, place of residence, occupation).

The respondents were also questioned about the time from the first diagnosis and the presence of comorbid conditions. In order to make an overall evaluation of the quality of life, the study used the Satisfaction with Life Scale (SWLS) by Ed Diener, Robert A. Emmons, Randy J. Larsen and Sharon Griffin (Polish adaptation: Z. Juczyński). The questionnaire includes 5 statements answered by a respondent on a 7-point scale. The psychometric properties of the SWLS are satisfactory. For the original version, the reliability index

(Cronbach's *alpha*) was 0.87, while the correlation between the double test results carried out at two months' interval turned out to be slightly lower [7].

Another tool that allows to evaluate the degree of acceptance of colorectal cancer among the respondents was the Acceptance of Illness Scale (AIS) prepared by Barbara J. Felton, Tracey A. Revenson and G. A. Hinrichsen (Polish adaptation: Z. Juczyński), which is used to evaluate the degree of acceptance of illness. The greater acceptance of the illness by an individual, the better adaptation and the less feeling of psychological discomfort. The questionnaire contains 8 statements describing the negative consequences of poor health. In each statement, the respondent determines his/her current state on a five-point scale, from 1 – I strongly agree to 5 – I strongly disagree. The sum of all points is an overall measure of the acceptance of their illness, and its range is situated within the area from 8 to 40 points. AIS had good psychometric properties and its Cronbach's alpha is 0.82, while the stability rate test-retest over seven months is 0.67 [7].

A descriptive analysis was used for the evaluation of the results – the measurable parameters were characterised by giving the average value and standard deviation, and the immeasurable parameters by the number and attendance of the patients in the categories. The statistical analysis was performed using Statistica 10 PL computer program [8].

The relation of the analysed features (satisfaction with life and acceptance of the illness) was verified using Pearson's correlation coefficient. To evaluate differences in average values of the studied features in the variable categories classifying (socio-demographic characteristics of) the patients, the Univariate Analysis of Variance ANOVA (Fisher's F-test) was used. The study results are presented in the chart and tables. The level of significance $p<=0.05$ was assumed to be important in order to interpret the hypotheses.

Results

Characteristics of the studied group of patients

Males dominated (57.33%) in the studied group of 75 people. The mean age was 60.33 years, with the majority of the age group from 51 to 70. Most of patients were living in the cities (66.67) (Tab. I).

More than a half (57.33%) of the studied patients are retired or on pension, and a quarter of them do not work. Only a small number of the patients were students. As many as 65.33% of the patients are married; the others are in a single state. A half of the patients declared that the time from the first diagnosis was 6-12 months. Most of the patients (65.33%) do not have Comorbidities; 20% of them have hypertension.

Table I. Socio-demographic characteristics of the group of patients with colorectal cancer.

Characteristics	n	%
Sex		
Female	32	42.67
Male	43	57.33
Age (years)		
M – mean	60.33	
SD – standard deviation	9.32	
Range	37-76	
Age (categories)		
<= 40 years (up to 40 years)	2	2.67
41 – 50 years	10	13.33
51 – 60 years	25	33.33
61 – 70 years	22	29.33
>= 71 years (over to 70 years)	16	21.33
Place of residence		
City/town	50	66.67
Village	25	33.33
Occupation		
Working	12	16.00
Not working	18	24.00
Student	2	2.67
Annuity/pension	43	57.33
Marital status		
Miss/bachelor	3	4.00
Married	49	65.33
Widow/widower	13	17.33
Single	10	13.33
Time from the first diagnosis		
1 month	6	8.00
6-12 months	39	52.00
1-3 years	18	24.00
4-5 years	8	10.67
6 years and more	4	5.33

Comorbidities		
Hypertension	15	20.00
Diabetes	3	4.00
Others	8	10.67
n/a	49	65.33

Evaluation of satisfaction with life and the degree of acceptance of illness

Satisfaction with life means satisfaction with a person's own achievements and the living conditions. The questionnaire used in the study contained 5 statements to be answered on a 1-7 scale. The higher the score, the greater the feeling of conformity to a given statement.

Table II presents the results of the performed test: M – mean value out of 75 patients and respective SD – standard deviation. In the case of the statement *"I am satisfied with my life"* the mean value was 5.20, which suggests that the patients give rather positive answers, that is closer to "I completely agree".

Table II. Satisfaction with life.

Analysed elements	M	SD
In many respects, my life is close to ideal (1-7)	3.71	1.65
The conditions of my life are excellent (1-7)	4.20	1.48
I am satisfied with my life (1-7)	5.20	1.39
In my life, I have achieved the most important things I wanted to (1-7)	4.79	1.42
If I could live my life again, I wouldn't like to change almost anything (1-7)	4.79	1.91
Overall rate of the feeling of satisfaction with life (5-35)	22.68	5.78
Sten (from 1-10) (% of the results: low – 18.67, high – 46.67	6.25	2.08

Close to the assessment "I rather agree" were the statements *"In my life, I have achieved the most important things I wanted to"* and *"If I could live my life again, I wouldn't like to change almost anything"*. The worst turned out to be the evaluation of the element *"In many respects, my life is close to ideal"*, because the average rating scale was only 3.71, which means that the response scales tipped towards not agreeing with this statement.

Each patient's results from the 5-element test were summed up to evaluate their satisfaction with life, which presented an overall rate of the feeling of satisfaction with life (in the range from 5 to 35). The higher the rate, the greater the feeling of satisfaction with life. In order to receive an answer to the question about the percentage of low, medium or high results, the rates were converted to the appropriate sten scale (SWLS: provisional Polish standards – adults 1998-1999). The sten scores in the range 1-4 show low results, while in the range 7-10 are treated as high. Almost 47% of the patients received a high evaluation on the sten scale. Low evaluation of satisfaction with life was characterised by only 19%, and the results of the remaining 35% of the patients stand for average satisfaction with life. The mean sten score for the whole group is 6.25 and it indicates average satisfaction with life of the total number of patients studied.

Acceptance of illness means a description of the current emotional state with respect to 8 statements characterising consequences of poor health. The patients respond in the scale 1-5, which means they decide whether they 1 – “strongly agree”, ….,5 – “strongly disagree” with the statements included in the AIS questionnaire. Consequences of poor health amount to recognition of the limitations imposed by the illness: a lack of self-sufficiency, feeling of dependence on others and reduced self-esteem. Table III presents AIS results: mean scores (M) and standard deviations (SD). They indicate that average acceptance of the statements concerning negative consequences of poor health varies in the range from 2.83 to 3.71, which means that the majority of the patients fail to decide whether they agree or disagree with the presented statements testing their attitude towards the effects of their illness.

It turns out that most patients suffer from: “I am having trouble adjusting to the limitations imposed by the illness”, “Due to my health condition, I am not able to do what I like most” and “I think that people staying with me are often confused with my illness” – which means that in these fields the degree of acceptance of illness is low. The statement “My illness makes me a burden to my family and friends” obtained a mean value 3.71, which means that in this field they accept the effects of their illness in a better way. The sum of all points calculated for a specific patient (from 8 to 40) makes an overall rate of the degree of illness acceptance. A low score means a lack of acceptance and adjustment to the illness, as well as a strong feeling of psychological discomfort. A high score indicates acceptance of illness and it does not cause negative emotions connected with the illness. The mean value of the overall rate of the degree of illness acceptance for all 75 patients is 25.37, which indicates an average degree of illness acceptance by the patients with colorectal cancer within the studied group. Due to the absence of an appropriate sten scale for the analysed test, a 95% confidence interval for an average rate of acceptance was estimated for the purposes of this study, and it was assumed that a rate between 24-27 can be treated as average. It turned out that the patients with a low rate of acceptance were 34.67%, average – 25.33%, and high – as many as 40.00%.

Table III. Acceptance of cancerous illness.

Negative consequences of poor health	M	SD
I am having trouble adjusting to the limitations imposed by the illness (1-5)	2.83	1.25
Due to my health condition, I am not able to do what I like most (1-5)	2.80	1.38
My illness makes me feel unwanted (1-5)	3.33	1.47
Health problems make me more dependent on others than I want to be (1-5)	3.21	1.47
My illness makes me a burden to my family and friends (1-5)	3.71	1.39
My health condition makes me feel inferior as a human being (1-5)	3.32	1.51
I will never be self-sufficient to the extent I would like to be (1-5)	3.15	1.33
I think that people staying with me are often confused with my illness (1-5)	3.03	1.44
Overall rate of acceptance of illness (8-40)	25.37	7.55

Satisfaction with life in conjunction with illness acceptance

Total results of the study: “satisfaction with life” and “acceptance of cancerous illness” were respectively within the ranges: 5-35 and 8-40 and characterised each patient by both sides. Treating the sums as variables, their distribution in a graph (so called correlation graph) is presented taking into account both variables (Fig. 1).

Both features have distribution close to normal, and the distribution of points in the correlation graph suggests the presence of dependence of the features.

Therefore, the following hypothesis was formed: *“The greater the acceptance of cancerous illness by the patient, the higher his/her satisfaction with life”*. To verify it, the linear correlation analysis was used, calculating the Pearson correlation coefficient (r). The estimated linear correlation coefficient is r = 0.257 and is significant on the level 0.028. It means that the hypothesis on the dependence of the features is valid. With the increasing acceptance of cancerous illness, the patient’s satisfaction with life significantly increases. The greater satisfaction with life, the bigger a chance to accept the cancerous illness.

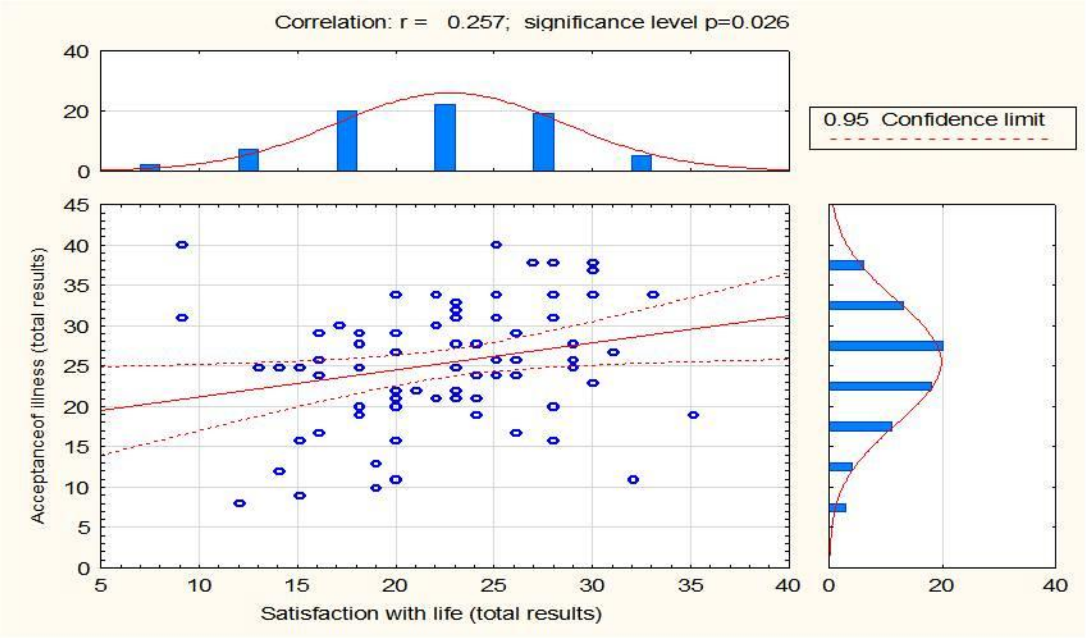

Figure 1. Acceptance of cancerous illness in conjunction with satisfaction with life.

Satisfaction with life and acceptance of illness in conjunction with characteristics of the patients

Both satisfaction with life and acceptance of a possible illness depend on the patient's personality, their position in the family and society. For the characteristics of the respondents, research surveys normally use information about their socio-demographic conditions. In the current study, they are: sex, age, place of residence, occupation, marital status, time from the first diagnosis and comorbidities. The analysis of the differentiation of "satisfaction with life" and "cancerous illness acceptance" in the patient categories, designated according to socio-demographic characteristics, was carried out on the overall rates of satisfaction with life and the overall rates of illness acceptance. For the statistical evaluation, the method of one-way analysis of variance was used with Fisher's test. The significance of the test F means that the average rates of the studied features in the categories show differences. Tables IV and V compare average rate results in the patient categories together with test F and its evaluation for all analysed characteristics of the patients. The average rate value of the feeling of satisfaction with life is 22.68 (from Table II). The analysis of the variance showed (Table IV) that there are no significant differences between the average rates of the feeling of satisfaction with life for women and men (F=0.511; p=0.477), although the rate is slightly lower for women.

Table IV. Satisfaction with life in the patients with colorectal cancer according to socio-demographic characteristics.

	No.	M	SD
Sex	test F = 0.511; p=0.477		
Female	32	22.13	6.16
Male	43	23.09	5.52
Age categories	test F = 0.841; p=0.505		
<= 40 years (up to 40 years)	2	25.00	4.24
41-50 years	10	22.30	6.27
51 – 60 years	25	21.72	5.68
61 – 70 years	22	22.18	6.31
>= 71 years (over to 70 years)	16	24.81	5.01
Place of residence	test F = 0.867; p=0.355		
City/town	50	23.12	5.98
Village	25	21.80	5.38
Occupation	test F = 1.718; p=0.171		
Working	12	23.75	6.09
Not working	18	24.28	5.27
Student	2	16.00	4.24
Annuity/pension	43	22.02	5.79
Marital status	test F = 5.476; p=0.002		
Miss/bachelor	3	15.00	3.00
Married	49	24.22	5.28
Widow/widower	13	21.69	6.01
Single	10	18.70	4.35
First diagnosis	test F = 2.077; p=0.093		
1 month	6	23.50	5.82
6-12 months	39	23.92	5.21
1-3 years	18	20.50	6.10
4-5 years	8	23.50	5.88
6 years and more	4	17.50	6.76
Comorbidities	test F = 0.754; p=0.524		
Hypertension	15	20.80	6.30
Diabetes	3	23.67	1.53
Others	8	22.13	5.77
n/a	49	23.29	5.78

Evaluation of significance of differences in average rates of the feeling of satisfaction with life

Table V. Cancerous illness acceptance in the patients with colorectal cancer according to socio-demographic characteristics.

	No.	M	SD
Sex	test F = 0.009; p=0.926		
Female	32	25.47	8.68
Male	43	25.30	6.70
Age categories	test F = 0.210; p=0.932		
<= 40 years (up to 40 years)	2	25.00	12.73
41-50 years	10	27.20	9.03
51 – 60 years	25	25.24	7.38
61 – 70 years	22	24.55	5.75
>= 71 years (over to 70 years)	16	25.63	9.22
Place of residence	test F = 0.989; p=0.323		
City/town	50	24.76	7.99
Village	25	26.60	6.58
Occupation	test F = 0.985; p=0.405		
Working	12	26.17	8.17
Not working	18	24.28	6.34
Student	2	17.50	10.61
Annuity/pension	43	25.98	7.75
Marital status	test F = 1.423; p=0.243		
Miss/bachelor	3	20.67	11.15
Married	49	26.61	6.31
Widow/widower	13	23.69	8.83
Single	10	22.90	9.95
First diagnosis	test F = 1.20; p=0.354		
1 month	6	30.50	11.15
6-12 months	39	24.95	6.97
1-3 years	18	26.11	7.61
4-5 years	8	22.26	7.15
6 years and more	4	24.75	7.32
Comorbidities	test F = 2.239; p=0.091		
Hypertension	15	23.93	5.22
Diabetes	3	22,67	2.89
Others	8	20.25	8.08
n/a	49	26.82	7.91

Evaluation of significance of differences in average rates of illness acceptance

The age categories do not differentiate satisfaction with life (p=0.504) either; where the highest rate can be observed at the patients over 70 years old. The patients coming from the city are more satisfied with life, but not significantly (p=0.355). The type of occupation also does not differentiate the feeling of satisfaction with life in a significant way (p=0.171). The highest satisfaction with life was observed in the case of a detection of illness within one month or 4-5 years (23.50), and the lowest when more than 6 years passed (17.50), but anyway the average satisfaction was not significantly different (p=0.093). In the case of comorbidities, there is also no differentiation of the average rates of satisfaction with life (p=0.524); the lowest rate was detected for hypertension (20.80). The only feature which significantly differentiates (p=0.002) the feeling of satisfaction with life is marital status. Being in a relationship makes satisfaction with life reach the value 24.22; much lower satisfaction is typical for the group of the patients who are single.

The average rate value of cancerous illness acceptance is 25.37 (from Table III). Table 5 shows that none of the features of socio-demographic characteristics differentiates average rates of illness acceptance (p >0.05).

A detailed analysis of the rates shows higher illness acceptance for 40-50 year old people (27.20), living in a village (26.60), working (26.17), being in a relationship (26.61), in the first month of illness (30.50) and with absence of comorbidities (26.82).

Discussion

Cancerous illness are a serious problem for modern societies. The research showed that the patients with colorectal cancer during chemotherapy are facing many problems and difficulties. The way they are coping with the illness affects the quality of life determined by their state of health. As the literature review shows, chemotherapy produces a number of side and adverse effects in terms of quality of life [9, 10, 11].

But in spite of all, as many as 47% of the respondents received a high score of satisfaction with life on the sten scale. Low evaluation of satisfaction with life was characterised by only 19%, and the results of the remaining 35% of the patients stand for average satisfaction with life. The mean sten score for the whole group is 6.25 and it indicates average satisfaction with life of the total number of patients studied. Reports of some authors clearly show that, caring for the quality of the life of patients, psychological help is necessary as well as learning strategies to cope with the traumatic stressor of cancerous illness [12].

The patient often expresses concern resulting from the illness, perceives it as a major threat causing anxiety which cannot be controlled and which makes each change be interpreted as a sign of health deterioration [7]. In connection with it, if the patient rearranges the problem of illness, fully aware of its seriousness, in order to find hope and satisfaction with life, the motivation rises and enhances the body's defences, which results in faster recovery. A positive attitude affects acceptance of illness. In the own research, the mean value of the overall rate of the degree of illness acceptance for all 75 patients is 25.37, which indicates an average degree of illness acceptance by the patients with colorectal cancer within the studied group.

The patients with a low rate of cancerous illness acceptance were 34.67%, with average – 25.33%, and with high 40.00%. The studies have shown that with the increasing acceptance of cancerous illness, the patient's satisfaction with life significantly increases. The greater satisfaction with life, the bigger a chance to accept the cancerous illness. Interpreting the detailed analysis of the rates, there can be observed higher illness acceptance for 40-50 year old people (27.20), living in a village (26.60), working (26.17), being in a relationship (26.61), in the first month of illness (30.50) and with absence of comorbidities (26.82). In a study conducted in Wisconsin, in a group of 307 women with diagnosed colorectal cancer in years 1990–1991, it was shown that except for overall health state, determines the quality of life resulting from the physical and mental health of the respondents [13]. In a large study conducted in Italy concerning the quality of life of patients with diagnosed colorectal cancer, using the SF-36 or QLQ-C30 scale, the surveyed women declared a lower quality of life compared to the surveyed men [14].

The studies on the level of cancerous illness acceptance and satisfaction with life provide a lot of interesting information on how to react in difficult life circumstances, and they also inspire to consider including the results of planning comprehensive health care for oncological patients during chemotherapy.

Conclusions

1. Colorectal cancer is more common in patients living in cities, aged 50-70, retired or on a pension, in a relationship, with diagnosed illness within 6-12 months, with no comorbidities, and males.
2. High satisfaction with life occurs in 47% of the patients, but the mean values for the study group were at the average level.
3. From the socio-demographic characteristics typical for the patients, only marital status is a determinant of the differentiation related to the feeling of satisfaction with life (marriage provides a sense of security).
4. An overall rates of illness acceptance was at the average level, although as many as 40% of the patients were characterised by a high level of adaptation to the illness.
5. Adaptation and acceptance of health condition are not determined by socio-demographic characteristics.

6. There is a positive relationship between "satisfaction with life" and "illness acceptance". An increasing acceptance of cancerous illness results in increasing satisfaction with life of the patient, and the greater satisfaction with life, the bigger a chance to accept the cancerous illness.

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Students' views on the retrieval of transplantation organs from deceased donors

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Introduction

Transplantology is a medical science on transferring organs, tissues, or cells between two organisms. The number of transplantations performed every year increases steadily, enabling survival and recovery of many patients. The recent years have been characterized by very dynamic development of transplantology due to progress in surgical techniques, transplantation immunology, implementation of novel immunosuppressant agents, efficient monitoring of the transplanted organs, and early detection and intervention in the case of complication. All these changes have been reflected by improvement in transplantation outcomes.

Progress in medicine is reflected by a higher number of patients qualified to transplantation, enabling their survival and recovery [1, 2].

According to data from 2000, the longest survival of the recipient after kidney transplantation from live related donor amounted to 40 years, as compared to 28 years in the case of live unrelated donor, and 34 years in the case of cadaveric transplant [1, 2].

Most commonly, material for transplantation is obtained from decreased donors; obtaining transplants from live donors genetically or emotionally related to the recipient is of rarer evidence [1, 2].

In 2010, a total of 655 potential cadaveric donors were registered in the Polish Transplant Coordinating Center "Poltransplant". Organs were obtained from 509 of them; in another 51 cases the procedure was withdrawn due to objection from family members or prosecutor [1, 2].

Obtaining of organs often follows the same procedure referred to as the "six step strategy":

I. Identification of potential donor amongst deceased individuals,

II. Satisfying clinical procedures and legal requirements necessary for obtaining organs or tissues,

III. Satisfying of social requirements (contacting donor's family) and legal requirements (acting according to the law),

IV. Offering care for potential donor,

V. Appropriate harvesting of tissues and organs for transplantation,

VI. Selection of appropriate recipient [1].

The following have to be satisfied in the course obtaining organs from a deceased donor: confirmed brain death, lack of objection against obtaining cadaveric transplants, and lack of any disqualifying pathologies. The procedure is withdrawn if even one of the abovementioned conditions is not satisfied [3].

This method still raises many concerns of medical, ethical, moral, and legal nature both in the general community and amongst medical professionals. Problems related to transplantology include the distribution of transplants, selection of the recipient and donor, social acceptance of harvesting organs from deceased individuals, approval of concept and criteria of brain death, and costs related to the procedure and immunosuppressant treatment [4, 5].

Selection of the donor

Organ transplantation is a specific form of treatment as it requires an organ transplant, most commonly collected from a deceased individual, or rarer, from live individual related to the recipient [6].

Donor can be a live human being or human cadaver, from whom organs, cells, or tissues were collected. The following types of donors are recognized:

Potential – individuals in whom the procedure of confirming brain death was initiated and/or completed and no contraindications against organ collection were found,

- Probable – individuals with severe brain injuries (primary or secondary) in whom no absolute contraindications were documented,
- Giving consent to organ collection – individuals who did not register their refusal to donate organs in the Central Registry of Refusals during their life and both their family members and prosecutor consent for organ harvesting,

According to the Polish law, the refusal to donate organs can be expressed in the following forms:

- Disclaimer in the Central Registry of Refusals

- Written, signed declaration
- Verbal declaration in presence of at least two witnesses, who confirmed it in writing [7].
- Registered – Individuals possessing the donor card and electronic record in "Poltransplant" registry,
- Real – individuals from whom at least one organ was obtained,
- Utilized – donors whose organs were transplanted [3].

Decreased organ donor

Deceased organ donor is an individual whose brain death was confirmed; the organs of such person can be obtained "by beating heart" or after irreversible circulatory arrest [1].

Obtaining organs from potential deceased donors always follows the same procedure:

- **First step – identification and registration of potential donor.** In Poland, donors are most commonly selected from amongst the patients of traumatology departments, ICUs, emergency, neurological, and neurosurgical departments. Information on potential donor is sent from these departments to the Polish Transplant Coordinating Center "Poltransplant".

  The information on the potential donor sent to the coordinator should include the following: name of hospital, basic personal data of the patient, his/her blood group, basic clinical information along with the results of basic tests, cause of death, history of previous diseases, and information if the procedure of brain death confirmation was implemented and if the approval of prosecutor or family court is required prior to obtaining organs.

  Subsequently, the tests required for final qualification of potential donor should be performed (infections with *Mycobacterium tuberculosis*, *Treponema palidum*, *Toxoplasma*, HIV, HBV, HCV, and CMV should be included; additionally, EBV and HTLV infections need to be excluded in some centers). According to the Polish law, it is forbidden to obtain organs from individuals with unknown identity, newborns up to 7 days of life, patients in whom brain death was not diagnosed prior to circulatory arrest, and individuals who registered their refusal with the Central Registry of Refusals [1, 8].
- **Second step – confirming brain death in potential donor.** In Poland, retrieval of transplantation organs is possible after confirming permanent and irreversible cessation of brain function. Brain death is tantamount to confirming one's death [8, 9, 10, 11].

In Poland, the brain death is confirmed on the basis of cessation of function of the brain stem, confirmed clinically as coma, permanent apnea, and lack of reflexes in areas supplied by the cranial nerves (pupillary response, corneal reflex, eye movements, motor response to painful stimulation of face and other areas supplied by the cranial nerves, vomiting and cough reflexes, and oculocephalic reflex) [8, 9, 10, 11].

The examination is performed twice in 6-hour interval in the case of primary injury or after 24 hours in the case of secondary injury. Instrumental examination, such as EEG, BAEP, SSEP, cerebral angiography, brain perfusion scintigraphy, and transcranial Doppler ultrasonography are used to confirm brain death. According to the law, the brain death has to be confirmed by a committee comprising three specialist physicians, including one with the specialization in anesthesiology and intensive care and another specialized in neurology or neurosurgery [8, 9, 10, 11].

- **Third step – care for organ donor.** The reason behind supplying care to the organ donor is to avoid unfavorable effect of various factors (hypovolemia, respiratory disorders, infections, hypotension, hypertension, thermoregulatory disorders, and hormonal disorders) on the biological value of organs. The parameters monitored in the donor include electric activity of the heart, arterial blood pressure, saturation, diuresis, and body temperature [7].
- **Fourth step – evaluation of organs for transplantation.** During this stage, absolute and relative contraindications to organ retrieval should be verified on the basis of laboratory tests, imaging, medical history, clinical status, and physical examination of the donor [7].
- **Fifth step – coordination of the retrieval procedure and transport by retrieving team.** The coordinator, i.e. the Polish Transplant Coordinating Center, decides which organs will be retrieved and at what time. Additionally, the coordinator organizes the transport of transplant teams and informs hospital coordinators from hospitals where the obtained organs will be transplanted. The hospital coordinators complete donor's documentation and prepare surgical theatre and relevant personnel [7].

The aim of this study was:

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

Material and methods

The study included 60 randomly selected nursing students and 60 management and marketing students from the State College of Computer Science and Business Administration in Łomża. One hundred questionnaires were selected for analysis (incomplete questionnaires with missing answers was excluded). The questionnaire data were subjected to statistical and descriptive analysis.

Results

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

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

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

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

According to the Polish Transplantation Act on retrieval, storage, and transplantation of cells, tissues and organs, organs from a cadaver can be obtained if a deceased individual did not refuse retrieval of organs during his/her life. Only 12% of management students possessed knowledge in this matter, while the percentage (44%) of nursing students being aware of the presumed consent rule was markedly higher. According to 84% of management students and 52% of nursing students, an organ from a deceased individual can be retrieved solely if such person gave consent to organ retrieval during his/her life.

Although the latter type of consent is mandated by the Catholic Church, still the so-called presumed consent is sufficient in our country. According to 4% of students from each group, organs from a deceased individual can be retrieved even if such person did not define his/her attitude to the organ retrieval (Fig. 1).

Although Polish legislation does not require physicians to obtain consent from family members of a deceased individual prior to organ retrieval, such consent is sought in everyday practice. The majority of management and marketing students (80%) and more than one half of nursing students (58%) believed that physician is obliged to obtain the family consent prior to organ retrieval from a deceased individual. The percentage of management and marketing and nursing students who represented knowledge regarding the problem in question was 12% and 34%, respectively. Finally, equal fraction of individuals from each group (8%) admitted that they do not know if such consent is obligatory (Fig. 2).

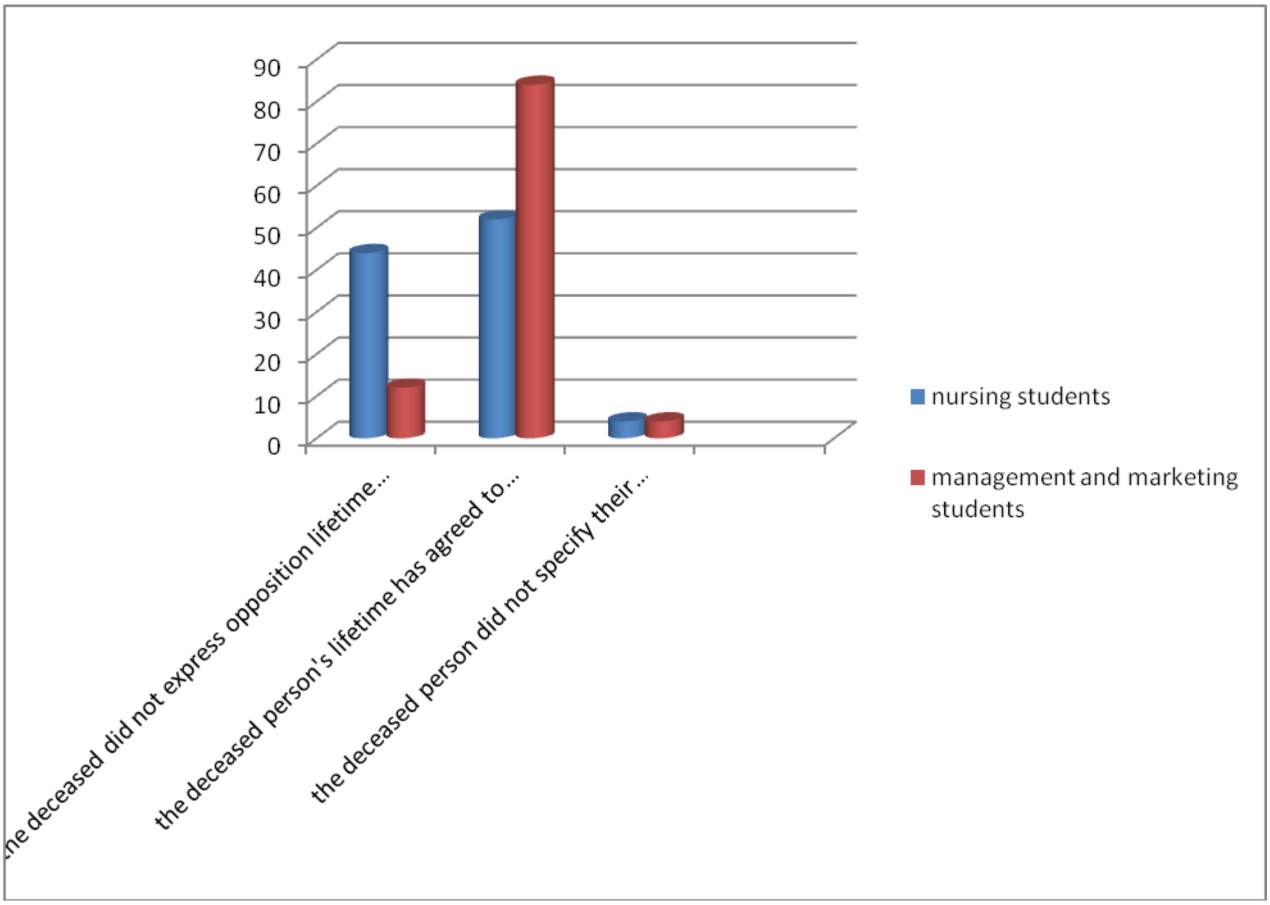

Figure1. **Knowledge of the students about the Polish law on the procurement of organs from deceased.**

Nearly all students of nursing (96%) supported the idea of cadaveric transplantation, and only 4% of them were unable to define their attitude to the problem in question. The distributions of answers to this question among management students were similar: 88% of them approved organ retrieval from deceased donors, 10% were unable to define their opinion, and only 2% did not support the idea (Fig. 3).

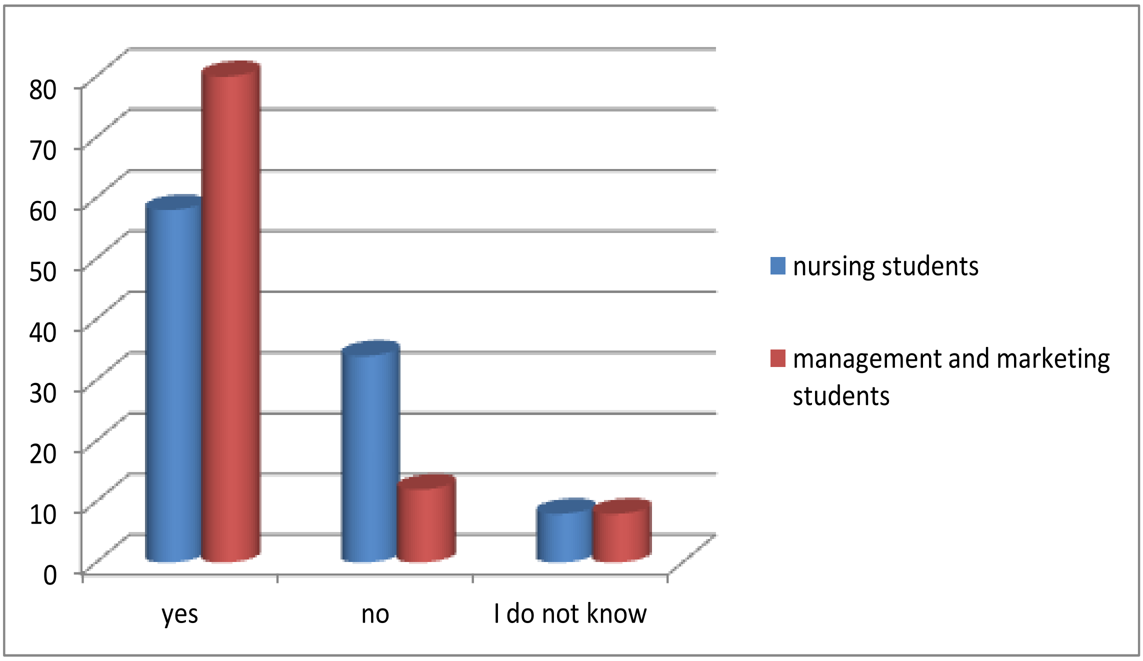

Figure 2. **Knowledge of the students about the requirement to obtain the consent of family physician of a deceased person for procurement.**

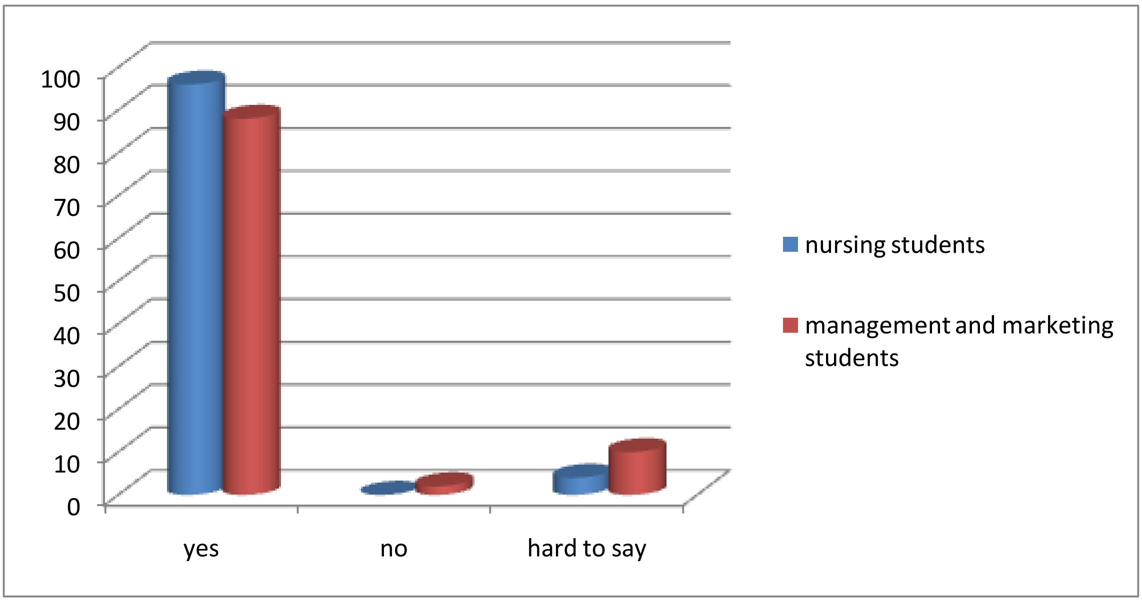

Figure 3. **Consent surveyed transplant organs procured from deceased persons**

Another question assessed if our responders have ever discussed the problem of postmortem transplantation of their organs. The results are alarming, because 78% of the management and marketing students and 48% of the nursing students have never discussed this issue with their families. Forty two percent of the nursing students and only 10% of management and marketing students have had such a discussion, and the fraction of students who did not discuss this issue but have plans to do so in the future was found to be 10% and 12%, respectively (Fig. 4).

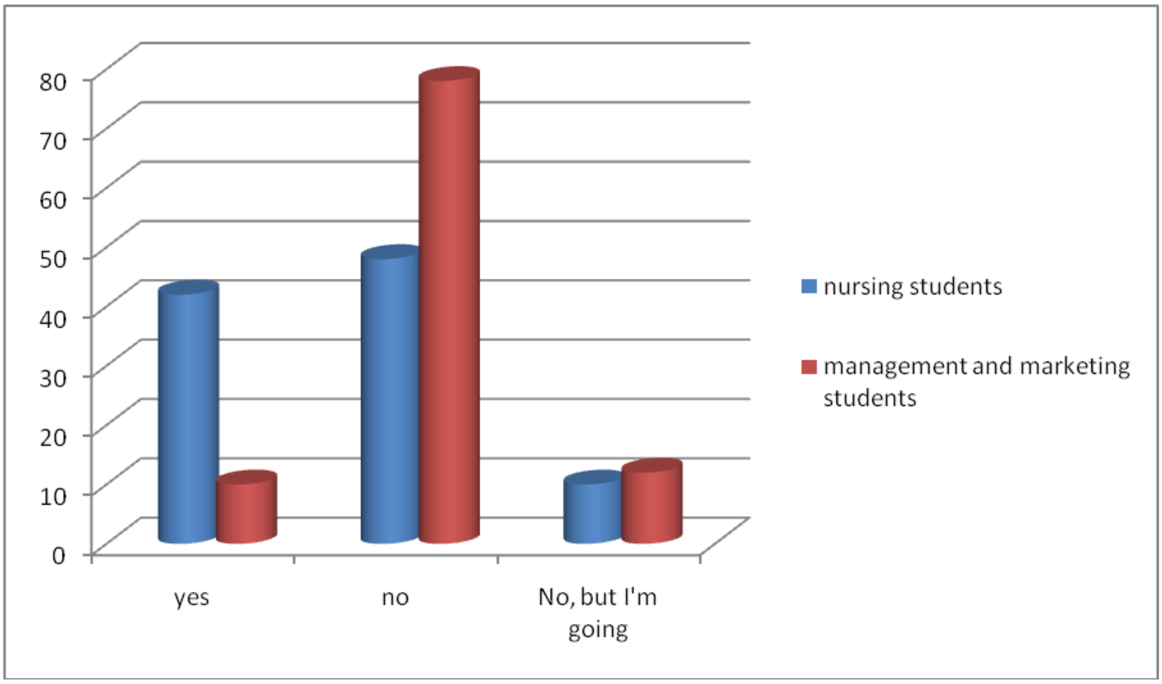

Figure 4. **Talking of the surveyed students about the issue of family donate organs for transplantation in the event of his own death.**

Surprisingly, 12% of nursing students and 4% of management students declared that they would rather approve organ retrieval upon death of their close relative in spite of the fact that such person refused the retrieval. Nevertheless, most of the responders would respect the will of the deceased individual: 42% of nursing students and 38% of management and marketing students would definitely disagree with the retrieval under such circumstances. The fraction of nursing and management and marketing students who would rather disagree equaled to 34% and 44%, respectively. Finally, a total 26% of the responders would not know what to do in such a situation.

Discussion

Transplantology is a scientific discipline that incites a myriad of emotions, controversies, and debates in various communities. Organ transplantation offers hope to those individuals who not so long before would not be expected to survive. Therefore, the popularity of this treatment and the hope that it offers, should increase public awareness of the involved issues [12].

Although, according to Polish legislation, physicians are not obliged to obtain consent from family members of the deceased individual prior to organ retrieval, it is usually the will of family which determines the possibility of the retrieval in everyday practice.

According to Lisiecki et al. [13], the vast majority of their responders (90%) declared that physicians should contact family members of the deceased individual prior to organ retrieval.

Similar findings were reported by Rolka et al. [14], who surveyed management and marketing students from the State College of Computer Science and Business Administration in Łomża; vast majority of their responders believed that prior to the organ retrieval, physicians should obtain consent from donor's family.

The results of our study also proved to be similar as this opinion was shared by 80% and 58% of management and nursing students, respectively. Also, Wagner and Maj revealed that 64% of their responders were of the similar opinion [15].

Studies of medical environment conducted by the National Transplant Board, *Polish Transplantology* foundation, and Demoskop revealed that nearly all surveyed physicians believe that conversation with family members of the deceased individual is necessary prior to organ retrieval. However, as many as 65% of physicians and 45% of medicine students declared that the negative attitude of family should not exclude the retrieval, unless a deceased individual expressed refusal during his/her life. Most physicians (98%) and students (88%) supported the brain death concept. However, the fraction of students from non-medical university in Warsaw who approved this concept was markedly lower [16].

The abovementioned evidence suggests that the representatives of Polish community do not possess sufficient knowledge regarding organ retrieval from a deceased individual, criteria of brain death, and presumed consent rule; consequently, they believe that physicians are obliged to obtain consent from close relatives prior to the retrieval. This evident lack of knowledge seems a principal obstacle in the development of Polish transplantology.

As aptly pointed out by Wagner and Maj**,** the refusal of the donor's family determines the low number of transplantations in Poland. Although the implementation of presumed consent rule should be theoretically reflected by higher number of *ex mortuo* transplantations, this has never happened. The lack of transplantation awareness, both in Polish community, and unfortunately, amongst medical personnel and medicine students, constitutes the main reason behind this unfavorable situation. This was also confirmed in our study. Practice shows that despite the Act coming into force, families of deceased individuals still constitute a factor in the decision with regards to the disposal of the body, although the family is not a custodian of the body in any other country [15].

In Poland, the majority of transplanted organs originate from cadavers. Therefore, we interested in the attitudes of our responders towards cadaveric transplantation. We found that this method was approved by nearly all students of nursing and the majority of management students. Rolka, who examined the students of management from the same university, reported similar findings as 92% of her responders approved cadaveric transplantation in order to save or restore the health of the patients [14]. Also, 95% of the responders surveyed by Strzelczyk and Szymańska supported this method of treatment [12].

The results of our survey should be considered satisfactory as 86% of nursing students and 76% of management students would accept donating organs for transplantation in case of their death. However, there were 4% of students who were against this solution, and 4% of management and marketing students presented neutral attitude towards the problem in question. Finally, 12% of nursing students and 18% of management students would leave the decision on donation of their organs in the hands of their family members. Undoubtedly, the topic is difficult and controversial, but should be discussed, particularly in view of the fact that the responders who did not express an opinion regarding their organ donation indicated their close relatives as a decision factor. Consequently, one may ask if such individuals do not want to make a decision on post-mortem donation of their organs, or are afraid of doing so. Is it more comfortable or better to cede this responsibility to their close relatives?

Expressing consent to transplant organs of close relative is markedly more demanding, particularly if the opinion of this person on cadaveric transplantation remains unclear. The majority of our students and those surveyed by Rolka (70%) did not discuss their opinion concerning transplantation with their close relatives, and were unaware of their relatives' attitude to the problem in question [14].

Our study revealed that high percentage of responders do not know if they would accept organ retrieval upon the death of their close relative with no evidence of the deceased individual's opinion. Szymańska and Strzelczyk also reported similar findings [12]. This situation should be considered deplorable, as frequently the responders do not consent to the retrieval. One may ask however, why the number of cadaveric donors is so low if as many as

26% of our responders would definitely accept, and 58% of them would rather accept cadaveric organ donation of their close relatives, even if the will of the latter remained unknown.

As many as 42% of nursing students and 38% management students would respect the will of the deceased individual and would not express their consent for transplantation. It is of note that 16% of the students would score the benefits of transplantation higher that the will of the deceased individual and, consequently, would approve the donation despite cadaveric donor's refusal. The opinions of the students surveyed by Szymańska and Strzelczyk also closely resembled our findings [12].

Conclusions

1. The majority of nursing (80%) and management and marketing students (52%) support organ harvesting from living donors. Notwithstanding, only 36% of all responders would freely donate their organs to a stranger while most of the responders from both fields of study would do so in order to save a life of a close family member.
2. Nearly all responders would approve cadaveric transplantation and would donate their organs for such transplantation; however, only a few of them discussed this issue with their family members.
3. Vast majority of our responders are unaware of their family member's opinion regarding post-mortem donation of organs and, therefore, would not agree to the organ retrieval.
4. Different fractions of nursing and management students discussed the possibility of their post-mortem organ donation with their family members. In contrast, both groups were characterized by similar fraction of students who would approve post-mortem organ retrieval from their close relative, even if the will of the deceased person remained unknown.

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Rębiałkowska-Stankiewicz Małgorzata

EFATA Project – voluntary service for the purpose of educating the public on the subjects of suffering from disease and dying

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Introduction

Relation between the healthy person and the sick one is usually seen as a pattern in which the first one provides the second one with support. The pattern comes from the applicable ethics and generally accepted cultural norm according to which one should help those weak or in need. A sick person is of weaker condition undoubtedly and most often requires different forms of support. One of them can be voluntary service, which is the type of interaction within the sociological theory of social exchange where the exchange in question can be of different form. The exchange theory has its roots in behavioral psychology and economic analysis. In connection with this, the social interaction is a series of exchanges that entails both costs and benefits [1].

Basic costs of the interaction are usually one's time and energy. Nevertheless, the interaction produces also benefits such as one's joy, love of another person, self-respect and others.

Healthy people enter interaction with the sick for different reasons. It may be the sense of responsibility for family, the sense of professional duty, religious imperative, the example of someone important. The support itself can be of different scope and various forms, depending on the patient's needs, the supporter's range of engagement and capabilities. All those factors change the way of defining oneself in relations with the patient and affect costs and benefits the supporter can get in his life [2].

Below, there will be a non-standard example of voluntary service presented, i.e. non-standard in its way of supporting patients and their families, as its objective is, with the help of drama practice, to make public the knowledge on the patients' problems, their situation, suffering and dying.

Assumptions and aim of study

Many of us have their own understanding of voluntary service. For some it will be a collection of money or food, for others it will be accompanying the sick or looking after children in the children's home, finally it can be also free of charge legal advice. So, we have our own associations on voluntary service, depending on our previous experiences, but whatever activity is in our mind it should be by definition voluntary [3, 4]. It is about undertaking an action due to unforced intention coming from a noble impulse, acting with goodwill, spontaneously, with no consideration for short-term benefits [5].

These days, voluntary service is defined as a particular sort of work for others' sake [6].

It is work with no fee, non-compulsory, spontaneous and conscious for the sake of the people in need, excluding family, friends and colleagues that help one another for personal reasons and therefore are not volunteers. There are many forms of voluntary service, differentiated:

- on the basis of the time it lasts – short-term volunteering called event volunteering, and regular volunteering;
- on the basis of number of volunteers involved – individual volunteering (work for individuals at their houses), and group volunteering (co-ordinated by an organisation);
- on the basis of area – local, domestic, and international volunteering [6].

Volunteers' socially minded actions mainly come from altruistic reasons (compassion for the helpless or the ones suffering, the need to be useful and to complement one's life with selfless work for others' sake), task-oriented reasons (e.g. to counteract the shortcomings and callousness of the professional health service), ideological reasons (religious experience, family values), egoistic reasons (building up one's reputation, to match sb, to acquire new qualifications), or affiliation reasons (search of contacts with other individuals or circles of individuals that think and feel in similar way) [7].

But most of the time, the given actions have many motivations at the same time, so it seems to be more accurate to assess them not from the perspective of a single motivation but from the perspective of a hierarchy of motivations, the last one being a consequence of one's personality structure, social environment, stage of life, situation. Volunteers work in all areas of social life. Many times they are highly qualified and act like professionals. Their work demands not only selfless devotion of their energy for the sake of another man, but mainly determination, sensitivity, resilience, ability to combine compassion and effectiveness of activity, understanding, patience, so all the earmarks of mature personality. Voluntary service does not involve merely a particular form of activity, but also a set of values and a sense of mission.

So taking all above into consideration, can the mission of volunteering be educating the public on the subjects of disease, suffering, and dying? Does such education is today wanted?

Bauman compares our modern days to great everlasting race, in which a moment is more important than the future. The life consists of successive moments, and each one of them favours different talents and skills. Never-ending race entails that values praised today may devalue tomorrow, the reason for pride may turn into the reason for shame, achievement may turn into fault, and advancement may turn into downfall [8].

The modern man, declaring often to have adopted a neutral stance in terms of outlook on life by being an atheist, deist, or quite superficial believer, became a hedonist of the 21st century – i.e. he lives mainly for himself and for all pleasures that modern consumerist civilisation, following the demand and supply rule, has to offer. In modern life marked with egoism, we focus on career, earning money, paying off one's mortgage, buying a new car. Our culture do not encourage us to consider death, disease, suffering. These are taboo topics in the so called Western civilisation. What is even more, in these times there is a continuous and pervasive campaign for young, perfect and fit body. It is said that we live in "the cult of fit body". The perfect body is constantly promoted in media and they do not stop to emphasize the importance of taking great care of one's physical attractiveness. So, there is a considerable gap between the modern ideal of beauty and physical condition of the sick, the ones suffering, the disabled. The body diseased, crippled, dying out do not match the modern aesthetic qualities.

Being in touch with disease and death almost always causes pain. Maybe because we associate suffering from disease and dying with something that is inevitable, irreversible, and uncontrolled by our will and often activity [9]. Or maybe because we usually are afraid of what is unknown and unpredictable. The common fear of disease and suffering brings a simple solution, i.e. a tendency to push the chronically sick, the disabled, the ones dying out, and their families on to the sidelines.

The aim of the given study is to get to know the activity of the volunteers who with the help of drama practice educate the public on the subjects of disease, suffering and dying.

Material and methods

The social research methods applied in the study include document analysis and participant observation. Observation is the most thorough method of collecting material. It is a research method with the purpose of collecting data by getting insights. It provides the researcher with the most natural, so true, knowledge on the group under observation. The participant observation is when the researcher becomes a member of the group observed and is accepted by them [13]. As the author is a member of the Efata group since 2008, the given type of observation was possible to apply.

Document analysis is a research method used to gather initial, descriptive and quantitative information on the institution or phenomenon scrutinized. Document analysis is used to select and interpret the content from the perspective of the aim of the study. The analysed documents may be a text, figures, or audio-visual material [14].

In details, documents analysed for the purpose of the given research were a brochure on Efata project prepared by the Foundation, scripts of the plays, press news, correspondence, the chronicle of events. The research was carried out in March and April 2013. In the course of the research the answers were looked for to the following questions:

What is the history of the Efata group and who are the members?

What objectives do the volunteers head for?

What knowledge do the volunteers make public with the help of drama practice?

Results

The project called the Efata Theatre Group in Toruń came into existence in 2006 on the initiative of Janina Mirończuk, the Director of the "Światło" Foundation in Toruń, and is continued till today. It i san example of public figures volunteering. The members of that original theatre group are volunteers that are professional actors or musicians as well as a large group of amateurs. Following the words of M. Szwechowicz, co-ordinator of the Efata group in the years 2006-2011 and author of many scenarios, "We invited people from the front pages of the local newspapers to play at that original theatre. Their renowned names, and respect and popularity they commonly enjoyed were to attract the audience. They were also a lure for the media. Gradually, the group enrolled less generally recognized individuals, but still popular in their local environments, which continued to attract new audience. From the beginning, the amateurs had full support of the professional actors, musicians and directors. Day by day, the biographies of people in coma and under the care of the "Światło" Foundation started to be credibly staged by the representatives of different professional environments, including NGOs, health service, education system, media, sport, politics, and business. The commonly experienced stage fright not only got them all going together but made them friends inside that fascinating adventure, where matters of the patients of the "Światło" Foundations constituted a strong bond between the volunteers.

Efata means in Hebrew “open up” [10] In connection with the aim the volunteers are trying to achieve, it means to open up to the sick, the patients suffering, and first of all to problems of the patients of the Foundation being in coma.

The Centre for Medical Care for patients in vegetative states attached to the Foundation operates since 2000. Technical potential of the modern medicine make it possible to save lives of many patients after brain injury due to some accident, sudden arrest of blood circulation, cerebral stroke, or other causes. Nevertheless, a certain number of survivors stay in the state of limbo “between life and death”, i.e. in a vegetative state. Such a patient is in a state of partial arousal, but, as it is believed, he/she is not in true awareness. The diagnosis of a vegetative state (VS) is given by a doctor and since that moment the patient is not expected to show a noticeable improvement in his/her health. If such a state lasts up till a year, the diagnosis is classified as a persistent vegetative state; if it lasts longer, the diagnosis is a permanent vegetative state (PVS).

In 1972 there was a definition of PVS generally accepted as a state of a patient with no functioning consciousness but merely with medulla oblongata reflexes, with body reactivity but no sensory contact with the outside world, and most probably with no thinking in the brain. The definition emphasizes that damage to cerebral hemispheres to portions that are responsible for consciousness is irreversible and deprives the patient of particular intellectual performances. But the fact that is extremely significant in the description of a vegetative state is that damage to cerebral cortex do not mean death of the whole brain. Some portions of the brain (e.g. brain stem) still function – the person can breathe unaided, demonstrate sleep-wake cycles, digest food, finally body temperature and blood circulation are regulated. From the perspective of bioethics or anthropology, the patient is in the condition in which his/her body works, but he/she is deprived of intentional contact with the environment. Then, the question appears what the person in such a complicated situation is. Is it only a living body that once was a human being? Or is it a person who irrespective of the lack of ability to perpetrate any deed or determine his/her fate is still a member of a mankind only on the basis that he/she exists? Szawarski considering the status of a person chronically sick and dependent on the others’ help in all aspects of his/her life answers positively to the last question in the following words, “*Following the given understanding, each person is a real or potential moral patient*” [11]. The author adds that the fact of being sick does not deprive of dignity, and the notion of moral patient obliges to provide him/her with proper care.

Each patient in coma is a mystery. It can be said that a person with barely a trace of awareness, though its range and quality is not known, is a mystery, as his/her brain with its regeneration potential is a mystery. Working with a patient in coma is extremely difficult and laborious. It demands patience and determination. The given type of patients, apart from standard nursing, should be exposed to extensive medical, therapy, rehabilitation, neurologopedic, communicative treatment. To determine the model of communicating with a particular patient is a vital factor, as the information between the patient and the environment may be transmitted not only by gestures but merely by movement of eyes or colour of skin. The first imperative is to treat the patient as a subject not an object, so he/she should be treated as an autonomous in terms of will or decision [12].

The person in coma turns upside down the life of the whole family and is a source of their ever-changing mood, as one day they may have hope to regain contact with the patient and the other day they may lose it. The family usually does not know what to do and how to behave to the relative in coma. So working with the family is significant too. Generally, support to the patients in coma and to their families is a new and little examined type of therapy that demands interdisciplinary knowledge and practical communicating skills that exceed simply verbal communication.

The medical care unit for the patients in coma functioning in Toruń and attached to the "Światło" Foundation functions in accordance with all mentioned above recommendations. „Here comes a new day. Inside the building the personnel keeps bustling around, the aroma of the milk soup wafts and mixes together with the smell of cosmetics, the radio blares out the morning service. Outside the window powdery snow covers the ground. Trees and shrubs glitters. The morning silence is interrupted by the sound of the bell, crows cawing and snow crunching underfoot. All those things are ours for the asking, free of charge, unconditional. They are there, if only we are capable of using them and know HOW to make use of them. But what if for some reasons we do not notice them? What if there is something that restricts us and is beyond our control? What if our life is enclosed within four walls with the possibility of leaving them exclusively with the help of other? Moreover, a helping hand is needed also within the immediate area, as only it can turn on/off the light or radio (…) and see to it that the room is aired and the temperature properly adjusted, or that there will be provided what is essential for living, i.e. drink, food and drugs. That's how the everyday life of the person in a vegetative state looks like. But can we do anything more for them? We do not know whether or not they see, hear or feel us... So, we do not have the right "to imprison" them in such a narrow space. They are still Asia, Beata, Marcin, Michał, Tomek... Each one of them is unique and special. So they should not be given only what is necessary for living.

They should be given what they once used to head for. And very here comes out the task for us, the gap that we can fill [10].

The gap in question is being filled not only by the personnel but also by the Efata project volunteers, who by their actions convince that "There is life in coma" and counteract the fact of neglecting that type of patients.

Once a year in addition to the Nativity Play staged as the charity performance for the Foundation, there is also a performance within the series "The City of Angels" staged by the Efata volunteers in the professional theatre in Toruń. The performance treats of the problems of people in coma and their families. Script of each performance emphasizes the fact that the patient in coma is the subject not the object in the relations and presents to the audience the mysterious world of the patient's feelings making them more sensitive to the issue. As M. Szwechowicz says, "Each performance was given an extremely warm welcome by the audience, which appreciated not only artistic but most of all educational value of the play. Still inside the theatre we were flooded with questions on whether the play is realistic and whether the presented stories really happen.".

In the archive of the Foundation there are many letters of thanks, and congratulatory ones, as well as prestigious awards, such as the one granted by the Marshal of the Kuyavian-Pomeranian Voivodship in the field of building civil society for the play *The City of Angels 2*, or honourable mentions of the President of the Republic of Poland at the Gala "The Colours of Volunteering". "The light of the Efata group should glow in Toruń forever (…) I ask you to regularly and most often return to the Toruń theatre, in which you present the plays on subjects that are really important in our lives." (excerpt from the letter of the President of the City of Toruń from 9th December 2009) [10].

Paweł Kwiatkowski from the "AKOGO?" Foundation said about the Efata, "The performance *The City of Angels – The Anatomy of Love*, an unusual and moving story about people in coma and their families, was a very emotional experience. The true-life scenario moves to tears, invites in the world that is inaccessible and unfamiliar but which turns out to be similar to the one of ours. We observe journeys of the protagonists through the whole chain of events, from the accident, through the state of shock, despair, the sense of helplessness, protest, lack of faith, doubt, to the complete resignation… yet they still only lie on a bed. It is their families, torn between conflicting emotions, that keep fighting to stand by their relatives. Sometimes they sacrifice themselves in the belief that someday everything will be like it used to be, that the miracle will happen, though it happens rarely – too rarely. That theatre is magic. The superficially known situations struck here as intense and strong ones, as the concrete context gives more meaning and emotions. The actors, a mixture of professionals and volunteers of the "Światło" Foundation who know the realities of the people in coma, make a good combination. (…) We thank cordially and congratulate the troupe of the Efata Theatre Group in Toruń."

Szwechowicz added, "*But the most precious thing is the response from the sick themselves and their carers. They are genuinely moved and many found their own stories in the scenarios, which even helped them to distance themselves from their problems*".

Katarzyna Stafiej, a spectator, said, "*The Efata Theatre provokes reflection, and maybe this is a reason why its performances are so important to those who have seen them. They restore our sensitivity we intuitively always had felt. They show that everyday standing by the sick or dying relative, though tough, can be constructive. They propose a standard of behaviour. They prepare us for difficult, but unavoidable and unpredictable, situations. (...) As far as I am concerned, they gave me the strength to be the witness of my relative's disease, the strength psychical and "organisational". Secondly, they taught me in a friendly way that my support is of the essence and completely natural*".

Szwechowicz concluded, "*The Efata performances always have three main objectives, i.e. to educate, move, and familiarize with the issue, and two major motifs, i.e. the patient's right to dignity and his/her right to respectful death. The rest is up to the scriptwriters, directors, and actors. And as the Efata artists have been familiar with the subject of the sick and dying for a long now, there is a lot of material to be staged. Actually, the common ground for all the plays is tolerance towards the human behaviours. The controversial characters of the plays are devised in such a way so as to be likeable, or at least to arouse empathy. The context very often justifies the behaviours that in any other circumstances would be condemned. Thus, the character of Elżbieta, a woman exhausted after a long-standing care of her husband in coma and for many years persistently searching for any alternative treatment that would work, so far perceived as a loving wife suddenly announces that she hates her husband and needs a drug for herself rather as she does feel co-sick and is at the limits of her endurance. Another character demands euthanasia for his sleeping brother Grzegorz, not as much out of compassion as out of despair after the family that has been lost, as his parents have been focused on Grzegorz to the extent they have no time and concern for the other son. Finally, the father of Kasia in the dialogue with a priest negates "the God's plan". "The diversity of the characters' behaviours and their methods of* *familiarizing the disease of their relative prepare the audience to stand by the sick and co-feel his/her fear, pain, sorrow, fright, exhaustion*".

It is also worth mentioning that the Efata volunteers help the patients of the Foundation not only in the form of drama performances. They as well participate in many other events, meetings, workshops. Some volunteers regularly read to the patients, others instruct the families or organize transport. Some volunteers on the occasion of the events organized within their professional career do not forget to mention about the Foundation or even to collect some money for it. Their engagement and reverence they enjoy form the public opinion and media make the needs of people in coma credible and noticed [10].

Discussion

The chronic disease, especially the one with unfavourable prognosis, divides people to those healthy ones and those sick. The former usually do not know how to react to the sick and their families, so most commonly they avoid them at all and the subject itself. They do not even ask the sick how they are or how they cope, as it seems inappropriate. After all, what can be said? The same in case of grieve. The passing away of a relative is often treated as something very private, so the people from the outside are afraid to engage in the situation and hurt or offend someone with a wrong word. They pass by, do not show up, which hurts even more. On the other hand, the sick and their families themselves have the tendency to avoid contact with their community, as they feel stigmatized by the disease that struck them. As a consequence, they may suffer from the deficiency in social and friendly relations and fell alienated.

The people around not always are prone to supporting the sick or simply do not know how to do it. They subconsciously fear that they may suffer the similar fate some day, or the contact with the sick makes them feel embarrassed and helpless [15]. It seems as if in the consumerist society there is no place for disease, old age, death. The given issues are ignored, put on the sidelines. But ignoring them means avoiding them, and avoiding them means falsifying the reality. The solution is thanatopedagogy, a sub-discipline of pedagogy that is aimed at restoring the balance between one's will to deny the problem and his/her awareness that they have to face what is inevitable – one's awareness of his/her passing away. So, it can be said that thanatopedagogy is about the education on living with the awareness of death, which is a nature of life itself. The discipline is based on the principle that a man's dignity is to be respected and each human life is sacred and precious [16]. The Efata Theatre Group undoubtedly acts with specific reference to the discipline. The group's decision to address the subject of the sick on the stage engages the audience, provokes reflection, discussions, even argument. Unquestionably, the Efata Theatre Group rouses social consciousness of the fact that the people sick, suffering and dying are all around us and need our support.

In expressing such difficult issues like disease, pain, and death there cannot be omitted the vital element of hope. M. Szwechowicz emphasizes, “*No performance was without Hope that in most hard moments of the play appeared on the stage as a leading silent character and accompanied the spectator till the very end*.”.

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Wróblewska Izabela, Błaszczuk Jerzy

The bedsore incidence among elderly patients of Regional Hospital in Opole

The State Medical Higher Vocational School in Opole

Among hospitalized patients bedsores along with the hospital-acquired infections are a major group of complications. They are result of the negligence in care and can be life threatening. Therefore effective treatment is of crucial importance. Bedsores are known for centuries, the description appears in 1420 already as a kind of chronic wounds, defined by Latin word *decubitus* [1].

The term is derived from the verb *decumbo*, which means "to lie down" or "fall down" and indicates a major cause of pressure ulcers which is a long-term immobilization in the supine position [2].

Pressure ulcers are classified as chronic wounds, with the highest risk of occurrence among the malnourished patients, seriously ill, obese people with impaired circulation. They are encountered mainly in the elderly and long-term immobilized patients. Most often found in patients chronically hospitalized and constitute about 10-15% of the all observed wounds [3].

Main risk factor in the development of the pressure ulcers, in addition to the compression force, is its time. A healthy person during sleep changes the body position about 150 times, immobilized patient is not able to go it alone and therefore is dependent on the help of others [4]. Time of resetting the patient in the bed depends on the position in which the patient is. The gap between changes, should not exceed two hours however. While seated, the pressure is twice as high (1 kg / 5.6 cm^2) as in the supine position (1 kg / 2.5 cm^2), hence shorter time of the patient in this position minimizes the risk of bedsores [5].

Frequent change of body posture relieves compression and so minimizes the risk of the damage. Decubitus arises mainly as a result of two processes: the occlusion of blood vessels by the pressure acting from the outside and the microvascular endothelial damage caused by shear forces. Time of appearance of the bedsore is different and depends on the general condition of the patient. In the unconscious patients can occur even within 2 hours. The resulting anomalies cause significant discomfort to the patient, can be a source of infection, cause pain, and when untreated even lead to death. The treated bedsores can give a lot of complications, and their healing time can be long, partly because there are never a primary disease entity and are generally a consequence of various diseases. In addition to the exterior bedsores so called internal pressure sores can be observed. They are caused by the presence in the patient's body various catheters, probes and tubes (urethra, oesophagus, trachea) [4].

Patients with bedsores require further specialist care which is related to increased medical costs. The prevention is much cheaper than treatment of wounds So modern strategy in the management of pressure ulcers consists of three components: appropriate prophylaxis in patients at risk of pressure ulcer formation, adequate risk assessment of decubitus and proper treatment of the resulting damage. The risk of pressure ulcers is determined for all newly admitted patients with the use of specifically designated scales (e.g. Waterlow scale) [1, 6].

There are about 200 factors that contribute to the creation of bedsores. They are divided into:

- internal (immobilization, confusion, paresis, paralysis, incontinence of stool and urine, poor nutrition, obesity, anaemia, dehydration, diabetes, atherosclerosis, fever, shock, chemotherapy, female gender, age)
- external (shear forces, compression, friction, infections, poor nutrition, moisture, crimped sheets, skin diseases).

This can be further divided into major and accompanying. Where the first is due to the action of mechanical forces and their duration, the second depends on the patient's condition [1].

Pressure ulcers usually occur in people lying in areas that are exposed to the pressure, so among chronically ill and incapacitated patients, in people who have suffered serious injury (spinal cord injury with impaired sensation) and in patients wheelchairs, who have plaster casts. 70% of pressure ulcers occur below the waist - in the area of hip and pelvis, usually in places like ischia tuberosity (about 5%), sacrum (40%), trochanters (about 10%), ankle lateral leg (about 5%), heel protuberance (approximately 10%) [7].

They may also occur in the spine, shoulders, thighs knuckles, ears, shoulder, back of his head, patella and foot [8]. All these can be divided into three groups/types. The basis of the division is the time necessary to heal and difference of the temperature between the skin and bedsores. The first type is called typical bedsores with the cure time about 6 weeks, the second atherosclerotic bedsores – cure time about 16 weeks, and the third – terminal bedsores observed in dying person [9].

To assess the degree of changes four-scale by Guttman, five-scale by Enis and Sarmiento or by Thorrance is used [8]. There is also classification based on the appearance of wounds and the degree of its severity (so called colour system, with four basic wounds colours: pink, red, yellow and black) [10].

The main treatment of wounds has to close the exposed tissue and promote the formation of scar tissue. Healing is a dynamic process and occurs in three phases: inflammation, formation and tissue remodelling. Wherein the first phase lasts 1-4 per day, the second from 3 to 10 and the third from 8 days to several months or even years [11].

Modern wound healing requires knowledge, accuracy and patience from the staff involved in the treatment. It should be remembered that not all pressure sores heal in the same way, because overall health of the patient, co-morbidities and aetiology play a vital role in the process. Consequently, the particular choice of therapy is indicated, which results not only in faster healing, but also improved patient comfort [12, 13].

Proper wound care should be recognized holistically, taking into account the patient's nutritional status, his knowledge of bedsores and social conditions. The choice of the dressing depends also on the stage of healing, the wound size and its location [14].

The success of the treatment depends on the eliminate of the factors and causes that inhibit wound healing (necrosis, infection). After their removal appropriately selected specialized dressings to accelerate the healing process can be used. Bedsores can be carried out using traditional (maintaining moist wound environment) or with the use of a new generation of specialized differentiated in terms of their structure and bioactivity dressings. All they need not to adhere to the wound, allow for proper gas exchange, keep the humidity between the dressing and the wound, to be impermeable to bacteria, non-toxic, non-allergenic, keep right temperature, they change cannot damage newly formed tissue, should aid in the eliminating exudate and toxic particles and ideally should be affordable [15].

Pressure ulcers are found in many hospital wards, affecting patients of all ages augmenting their suffering. Their incidence can be reduced by conscientious and attentive patient care and constant education of personnel in the treatment of chronic wounds. It is a difficult process of long-term and requires great care, commitment of staff who takes care of the sick [13]. To plan the proper care of the patient, at the time of admission to the department one should get to know his problems of biological, psychological and social matter. The best way to collect all the information is an careful and thorough interview with the patient and his relatives. Next step is to assess patient's risk of bedsores, which allows better planning of individualized prevention and proper care [16].

Knowledge of the care of patients with pressure ulcers, or with the possibility of their occurrence allows taking appropriate preventive action in relation to patients with a high degree risk. Systematically conducted observation of the skin allows for early detection of lesions; assess their size, location, appearance, colour and accompanying symptoms. In order to ensure the effective operation of normal physical condition and above all nurture patients in accordance with applicable anti-bedsore standard [17].

Aim of the study

Evaluation of the incidence of pressure ulcers among elderly patients in Hospital in Opole.

Methodology

The study was conducted in 2012 and 2013, by the anonymous survey prepared by the authors among the 90 patients, there were 62 women and 28 men.

Among the participants the largest group were people over 84 years of age (35%), then aged 76-85 years (30%), 56-65 (16%), 66-75 years of age (14%) and 46-55 (5%).

Results

Most patients surveyed had gaunt body composition (39 people-43, 3%), then the average (37 people-41, 2%) and obese (14 person-15, 5%) (Tab. I).

Table I. Summary of respondents due to their body composition.

Sex	**Body composition**						**Total**	
	Gaunt		**Middle**		**Overweight**		**Number**	**%**
Women	21	23,3%	28	31,2%	13	14,4%	62	68,8%
Men	18	20%	9	10%	1	1,1%	28	31,2%
Sum	**39**	**43,3%**	**37**	**41,2%**	**14**	**15,5%**	**90**	**100%**

The majority of surveyed patients had dry skin (44 people-48, 9%), there were 31 women (34,5%) and 13 men (14,4%) paper skin was observed in 31 cases (34,5%), 16 women (17,8%) and 15 men (16,7%), oedematous 15 patients (16,7%), there were 12 women (13,4%) and 3 men (3,3%).

These were people who had limited physical ability, usually fixed, classified in the third category of care by the current assessment of the need for care in the hospital described.

Restrictions related to 69 women (76,7%) and 21 men (23,3%). The survey conducted showed that no patient was fully capable physically.

Respondents were also evaluated in terms of their appetite and the largest group of patients had a poor appetite (62 patients-68,8%), 36 women (40%) and 26 men (28,8%). Full appetite was described by 21 patients (23,3%), 14 women (15,5%) and 7 men (7,8%), a excessive appetite characterized 7 patients (7,8%), 5 women (5,6%) and 2 men (2,2%) (Table II).

Table. II Summary of respondents due to their appetite.

Sex	**Appetite**						**Total**	
	Poor		**Full**		**Excessive**		**Number**	**%**
Women	36	40%	14	15,5%	5	5,6%	55	61,1%
Men	26	28,8%	7	7,8%	2	2,2%	35	38,9%
Sum	**62**	**68,8%**	**21**	**23,3%**	**7**	**7,8%**	**100**	**100%**

The most frequent disease entities among patients were consecutively:

- cardio-respiratory failure, which involved 18 people (20%), 10 women (11,1%) and 8 men (8,9%);
- diabetes – 17 people (18,9%), 11 women (12,2%) and 6 men (6,7%);
- gastrointestinal haemorrhage – 11 people (12,2%), 3 women (3,3%) and 8 men (8,9%);
- cognitive decline – 10 people (11,1%), 8 women (8,9%) and 2 men (2,2%);
- pneumonia – 7 people (7,8%), only women

The remaining 27 patients (30%) were diagnosed with conditions such as: anaemia, hypoglycaemia, terminal cachexia, hypertension, Parkinson's disease, alcoholic liver disease, colon cancer, stroke, gastric and duodenal ulceration, Alzheimer's disease and dehydration.

In this study we also analysed the location of pressure ulcers, which were located mostly:

- in and around the buttocks (33 patients-36.7%, including 21 women (23.3%) and 12 men (13.4%)
- in the lumbosacral area (28 patients-31, 2%, including 16 women-17, 8% and 12 men-13, 4%)

- around the caudal bone (19 patients-21, 1%, including in 8 women 8, 9% and 11 men-12 2%)
- on the heels/feet (4 patients, 4.4%, only men).

The remaining 6 patients (6.7%) had bedsores in more than one place, including 4 women (4,4%) and 2 men (2,2%).

In the respondents the severity of the wound was evaluated also. We found that most of our group (47 patients-52, 2%) has the first degree of pressure sore.

There were 23 women (25,6%) and 24 men (26,6%).

The second stage of bedsore was observed in 23 patients (25,6%), including 14 women (15,4%) and 9 men (10%). The third stage of bedsore was found in 8 women (8,9%) and the fourth in 7 patients (7,8%), including 6 women (6.7%) and 1 men (1.1%). In the remaining 5 patients (5.6%) had multiple bedsores of varying degrees. There were 3 women (3.3%) with all four stages and 2 men with pressure ulcers in first and second stage. Examiners were interested in the wound healing phase also. By observation it was found that a statistically significant number of patients (50 persons - 55,6%) could see significant effects in the process of wound healing. There were 33 women (36,7%) and 17 men (18,9%). Slight improving of the wound state was noted by 24 patients (26.6%), including 14 women (15.5%) and 10 men (11.1%). 16 respondents (17.8%) failed to spot a clear improvement in the process of wound healing, including 12 women (13.4%) and 4 men (4.4%). None of the subjects tested did not observe the deterioration of bedsores (Tab. III). The surveyed patients were also subjected to the nursing care categorization. None of them did not qualify as a first category. To the third category of nursing care were enrolled 61 patients (67.8%), including 42 women (46.7%) and 19 men (21.1%). In the fourth category were 28 patients (31.1%), including 18 women (20%) and 10 men (11,1%). Only one woman was categorized in the second stage (1.1%).

Table. III. Summary of respondents due to the phase of wound healing.

Sex	**Phase of wound healing**								**Total**	
	Significant improvement		**Slight improvement**		**No effect**		**Deterioration**		**Number**	**%**
Women	33	36,7%	14	15,5%	12	13,4%	0	0%	59	65,5%
Men	17	18,9%	10	11,1%	4	4,4%	0	0%	31	34,5%
Sum	**50**	**55,6%**	**24**	**26,6%**	**16**	**17,8%**	**0**	**0%**	**90**	**100%**

Conclusions

1. Most of the respondents were women aged 76-86 years with a mean body size and dry skin.
2. All the respondents have limited physical function.
3. Among the respondents most frequently occurred the first degree of bedsores.
4. The majority of the surveyed patients observed significant effects of wound healing.
5. Most vulnerable to the formation of bedsores part of the body was buttock area.

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Endangered of values and the humanism of nurses

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Values – what are they and where do they come from?

Though there is no unanimity in the understanding of “values”, the need to talk about them is undisputable. What do we understand by values and what kind of values are of interest to us – that’s the first question. Second question is – where do the values come from, what is decisive about their existence or about them not existing, about their appearance and disappearance. The third question finally – what certain values are the priorities in the nurse’s field of work.

What do we understand by values and what kind of values are of interest to us?

Values are spoken about in philosophy, ethical systems, social systems. They are not unfamiliar to economy, politics and religions. Although the issue of ‘values’ reaches back to the Ancient Times, an increased interest in it has been noticed since 19th century. Because the values are related to many branches in human activities, it’s not a surprise to see many difference of opinions and views in that matter. It must be added that the very meaning of “values” is rather ambiguous. I am not an expert in any of the branches mentioned above, as I am a nurse by profession and I look at the values from nurse’s point of view which will be – must be – mirrored in my understanding of the values. I will mention what is the most important and most elementary.

Values are a feature or rather a characteristic which makes thing, event or an idea more precious, attractive, more significant than others. Value is a form of good, truth, beauty which engages us emotionally. To speak about divisions in the matter of values one would have to enter the field of philosophy but I have no courage to do that. There is no need to discover philosophical secrets to know that some values are universal, timeless – transcendent as philosophers would say, they are somehow written into the existing reality; those are – already mentioned – truth, beauty and good; those values some call “categorical”. Among those we find values connected with vital goods, economical, artistic, esthetic good and also moral values. The latter include perfect and human improving behavioral patterns. They do not only relate to particular people but also to human relations so they regard both personal good and common good. Moral values have certain relations: towards *goal* (it describes human or group aspirations), towards *good* (the object of activity)and towards standards (they protect values or insist on their accomplishment). Values are also present when judging: what is worth fulfilling. The range of values also include those fulfilled (accomplished) and unfulfilled, fundamental and auxiliary values.

From the values' characteristics worth considering I will mention two: pretension (demanding) and antithetic:

- certain group of values does not only exist but also demands to be seen – moreover, taking an attitude towards them, being for or against, accepting them in or excluding. Those values are being called: *demanding*. Taking an attitude towards them requires specific actions. Staying passive, unfulfilling their demands, deception or ignoring them becomes an antivalue, evil. Tension written in the values' structure shows itself in the choices made. To be more than just a theoretician in the field of demanding values I will say that one cannot stay passive in the face of breaking human rights, destroying the environment, or brutality and vandalism.
- I understand antithetic as some values being in motion while others being still. Some values can or even should be exchanged into others (money is a value which can be used to lawfully purchase other values). Under some circumstances they grow or use themselves to increase other values (reproduction of living creatures but also a bank account which increases the amount of money deposited). Lower values can be, or even should be, under certain circumstances changed into higher values but with a proper caution. There are also values which distinguish themselves with being constant. It applies to moral, symbolic, spiritual and transcendental values. Values are precious because they are constant. Money has a real value when it doesn't yield to inflation, when it's not threatened with change. On the moral field only unchangeable word matters. We established an oath to have god's world as a guarantor and judge of human word's durability. There is however a circumstance which justifies change of heart or opinion – changing from wrong to right, justice. It's hard to agree upon calling someone having a soldier ethos if the person tortured and killed innocent people in the name of "power consolidation" and doesn't want to change his beliefs and doesn't feel regret for all the evil he has done. Unrivalled heroes however are people who didn't hesitate to sacrifice their lives in the name of moral and spiritual

> values of their conscience and given word. Those unchangeable values include patriotism. Speaking of moral values it's important to remember what Dietrich von Hildebrand said: "Moral values are a crucial problem of the world; lack of moral values is the greatest evil, worse than torment, illness, death and the fall of blooming cultures" [1, 2].

What is decisive in the fact that we feel an urge to change one value to another but we also feel so deeply and faithfully connected to others?

Where do the values come from, what is decisive about their existence or about them not existing, about their appearance and disappearance. What about antivalues?

Some values simply exist independently to humans who get to know them, choose or abandon; others come to live thanks to human actions, decisions or choices. It means some are an object of discovery, others an object of creation but only man is capable of creating and multiplying the values but also of destruction and degeneration. Since human being has had a consciousness at his disposal, he discovered an order of values written in the world and himself. He uncovers the world mostly as an order and hierarchy of values, as a rational, coherent and purposeful. In the same time man realizes he has an ability to suggest alternative arrangements. He is not only aware of his creative abilities but also free. He can feel inside, unwritten order of moral nature which we call conscience but doesn't feel attached to it enough to be unable to act differently or even in defiance of. It's an incredible chance but also a great danger to human and world.

Next to the values that already exist, man feels obliged to create new values by work, art and invention. Work is an inestimable value from a category of those which in turn multiply other values entitled to man. Its lack is an evil and generates evil on many paths of life.

To our misery we can create and chose values which are not only favorable but also those which are harmful to us and to others. We are capable of creating systems called ideologies and in religious field - sects which, as the past showed, tend to be rather antivalues. I understand antivalues as harmful to general good, e.g. dictatorship and violence, power and unconditional pursuit of wealth, slavery and racism and euthanasia.

Speaking about antivalues, it's worth to remember that it's actually all about good which was engaged to pursue ill causes or became a goal instead of staying a remedy, or finally became a basis to negation of all values. Antivalues are the effect of human will and thought. They are their source. Where many influences cross paths, where there is a possibility of an income, where one man is dependent on the other – there will always be a danger of values distortion and appearance of antivalues.

The social character of nurse's work is also in the range of such occurrences. She herself sometimes experiences the drama caused by values' hierarchy disorder or their distortion.

Values appearing in the nurse's field of work: life, health, suffering, work

From the values resources which consist of outside and inside of man's world I choose those being in the range of nurse's mission: work, life, health, suffering.

All four of them are connected to each other and obviously dependent on each other.

The main reason nurse gets in touch with these values is a patient whose illness and suffering is an essence of her work (which I spoke about before). It's constant clashing with illness and suffering of another human being as it's a danger to health and life. Using all their knowledge and medical skills nurse at the side of a doctor must fight fiercely to win the duels with suffering. It reminds me of professor Antoni Kępiński words: "*Doctors duty is to fight illness and death, that fight should be fought to the very end even if all the positions seem to be doomed*" [4]. The very thought applies to nurses as well. Unfortunately they don't always win.

There comes a time when neither great knowledge, longtime experience nor wondrous medicaments are sufficient. There is no truth more emphatic than the fact that every man is mortal. Facing death of a patient we tried to save, one is surrounded by feelings of helplessness, surrender, resignation. Man seems to finally fall for antivalues.

However in the light of religious faith or most importantly in the face of Revelation Christianity received, both illness and suffering can be treated as positive values, they can be a chance for both ill person and a nurse (by helping the sick and ill to turn their fate into a chance).

Confidence of religious faith doesn't undermine the fact that not only health and life but also other values are in constant danger. It's a dialectical regularity which features the world of values. It's necessary to in turn take a look at the second truth which fills the reality – the dangers.

Dangers, it's genesis, forms and mechanisms

Every danger has a perspective of values being destructed, written in itself. It can also be said: there is no danger where there are no values. Where do the dangers come from and what areas are in their range is an object of the research, thought and speculation. It's a concept which could be a base of a separate paper, study or dissertation. I will bring up only some aspects of dangers: appearances, field of operations, forms and mechanisms.

Genesis of dangers

It is not easy to track dark paths of dangers creeping towards man. It acts from hiding, with an effect of surprise or skillfully uses lack of knowledge, lack of experience or human trustfulness. I will elaborate on those easy to spot causes of dangers.

The first and main reason of dangers are the values themselves. Even if we accepted evil as a self being (metaphysical duality) we would still need to agree that evil is a value no matter if a negative one or an antivalue. The Christian point of view doesn't accept evil as a self being, it states that evil is either a *lack of good* or an *abuse*, *used in wrong cause* or finally an effect of *movement in values' hierarchy*. According to this statement we can understand endangerment of values as of one values being a danger to the others.

The most common danger is – colloquially speaking – clash of interests which we understand as a subjective receiving of values. *Interests* – it's a way of receiving values like good when someone else (either single person or a whole group) is also very much interested in it.

Another cause of endangering the values is human recognition. What I mean is not only distinguishing between an objective and superior good and subjective and temporary good but *seeing* values in a deeper perspective. Not everything being an objective good today will be a like tomorrow. Not everything what brings profit now will work exactly the same under different circumstances. Values should be received in a broad context not only temporary deals but mostly in multiple perspective connections. The popular saying "Do what you want but watch for the end" gives accurately the gist of the problem why do we have to watch out for consequences of our choices.

In the light of what was written above we are facing a question, where should nurse look to, to watch out for dangers? What can be a cause of them in her case? The answer to those questions I call the fields of danger.

The fields of danger

It's impossible to talk over all values which are of interest to us. I will then focus on four domains: freedom, dignity, safety and life.

First ones I mention are freedom and dignity which are especially precious values. They make it possible for a human being to have a righteous existence. Man deprived of freedom or dignity is often a shadow of himself, calling for mercy. It would be dangerous to miss other sources of danger to these values. Social media inform about cases of exploitation, forcing to work excessively at the cost of physical and psychical health. Employee becomes a victim of an egoism and a desire of vile profit of the employer at the cost of employee's freedom and dignity.

Fear became an element of our reality. Fear of going out in the evening, fear of strangers; it's not unjustified. Man is afraid of another man. It doesn't make it easier for a nurse in her everyday work. If she has a night shift, the bare idea of leaving her house at late hour gives her a major discomfort. Another source of anxiousness is fear of losing a job. Unemployment is as great a danger of basic human values as physical dangers.

Finally the greatest and the most important value for a nurse is human life. It's an object of nurse's care not only because it's endangered by illness. I am talking about dangers coming from certain human attitudes not from other sources. Attempts to legalize euthanasia is one of the tendencies we should be afraid of in the matter of life.

Forms of endangerment

One of them is a low awareness of life value. Life is cheap. Percent of killers who don't feel remorse towards their crimes is very disturbing. Killings have been incorporated to everyday events as something permanent. Compiling and commenting next to each other in the same manner are: accidents, results of carelessness, stupidity and irresponsibility with crimes on one hand and on the other hand brutalization in media and entertainment (movies, internet, computer games etc.) doesn't help especially young people to learn how to respect the highest value – life. We are being surrounded by a thick ring of civilization of death, hate and violence. Characters from that reality are promoted as heroes and become a scheme of valid subculture. Everything turns against man when antivalue becomes a value.

Second form of endangerment I'd like to point out is an emptiness which appears when man – especially young – is deprived of such values as respectable figures, self dignity, idealism and dreams. Repressing hope, trivializing responsibility, inculcating the conviction that nothing is certain, everything is pointless what is beyond me, is actually killing the psychical and spiritual area of a human being. To kill good, put conscience to sleep, reduce actions to simple muscle responses, laugh at all sanctity is a serious danger which can't be ignored by society.

Allow me to point out one more danger's domain: I mean losing such value as *sacrum*. The place taken by this value cannot stay empty. Man is a religious being but when deprived of *sacrum* values (faith, morality, spirituality) he will quickly turn do pseudo religious values which fatal influence is undoubted (sects, magic, superstitions but also fundamentalism, racism, chauvinism). Religious beliefs will soon be replaced by ideology what was tragically proved in the 20th century. Gospel warning to never leave uninhabited house is 100 percent correct. When man is deprived of his *sacrum* it's place is soon taken by evil forces.

The mechanisms

The first rule of all dangers is to present them not as such but as a total opposite – as the most believable offer among positive values, as a plain good. Neutralizing the defense mechanisms (putting to sleep inborn awareness and fear) – that's the goal of dangers. 'It's nothing bad, you'll see' – say drug dealers, gang and sect's recruiters, petty thieves. It's enough today to torment a cat or a dog, tomorrow hit a friend and then it's all easier to torment the weaker human. Putting to sleep moral sensitivity, deadening of higher feelings, putting an argument of strength and subjective rights in their place is a reliable method to enslave man by an evil system, antivalues.

The second way is to increase curiosity with a subject unknown before . One introduces the climate of mystery, distinction, privilege. That method is used especially towards people who are inexperienced, less critical, shy, those who don't have self-esteem.

The third method is based upon the mechanism of fear . It uses intimidation, blackmail, very often also indirect compulsion. It applies to hesitant people, those who decide to retreat from the situation they found themselves in.

On the basis of previous reflection new questions arise. Is there anything we could use to counterattack the dangers that threaten goods we have a right to enjoy?

Humanism as an answer to endangered values

Since – as I tried to show – dangers are evil as they do harm to man and aim at annihilation, belittling or degenerating good; that's why we feel compelled to fight the danger in the name of moral values or simply saying: it's in our own interest. Among all various alternatives I will take a look at one mentioned in the subject: humanism.

Humanism as a system

I will not speak about humanism in the meaning of cultural movement which reaches back to 15th century but I will speak about humanism as a definition of mental formation and attitude of one man towards another, in the name of respected and shared values included in it. Humanism is a certain sum of values which are very close and important to man because they determine his existence and coexistence in human society.

Attitude as a sign of humanism

What I mean by that is a wide understanding of an acceptance of human being for himself and especially for the values he represents and personifies. Practical humanism understood as such, assumes freedom from secondary values' dominance (social status, wealth, qualifications, health status or even looks). In the case of an ill person the freedom of frankness and acceptance from the health care representatives is even more required. Bending over the ill with care, warmth and kindness is a definite expression of humanism.

Humanism of nurses

"*Undoubtedly the most important and most distinctive feature of nursing is humanism*" [3]. In the face of many dangers to all human values the more we should focus on human beings – it's a conclusion of Polish Nursing Society 4th Congress which took place in 1998 in Busko-Zdrój under the banner of "Humanism in nursing". It cannot be a subject of discussion that a nurse has a special position in the world where humanist values clash with values of death civilization, ideology of despair – called antivalues. Human being however is brought to life to which leads a path of hope, which program is called faith and which strength is love itself.

If – like I mentioned above – humanism is a twist of two aspects: theoretically-intellectual and practically-moral then narrowing it down to the occupation of a nurse show another particular shade: it's not only practical but also filled with warmth of a heart, care, sensitivity, empathy and fondness or values engaging deeply emotionally.

(religious) Faith as a horizon of humanism

Being nurses, we are people who have a huge source of values. Our humanism, expressed mostly in the attitude, can be understood as a synonym of our identity. However it happens quite often that the challenges of everyday life surpass range of possibilities of even the most perfect impersonation of humanism. Religious faith completes what is noble in man, his motivations, sacrifices and unselfishness.

To save human dignity, basic human rights can only faith. Ill believers bear *mysterium doloris* more easily and they are – so to speak – more fit partners for a dialog with health care representatives.

Humanism in its many aspects seems to be the correct and adequate antidote for various dangers, both those eternal somehow organic with human condition and those generated by achievements of civilization and technical.

Conclusion

I will express my conclusions in the form of four short statements:

1. Nurse's professional, social and humanitarian mission is based on values, both metaphysical (truth, beauty, good) and categorical values which in greater part are of demanding nature what means one can't take a stand without betraying the special value of honesty towards himself, his conscience and towards another human being – in this case a patient.
2. Nurse, like every other grown up member of local, occupational, human society must take into account a fact that values can be and are endangered. Values endangerment is a result of many complex reasons, not always possible to learn, what in turn means not always possible to prevent. However, society must take such steps through the specially appointed forces, in its own interest. It's a paradox that dangers exist where the values are and the gist of endangerment is to disturb the order of certain values. In case of both ill and the nurse, dangers can take dramatic and existentially radical forms.
3. A proper answer for endangered values is to oppose them with humanism as a sum of values especially close and important to human beings. Nurses present practical humanism so it's to be expected that in such a form humanism will show fully emotional dimension written in values. Without any care about that dimension it's impossible to imagine integrity and effectiveness of nurse's mission. The entirety of nurse's mission can't omit the motivation coming from religious faith which helps and not harms in sickness, in pain and in palliative care.
4. Humanism as a value and as a sum of all values is open by nature that's why if someone is guided by such source he is expected to be opened and willing to cooperate more than someone who isn't guided by the values. It manifests itself in honesty, searching the truth in dialog and in highly developed sense of responsibility for everything that's good – meaning the values being in the range of view of people inspired by humanism.

Nurse's humanism is especially of a precious value. In the eyes of a patient being under her care it's often of a greater value than the newest medicaments. Social climate of environmental or of hospital treatment should include humanism as a postulate but it should also be promoted as a counteraction against dangers and as a support for the nurse whose ideals help present the beauty of values included in humanism.

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Quality of services offered at a surgical department versus patient expectations towards nursing care

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Introduction

The notion of quality accompanies humans since ancient times. Each human being pursues high quality of life, good living conditions, high salary, esthetic and well-made goods, efficient and nice service. It can be said that quality is the level of satisfaction associated with receipt or consumption of a given good or service [1]. As quality refers to each sphere of human life, formulating its universal definition is difficult. In colloquial language, quality is associated with everything which can be improved or is good [2, 3].

Although quality is not a new term with regards to healthcare services, it underwent long-term evolution throughout centuries. The Code of Hammurabi (1728-1686 BC), which mentions punishments for health harms inflicted by physicians on their patients, is the oldest document dealing with the quality of healthcare services [3].

Literature contains many examples of poor quality in the area of healthcare services. So-called hospital fever (nowadays called nosocomial infections), which occurred due to common beds, dirt, and lack of hygiene, was a plague at the turn of the 16th and 17th century. According to old chronicles from the late 17th century, in 1773 hospital fever was the cause of death of all young mothers in Lombardy [3].

Initially, all issues related to quality referred to the sphere of production; the practice of the accreditation of health care units was first implemented in the United States. In 1910, E. Codman proposed an outcome-based model of hospital functioning and assessment. E. Martin implemented this model in the practice of the American College of Surgeons. In 1918, the College published the first standard of care, which became the foundation of hospital accreditation program [4].

In the case of healthcare, the notion of quality can be analyzed in two aspects. Firstly, as compliance with defined norms, secondly, as a patient-perceived value. In terms of healthcare services, quality refers to the user-component, i.e., to all values perceived by the patient as benefits [5].

The healthcare reform of 1999 was vital for the quality improvement of healthcare services. It started the process of the restructuring of hospitals, which were no longer subsidized by national budget and became independent entities [6].

Implementation of market mechanisms forced the entities active in the healthcare industry to assume attitudes and behaviors similar to the economic relationships observed in other branches of economy [7].

A competition between healthcare units began, and quality became the principal competitive advantage. Constant improvement of quality management is a prerequisite for remaining on the market. International standards, forming the so-called ISO quality management system, are used to build and develop quality. These systems constitute a strategic point in improving the quality of Polish hospitals [8]. The aim the of quality management system is to improve patients' satisfaction [9, 10].

All activities and processes taking place at a healthcare unit are aimed at satisfying customers' needs. Without customers, any such activity would be pointless. Referring to patients as 'customers' is more familiar among individuals dealing with the organization of healthcare services than professionals directly involved in such services, i.e. nurses and physicians. Every human being, whether perceived as a patient or a customer, should be treated subjectively [10, 11,1 2].

As an external customer of a healthcare unit, each patient has certain rights which should be respected by medical personnel. Without this, no healthcare unit is able to achieve its quality management goals. In Poland, patient rights were first regulated by the Healthcare Institutions Act in 1991 [13].

At present, the Act of 6 November 2008 on Patient Rights and Patient Rights Ombudsman is the basic legal act regulating the question of patient rights [14].

Together with health improvement, patient's satisfaction represents an important healthcare objective and a criterion of quality in the functioning of a healthcare unit. From patient's perspective, the quality of healthcare is determined by:

- qualifications of physicians and nurses (structural measure),
- course of therapeutic process (measure of undertaken activities),
- improvement of health status (measure of achievements) [15].

There is a distinction between the terms ‘opinion on a service’ and ‘satisfaction with service’ in literature. Opinions refer to many aspects of healthcare and do not necessarily represent judgment formulated on the basis of one’s personal experiences. They can be a personal reflection of assessments formulated by others or opinions functioning in a given environment. In contrast, satisfaction is a personal impression associated with the utilization of healthcare services [15,16].

Assessment of service by potential patients is an extremely difficult task. Prior to obtaining a service, patients can assess other parameters, e.g. the appearance of healthcare unit, or listen to the third party opinion. The post-service assessment can also be problematic as the patient does not have to be (and most commonly is not) a specialist in a given medical discipline. Consequently, he/she searches for measurable elements which could be assessed [17]. Such elements include:

- availability of services, i.e. accessibility of help,
- reliability, i.e. good reputation of a healthcare unit,
- organization of registration system, availability of telephone contact, ease of scheduling appointments,
- attitude of personnel,
- respecting patient rights,
- conditions of offered services,
- comfort associated with utilizing services,
- organizational efficiency related to offered services,
- informed involvement of patient in therapeutic decisions,
- therapeutic effects [3,15].

Seeking patients’ opinion reflects the sensibility of healthcare system to customer needs [3]. Responses to a survey can be helpful in the detection of flaws in the organization of offered services and planning their improvement [18].

Surveys of patients’ opinions provide information on their perception of a given healthcare service. However, not infrequently aspects that are considered optimal by a provider are not perceived as such by their customers. This is reflected by a gap between the product offered by a healthcare provider and patient expectations [15].

Nursing services are one of the widest areas of healthcare services associated with direct contact with patients and exert considerable effect on the quality of offered care [19].

Objective

The objectives of this study included:

1. Assessment of the quality of nursing services offered at a surgical department according to the patients hospitalized at this department.
2. Determination patient expectations with regards to nursing care in order to improve the quality of offered services.

Material and method

We used a diagnostic questionnaire survey to achieve our objectives.

The questionnaire, developed by us for this study, included 21 questions: 18 closed questions and three open ones. Prior to the study, we informed our respondents about the voluntary character of their participation.

The survey was anonymous, and its results were subjected to statistical analysis with Microsoft Excel 2003 software. We analyzed the relationship between the satisfaction of patients with the quality of nursing care and their gender, age, educational level, and mode of hospitalization.

The study included 100 patients hospitalized at the General Surgical Department of the Independent Healthcare Center in Wyszkow.

Results

The study included 100 patients hospitalized at a surgical department, 54% of whom were women. Patients above 61 years of age were the largest group (24.07%) of examined women whereas the range of 36-40 years was represented by only one woman (1.85%). Women between 56 and 60 years of age corresponded to 20.37% of the respondents; 51-55-year-old women represented 16.67%, and 31-35-year-old patients to 12.96%. Women in the 18-25 and 41-45 age ranges corresponded to 7.41% each. Female patients aged 45-50 years, and 26-30 years were represented less frequently, corresponding to 5.56% and 3.70% female respondents, respectively.

Individuals older than 61 years (17.39%) represented the largest group of male patients, while the groups of 18-25 and 41-45 years were the smallest (6.25% each). Four groups of male participants, aged 31-35, 36-40, 46-50, and 51-55 years, was each represented by 13.04% of the respondents. Men from two age groups, 26-30 years and 56-60 years, corresponded to 8.70% of the subjects.

Nearly one-half of studied women (48.15%) possessed secondary education. Moreover, our study included relatively large groups of women with vocational (22.22%) and primary education (16.67%). Female respondents with higher education, bachelor's (7.41% or master's degree (5.56%) were least frequently represented in our sample.

Individuals with secondary education (41.30%) constituted also the largest group of male participants, followed by a relatively large group of patients with vocational education (39.13%). The least frequent were men with higher education, bachelor's or master's degree, corresponding to 4.35% each. Male patients with primary education represented 10.87% of the respondents.

Women admitted for a scheduled surgery (46.30%) were the most frequent in our group. Another 31.48% of hospitalized women were treated expectantly, while the remaining female patients were admitted and operated on an emergent basis.

More than one half of examined men (58.70%) were admitted to surgical department due to a scheduled procedure. Individuals with unscheduled admission corresponded to 15.22% of the respondents. The remaining 26.09% of men were eventually not subjected to any surgical procedure.

Our respondents assessed nursing services regarding such aspects as interpersonal communication, manual skills, and overall level of care offered at the surgical department.

We asked our respondents if during the first contact with them nurses introduced themselves by name and surname

Although we revealed discrepancies between the replies of our respondents, the structure of answers was similar in men and women. The answer 'No' was chosen by 30% of women and 16% of men, and the answer 'Rather not' by 7% of both women and men. Only 13% of men and 11% of women gave a positive answer, i.e. that medical personnel introduced themselves. Analyzing the answers irrespective of patient's gender we revealed 60% and 32% of negative and positive replies respectively, suggesting that only one third of medical personnel introduced themselves during the first contact with patient.

Nurses who introduced themselves by name and surname did so more frequently in the case of 51-55-year-old female patients (5.56%) and women older than 61 years (9.26%). In contrast, they never introduced themselves to younger patients, aged 18-25 and 26-30 years.

The distribution of answers to this question was similar among men: nurses did not introduce themselves to younger males, but sporadically did so in older age groups.

Women with secondary (29.63%) and vocational education (11.11%) most frequently declared that nurses did not introduce themselves. The fraction of patients admitting that nurses introduced themselves on the first contact ('Yes': 5.26%, or 'Rather yes': 1.85%) was largest amongst women with primary and vocational education. In contrast, there were no positive replies from any female participants with higher education

Stratification of males' replies depending on educational level revealed that patients with secondary (23.91%) and vocational education (10.87%) answered 'No' most frequently. However, individuals with vocational education (15.22%) represented also the largest fraction of respondents who replied 'Yes' to this question.

Assessment of nurses' politeness

The politeness of nurses was scored as 'very good' by 40% and 31% of women and men respectively. The fractions of women and men who graded nurses' politeness as 'good' equaled to 12% and 14%, respectively. None of the respondents assessed the politeness of nurses as 'very poor' or 'poor'. According to 2% of women and 1% of men, the politeness of nurses was 'sufficient'. Overall, our participants assessed the politeness of nurses positively, which suggests that nurses respected patients' dignity and the patients were satisfied with their relationship with nursing personnel.

Analysis of replies relative to patient's age revealed that women older than 61 years (18.25%) assessed the politeness of nurses as 'very good' most frequently. Women from none of age categories scored the politeness of nursing personnel as 'very poor' or 'poor'.

Also in the case of men, the fraction of 'very good' scores was the largest (13.04%) among patients above 61 years of age. Males between 56 and 60 years of age (2.17%) were the only ones who assessed the politeness of nurses as 'sufficient'. None of the male respondents scored the politeness of nurses as 'very poor' or 'poor'.

Women with secondary (29.63%) and vocational education (20.37%) assessed the politeness of nurses as the highest ('very good'). The answer 'very good' was also chosen by women with primary education (12.96%), and female patients with master's (5.56%, i.e. all the respondents from this group) or bachelor's degree (5.56%) (Fig.).

Men with vocational education were the ones who most frequently scored the politeness of nurses as 'very good' (26.09%), followed by individuals with secondary (23.91%), and primary education (10.87%), patients with a bachelor's degree (4.35%), and one half of the respondents with master's degree (2.17%) (Fig. 9).

Assessment of the reliability of information provided by nurses

Analysis of answers to this question revealed that our respondents positively assessed the reliability of information provided by nurses. It was scored as 'very good' by 33% and 25% women and men respectively, and as 'good' by 19% of both women and men. None of the respondents scored this parameter negatively.

Overall, the reliability of information provided by nurses was assessed positively. Therefore, in the opinion of our respondents, information provided by nurses was reliable and comprehensive.

The reliability of provided information was most frequently assessed as ‘very good’ by women older than 61 years (18.52%), followed by female patients aged 56-60 years (12.96%), 51-55 years (9.26%), 31-35 years (7.41%), 41-45 years (5.56%), 46-50 years (3.70%), as well as respondents between 26 and 30 and between 36 and 40 years of age (1.85% each). None of female participants ascribed a negative score to the reliability of information provided by nurses.

Despite the predominance of positive scores, sporadic occurrences of ‘sufficient’ scores among 18-25-year-old and 26-30-year-old women point to the necessity of reliably informing younger patients hospitalized at a surgical department.

Men from three age categories: above 61 years of age, between 51 and 55 years, and between 36 and 40 years (8.70% each), scored the reliability of information provided by nurses as ‘very good’. None of male respondents assessed the reliability of obtained information negatively.

Overall, male patients positively assessed the reliability of provided information. Nevertheless, sporadic ‘sufficient’ scores in 26-30 and 56-60 years of age categories point to the necessity of providing reliable information to the representatives of these groups.

Women possessing secondary education were the ones who most frequently assessed the reliability of provided information as ‘very good’ (27.78%), followed by respondents with vocational (14.81%) and primary education (11.11%). The ‘sufficient’ scores were given by women with secondary education and by those with master’s degree (1.85% each). Overall, the reliability of information provided by nurses was assessed as positive.

The occurrences of ‘sufficient’ scores among female respondents with master’s degree or secondary education suggest that compared to other women such patients require more precise information.

Men with vocational education most frequently scored the reliability of information provided by nurses as ‘very good’ (19.57%), followed by individuals with secondary (17.39%) and primary education (10.87%). The reliability of information was described as ‘sufficient’ by male patients with secondary and vocational education (2.17% each). None of the respondents negatively assessed the reliability of obtained information.

Overall, 95.65% of all participants perceived the reliability of information as ‘good’ or ‘very good’.

Assessment of nursing skills (e.g. drawing blood, insertion of intravenous catheter)

Nursing skills were assessed as ‘very good’ by 46% and 33% of women and men respectively. None of studied women and men chose the ‘sufficient’, ‘poor’, or ‘very poor’ scores.

Female and male respondents from all age categories assessed nursing skills positively, most commonly as ‘very good’.

None of women, irrespective of their educational level, assessed nursing skills negatively; all female respondents assessed positively the skills of nurses with regards to such activities as drawing blood, injections, or insertion of intravenous catheter.

Males also positively assessed nursing skills related to drawing blood, injections, and insertion of intravenous catheter. Negative scores were not documented in any subgroup of male respondents.

Irrespective of their educational level, both men and women assessed nursing skills associated with such activities as drawing blood, injections, or insertion of intravenous catheter as ‘very good’ or ‘good’. Such positive assessment points to the satisfaction of patients and high level of nurses’ professionalism.

Assessment of skills associated with dressing a wound

Patients frequently perceive redressing a wound as a stressful situation and can be afraid of pain and anxious during dressing of surgical or chronic wounds. Nevertheless, the wound dressing efficiency was assessed as ‘very good’ by 41% and 34% of women and men respectively. This skill was not scored negatively by any of the respondents.

The predominance of positive scores, both in women and in men, confirms the satisfaction of patients with the skills of nurses who dressed their wounds at the surgical department.

Most women from each age group assessed the wound dressing efficiency as ‘very good’. The maximal positive scores were more frequent among female respondents older than 61 years (18.52%), followed by patients aged 56-60 and 51-55 years (12.96% each).

Our study revealed that the wound dressing efficiency was scored best by men older than 61 years (15.22% of ‘very good’ score) and those between 51 and 55 years of age (13.04%). None of the studied men, irrespective of age group, scored wound dressing skills negatively or as ‘sufficient’.

We observed that the wound dressing efficiency was scored best by women with secondary (31.48%) and vocational education (20.37%). One woman with secondary education (1.85%) scored these skills as ‘sufficient’; 3.70% of respondents with secondary education and 1.85% of those with primary did not answer the analyzed question. We did not document any negative answers (‘poor’ or ‘very poor’).

The wound dressing efficiency was scored best by men with secondary (30.43% of ‘very good’ scores) and vocational education (26.09%). None of the male respondents, irrespective of their educational level, assessed wound dressings skills negatively or as ‘sufficient’.

Assessment of the nursing team activities aimed at alleviation of the discomfort associated with preparation to surgery

This type of nursing activities was assessed positively by 35% of women and 34% of men; 17% of female and 12% of male respondents did not answer as they did not underwent a surgery and preparatory procedures.

Nursing activities aimed at alleviation of the discomfort associated with preparation to surgery were most frequently assessed as ‘very good’ by women older than 61 years (14.81%), followed by respondents aged 56-60 years (11.11%), and participants from the 51-55 and 31-35-years categories (5.56% each). We did not document any negative scores.

Similar to female respondents, men above 61 years of age were the ones who most frequently scored the activities of nursing personnel towards alleviation of the discomfort associated with preparation to surgery as ‘very good’ (10.87%). The 51-55 age category was another one characterized by relatively high frequency of the ‘very good’ scores (8.70%). None of male patients scored the analyzed skills as ‘sufficient’ or negatively.

Positive scores documented in women and men point to the satisfaction of patients, accuracy of used procedures, and high level of nurses’ competencies.

Activities aimed at the alleviation of the discomfort associated with preparation to surgery were scored highest by women with secondary education (22.22% of ‘very good’ scores), followed by those with primary (9.26%) and vocational education (7.41%), and patients with bachelor’s or master’s degree (5.56% each). In the case of men, the analyzed parameter was assessed best by individuals with secondary education (19.57% of ‘very good’ score), followed by patients with vocational education (17.39%), primary education or bachelor’s degree (4.35%), and master’s degree (2.17%).

Only two women (3.70%) scored the activities of nurses as ‘sufficient’, and none assessed them negatively. Similarly, neither the ‘sufficient’ nor negative scores were documented in the male group. Individuals who were eventually not operated did not reply to the analyzed question. This group included 18.52% of women with secondary education, 7.41% with vocational education, and 5.56% with primary education. Among male nonrespondents were 15.22% of individuals with vocational education, 6.52% with primary education, and 4.35% with secondary education.

Assessment of postoperative nursing care

Postoperative nursing care was assessed positively by 36% of women and 33% of men. One man (1%) scored the postoperative care as ‘sufficient’, and one woman (1%) as ‘very poor’. The percentages of women and men who did not assess the postoperative nursing care due to not being subjected to surgery equaled to 17% and 12%, respectively.

The overall prevalence of positive scores suggests that the postoperative nursing care was characterized by high professionalism and resulted in the satisfaction of patients.

The ‘very good’ scores for postoperative nursing care were most frequent among women above 61 years of age (14.81%), followed by individuals aged between 56 and 60 years (12.96%), and young, 31-35-year-old patients (9.26%). The only previously mentioned negative score was given by a woman between 51 and 55 years of age.

Overall, all positive scores ascribed by women corresponded to 66.65%, and the ‘very good’ scores of postoperative nursing care were given both by older and younger women.

Men older than 61 years most frequently described postoperative nursing care as ‘very good’ (13.04%), followed by patients between 51 and 55 years of age (10.87%), and individuals representing 18-25, 26-30, 36-40, and 46-50 years of age groups (6.52% each).

Postoperative nursing care was scored highest by women with secondary education (25.93% of ‘very good’ scores), followed by patients with vocational (14.81%) and primary education (7.41%). The ‘very poor’ score was given by one women (1.85%) with secondary education.

Men with secondary (30.43%) and vocational education (19.57%) most frequently gave ‘very good’ scores to postoperative nursing care. One man (2.17%) scored this kind of care as ‘sufficient’. No negative scores were documented. Postoperative nursing care was not assessed by males who were subjected solely to expectant treatment.

Assessment of intimacy provided during nursing procedures

According to 51% of women and 42% of men, nurses provided intimacy during procedures they performed. However, one man and one woman declared that they were not offered the intimacy. As these negative scores correspond to the small percentage of our respondents, they may be worth a detailed analysis. Nevertheless, the high proportion of positive scores suggests that the patients’ right to intimacy during nursing procedures is generally respected.

Satisfaction with provided intimacy was most frequently declared by women above 61 years of age (18.52%), followed by 56-60-year-old (12.96%) and 31-35-year-old patients (11.11%). Two women from the 18-25 and 51-55 age groups (1.85% of each group) had difficulties with unambiguous assessment of intimacy they were provided.

Similar to women, most men declared that they were provided intimacy during nursing procedures. The answers ‘yes’ were most prevalent in four age categories: above 61 years of age, and in 46-50, 36-40, and 32-35 years of age groups (10.87% each). Two male respondents, one older than 61 years, and another one between 31 and 35 years of age (2.17% of each group) had problems with answering the analyzed question, and one man above 61 years of age (2.17%) did not reply to this question at all. According to one man between 46 and 50 years of age (2.17%), he was not provided intimacy during nursing procedures.

The predominance of positive scores suggests that both women and men were provided intimacy during nursing procedures; therefore, assessed nurses observed patient rights in this aspect.

Analyzing the frequency of providing intimacy depending on respondent’s educational level we observed that it was most frequently offered to women with secondary education (35.19%), followed by those with vocational (16.67%) and primary education (14.81%). One woman with vocational education (1.85%) declared her dissatisfaction with regards to the problem in question.

Men with vocational (32.61%) and secondary education (26.09%) declared being provided intimacy during nursing procedures. The level of provided intimacy was assessed negatively by one man with secondary education (2.17%).

Assessment of nurses’ response to the requests of patients

According to 45% of women and 33% of men taking part in our survey, nurses always responded to patients’ requests, and in the opinion of 10% of male and 8% of female participants they responded to them very frequently. One man (1%) declared that nurses ‘rarely’ responded to his requests. None of the patients, irrespective of their gender, chose the answer ‘never’. However, 2% of men and 1% of women had difficulties with assessing the analyzed parameter.

Combined, positive scores given by women and men represented 96% of all answers. This suggests that nurses responded to patients’ requests and showed sensibility to their need. Therefore, it can be concluded that nurses showed elasticity in satisfying the needs of their patients.

With regards to patients' age, we observed that all women from 25-30, 36-40, 41-45, and 56-60 years of age categories, and all 18-25 and 41-45-year-old men declared that nurses always responded to their requests. None of women chose a negative score, i.e. 'never' or 'rarely', and only one man stated that nurses responded to his requests 'rarely'. One woman between 51 and 55 years of age (1.85%), and two 56-60-year-old men (2.17%) had difficulties with answering the analyzed question unambiguously.

Women with secondary education most frequently positively assessed the response of nurses to their requests (37.04%). Also all female respondents with vocational education (22.22%) or master degree (5.56%) declared that nurses always responded to their complaints. Similar unity was shown by male patients with primary education (10.87%), as well as by those with bachelor's (4.35%) or master's degree (4.35%).

Assessment of nurses' response to call bell request

According to 29% of women and 22% of men, nurses responded to bell call request 'immediately', and 15% of women and 14% of men declared that they responded 'rather immediately'.

Women older than 61 years were the ones who most frequently declared that nurses responded to call bell request 'immediately' (14.81%), followed by 51-55- (9.26%) and 56-60-year old female respondents (7.41%). One woman (1.85%) declared that upon call bell request she had to wait for a nurse up to 10 minutes. However, none of female respondents had to wait longer than 10 minutes.

Also most men positively assessed nurses' response to call bell request. Immediate response of nurses to this type of call was declared by 10.87% of respondents above 61 years of age, as well as by 8.70% of 51-55, and 6.35% of 36-40-year-old individuals. One man between 46 and 50 years of age (2.17%) had to wait up to 10 minutes upon calling, and in the case of one 56-60-year-old patient (2.17%) the waiting time was longer than 10 minutes.

The 'immediately' answers to the question on nurses' response time to call bell request were the most frequent among women with secondary education (22.22%), followed by those with vocational (12.96%) and primary education (11.11%), as well as in men with secondary education (17.39%), followed by those with vocational education (15.22%), primary education (10.87%), and bachelor's degree (4.35%).

Assessment of nursing care in a shift work system

Analysis of answers to this question revealed that the care offered in a shift work system, i.e. the availability of nurses, almost one half of the respondents graded the morning shift highest: 25% of men and 23% of women, 48% of participants in total. According to the other half of respondents, nursing care was ‘always’ optimal as proved by choosing all available shifts from questionnaire or manually adding the word ‘always’. Such options were chosen by 27% of women and 21% of men, which also corresponded to 48% of all participants. Irrespective of shift, nursing care was considered optimal by 14.81% of women between 56-50 years of age, as well as by 12.96% of female patients older than 61 years, and 7.41% of 51-55-year-old respondents. The morning care was scored highest by 9.26% of women between 51 and 55 years of age or older than 61 years.

Men older than 61 years were the ones who most frequently assessed positively the morning shift (10.87%). Furthermore, nursing care was considered ‘always’ optimal by 6.52% of male patients representing the 31-35, 36-40, 41-45, 46-50, 51-55, and above 61 years of age categories. In contrast, the afternoon and night shift did not represent the optimal standard of nursing care according to male respondents.

Round-the-clock care was assessed positively by 24.07% of women with secondary education, 12.96% with vocational education, and 9.26% with primary education. The morning shift most frequently scores positively by women with secondary education (22.22%) followed by those with vocational education (7.41%), primary education and bachelor’s degree (5.56% each).

Men with vocational and secondary education most frequently assessed care offered during the morning shift positively (23.91% each). In turn, the round-the-clock care was graded positively by male patients with secondary (17.39%), vocational (15.22%), and primary education (8.70%), followed by those with bachelor’s bachelor's degree (4.35%).

Overall assessment of nursing services at a surgical department

Nursing services were described as ‘very good’ by 38% of women and 32% of men, and as ‘good’ by 15% and 13% of women and men respectively.

The frequency of positive scores (98% overall) was similar irrespective of gender, and confirmed high level of patients’ satisfaction with nurses’ work.

The level of nursing services at the surgical department was most frequently assessed as ‘very good’ by women older than 61 years (18.52%), followed by 56-60 (14.81%) and 51-55-year-old female patients (11.11%). None of studied women scored the level of nursing services at the surgical department as ‘very poor’. One woman between 51 and 55 years of age (1.85%) described nursing care as sufficient.

Men older than 61 years most frequently characterized the overall level of nursing services at the surgical department as ‘very good’ (13.04%), followed by individuals between 51 and 55 years of age (10.87%), and 46-50-year-old male patients (8.70%). The ‘poor’ and ‘very poor’ scores were not chosen by any of examined men. One 56-60-year-old respondent (2.17%) assessed the level of nursing care as ‘sufficient’.

The overall level of nursing care offered at the surgical department was most frequently described as ‘very good’ by women with secondary education (33.33%), followed by those with vocational (18.52%) and primary education (11.11%), and participants with bachelor’s (6.56%) or master’s degree (1.85%). None of the examined women scored nursing care as ‘poor’ or ‘very poor’, and one female patient with secondary education (1.85%) described them as ‘sufficient’.

Which aspect of nurses’ work was the most troublesome

As many as 47% of the participants had no objections regarding the work of nurses; 9% of the respondents expressed their thanks and appreciation. Five per cent of the patients acknowledged numerous duties and pressure of time, and 4% complained on staff being too small. Waking up for injection was considered troublesome by 1% of the participants, and another 1% of them complained on postoperative pain. The question was left unanswered by 33% of the respondents.

What should be done to improve nursing care

In the opinion of our respondents, the improvement of nursing care would require more staff (15%), and higher salaries (13%); 11% of the participants believed that nothing should be done, and 9% chose the answer ‘I do not know’. Additionally, there were 8% of the patients who declared that the present nursing care was at a sufficient level, and 42% of the respondents left the question unanswered.

Discussion

Contemporary human beings, aware of civilization-related threats, rank health as the most important of all values with increasing frequency. Protection of life and health is an inalienable right of every human being, and a state should provide its citizens with conditions respecting this right. Both treatment and nursing constitute principal components of the quality of services offered by healthcare units [19].

Quality in healthcare is defined as ‘a degree to which each service offered to patient, provided according to the current knowledge, increases the probability of desired outcome of treatment and reduces the risk of adverse consequences’ [20].

The quality of nursing is as important a component of healthcare as the others. It refers to all nursing procedures, both performed manually and involving equipment, as well as to interpersonal contacts. According to Opolski, one American study revealed that the work of nurses accounts for 80% of patient’s satisfaction with hospitalization [3]. Such an impact of nursing services on the quality results from the fact that they are offered in a direct contact with patients.

Each patient has the right to express his/her judgments and wishes regarding medical procedures to which he/she is personally subjected. Therefore, patients' opinions should be included in the system of healthcare quality assessment, as they are direct beneficiaries of medical services. Surveys are the most popular method of examining patients' satisfaction. Declaring the will of understanding patient expectations, we manifest that we would like to take care of them, which in itself can be sufficient to improve the level of satisfaction [15, 21].

Opolski emphasizes that proper communication with patients, e.g. introducing each professional by name and function, represents the greatest advantage of hospitals in the United States. Situations when patient and his/her family members know medical personnel induce the feeling of safety. Patients confirm that they negatively perceive situations in which they do not know the nurse/physician responsible for their care. Noticeably, the right to knowing medical personnel by name and function is included among patient rights [3].

Our study revealed that most surgical department nurses did not introduce themselves during the first contact with patients. Moreover, we observed that they more frequently introduced themselves to older patients and to males. Importantly, patients' ignorance regarding name and surname of their caregiver corresponds to the violation of patient rights.

The study by Kluczyk, which was reported during the 7th Symposium 'Quality in Healthcare' held in Makow Mazowiecki in 2008, revealed that during the first contact more than one half of the respondents (53%) did not learn the name of their nurse [16].

Nursing refers not only to technical procedures but also to the proper atmosphere of work determined by the level of personal culture, and manifested by friendliness, kindness, and politeness to patient, i.e. respecting patient's dignity. As many as 97% of our participants hospitalized at the surgical department declared that they experienced the politeness of nurses; this declaration was not influenced by gender, age, and educational level of the respondents. Our participants were consistent in their high scores of nurses' politeness.

Kindness of nurses was also experienced by a similar fraction of patients (97.6%) included in the study by Szyszkowska and Marasek [11], and by a large percentage (78%) of individuals studied by Kluczyk [16].

Patient is treated professionally if he/she obtains clear and comprehensive information on offered care. As many as 96% of our patients assessed positively the reliability of information provided by nurses. Sporadic 'sufficient' scores were documented among younger (18-25 and 26-30-year-old) patients, which suggests that individuals from these age groups are more demanding with regards to the quality of information.

The reliability of information provided by nurses was scored high by the majority of patients who were surveyed by Kluczyk in 2008 (72%) [16], and by Targowski and Sztander (99%) [10].

Injection is a stressful component of hospitalization for nearly every patients, and thus, the more skillful the procedure is, the higher the level of patient’s satisfaction is. Our participants scored high nursing skills, such as drawing blood, insertion of intravenous catheter, and injection. This confirmed high levels of nurses’ professionalism and patients’ satisfaction, observed irrespectively of their gender, age, educational level, and mode of hospitalization.

Patients taking part in the studies by Targowski and Sztander (100% of positive assessments) [10], and by Szyszkowska and Marasek (95.3% of positive scores) also acknowledged the high level of the manual skills of nurses [11].

Redressing a wound is frequently perceived by patients as stressful; moreover, they can be afraid of pain associated with dressing a surgical or chronic wound. Our study revealed that nearly 100% of the patients assessed positively this kind of skills, which points to the high professional level of nurses dressing wounds at the surgical department.

The respondents surveyed by Szyszkowska and Marasek also acknowledged high manual skills of nurses who dressed their wounds; the fraction of positive scores equaled to 95.3% [11].

Patients hospitalized at a surgical department can perceive as stressful not only the surgery itself but all preparatory activities as well. Nearly 70% of patients surveyed by us positively assessed the nursing staff in this matter, which confirms the appropriateness of used preparatory procedures. According to Bujny, Wroński et al., the right to intimacy during receiving healthcare services from medical personnel constitutes one of the principal patient rights [14, 22].

We revealed that our patients’ right to intimacy was observed, which points to respecting patient’s dignity by nurses offering him/her medical procedures.

Similar findings were reported by Targowski and Sztander, according to whom all responders declared that medical personnel respected their intimacy during healthcare services [10], and by Szyszkowska and Marasek, in whose study the fraction of patients who declared having intimacy equaled to 96.5% [11].

In contrast, Wroński revealed that the right of intimacy during offering healthcare services was denied to as many as 74% of respondents [22].

Hibner emphasizes that sensitivity and understanding of patients can be manifested by satisfying their requests [23]. More than 90% of our participants declared that nurses responded to their requests, thus showing sensibility to patients' needs; this points to the elasticity of nursing services.

In the study conducted by Kluczyk, 66% of surveyed patients declared that nurses found time for conversation with them in the course of their duties and care [16].

Respect to patient and reliability of nurses are reflected by the reaction time to patient's call. Eighty per cent of our participants declared that nurses came to them immediately upon call bell request.

Similar findings were reported by Szyszkowska and Marasek. As many as 95.3% of their responders declared that nurses responded to call bell request immediately [11]. In the study by Kluczyk, the fraction of patients according to whom nurses responded very quickly to call bell request equaled 68% [16].

Although accessibility of nurses working on a shift constitutes a measure of adjusting employment to demand, it can also reflect the involvement and conscientiousness of nurses. Our study revealed that our responders (men and women together) scored highest the care offered during morning shift or round-the-clock (48% each).

In the study conducted by Kluczyk, nursing care offered afternoon or at night was assessed positively by 68% of respondents [16].

Overall patient's assessment of nursing care is a quality measure of nursing services. Our study revealed that nursing services offered at the surgical department were assessed very high, as positive scores were given by as many as 98% of the respondents. Satisfaction of patients with nursing care resulted from the fact that they were treated subjectively.

Responders surveyed by Kluczyk assessed nursing care similarly high (88% of positive scores) [16]. Also, Żakowska et al. documented high level of nursing care after urological and orthopedic procedures [19].

Analysis of open questions revealed that most of our respondents had no objections to nurses' work, acknowledged their hard work, a multitude of duties, and time pressure which they were exposed.

In the opinion of our participants, improvement of nursing care would require more staff, higher salaries, continuous education, and selection of devoted personnel. According to patients, nurses should be appreciated for their smile and politeness.

Conclusions

The following conclusions were formulated on the basis of our findings:

1. Respondents assessed nursing care offered at a surgical department as highly positive. Satisfaction of patient's points to high level of professionalism of offered nursing services.
2. Older patients showed a higher level of satisfaction with nursing services, ascribing positive scores more frequently than younger respondents. Women were more critical than men in their scores.
3. Nurses performed medical procedures respecting patients' right to intimacy and personal dignity.
4. Although our respondents obtained reliable information and nursing hints, one-half of them were unaware of the name and surname of the nurse who offered them care. Therefore, the standard of communication between personnel and patients requires improvement.
5. Knowledge of the Charter of Patients' Rights should be expanded by handling its copy to each patient.

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mHealth in the world. Background of the new medical technologies

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Introduction

Definition

According to the National Institution of Health in the United States, mHealth also known as mobile health can be defined as "*using the mobile and wireless devices to improve health outcomes, healthcare services and health research*" [1].

mHealth is a part of the larger discipline of eHealth, which is defined using information and communication technologies (ICT) for health. It is recognised as one of the most rapidly growing areas in health today [2]

Development factors

In all EU Member States, the ageing population and the rise of chronic illnesses are driving regulatory reform. As a consequence, the public sector is seeking to improve access and quality, and it is increasingly looking to the private sector for innovation and efficiency in healthcare delivery.

Moreover, many elderly people would like to become engaged in their own self-care. In order to become active agents, they require innovation taking the form of personal healthcare. In this regard, mHealth can offer personal toolkits for predictive, participatory and preventative care. From the other side society became more and more educated and very often without medical consultation trying to use the medical devices, which could be dangerous.

The foundations for the industrialisation of healthcare are already in place – electronic medical records, as well as remote monitoring and communications devices. 'Care anywhere' is an emerging trend, thereby setting the stage for mHealth [3].

mHealth functions

Currently mHealth can fulfill different functions. To the most important belong: assurance the treatment compliance (f. e. patients received information about the time and kind of taking medicine), data collection and disease surveillance, which support the tasks of public health institutions. The next function is linked with prior and concern supporting health information system and point-of-care support. The functions of health promotion and disease prevention are the next mHealth tasks, which play an important part in encourages medical facilities in improving society's health. Emergency medical response is mentioned in the Policy White Paper, preparing of Center for Global Health and Economics Development Earth Institute, Columbia University, as a last of the most importance functions, which can figure mHealth [4].

Mobile Phone functions in healthcare

To the most popular mobile phone functions, which are connected with support of healthcare are patients communication through appointment, agenda (reason for visit), patients information (CCR), medication reminders, medical questions/requires by email or text messages (obligatory with photos) and patients education. The next group of mobile phone functions is access to web-based recourses, like guidelines and protocols decisions support, telemedicine guidelines formulas and medications. Point – of - care documentation means access to patient's history, documentation (information capture), transmission and navigation. Very important role fulfill function of disease management, which helps diagnose and suggest the treatment process of diabetes, dermatology, asthma, smoking cessation, etc.; and education programs, which teaching patients, how to use different applications. Professional communication between pharmacy, colleagues, lab, hospital, etc.; administrative applications, like patient's tracking, asset tracking, scheduling, bed assignment, etc.; financial applications (charge capture, eligibility checking, payment, etc.) are the next advantages of mHealth. The functions liked disease reporting or bio terrorism communications support the tasks of public health providers [5].

Case presentation

Interest group - Patients or individuals

mHealth could be helpful, *inter alia*, for persons wishing to manage their own wellness, for patients to control their own disease management, and for parents to safeguard their children's health.

Smartphone's apps can potentially enable patients to take a more active role in their own healthcare – for example, by managing appointments, updating prescriptions, and accessing health records. The research of Boston Consulting Group (2012) shows, those patients, that were talking more responsibility for their own care, takes responsibility for improving their health. Evidence shows that 86% women taking this approach undergo breast cancer screening (compared to the average of 57%) and 99% of people undergo cholesterol testing (compared to an average of 55%). Meanwhile, proactive care results in a 10 per cent reduction in primary and urgent care visits, since mobile technology often helps people with sudden health incidents to treat themselves or to access information about health concerns [6].

Interest group - Industry

Many different companies are interested in mHealth, ranging from the IT and telecommunication sector to pharmaceutical and policy consultancies. For all of them, mHealth represents a lucrative market to earn a profit. From the other side, the public healthcare without any private investors, privet capital will have not excited. The medical technology, medical devices, ageing society caused, that public founding is insufficient.

Interest group - Governments – Ministry of Health, payer

mHealth is also important for national health ministries and healthcare insurers. Owing to mobile healthcare, money can be saved in order to ensure more medical services for larger population groups.

For governments trying to cut health system costs, mHealth can help hospitals and health centers reduce paperwork. By speeding up processes, reducing the possibility for human error, and avoiding duplication, remote access to centralized electronic health records can reduce administrative burdens by 20 to 30 percent.

For governments, mHealth also holds potential to reduce the per capita cost of healthcare while maintaining or increasing care quality. And as governments around the world start to explore different measures of human progress, well-being is increasingly being treated as an indicator. In this respect, mHealth has a role to play in improving new "gross national happiness" indicators by producing a happier, healthier populace, and has the potential to transform health service delivery [6].

Results and discussion

mHealth projects throughout the world are generating benefits, including:

- Increased access to healthcare and health-related information, particularly for hard-to-reach populations
- Increased efficiency and lower cost of service delivery
- Improved ability to diagnose, treat, and track diseases
- Timely, more actionable public health information
- Expanded access to ongoing medical education and training for health works [7].

The most important of these are described below.

Cost reduction

The research of the Boston Consulting Group shows that mHealth can reduce the cost of the medical services (amongst the old-age group) at the level of 25%. What is more, mobile health also reduces the cost of data collection by about 24% [8].

Remote consultation and treatment support can reduce the number of hospital nights for rehabilitating patients. Home monitoring reduces care costs and improves quality of life for the elderly. And remote access to electronic health records cuts administrative burdens for health centers and empowers patients to take more responsibility for their own health [9].

mHealth could even help reduce some of the costs associated with salaries in the healthcare system. Technology can reduce manpower costs by providing a more efficient means of detecting problems and offering solutions, but still will be need for face-to-face consultation [9].

A new focus on individual responsibility

Key to this is the concept of home monitoring services. Aided by mobile technology, home monitoring can greatly improve the lives of frail and elderly individuals. As sensors become more common and more sophisticated, they can be connected to home alert systems, giving older people safety and security and preventing minor incidents, such as falls, from becoming life-threatening events [6].

Health and well-being promotion

In order to meet national health goals, mHealth will be needed to promote heatlh and well-being through increased information and education; to provide diagnostic treatment, support, and patient monitoring; to promote compliance with medical regimes; and to enhance health analysis by remote data recording and access to electronic patient records [6].

But we could not forget about the harmfulness of all electronic devices. Radiation, which harm to our body and also addiction to electronics, which are used during almost whole day(s) recall of the other side of equation.

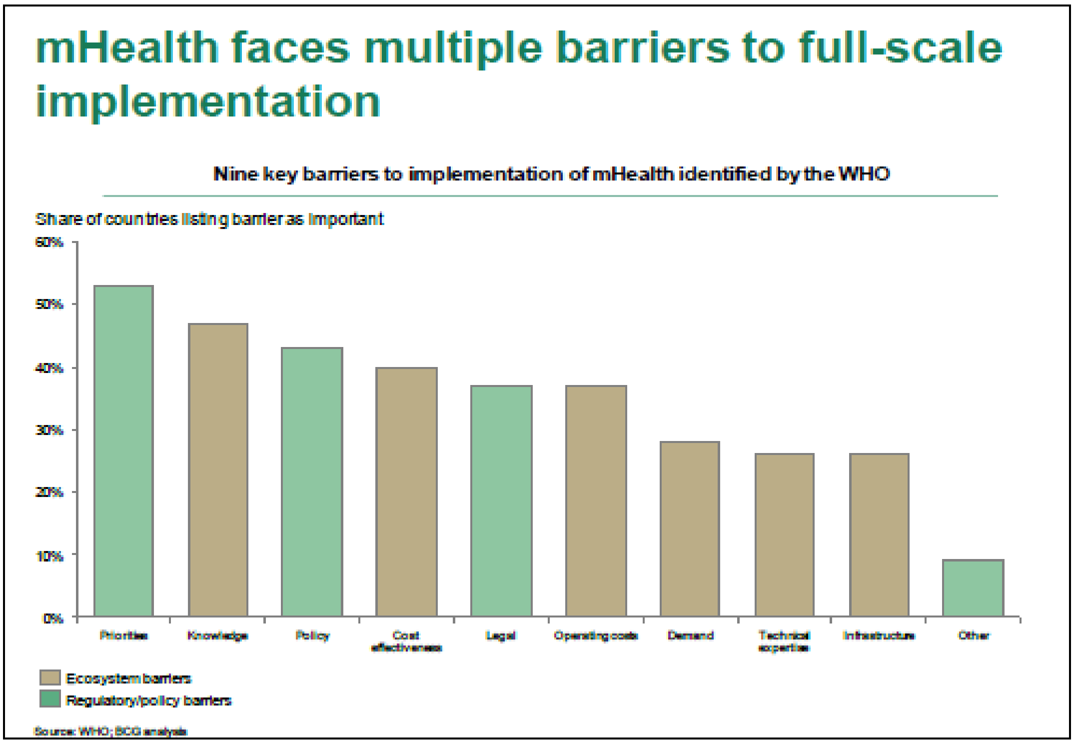
Larger access to specialists

Thanks to mHealth forms doctors are able to reach a larger group of the population. By performing a wide variety of functions, mobile technology has the potential to increase both the efficiency and reach of healthcare services - maximising healthcare professionals' time while also reducing costs of maintaining the delivery of quality healthcare along the value chain [6].

From the other side, the next application means the next task. Currently people receive from far and near countless virtual information. The mHealth's function, despite the fact, that has got a lot of advantages, can also take valuable, especially nowadays, time and became the life of medical staff more complicated.

Challenges

The World Health Organization (WHO) has identified nine key barriers to the implementation of mHealth. The difficulties are divided into two factor groups – ecosystem and regulatory / policy barriers – which are presented below.



Source: WHO, BCG Report 2012.

Privacy and Regulations

A major barrier to the use of mobile technologies for data collection and disease surveillance is the implementation of multiple health related data collection systems, flows, and platforms within the health system that track information directly within health service delivery that can also be used for disease surveillance [7].

The second important problem is that the technology changes faster than the regulations. Simply changing the law is not always sufficient to guarantee the flow of information.

One potential way forward would be to maintain a clear focus on technical and data interoperability for any future projects and to ensure that the European Commission's eHealth Task Force recommendations are implemented, e.g. on developing standards and policies that are aligned with the technological demands of mHealth [6].

hile transparency about privacy is clearly critical for building public trust in mHealth projects, and interoperability is essential to scaling up the use of mobile technology in healthcare, payment models also need to be adjusted to accommodate an increase in remote care and treatment [6].

Cost-Benefits

Another important challenge is to examine the benefits of mHealth in relation to the cost of establishing the infrastructure, both at the macro systems level and at the level of individual's healthcare providers.

Architecture, Standardization, and Platforms

There are many mHealth applications systems and platforms, both open source and proprietary. At present, there is no common architecture though, which is also the case for eHealth as a whole. A key challenge is that there is almost never a single 'owner' of all of the elements within a health system, who can guarantee an overall interoperable approach.

Conclusion

Research carried out by PWC entitled "Emerging mHealth: Paths for growth" has showed, that mHealth solutions have begun to embrace the following six principles:

- Interoperability – interoperable with sensors and other mobile/non-mobile devices to share vast amounts of data with another application, such as electronic health records and existing healthcare plans.
- Integration – integrated into existing activities and workflows of providers and patients to provide the support needed for new behaviors.
- Intelligence - offer problem-solving ability to provide real – time qualitative solutions based in existing data in order to realize productivity gains.

- Socialization – act as a hub by sharing information across a broad community to provide support, coaching, recommendations and other forms of assistance.
- Outcomes – provide a return investment in terms of cost, access and quality of care based on healthcare objectives.
- Engagement – enable patient's involvement and the provision of ubiquitous and instant feedback in order to realize new behaviors and/or sustain desired performance [9].

Transparency, simple system

A good quality management system, which is direct, simple and transparent, should be the basic framework for developing mHealth.

n a resource constrained environment, one way of overcoming such systems challenges is to move toward a system with defined data standards for mobile and computer-based platforms that are interoperable and open. This shift will allow real time data collection at the community and reporting within health delivery facilities (including electronic medical records) to be linked directly to district health information systems for aggregation and access at the regional and national levels. Accessing this data, at all levels, should be made available through mobile phone and web based viewing and reporting system with password and access controls assigned according to the position of the individual within the health system. The speed of reaction and cost saving possibilities would be substantially graeter than even those exhibited by studies examining paper versus electronic data collection system. While the approach raises a new set of policy barriers and issues (e.g., access control, identity management) it would provide a mechanism through which healthcare and public health could be technologically linked and the linkages between the two more easily monitored [7].

Social and patients education

Flexible dialogue with patients about data privacy and health education, and promoting wellbeing / healthy lifestyle through mHealth should be the first step in the implementation and development of mobile health. The principal challenge is about changing mentalities and educating potential users, including individuals and health professionals, about the advantages of mHealth. The second challenge is related to educating users about data privacy.

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Analysis of selected determinants of the quality of life in patients after transient ischemic attack (TIA)

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Introduction

Transient ischemic attack (TIA), also referred to as transient focal ischemia (TFI), is defined as “an episode of focal dysfunction of a given brain area, including the retina, caused by ischemia, usually within the area of the central nervous system supplied by the same vessel, lasting no longer than 24 hours” [1, 2].

The etiopathogenesis of transient ischemic attacks is not fully understood. Noticeably, “factors which are involved in the etiopathogenesis of ischemic stroke also play a role in the development of transient ischemic attacks” [2]. Clinical findings suggest that “about one-half of TIA cases results from thromboembolic complications of atherosclerosis in large and medium arteries, 25% of them are caused by changes in small intracerebral arteries, and 20% are associated with embolism of cardiac origin” [2]. Other causative factors of transient ischemic attacks include „arterial injuries, congenital arterial anomalies, inflammatory diseases of vessels (e.g. antiphospholipid syndrome and other immune vasculopathies), infections, cholesterol embolism, migraine, hematological disorders, neoplastic processes and complications of anticancer treatment, use of estrogen preparations, pregnancy and puerperium, and perioperative morbidity”[2]. It is emphasized that the pathomechanism of transient ischemic attacks is underlied by “hemodynamic disorders related to transient decrease in the cerebral flow to an area supplied by artery, which is partially obstructed due to embolism or thrombus, or associated with the impairment of systemic circulation [2].

Clinical manifestation of transient ischemic attack depends upon the size and location of ischemic cerebral area, and results from transient deprivation of oxygen supply [1]. Most common manifestations of TIA include [1]:

- paresis/palsy of upper or lower limb, or facial hemiparesis/hemipalsy,

- impairment of speech,
- tingling and numbness of various body parts, or other types of paresthesia,
- transient impairment of visual acuity,
- vertigo, disorientation,
- problems with maintaining balance and coordination of movements,
- syncope,
- transient oblivion,
- disorders of walking.

Disease, especially if manifested suddenly, significantly impairs one's functioning. It represents a difficult, crisis situation, and affects normal functioning in all spheres: biological (experienced signs of disease), mental (anxiety, concerns related to future), and social (limited social contacts) [3]. Progression of disease forces significant changes in one's mechanisms of adaptation. Analysis of the psychological situation of a patient includes comparison between the disease and a critical event [4]. Due to its sudden manifestation and clinical symptoms, not infrequently experienced for the first time, disease evidently meets the criteria of a traumatic life event. The critical (traumatic) character of disease understood as a stressful life event is determined by the number, type, and duration of changes which already have or will unavoidably occur in patient's life. Many studies revealed that a severe disease can be considered a prolonged and dynamic stress [4]. This theory is described best by the concept of stress proposed by Lazarus and Folkman, according to which "a disease constitutes an emotionally-negative experience causing an array of biochemical, functional, cognitive, and behavioral changes" [5]. Changes resulting from experiencing disease force one to undertake efforts aimed at the modification of stressor or activation of mechanisms of adaptation to changed health situation. Each human being tries to deal with difficult situations in various ways, among others utilizing protective mechanisms, "i.e. such manipulation of his/her mental processes which can reduce unpleasant emotional tension associated with the influence of stressor" [3]. The way of functioning in disease is determined by the degree of its acceptance, which manifests as a low intensity of negative responses and emotions associated with currently experienced disease. The larger the acceptance of disease is, the better the adjustment and less intense the feeling of psychological discomfort are. This component of functioning in disease is a predictor of the quality of life. Acceptance of disease correlates inversely with the intensity of stress and positively with the level of self-esteem and self-efficacy [5].

Previous research revealed that “the neurological status of most patients after stroke stabilizes up to five weeks following the episode, whereas the functional status normalizes up to three months” [6]. According to Jaracz and Kozubski, the functional assessment “is tightly associated with WHO definition of health, and reveals patient’s functioning in physical, mental, and social sphere, while psychological well-being is associated with the cognitive assessment of various spheres of life treated as a whole and is most commonly manifested by the feeling of satisfaction or dissatisfaction” [7]. According to Engquist, quality of life refers to “a sphere in which one lives securely and with the feeling of self-dignity, utilizing intellectual and physical abilities to achieve his/her goals” [8]. Gill and Fenstein describe the quality of life as “the way one perceives and responds to his/her health status and other non-medical aspects of life” [8]. In turn, Ferrans and Powers define the quality of life as „an individual perception of psychological well-being resulting from satisfaction or dissatisfaction with the dimensions of life considered important by a given person” [9]. Progress in research on the quality of life enabled the implementation of QL-related issues into medicine as a Health-Related Quality of Life (HRQL).

HRQL includes such spheres of life as physical status, motor capabilities, mental status, social situation and economic conditions, somatic experiences (presence or lack of complaints), and spiritual sphere [10]. In 1988, Patrick Erickson proposed to define HRQL as a value which is associated with length of one’s life and modified by weakness, functional conditions, self-perception, and social factors influencing disease, treatment, and care [8]. The most important determinants of the quality of life in patients after transient ischemic attack include a decrease in physical fitness, depression, lack of social support, and the necessity of withdrawal from social and professional role which one perceives as important [10].

Aim of study

The aim of the study was to assess the level of acceptance to disease, coping with experienced stress, and the degree of fatigue as the main determinants of the quality of life in patients after transient ischemic attack.

Material and method

We used a diagnostic survey based on a questionnaire of our own design. As its integral parts, the questionnaire included Acceptance of Illness Scale (AIS), Coping Orientations to the Problems Experienced (COPE) questionnaire to determine the strategy of coping stress, Quality of Life Uniscale by Schoffski, and Fatigue Severity Scale (FSS) determining the level of experienced fatigue.

The level of acceptance to disease was examined with Acceptance of Illness Scale (AIS) which comprises eight statements referring to the consequences of illness. Upon self-assessing, his/her or her status of health, the patients scored all statements using a 5-item scale. Choosing 1 corresponded to a poor adaptation to disease, and 5 to a complete acceptance to the disease. Final scores ranged between 8 and 40 points. The scores between eight and18 points corresponded to the lack of acceptance to disease, 19-29 points to a moderate level of acceptance, and 30 to 40 points to the high level of acceptance [11].

The strategies used to cope with stress were determined with COPE scale developed by J. Carver. This questionnaire "comprises 60 items. It describes 15 dimensions corresponding to various strategies of coping with stress. Four statements are ascribed to each strategy. The preferred strategy is identified as that with the highest arithmetic mean value" [11].

Fatigue Severity Scale (FSS) was used to determine the level of fatigue experienced by our patients during hospitalization. This scale, expressed in points, allows to determine the influence of fatigue on patient's activity, motivation, work, and family life.

Quality of Life Uniscale by Schoffski is a linear analog scale and determines the subjectively-assessed patient's level of the quality of life.

Our study included 60 randomly selected patients with confirmed TIA who were hospitalized at the Department of Neurology with Stroke Subunit, University Teaching Hospital in Bialystok. The protocol of the study was approved by the Local Bioethical Committee of Medical University of Bialystok (decision no. R-I-002/282/2012). All participants were informed about the objectives of the study, voluntary and anonymous character of participation, and were instructed regarding completing the questionnaire.

Results

The studied group of 58 individuals with confirmed TIA was characterized by unequal gender distribution as it included 52 (89.7%) men an 6 (10.3%) women. This disproportion resulted from the specific structure of prevalence of the studied condition. The age of participants ranged between 48 and 72 years. Mean age of male and female patients was 58.4 and 62.4 years, respectively. Nearly one half of the participants (48%) lived in cities above 10 thousand inhabitants; 31% lived in a rural setting, and 19% in towns up to 10 thousand inhabitants. The largest fraction of respondents (52%) possessed secondary education, followed by 23% participants with higher education; the remaining participants received primary education. Majority of the respondents (67%) were professionally active; 30% of the subjects received retirement or disability pension, and 3% of the them declared being unemployed.

According to the study protocol, we used AIS to evaluate the acceptance to a changed health status. Nine subjects (15.5%) scored between 30 and 40 points which corresponded to high level of acceptance to their health status. Thirty-one individuals (53.4%) scored moderately, while 18 respondents (31.1%) showed low level of disease acceptance. These findings are presented in Figure 1.

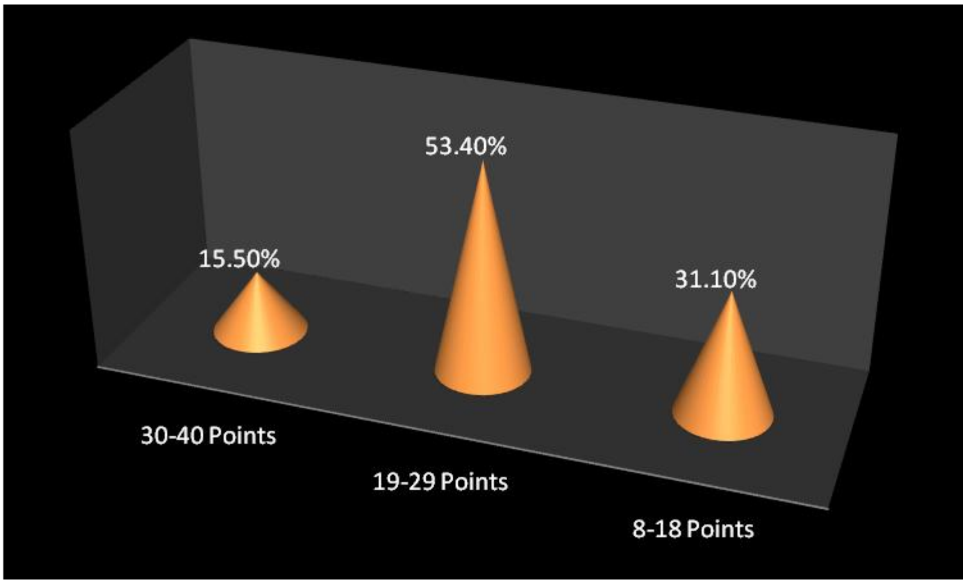

Figure 1. Level of acceptance to changed status of health.

We did not observe any significant relationship between the level of disease acceptance and the educational level of participants. However, the AIS scores of women were on average 1.75 point higher than the scores of men. Due to the inhomogeneous gender distribution in the studied group we were unable to analyze this phenomenon comprehensively. Finally, our study revealed that the level of disease acceptance was determined by participants' age: the scores of 48- to 54-year-old individuals differed significantly from those of the other age groups (p=0.024).

We conducted a comprehensive analysis of one question included in AIS questionnaire: "Do you experience problems with adaptation to disease-related limitations?". More than one half of the respondents (n=42, 72.4%) admitted that the sudden onset of the disease and its clinical symptoms disturbed their normal functioning and caused a marked mental discomfort. This group of participants emphasized their concerns regarding their normal functioning in future and complete recovery. The remaining patients considered their disease as a challenge and believed in resuming full capacity as a result of therapy and rehabilitation. It is of note that these two groups included 18 individuals who scored lowest in AIS, i.e. poorly accepted the situation of disease. Most likely this situation resulted from the type of coping strategy used by our participants in view difficult situation.

Many previous studies revealed that the level of fatigue experienced by patients with neurological disorders, including stroke, can exert considerable impact on the quality of life assessment. Therefore, for the purpose of this study we used the Fatigue Severity Scale (FSS) to analyze the level of fatigue experienced by our participants and its impact on their well-being and functioning. FSS comprises 10 statements describing fatigue and its effect on functioning. Respondents score each statement using a 7-item scale. The higher the score, the higher is the level of respondent's fatigue. It is assumed that:

- the overall score below 2 points corresponds to the lack of significant influence of fatigue on patient's functioning,
- the overall score between 2 and 4 points corresponds to a slight influence of fatigue on patient's functioning,
- the overall score between 4 and 6 points corresponds to a marked influence of fatigue on patient's functioning,
- the overall score above 6 points means that the level of fatigue determines patient's well-being and behavior.

The largest group of participants (n=31, 53.5%) scored between 2 and 4 points on FSS, which means that level of their fatigue had low impact on their well-being and functioning. Our group of patients included seven individuals (12%) whose FSS scores corresponded to the detrimental effect of fatigue on well-being and functioning, while in the case of 20 persons (34.5%), the level of experienced fatigue determined their functioning to a large extent. It is of note that none of our participants scored below 2 points, i.e. at the level corresponding to the lack of association between experienced fatigue and functioning (Fig. 2).

During the analysis of their fatigue level our respondents pointed to sleep-related disorders as an important problem experienced during hospitalization. Our participants reported problems with sleep induction, several awakenings during the night, and poor quality of sleep, which was reflected by sleepiness during the day. Therefore, we used the Athens Insomnia Scale (AIS) to comprehensively analyze the problem in question. AIS is a self-descriptive instrument comprising eight statements describing various signs of insomnia. Participants score each statement from 0 to 3 points, where 0 corresponds to the lack of a given symptom, and 3 to its considerable severity. The overall AIS score can range between 0 and 24 points.

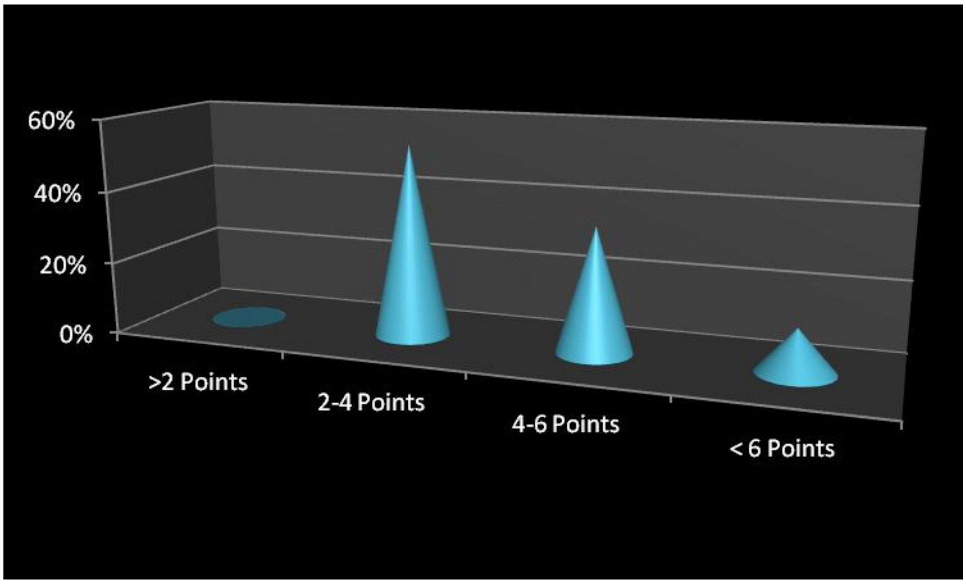

Figure 2. Experienced level of fatigue

The first five items included in the scale refer to sleep-related signs, i.e. problems with sleep induction, awakenings during the night, final awakening earlier than desired, duration of sleep and its quality. The remaining three items pertain to functioning during the day, i.e. the sense of well-being, physical and mental functioning, and sleepiness. The overall scores higher than 6 points point to the presence of sleeplessness-related problems. The vast majority of our respondents (n=51, 87.9%) reported sleep-related disorders, and only seven participants (12.1%) scored below 6 points on the Athens Insomnia Scale, i.e. at the level corresponding to normal values. In the opinion of individuals with sleep-related disorders (n=46), their most significant complaints included problems with sleep induction, and frequent awakenings during the night. The remaining respondents found final awakening earlier than desired at the most burdensome problem. We analyzed comprehensively one question included in Athens Insomnia Scale: “Do you experience sleepiness during the day?”. The analysis of respondents’ replies revealed that the majority of them (n= 32, 55.2%) experienced severe sleepiness during the day; 17 individuals (29.3%) experienced marked sleepiness, and only nine subjects declared only a slight sleepiness. Noticeably, all the responders experienced various degree of sleepiness during the day (Fig. 3).

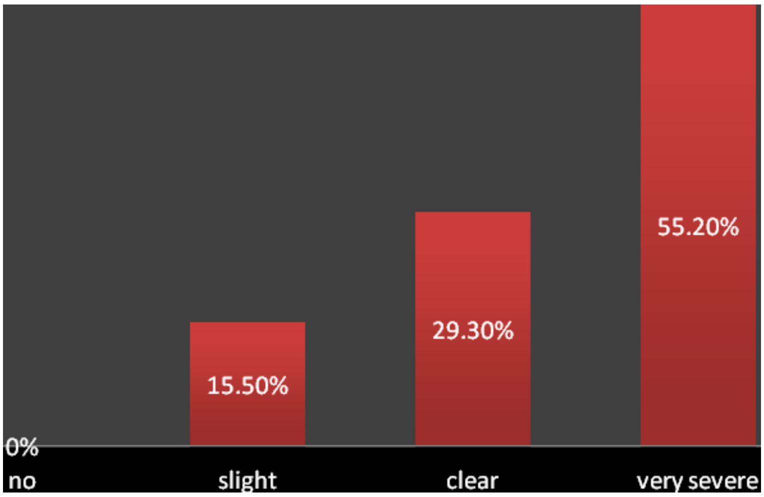

Figure 3. Level of sleepiness experienced during the day

According to many researchers, stress is a state of tension, feeling of threat or anxiety, and the process of coping with stress includes all activities undertaken by an individual in a given difficult situation. We analyzed the ways of coping with stress in our patients. They were examined using the Coping Orientations to Problems Experienced (COPE) questionnaire, which refers to 15 strategies of coping with stress. We revealed that most of our patients implemented more than one counter-measure in order to cope with stress efficiently, namely:

- seven different strategies (n=12, 20.6%),
- five strategies (n=21, 36.2%),
- three strategies (n=9, 15.6%),
- only one strategy (n=16, 27.6%).

None of the participants implemented more than seven counter-measures to cope with the disease as a difficult situation. The analysis of COPE scores revealed *Acceptance* and *Religious Coping* as the most frequently implemented strategies, used by 46 of the patients (79.3%). *Religious Coping* was considered a road-sign pointing to positive reinterpretation and growth. Moreover, the patients declared that in view of experienced powerlessness, resentment, and anger, they frequently used the *Focus on and Venting of Emotions* strategy. This type of strategy was implemented by 12 patients (20.6%). *Use of Emotional Social Support* was perceived as important strategy by 37 responders (63.7%), and 10 patients (17.2%) required the *Use of Instrumental Social Support*. Since experiencing disease is associated with analysis, especially with regards to health-oriented behaviors, some patients implemented *Planning*. This type of strategy was used by 17 patients (29.3%). Other implemented types of strategies included *Active Coping* (n=18), *Positive Reinterpretation and Growth* (n= 21), and *Mental Disengagement* (n=14). None of our participants used one out of four strategies: *Humor*, *Substance Use*, *Restraint*, and *Suppression of Competing Activities*. *Restraint* pertains to the manifestation of one's powerlessness, and resignation from efforts oriented at achieving one's goals; this type of strategy was not implemented by any of our responders. However, we observed that women more frequently implement *Focus on and Venting of Emotions*, *Use of Emotional Social Support*, and *Religious Coping*.

Many authors dealing with the quality of life issues emphasize the important clinical role of patient's self-assessment pertaining to his/her satisfaction with all spheres of functioning. This in turn is modulated by the level of acceptance to disease, emotions experienced by a patient, and his/her current self-esteem. Therefore, we used a simple linear analog instrument, Quality of Life Uniscale, to determine the subjective quality of life in our participants. The vast majority of respondents scored their quality of life in the early period after TIA episode between 4 and 8 points. Eight patients scored their quality of life after transient ischemic attack as poor, i.e. corresponding to 4 points (n=1) or 5 points (n=7). The remaining responders scored their quality of life between 6 and 8 points, namely at 6 points (n=19, 32.7%), 7 points (n=16, 27.6%), and 8 points (n=15, 25.6%) (Fig. 4).

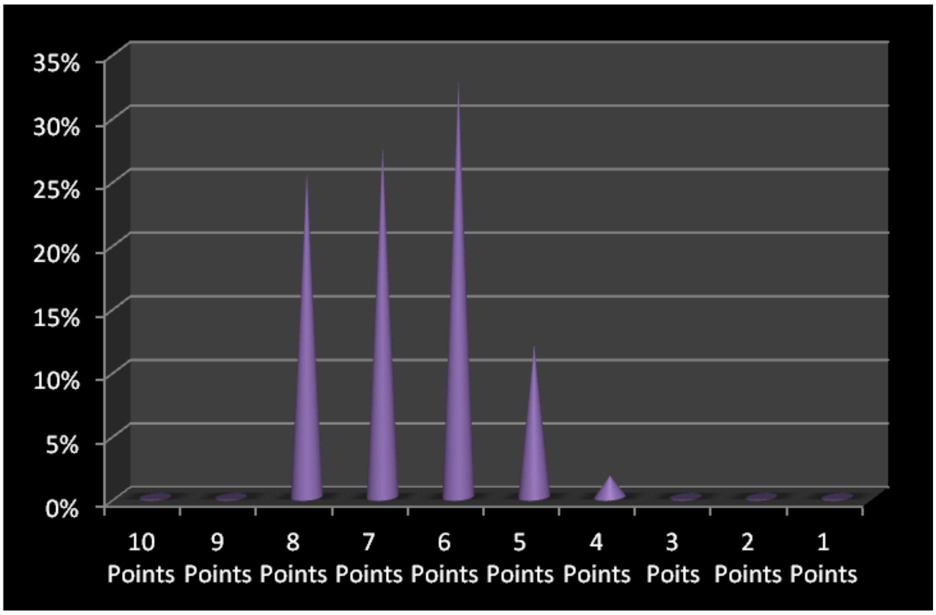

Figure 4. Quality of life scores obtained using Quality of Life Uniscale

Discussion

Somatic disease represents a complicated complex of stressors, and can be associated with the impression of health and life threat. Symptoms of a disease, and not infrequently also its treatment, cause marked discomfort and can be a source of suffering and pain. Frequently, they impair or disable one's ability to satisfy needs which are vital to his/her functioning. Aside from physiological needs, these include the need of safety, achievements, and autonomy. Moreover, a disease hinders the realization of individual objectives associated with previously played life roles. This may be reflected by significant socioeconomic consequences, disorganization of family life, worsened living conditions, and unfavorable occupational status [12].

Recent several years were associated with considerable progress in research on health-related quality of life and its role in medicine, nursing, and social sciences. This growing interest results from the implementation of holistic medicine, which in contrast to biotechnical medicine assumes a complex attitude to a diseased individual. Subjective self-assessment of patient's health become an important component of therapy and nursing, and enables active involvement of patient in these processes. Prior to our study we assumed that, according to Lazarus' and Folkman's theory, a disease constitutes the source of stress, and thus is an unpleasant emotional experience associated with biochemical, functional, cognitive, and behavioral changes [5]. This forces an individual to modify the stressor he/she is exposed to, or to adapt to its effects. Effective adaptation to a stressful situation is reflected by the activation of coping mechanisms. Many authors, including Lazarus and Folkman, emphasize the importance of the evaluation of the effectiveness of coping in the case of severe stress experienced by patients who were suddenly affected with an acute condition [4]. Used in our study, COPE questionnaire enabled us to identify strategies that were implemented by our participants to cope with current problems associated with a disease. Our subjects used various strategies to cope with such a difficult situation as a disease. Noticeably, most of our participants implemented more than one strategy of adaptation to a changed situation; only 16 (27.6%) subjects tried to modify their situation using only one strategy. The remaining participants implemented seven (n=12, 20.6%), five (n=21, 36.2%), or three different strategies (n=9, 15.6%). Many authors emphasize that the strategies of coping with disease are to a large extent determined by one's cognitive attitude to disease, as well as by the way of its emotional experiencing [4]. In an early period after the transient ischemic attack episode, our participants most commonly implemented two strategies: *Religious Coping* (n=47, 81%), and *Acceptance* (n=24, 41.3%). Similar results were obtained in a study conducted in 2011; also in this study, *Acceptance* and *Religious Coping* were the strategies that were most frequently implemented by patients with confirmed TIA. During the study, patients emphasized that they would like to overcome their disease rationally, planning modification of their lives with particular attention paid to preventive activities. A vast majority of respondents (n=52, 89.6%) were actively involved in the process of therapy, rehabilitation, and nursing. It is of note that this group included 12 out of 18 individuals who showed the lowest acceptance of disease, confirmed by lower AIS scores. Nevertheless, these individuals considered their disease as a challenge, implementing respective strategies of coping. Moreover, our respondents implemented *Planning*, *Positive Reinterpretation and Growth*, and *Mental Disengagement*. In contrast, they did not utilize *Suppression of Competing Activities*, *Humor*, and *Substance Use*. Stress is most commonly defined as “a state of unpleasant emotional tension (anxiety, feeling of threat, concerns, worries) resulting from a situation which strains the system of psychological regulation in a given individual and disturbs the balance between that individual and his/her environment” [4]. Clinical psychologists emphasize that the disease-related stress is associated with various behaviors aimed at coping with the situation or attenuating its consequences. There are two types of counter-measures: self-regulation of emotions, and task-based coping with a disease [4].

Adaptation to disease is a complex process. It starts when the disease is suspected and continues throughout its entire treatment, till the end of patient’s life. Aside from the type of disease, the process of adaptation is determined by characteristics of the affected individual. Individual characteristics, health-oriented activities, and behaviors attenuating stress affect not only the mental status but also the social functioning of patient. Analysis of the level of acceptance to changed health status, determined using AIS questionnaire, revealed that high or moderate level of acceptance to their condition was shown by 15.5% or 53.4% of our participants, respectively. However, 18 respondents assessed their health status evidently negatively. Such persons have problems with adaptation to the situation which changed due to the rapid manifestation of disease. Quality of life or satisfaction with life are determined by an array of factors that are important to a given individual. In a situation of disease, the health-related quality of life reflects patient’s individual opinion on his/her entire condition [10]. Defining self-image of one’s disease is a dynamic process which is modified by ongoing therapy and its effects. Our participants assessed their quality of life using a linear analog scale. Eight patients assessed their quality of life as low, between 4 and 5 points; these patients showed also low level of acceptance to their disease-affected health status. The remaining participants scored their quality of life markedly higher, between 6 and 8 points.

Noticeably, none of our participants scored his/her health-related quality of life between 1 and 3 points or between 9 and 10 points. Jaracz and Kozubski emphasize that the quality of life of patients who experienced stroke is markedly diminished, both in its functional dimension and with regards to psychological well-being [6]. These authors used several validated questionnaires for the comprehensive analysis of the quality of life determinants and revealed that it is mostly diminished due to impaired physical fitness, depression, and lack of social support. Moreover, they highlighted that the quality of life assessment is modulated by the measurable effects of rehabilitation and present degree of physical dysfunction [7].

Previous studies revealed that in many patients with excluded depression neurological disorders, such as multiple sclerosis, Parkinson’s disease, motor neuron disease, stroke, and post-polio syndrome, are frequently associated with fatigue [6]. The level of experienced fatigue can exert significant effect on the quality of life assessment in such individuals.

Clinical studies showed that fatigue can constitute the only remnant of motor deficits resulting from stroke. The pathomechanism of post-stroke fatigue is complex and includes both organic injury of the brain and the disorders of psychosocial functioning associated with a new, difficult situation of disease; this type of fatigue is observed in 39-69% of stroke patients [6]. Most of our patients experienced a level of fatigue which slightly affected their well-being and functioning. Nevertheless, seven respondents scored the level of their fatigue between 4 and 6 points which corresponded to marked fatigue-related impairment of their well-being and activity, and according to 20 patients, fatigue determined the level of their activity. Moreover, we revealed that our participants suffered from significant sleep-related disorders. Their character was identified using the Athens Insomnia Scale. Important issues, which affected the well-being of our respondents to a large extent, included problems with sleep induction, frequent awakenings during the night, insufficient duration of sleep, and sleepiness during the day.

Conclusions

The following conclusions were formulated on the basis of the analysis of our findings:

1. Despite an array of negative emotional responses associated with the presence of disease, our respondents show acceptance to the changed status of their health.
2. Our participants show various levels of fatigue, which markedly affects their well-being and activity.
3. Our respondents implement an array of counter-measures in order to modify the stressors and adapt to their new health status.

4. Most of the respondents score their health-related quality of life as high.

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Quality of life in breast cancer women treated at the Regional Comprehensive Cancer Centre in Bialystok

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Introduction

Breast cancer is the most prevalent female malignancy in Europe and North America. Breast cancer is the most prevalent female malignancy amongst Polish women. About 8 000 Polish women are diagnosed with this malignancy yearly, and nearly 5 000 of them die. Although Poland is classified amongst countries with moderate prevalence of breast cancer, the incidence and mortality of this malignancy increases continuously. The incidence in women below 30 years of age is low; however, the risk increases markedly after the age of 50 years. Big city-dwellers and women living in Western Poland are more frequently affected with breast cancer [1, 2].

Most of the studies on QOL in breast cancer are from developed countries, where the image perception is strong and breast conservation rates are higher compared to developing nations. It could be hypothesized that patients from developing countries with lower socioeconomic strata may not have similar body image-related concepts and thus mastectomy could be an acceptable option in most patients. Patients undergoing breast conserving surgeries (BCS) require more precise radiation therapy (RT) treatment planning facilities, which are not widely available in many parts of developing countries [3].

Female breast has always been symbolic of womanhood and ultimate fertility. Breasts not only have physical and functional value but psychological bearing as well. As a result, both disease and surgery of the breast evoke a fear of mutilation and loss of femininity besides being responsible for psychosocial behavioral problems. While the first priority in the treatment of cancer must be tumor control, it is increasingly recognized that the effective management of patients should include techniques to maximize their sense of well being or quality of life (QOL) [4, 5].

Since quality of life has gained increasing importance in clinical oncology over the last 15 years, current quality of life inventories now focus on physical, mental, cognitive, social and other dimensions along with chemotherapeutical effects. These comprise the EORTC QLQ C30 of the European Organisation for Research on Treatment of Cancer, including additional scales for specific types of tumours [6, 7].

Breast cancer is an important disease and one where health care services have the potential to improve the quality and quantity of life. Quality of life can be assessed both objectively and subjectively. Objectively, it is defined as complex conditions characterizing human life and activity, including physical, economic, social, and cultural environment. The subjectively perceived quality of life is recognized as the outcome of assessing and assigning value to various spheres of life as well as to life as a whole. Most commonly, the issues related to the quality of life are examined with generic methods, addressed to general community, and especially to patient population. The instruments used for this purpose determine the quality of functioning in somatic, mental, environmental, and social sphere [8].

In many women, breast loss is associated with humiliation and shame, and a desire to hide the loss, even from close relations. Such an attitude in breast cancer patients leads to an array of emotional disorders [9]. After a diagnosis of malignant disease, missing or insufficient information concerning the disease and its prognosis, the therapeutic options, and their side effects can significantly impair the patient’s quality of life. There is evidence in the literature that the majority of cancer patients would like to receive as much information as possible from their physicians [10-16].

The period of adaptation to the disease and improvement in health-related quality of life is individually variable. Emotional support of close relations can play a vital role in this process because it has exceptional influence on facilitating patient’s adaptation. Support groups, e.g. “Amazonki Club” can be an especially useful form of support. The principal objective of such organizations is to stimulate the patients to have an active, positive attitude to their condition, as well as to support them in proper adaptation to the situation, especially at early stages of the disease and its treatment [8]. Although the survival of breast cancer patients increases due to early detection and treatment, the disease affects their quality of life and biopsychosocial status. The aim of this study was to analyse the quality of life of women with breast cancer.

Materials and methods

The questionnaire survey included 64 surgically-treated women with breast cancer aged between 36 and 72 years, who were treated at the Regional Comprehensive Cancer Centre in Bialystok. The study was conducted in late 2009 and early 2010, and the participation was voluntary and anonymous.

The study involved the validated European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – core 30 (EORTC QLQ-C30), which was developed to evaluate the quality of life in cancer patients.

The EORTC QLQ-C30 questionnaire was developed by the Quality of Life Research Group created by the European Organization for Research and Treatment of Cancer (EORTC). EORTC QLQ-C30 is a component of module-based, multidimensional attitude to quality of life assessment in cancer patients. It constitutes the so-called core questionnaire for the quality of life assessment in the population of cancer patients, irrespective of the form, type, and location of the tumour. The multidimensional character of EORTC QLQ-C30 is achieved by including questions addressing the influence of disease on patient’s functioning in various spheres of life (functional scales), as well as the effect of various specific complaints of the quality of life (symptom scales). The following functional scales are included in the questionnaire: somatic functioning, role functioning, professional functioning, emotional functioning, cognitive functioning, social functioning, and global quality of life score. The scales examining the effects of disease-related symptoms on the quality of life include the effects of fatigue, nausea and vomiting, pain, dyspnoea, sleeping disorders, loss of appetite, constipation, and diarrhoea. Also, the influence of disease on economic situation is examined. Most statements included in the EORTC QLQ-C30 questionnaires are scored using a 4-item Likert scale. The only exceptions pertain to the general health and global quality of life, both scored in the 7-item scale. The statements included in the questionnaire address responder’s functioning in various spheres of life, e.g. somatic, emotional, cognitive, and social functioning, as well as the presence of complaints [17].

Additionally, the quality of life of breast cancer patients was examined with the EORTC QLQ BR-23 questionnaire. The responders scored their self-image, sexual function, and perception of the future, as well as the side effects of systemic anticancer therapy, and problems related to the affected breast and the upper limb of the operated side [7].

The final scores were calculated by adding the individual scores of statements included in particular scales. In the case of single-question-scales, the score of an individual question was considered as a raw score of the scale. The raw scores could not be compared between various scales as they differed with regards to the number of statements. Therefore, the raw score were standardized and expressed in a 100-item scale. The widely-used formula was implemented for the purpose of this transformation:

$$\mathbf{WT} = \frac{\mathrm{WS} - \mathrm{MinWSk}}{\mathrm{MaxWSk} - \mathrm{MinWSk}} \mathbf{x\ 100}$$

where:

WT= transformed score

WS= raw score in an examined individual (the sum of points in a given scale)

MinWSk= minimal possible score of the scale

MaxWSk= maximal possible score of the scale.

Results

There were no significant differences in the functioning in various spheres of life. The best scores were documented in the case of cognitive functioning (76.9%) and role functioning (74.2%) as none of our participants reported any problems in these spheres: additionally, as many as 72.3% of the patients did not show any abnormalities in social functioning. In contrast, markedly decreased quality of life was documented with regards to emotional and somatic function. Problems in these latter scales were not reported by 57.3% and 66.4% of the patients, respectively (Tab. 1).

Sleeplessness (48%) and fatigue (36.3%) were the most frequently reported problems of breast cancer patients. Decreased appetite and pain were reported by 31% and 24.8% of the participants, respectively. Complaints such as nausea and vomiting (12.5%), diarrhoea (11.3%), and dyspnoea (11%) were rarely documented (Table 2).

Functioning was scored the highest in the sexual sphere; as many as 76.7% of the patients did not report any problems in this sphere. The fraction of responders who did not perceive any discomfort related to their body image was equal to 60.6%. Concerns regarding future health were shared by the lowest fraction of breast cancer women (39%) (Tab. 3).

Table 1. Quality of life in breast cancer patients determined with the QLQ-C30 questionnaire (functional scale).

Quality of life (QLQ-C30)						
		(n=64)				
Quality of life dimension		**x (%)**	**Min**	**Max**	**SD**	**Me**
functional scale – overall	29, 30	**64.8**	**23.0**	**100.0**	**16.9**	**65.4**
functional scale						
physical functioning	1 to 5	**66.4**	51.3	100.0	12.9	**65.7**
role functioning	6,7	**74.2**	32.3	100.0	17.8	**82.3**
emotional functioning	21 to 24	**57.3**	0.0	100.0	18.2	**57.3**
cognitive functioning	20,3	**76.9**	15.7	100.0	20.0	**85.2**
social functioning	26,3	**72.3**	17.7	100.0	22.3	**81.3**

Table 2. Quality of life in breast cancer patients determined with the QLQ-C30 questionnaire (symptom scales): the presence of symptoms.

Quality of life (QLQ-C30)						
		(n=64)				
Quality of life dimension		**x (%)**	**Min**	**Max**	**SD**	**Me**
presence of symptoms						
fatigue	10,12,18	**36.3**	0.0	88.9	17.1	**33.3**
nausea and vomiting	14,2	**12.5**	0.0	83.3	18.5	**0.0**
pain	9,2	**24.8**	0.0	83.3	17.8	**16.7**
dyspnoea	8,0	**11.0**	0.0	100.0	19.5	**0.0**
sleeplessness	11,0	**48.0**	0.0	100.0	26.6	**33.3**
loss of appetite	13,0	**31.0**	0.0	100.0	22.6	**33.3**
constipation	16,0	**14.6**	0.0	66.7	20.2	**0.0**
diarrhoea	17,0	**11.3**	0.0	100.0	21.6	**0.0**
financial problems	28,0	**23.0**	0.0	100.0	26.5	**0.0**

Table 3. Quality of life in breast cancer patients determined with the QLQ-BR-23 questionnaire (functional scale).

Quality of life (QLQ-BR-23)						
		(n=64)				
Quality of life dimension		**x (%)**	**Min**	**Max**	**SD**	**Me**
functional scale						
body image	9 do 12	**60.6**	0.0	100.0	22.1	**66.7**
sexual functioning	14,15	**76.7**	33.3	100.0	15.0	**81.3**
future perspectives	13	**39.0**	0.0	100.0	36.7	**33.3**

Patients showing side effects of systemic therapy formed the largest group of our participants (22.8%). The adverse symptoms included dry mouth, hair loss, malaise, hot flushes, and headache. The second group included responders who reported adverse symptoms related to their breasts (14.3%). Women who had functional problems of the upper limb on the side of breast cancer surgery, i.e. pain and swelling, were least represented (12.1%) (Table 4).

Table 4. Quality of life in breast cancer patients determined with the QLQ-BR-23 (symptom scales): the presence of symptoms.

Quality of life (QLQ-BR-23)						
		(n=64)				
Quality of life dimension		**x (%)**	**Min**	**Max**	**SD**	**Me**
presence of symptoms						
side effects of systemic therapy	1 to 4, 6,7,8	**22.8**	0.0	81.0	13.8	19.0
breast-related symptoms	20 to 23	**14.3**	0.0	41.7	11.7	8.3
arm-related symptoms	17,18,19	**12.1**	0.0	55.6	12.0	11.1

Discussion

Measuring quality of life in breast cancer patients has been the focus of clinical practice and research in recent decades and is of importance in assessing treatment outcomes. Cancer treatments are effectively reducing mortality and extending life, yet there is evidence that physical, psychological and social needs are not being addressed by the health and social care services, with individuals reporting significant unmet needs [18].

In this study, we assessed the quality of life of cancer patients using validated questionnaires: a generic QLQ 30 questionnaire comprised of 30 questions, and a specific QLQ BR 23 module which included 23 statements. Using these instruments enabled us to identify potential functional disorders in somatic, emotional, and social spheres, as well as to analyse the presence of any somatic disorders associated with breast cancer and self-image.

The analysis of functional scales revealed that mastectomy was reflected by a marked impairment in the emotional and somatic functioning of our patients. In previous studies, the most pronounced mastectomy-related changes pertained to the somatic sphere and role functioning [19, 20, 21]. According to Barnaś et al., breast cancer women belonging to “Amazonki Club” in Rzeszow showed the highest scores in somatic and role functioning [19]. Also, Kulesza-Brończyk et al. reported similar findings in a group of 128 “Amazonki Club” members from Podlasie province: as many as 78% of their patients did not report any impairment of social functioning, and 77% did not have any complaints regarding role functioning [22].

This study revealed sleeplessness and fatigue as the most frequently reported complaints of breast cancer patients. Chahaj et al. also revealed that the predominant symptoms include fatigue along with respiratory problems [20]. In the case of health-related quality of life scales, body image was scored the highest, while sexual pleasure was graded the lowest.

Our analysis of EORTC QLQ BR-23 questionnaire findings revealed that sexual sphere received the highest score of all functional scales. In contrast, post-mastectomy women showed concerns regarding their self-image and the nearest future. According to Chachaj et al., women hospitalized at the Lower Silesian Regional Comprehensive Cancer Centre in Wroclaw also scored their body image higher, showed worse functioning in the sexual sphere, and very low life perspective index [20]. Moreover, the patients examined by Barnaś et al. assigned the highest score to their body image and ascribed the lowest scores to the sexual pleasure category [19].

In our study of women hospitalized at the Regional Comprehensive Cancer Centre in Bialystok, the largest fraction of responders had side effects of systemic anticancer therapy and functional impairment of the upper limb; these findings are consistent with previously published data [19, 20, 21]. Our study revealed that despite various sociodemographic settings of our responders, the emotional status of breast cancer women is very poor. The patients lose hope too soon; many of them believe that no one can or is willing to help them. Therefore, help and support are most essential for breast cancer women. The support should include not only the help offered by family members, but also a full range of specialist medical services. Psychological, dietary, and even sexual counselling can be of great value.

Conclusion

The occurrence of cancer can frequently impair functioning in various spheres of female life. Consequently, early intervention allows for early detection of the problem in question, and thus improvement in the functioning of breast cancer women in sexual, somatic, and mental spheres.

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Quality of life assessment in women after surgical treatment of ovarian cancer

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Introduction

Due to the increasing incidence and high mortality, ovarian cancer constitutes the principal problem of gynecological oncology. Ovarian cancer corresponds to approximately 25% of all gynecological malignancies [1].

About 3 000 new cases of ovarian cancer are recorded every year in Poland, along with 2 390 deaths caused by this malignancy [2, 3]. This makes ovarian cancer the fourth oncological mortality cause, after breast cancer, lung cancer, and colorectal cancer. Ovarian cancer is characterized by late detection and low curability rates [3, 4]. Its peak incidence is observed during climacterium [5]. The incidence of ovarian cancer ranges between 3 per 100 000 in women below 30 years of age and to as many as 37 per 100 000 in patients older than 50 years. The highest number of new cases is registered amongst 40- to 70-year-old women [1, 6].

The incidence of ovarian cancer is specific for ethnic group, race, and geographical region. The highest incidence rates are documented in North America, Northern Europe, and Israel [7], and the lowest in Asia (China, Korea, Japan), and Africa [4, 8]. Amongst European countries, the incidence is the highest in Iceland, Czech Republic, Great Britain, Ireland, and Austria, and the lowest incidence rates are documented in Spain, Switzerland, and Italy [8].

In Poland, the age-adjusted incidence is 10.8 per 100 000 women per year. The overall 5-year survival rate for all stages combined range from 30% / INS> to 50%. Most women, however, present with late-stage disease, which is associated with a rate of about 20% [9, 10].

Most cases are diagnosed during advanced stages because of non-specific symptoms and the absence of effective early detection, with standard care typically consisting of cytoreductive surgery followed by platinum and taxane-based chemotherapy. Common side effects include nausea, poor sleep, vomiting, lost appetite, alopecia, anemia, increased infection risk, peripheral neuropathy and cancer-related fatigue (CRF) [11, 12, 13].

Given that ovarian cancer and its treatment can cause significant physical and psychological morbidity [14] assessment of quality of life (QoL) is particularly important for these patients [15, 16, 17, 18, 19].

It is important to focus not only on the short-term side effects of treatment, but also on the effects of treatment on symptoms and functional status during periods of disease remission, relapse, and survival. Such effects not only influence a patient's overall QoL, they also influence the ability to tolerate additional salvage therapy for extended periods of time with the potential of delaying disease progression [20]. Therefore, ovarian cancer is called the "silent killer". In the majority of cases, treatment involves cytoreductive surgery with obligatory removal of the uterus and both adnexa as well as post-operative chemotherapy. The chemotherapeutic approach usually consists of a platinum-taxane combination administered either intravenously or directly into the peritoneal cavity. Despite this intensive, burdensome treatment, patients still have to face a considerable risk of recurrence [21, 22, 23].

Ovarian cancer patients have to deal with a range of treatment-related symptoms such as hematological side-effects, gastrointestinal problems, neuropathic pain, menstrual changes together with climacteric symptoms, and fertility issues [24, 25, 26]. Furthermore, the majority of ovarian cancer patients experiences fatigue severely affecting patients' daily lives far beyond the completion of treatment [18, 27]. Accordingly, it was ranked as the most important symptom by both, patients and physicians [28, 29, 30].

Aside from somatic and social functioning, neoplastic disease and its treatment may also affect the mental status of cancer patients. Recently, increasing attention is paid to more systematic, quantitative methods of direct assessment of the effects of disease and related medical intervention on patients' quality of life. The quality of life in women with gynecological malignancies is vital for planning individualized therapy. The used quality of life measures include the indices of somatic, mental, and emotional wellbeing, as well as social functioning at diagnosis, prior to therapy implementation, and after completing the treatment. The quality of life in patients subjected to chemotherapy constitutes an important measure of toxicity related to this treatment modality, as well as an excellent indicator of its influence on patients' life, which can be used by the medical personnel caring for these patients [3].

The aim of this study was to assess the quality of life in women after ovarian cancer treatment.

Materials and methods

The study included 76 women with ovarian cancer who were hospitalized at the Regional Comprehensive Cancer Center in Białystok between February 2010 and March 2011. The protocol of the study was approved by the Local Bioethical Committee of the Medical University of Bialystok (decision no. R-I-002/59/2010), and data collection was consistent with the Polish Act on Personal Data Protection.

Quality of life was assessed using EORTC QLQ-C 30 scale, the survey developed by the European Organization for Research and Treatment of Cancer. It includes five scales testing patient's functional status with regards to somatic functioning, role functioning, emotional functioning, memory and concentration, and social functioning. Moreover, it comprises three scales assessing the disease symptoms: fatigue, nausea and vomiting, and pain, as well as a general health/quality of life scale. Additionally, six single questions are included assessing such consequences of the disease as the loss of appetite, dyspnea, sleeplessness, constipation, diarrhea, and financial problems. All scales are scored according to EORTC guidelines resulting in a score range from 0 to 100 points.

Specific issues related to the quality of life in ovarian cancer patients were analyzed using QLQ-OV 28 module, dedicated to the group of patients treated surgically with/without chemotherapy. This scale is used to assess 28 components: gastrointestinal symptoms, peripheral neuropathy, other side effects of chemotherapy, hormonal/menopausal symptoms, body image, attitude to the disease and its treatment, and sexual function.

All abovementioned scales were transformed into 0-100 points, with higher value corresponding to higher severity of a given trait. The following formulas were used during the calculations:

Symptom / positions: $S = \{(RS-1)\ \text{range}\} \times 100$

Health status / quality of life: $S = \{(RS-1)\ \text{range}\} \times 100$.

The scores of functional scales ranged from 1 to 100, with higher score corresponding to better level of functioning. The scores of symptom scales also ranged between 1 and 100, but higher scores corresponded to greater severity of symptoms.

The relationships between studied variables were tested with the chi-square test in order to exclude or confirm the null hypothesis. The number of degrees of freedom of the studied variable is established to verify the probability of excluding the true null hypothesis (the level of significance). Relationships were considered significant at $p<0.05$.

Results

1. Global quality of life

The analysis of the global quality of life with QLQ-C30 scale (Table 1) revealed a high score, corresponding to better quality of life with regards to role functioning (72.1%) and cognitive function (68.2%). The levels of somatic and social functioning were similar (63.4% and 63.4%, respectively). The lowest scores, corresponding to poorer quality of life, were documented in the case of emotional functioning (56.3%).

The most frequently reported complaints of hospitalized patients included fatigue (48.9%) and sleeplessness (48.4%). The occurrence of constipation and pain was documented in 38.7% and 36.2% of the patients, respectively. Financial problems associated with the disease were reported by 36% of studied women, and decreased appetite by 32%. Our group was characterized by similar rates of dyspnea and nausea/vomiting (27.1% and 26%, respectively). Diarrhea was the least frequently reported complaint (17.3%). The symptom scale should be analyzed in reverse of the functional scale, i.e. the higher the scores, the worse the quality of life.

Table 1. Data on the global quality of life in the studied ovarian cancer patients.

QLQ-C30 scales	**Statements no.**					
Quality of life category		**X**	**Min**	**Max**	**SD**	**Me**
Functional scale - overall	**29, 30**	**52.0**	**0.0**	**100.0**	**22.7**	**50.0**
Functional scale						
Somatic functioning	1 to 5	64.3	0.0	100.0	21.5	73.3
Role functioning	6,7	72.1	0.0	100.0	27.3	83.3
Emotional functioning	21 to 24	56.3	0.0	91.7	23.0	66.7
Cognitive functioning	20,25	68.2	0.0	100.0	26.3	66.7
Social functioning	26,27	63.4	0.0	100.0	25.4	66.7
Presence of symptoms						
Fatigue	10,12,18	48.9	0.0	100.0	21.9	44.4
Nausea and vomiting	14,15	26.0	0.0	100.0	25.0	16.7
Pain	9,19	36.2	0.0	100.0	24.1	33.3
Dyspnea	8	27.1	0.0	100.0	31.8	33.3

Sleeplessness	11	48.4	0.0	100.0	32.1	33.3
Loss of appetite	13	32.0	0.0	100.0	29.5	33.3
Constipation	16	38.7	0.0	100.0	30.0	33.3
Diarrhea	17	17.3	0.0	66.7	22.2	0.0
Financial problems	28	36.0	0.0	100.0	34.6	33.3

SD – standard deviation; Me - median

2. Ovarian cancer-specific quality of life

Data obtained with QLQ-OV28 questionnaire suggest that patient's relationship to the disease/treatment was scored the highest of all analyzed symptoms (64.2%). Consequently, our patients are best at copying with the acceptance of their condition and its treatment modalities. Lower scores were documented in the case of body image (47.6%), followed by hormonal symptoms (42.3%), and peripheral neuropathy (37.1%). Other symptoms and side effects of chemotherapy were score as 33.1% and 30.1% respectively. The occurrence of gastrointestinal symptoms proved most problematic in our women (24.5%). We did not assess the sexual function of our patients as none of them responded to the relevant question.

Table 2. Data on the ovarian cancer-specific quality of life in the studied patients.

QLQ-OV28 Scales	**Statements no.**					
Quality of life categories		**x**	**Min**	**Max**	**SD**	**Me**
Presence of symptoms						
Gastrointestinal symptoms	1 – 6	24.5	0.0	100.0	18.8	22.2
Peripheral neuropathy	11, 12	37.1	0.0	100.0	33.2	33.3
Hormonal symptoms	18, 19	42.3	0.0	100.0	25.2	33.3
Body image	20, 21	47.6	0.0	100.0	28.9	33.3
Attitude to disease/treatment	22, 23, 24	64.2	0.0	100.0	25.3	66.7
Side effects of chemotherapy	13 – 17	30.1	0.0	73.3	17.5	26.7
Other symptoms	7 – 10	33.1	0.0	91.7	23.9	33.3

SD – standard deviation; Me - median

Discussion

While there has not been a dramatic improvement in the cure rate of ovarian cancer, >40% of women survive longer than 5 years, with what is commonly considered a "chronic" cancer. In each phase of the illness (diagnosis, surgery and chemotherapy with curative intent, remission and survivorship, relapse and sequential chemotherapy, bowel obstruction and end of life), quality of life (QOL) is one of the most important considerations [31].

Diagnosis and treatment of ovarian cancer, mostly comprising debulking surgery and subsequent chemotherapy, entail severe symptom burden and a significant loss of patients' quality of life. Women diagnosed with ovarian cancer often receive therapy over extended periods of time with multiple treatment regimens. Both the acute and chronic effects of the disease and its treatment are associated with significant side-effects that can adversely impact QoL [32].

Due to the increasing popularity of the quality of life surveys, the protocols of chemotherapy can be analyzed not only with regards to their efficacy, but also their influence on the overall functioning of the patients can be tested. Furthermore, such surveys constitute an important source of information for individuals caring for cancer patients.

Our study with QLQ-C30 questionnaire revealed that while ovarian cancer patients score highest in role functioning, their emotional functioning is the poorest. Also Miniszewska et al. [33] observed that ovarian cancer patients experience the most serious problems in emotional functioning, whereas their physical capacity is least problematic. Study results Meraner et al. [34] indicate impairments for a wide range of somatic and psychological symptoms at the beginning of chemotherapy. Thus, at baseline, levels of anxiety and the prevalence of depressive symptoms were increased as reflected by self- as well as proxy-ratings. Similarly, fatigue (in terms of general fatigue, physical fatigue and reduced activity) was found to be high. Patients, however, recovered significantly over time up until aftercare. A strong improvement was not only found for anxiety and regarding the prevalence of depressive symptoms but also for almost all aspects of functioning covered by the QLQ-C30 as well as for fatigue (less pronounced for mental fatigue and reduced motivation).

The analysis of symptom scores also revealed similar findings. Patients hospitalized at the Regional Comprehensive Cancer Center in Bialystok most frequently reported fatigue and sleeplessness (48.9% and 48.4% of the participants, respectively). Fatigue and sleeplessness were reported by 54.63% and 46% of ovarian cancer women studied by Miniszewska et al. [33]; the abovementioned symptoms were the most prevalent also in this study. According to

Holzner et al. [27] the patients score best in somatic functioning, while their mental functioning is the poorest.

The QLQ-OV28 questionnaire survey conducted amongst our patients identified relationship to disease/treatment as the parameter which was scored the highest (64.2%). Consequently, the functioning of ovarian cancer patients was the best with regards to this scale. In contrast, the lowest score was documented in the case of gastrointestinal symptoms (24.5%). In the case of this scale, the poorest functioning probably resulted from the severity of chemotherapy side effects. In the Austrian study, Holzner et al. [27] revealed self-attitude to patient's body as the most important (58.6%), whereas the gastrointestinal symptoms were scored the lowest, at a similar level as in our patients.

In future research, especially the course of QOL and psychosocial issues for long-term survivors of ovarian cancer require further investigation.

Conclusion

Malignant disease is reflected by somatic and emotional change, and the use of cytostatic agents is associated with high toxicity, which considerably affects the quality of life.

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Quality of life assessment in women after cervical cancer treatment

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Introduction

Cervical cancer is the third frequent female malignancy, and the second cancer amongst women below 44 years of age. Every year, approximately 493 thousand women are diagnosed with this malignancy worldwide, and more than 300 thousand female patients die due to this condition [1]. The American Cancer Society (ACS) estimated that in 2008 over 11,070 cases of invasive cervical cancer and about four times as many noninvasive cervical cancer cases (carcinoma in situ) [CIS]) would be diagnosed in the United States [2]. When diagnosed at its earliest stage, the 5-year survival rate for invasive cervical cancer approaches 100%. Survival drops to 92% for locally advanced disease and is approximately 73% when all invasive stages are combined [3].

The incidence of cervical cancer increases with age, with the peak incidence amongst 45- to 49-year-old women. Premenopausal women constitute approximately 33% of cervical cancer patients; in 45% of the patients this condition develops post menopause and in another 20% at the reproductive age (under 45 years of age) [4].

Consequently, despite several decades of active prevention, cervical cancer represents serious health and social problem. Poland belongs to countries with the highest incidence and mortality rates of cervical cancer amongst all European Union states [5, 6]. According to the data collected by the Department of Cancer Epidemiology and Prevention, as well as the National Cancer Registry records run by the National Comprehensive Cancer Center, the peak incidence of cervical cancer in Poland was documented in 2000. Subsequently, a gradual decrease in absolute incidence figures has been observed, probably due to healthcare improvement and the implementation of population-based program of the prevention and detection of cervical cancer, and other educational programs [7].

Cervical cancer is characterized by relatively favorable prognosis. About 80-85% of cervical cancer patients are subjected to radiotherapy. Due to the progress in radiotherapy and the implementation of modern radiotherapeutical techniques, special attention should be paid to their influence on the occurrence of radiation disease and the quality of life of irradiated patients [8]. Over the last decade, increasing attention has been focused on the issues of emotional distress and quality of life (QoL) in women with gynecological cancer [9, 10].

This renewed attention comes from the growing awareness that cancer diagnosis and the consequences of multimodal treatments deeply affect woman's self-identity, impairing her social/intimate relationships, as well as her overall self-perception as mother and wife [11, 12, 13]. In particular, among gynecological cancer patients, those affected by cervical cancer have been reported to show the worst scores in terms of emotional distress and QoL, given their younger age, and the need to undergo integrated therapies and aggressive surgical procedures [14, 15, 16, 17, 18]. In a review of QOL studies of long-term survivors of cervical cancer, Vistad et al. [3] indicated a need to investigate the risk factors associated with QOL in cervical cancer patients, and Schover [19] underscored the importance of studying these factors in order to design appropriate intervention programs. Only a few studies have examined the role of demographic and disease characteristics and the effects of psychosocial factors, such as distress, social support, spiritual well-being and maladaptive coping, and sexual self schema on QOL [20, 21, 22].

Quality of life is incorporated into the comprehensive assessment of the effectiveness of a given therapeutic modality. Implementation of this parameter to routine clinical practice was reflected by better understanding of problems experienced by the patient. The quality of life can be assessed objectively with various questionnaires, including cancer-specific EORTC FACT-CX B questionnaire. Oncological treatment, including radiotherapy, is usually long-term and associated with many adverse side effects, which modulate the quality of life in cancer patients [23, 24, 25, 26].

The aim of this study was to assess the quality of life in cervical cancer patients, and to analyze the influence of most frequent disease- and treatment-related symptoms on this parameter.

Materials and methods

The study included 50 women aged between 28 and 72 years who were diagnosed with cervical cancer and treated at the Regional Comprehensive Cancer Center in Bialystok. The study was conducted between May 2010 and February 2011. The protocol of the study was approved by the Local Bioethical Committee of the Medical University in Bialystok (decision no. R-I-002/579/2010). The quality of life of cervical cancer patients was assessed using FACT-CX B scale. This scale comprises 42 statements which form 5 subscales and assess the following aspects of everyday life: physical well-being (PWB), social/family well-being (SWB), emotional well-being (EWB), functional well-being (FWB), and additional concerns (CxCS). The scores of each subscale can range from 0 to 168 points. The higher is the score, the better is the quality of life. The scores of each subscale were standardized to facilitate their comparison – they were expressed as belonging to <0;1> range; the closer to zero, the better the quality of life (less negative scores, few complaints). As each score represents a quantitative variable, its basic statistical characteristics can be determined.

The statistical methods included the chi-square test for qualitative variables, distribution tabulation, cross tabulation, and basic statistical characteristics of quantitative variables. The level of significance for all tests was set at $p<0.05$. All calculations were carried out using Statistica 6PL software package.

Results

The mean score for physical well-being was found to be 0.59. However, our patients showed variable levels of physical well-being. Eight patients (16%) assessed their physical well-being as good (standardized PWB ranging from 0.2 to 0.4). Most frequently (n=22, 44%), our participants scored their physical well-being as intermediate (0.6-0.8). Six women (12%) assessed their physical well-being as unsatisfactory (0.8-1.0) (Fig. 1, Tab. 1).

Table 1. Scores of physical well-being (PWB) amongst cervical cancer patients.

Variable	**Descriptive statistics**					
	N valid	Mean	Median	Minimum	Maximum	Standard deviation
PWB	50	0.59	0.61	0.25	0.93	0.17

The mean score for social/family well-being in cervical cancer patients was found to be 0.74. One patient (2%) scored her social/family well-being as very good (0-0.2), and one (2%) as good (0.2-0.4). The majority of cervical cancer women (n=42, 80%) scored their social/family well-being as intermediate or unsatisfactory (0.6-1.0) (Fig. 2, Tab. 2).

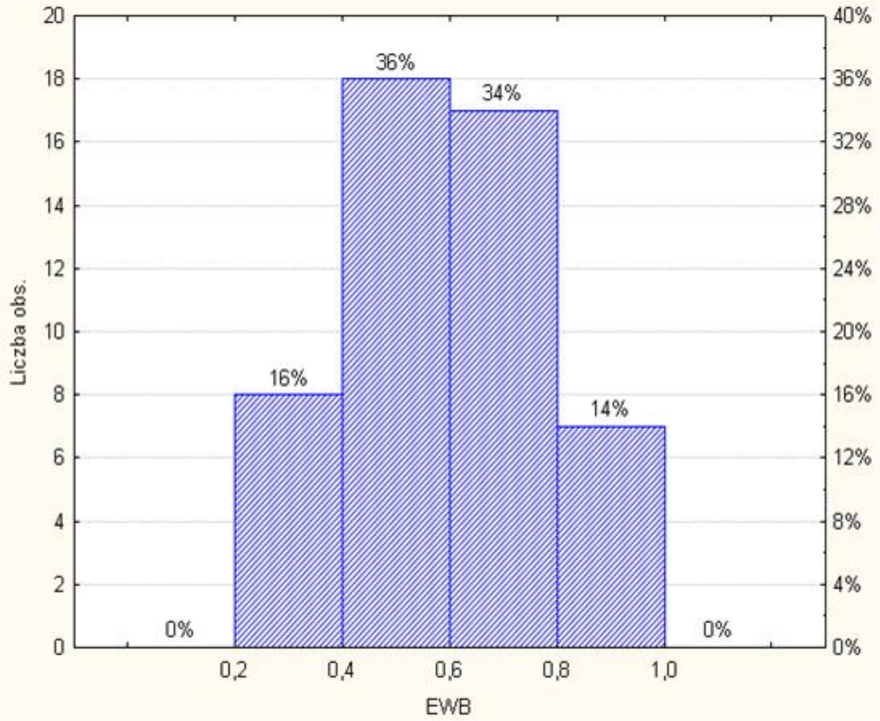

Figure 1. Scores of physical well-being (PWB) amongst cervical cancer patients.

Liczba obs. – Number of observations

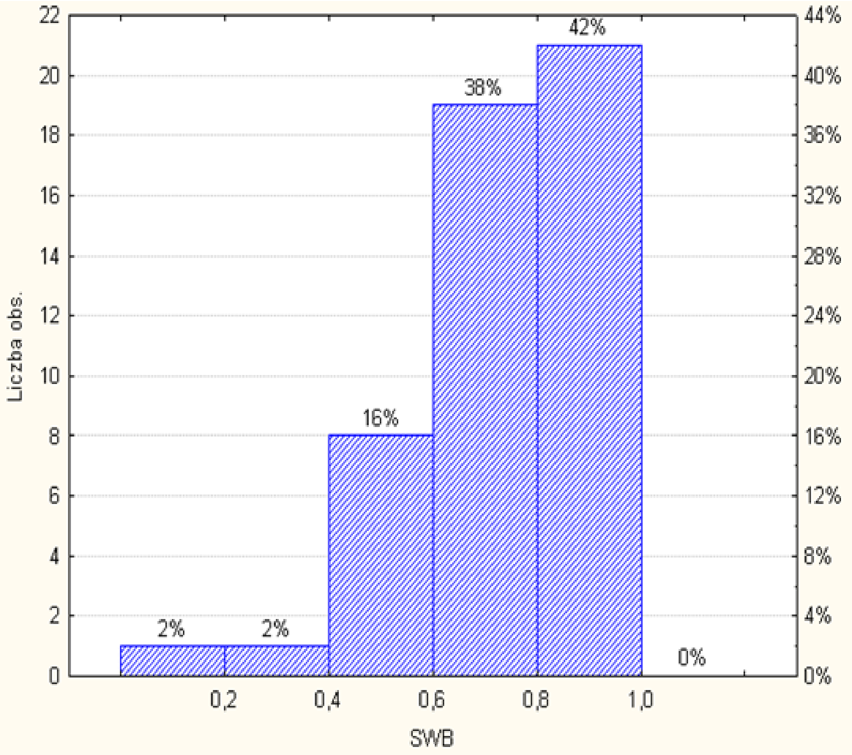

Figure.2. Social/family well-being (SWB) amongst cervical cancer patients.

Liczba obs. – Number of observations

Table 2. Social/family well-being (SWB) amongst cervical cancer patients.

Variable	**Descriptive statistics**					
	N valid	Mean	Median	Minimum	Maximum	Standard deviation
PWB	50	0.74	0.79	0.00	1.00	0.19

The mean emotional well-being score of cervical cancer patients was found to be 0.60. Eight patients (16%) assessed their emotional well-being as good (0.2-0.4), and 18 (36%) as satisfactory. Twenty-four patients (48%) scored their emotional well-being as unsatisfactory (0.8-1.0) (Fig. 3, Tab. 3).

The mean score for functional well-being of cervical cancer patients was found to be 0.60. Our participants represented variable levels of functional well-being. Seven patients (14%) assessed their functional well-being as good (0.2-0.4). The largest fraction of the patients (n=20, 40%) scored their functional well-being as intermediate (0.6-0.8). Fourteen women (28%) assessed their functional well-being as unsatisfactory (Fig. 4, Tab. 4).

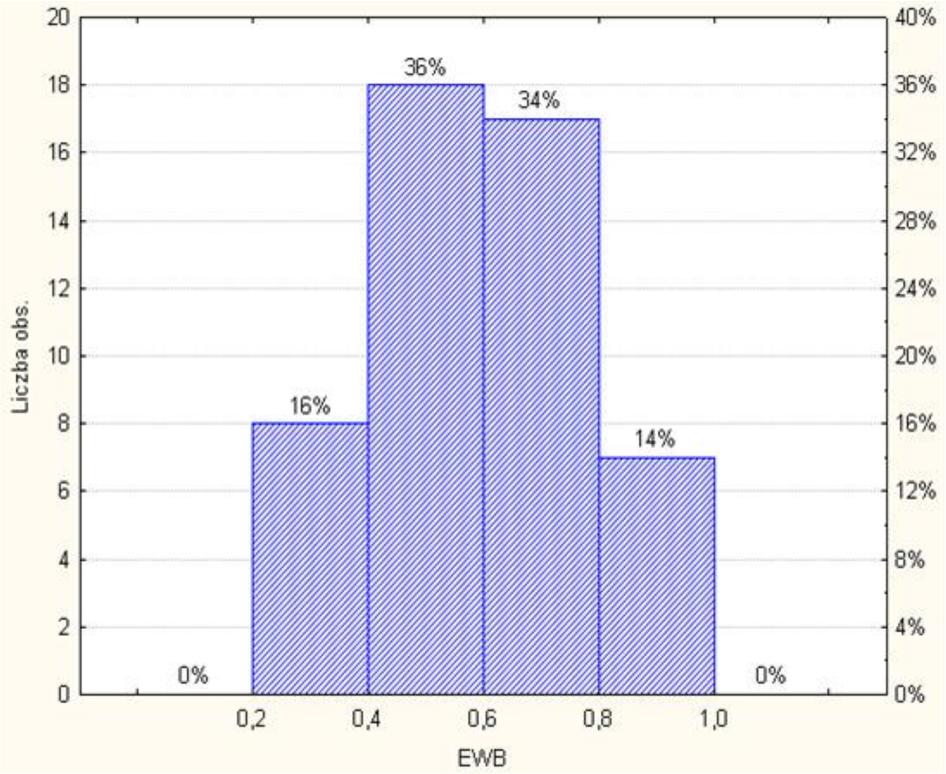

Figure 3. Emotional well-being (EWB) amongst cervical cancer patients.
Liczba obs. – Number of observations

Table 3. Emotional well-being (EWB) amongst cervical cancer patients.

Variable	**Descriptive statistics**					
	N valid	Mean	Median	Minimum	Maximum	Standard deviation
PWB	50	0.60	0.58	0.25	0.92	0.18

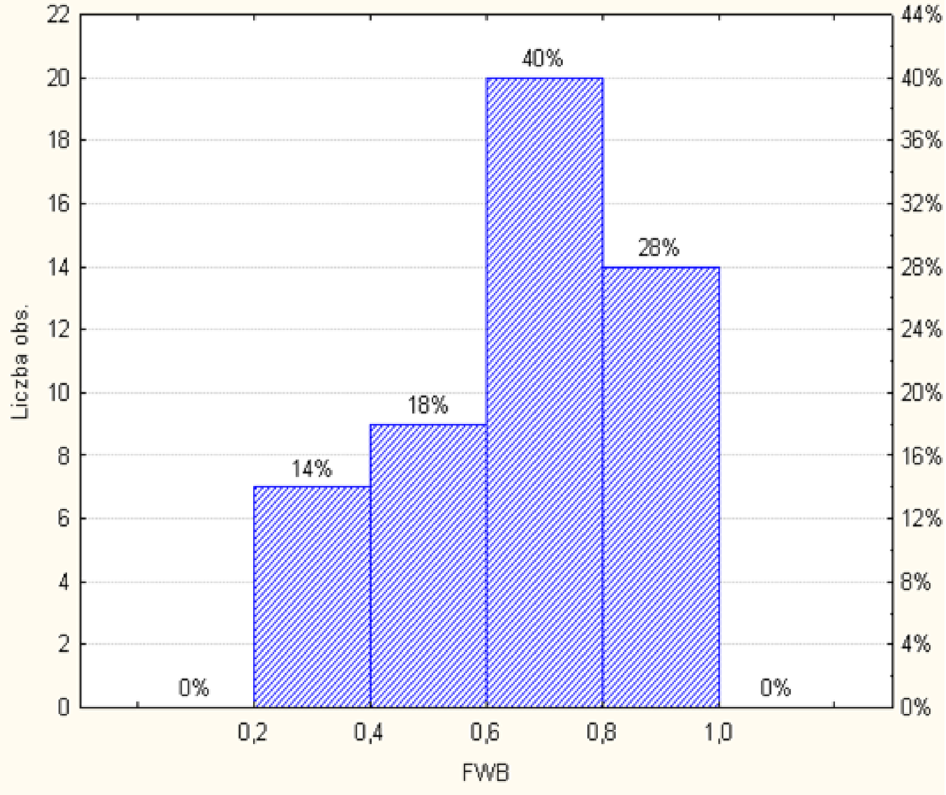

Figure 4. Functional well-being (FWB) amongst cervical cancer patients.

Liczba obs. – Number of observations

Table 4. Functional well-being (FWB) amongst cervical cancer patients.

Variable	**Descriptive statistics**					
	N valid	Mean	Median	Minimum	Maximum	Standard deviation
PWB	50	0.67	0.68	0.21	1.00	0.22

The mean score for additional concerns amongst cervical cancer patients was found to be 0.64. Only one patient (2%) showed minimal concerns, while two subjects (4%) had the largest concerns. The highest fraction of patients (n=27, 54%) scored their concerns as large (0.6-0.8) (Fig. 5, Tab. 5).

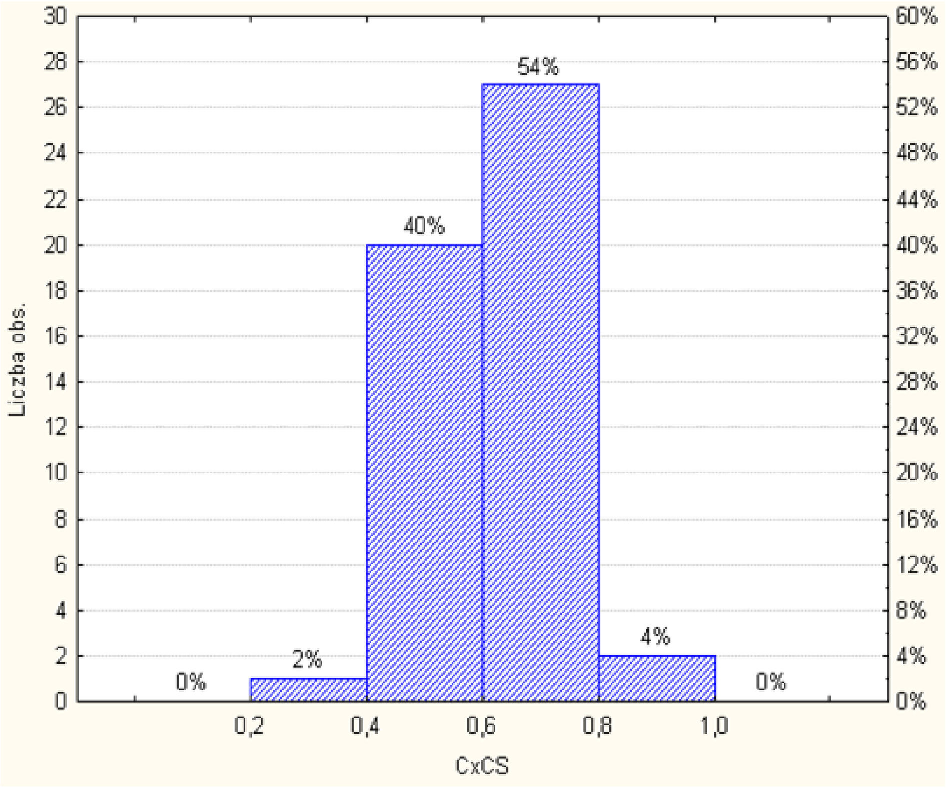

Figure 5. Additional concerns (CxCS) amongst cervical cancer patients. Liczba obs. – Number of observations

Table 5. Additional concerns (CxCS) amongst cervical cancer patients.

Variable	**Descriptive statistics**					
	N valid	Mean	Median	Minimum	Maximum	Standard deviation
PWB	50	0,64	0,62	0,40	0,87	0,12

Discussion

Gynecological cancer and/or malnutrition can have a profound impact on patients' physical function and psychosocial well-being - both important components of QOL. One common definition of QOL is that it is a subjective, multidimensional construct representing functional status, mental and social well-being as well as general health [27].

A prospective study is going to be launched in our Institution to assess the impact of early and long term psychological interventions on emotional and QoL distress, as well as on immune functions in cervical cancer patients.

Our study revealed that the cervical cancer patients who scored their social/family well-being as intermediate or unsatisfactory represented the largest group of participants. This part of the questionnaire included questions pertaining to relationships with family/friends and their satisfaction with sexual life. Analyzing the questions pertaining to the functional well-being, we revealed the poorest quality of life in this sphere. The most frequently reported attitudes included decreased interest in sex, concerns related to sexual activity, urination problems, and the lack of appetite.

Many other authors have previously analyzed the problem in question. Some of these studies revealed sexual dysfunction in women subjected to radical hysterectomy due to cervical cancer [28, 29]. Pieterse et al. [30] conducted a long-term, 24-month, observation of the subjective attitudes toward urination, defecation, and sexual function in patients subjected to radical hysterectomy and adrenalectomy due to an early stage cervical cancer. Compared to the controls, this group showed significantly higher prevalence of negative sexual outcomes. Frumovitz et al. [31] compared the quality of life and sexual function in women after radical hysterectomy and adrenalectomy, and patients in whom cervical cancer was treated by radiotherapy. Patients after radiotherapy scored lower in a survey assessing the quality of life and sexual function.

Ditto et al. [32], in their study with FACT-Cx (Functional Assessment of Cancer Therapy Cervix) questionnaire, showed that radiotherapy seems to exert a negative effect on the quality of life and sexual function.

The prevalence of sexual dysfunction in women subjected to hysterectomy due to cervical cancer was analyzed in three hospitals in Thailand [33]. The analyzed components of sexual function included the frequency of intercourse, sexual satisfaction, and dyspareunia. It was revealed that 7.6% of women did not resume sexual activity post-surgery, 92.4% of them returned to sexual intercourse after an average of 4 months, and 37% experienced dyspareunia. According to the authors of the aforementioned study, sexual dysfunction constitutes a frequent problem following the treatment of cervical cancer [34]; this was confirmed by our findings.

Our participants showed variable scores of functional well-being. The highest fraction of patients (40%) assessed functional well-being as intermediate, and 28% as unsatisfactory. Furthermore, we observed that the largest fraction of patients (54%) presented with severe signs of anxiety. This finding is consistent with data previously reported by Fernandes et al. [35].

Conclusion

The quality of life diminishes significantly following the cervical cancer treatment. Women assess their emotional status and social and family relationships, particularly in terms of their sexual life, as worse following oncological therapy.

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The influence of sensorimotor training on functional condition and quality of life of patients with rheumatoid arthritis

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Introduction

Diseases which cause changes in structure and tension balance of locomotor system result in dynamic and static synchronization disorders of stabilization mechanisms. Pathomechanism of articular changes in rheumatoid arthritis (RA) is connected with the presence of pannus which invades the joint and provides to cartilage, bone and ligament destructions. Inflammatory process leads to changes in tendon and tendinous sheath as well as to muscular atrophy. Characteristic symptoms include pain, oedema and limitation of symmetrical movements with accompanying morning joint stiffness. As a result of joints and ligaments damage, characteristic subluxations of minor joints of hand and feet are observed. Inflammatory process may also occur in larger joints of upper and lower limbs. According to the large amount of proprioceptors in damaged periartricular structures, disturbances in sensorimotor control occur. Static foot efficiency is of huge importance for body position control, proper movement and sensorimotor control [1, 2, 3, 4].

Sensorimotor control system receives and integrates impulses from three sources: proprioception receptors, vestibular system and organs of visual perception. Involuntary information about body position and tension produced by skeletal muscles is provided from muscular-ligament system and vestibular organs while voluntary information about body and extremities position is provided by visual perception and cutaneous receptors. Integration of received information results in feedback which causes proper motor response.

Proprioception mechanism consists of signals send to central nervous system by mechanoreceptors from articular capsules, ligaments, muscles, tendons and skin. Proprioreceptors are stimulated from the beginning to the end of the movement during changes of velocity and direction. Proprioception receptors receive impulses connected with the perception of muscles and joints position. Muscle spindles respond when aggravation and muscle extension increase causing feedback which changes muscle tension during reflex action.

Collective response for impulses received by sensorimotor control system allow to maintain local and global stability which is necessary to uninterrupted performance of locomotor system [1, 2, 3, 5].

Epidemiology

Reumathoid arthritis is a chronic, autoimmunological systemic disease which touches approximately 0.5% of adult world population (1.3 billion Americans). Rheumatoid arthritis occurs annually in 20-50 cases per every 100000. It considers mainly women over 40 years old [6].

Initial symptoms of rheumatoid arthritisare joint damage and loss of functions. Results of radiological examinations have proved that 70–75% of patients with first stage of rheumatoid arthritis reveal bone erosions during the first 3 years of the disease. What is more, one study has shown that 25% of patients with the first stage of rheumatoid arthritis reveal bone erosions during x-ray and in the ESPOIR (European Clinical Study for the Application of Regenerative Heart Valves) cohort 20% of 813 patients with average duration of the disease of 107 days had hand or foot erosions [7, 8, 9, 10].

Evaluation of clinical results

Research conducted on RA focuses on three inter-related fields. The first one includes the extent and severity of the inflammatory process. Patients with RA require clinical and laboratory examination of the presence and severity of joint inflammation.

The second field of examination regards end organ damage. In RA, primarily, the extent and severity of joint damage should be assessed, however, damage caused by co-morbidities including lung or cardiovascular disease, require further examination.

Final, third field of examination, evaluates the influence of the disease on patients' quality of life [11].

Determination of the extent and severity of the inflammatory process is important for further clinical and laboratory evaluation of the presence and severity of joint inflammation (Joint counts, Erythrocyte sedimentation rate, C-Reactive protein, Patient global assessment, Disease Activity Score - 28 scores).

Another factor important in evaluation of clinical results and classification of patients to particular functional groups is articular destruction. Radiological examination allows to notice the presence of periarticular osteoporosis, constrictions of joint spaces, articular erosions and damages of articular surface. Steinbrocker's criteria estimate intensity of joints destructions which may also be applied in selection of proper intensity of sensorimotor training. Other methods used in evaluation of joint changes progression were developed by Sharp and Larsen-Dale. Presence of co-morbidities, such as cardiovascular disease, osteoporosis and pulmonary disorders is important factor in proper qualification of the patient to the training group. Significant part of clinical results evaluation is determination of the influence of the disease on quality of life.

Health Assessment Questionnaire (HAQ), Arthritis Impact Measure (AIMS2), Short-form 36 (SF-36) and EuroQol are the most commonly used questionnaires for quality of life estimation [12, 13].

Quality of life of patients with rheumatoid arthritis

Good medical care depends on the assessment of clinical outcomes. In order to observe improvement clinicians should be required to be aware of their treatments. It is necessary for rheumatologists to focus on each patient individually and pay attention to consequences of their treatments.

High amount of patient-related outcomes and quality-of-life measures, both, disease specific and generic, have been conducted in order to evaluate RA [12]. Short Form 36, EuroQoL (EQ-5D) and HAQ are most commonly applied. Arthritis Impact Measurement Scale (AIMs-2), Nottingham Health Profile (NHP) and Rheumatoid Arthritis Quality of Life (RAQoL) questionnaires are less frequently applied despite their individual specific advantages.

Assessment of patient-related outcomes in RA includes such issues as fatigue, pain and a return to normal life [14, 15].

National Institutes of Health (USA) have strongly recommended the Patient-Reported Outcomes Measurement System (PROMIS) network as an instrument of patient-reported outcomes evaluation. Other health-care systems developed similar initiatives. In July 2010, the UK Government published its Health White Paper 'Equity and excellence: Liberating the NHS' supporting a move away from health-care targets and focus on patient-related outcomes. The issue was elaborated during further consultations [8], which led to the publication of the NHS Outcomes Framework in December 2012 [9].

Short Form 36 (SF-36)

The SF-36 consists of 36 questions considering health and is divided into eight domains [16]. Domains include physical functions, physical role, bodily pain, general health, vitality (which generally equates with fatigue), social role, emotional role and mental health. Each domain is scored from 0 to 100 - higher scores represent better health states. The domains can be further summarized into physical component score (PCS) – first four of them, and mental component summary (MCS) - remaining four domains.

The SF-36 and associated generic scores measure health state in many different conditions which facilitates direct comparisons between quality of life in RA and in other diseases as well as in normal health state. A variety of datasets are available for SF-36 scores in control groups. The SF-36 is reliable and valid assessment of quality of life in RA and it is compatible with disease-specific measures including the HAQ and the Arthritis Impact Measurement Score [17].

EQ-5D

The EQ-5D involves the assessment of 14 health states in six different domains; it represents a generic health currency possible to apply across Europe. EQ-5D descriptive system and the EQ (EuroQoL) visual analogue scale are the components of simplified EQ-5D system [18].

The EQ-5D descriptive system consists of five aspects: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each aspect is divided into three levels: no problems,some problems and extreme problems. EQ-5D may represent each aspect. It is usually constructed as a scale from 1 (completely healthy) to 0 (no health at all, which can be viewed as being equivalent to death); for technical reasons, some patients have scores below 0. Patients' health state is assessed by a 100-mm visual analogue score.

EuroQol is a generic test, similar to the SF-36 with available scores for normal healthy controls [19].

Health assessment questionnaire

HAQ is not a direct quality-of-life measure but rather an RA-specific patient-related evaluation of functions. According to significant influence of RA on patients' functional abilities, HAQ is frequently applied as a substitute assessment of quality of life [20]. Nevertheless, according to its extensive application in all studies on RA, it may give important information unlike generic quality of life measures.

HAQ scores, often termed the HAQ Disability Index (HAQ-DI), are used to assess patients' functional abilities in their arms and, to a lesser extent, in their legs. HAQ consists of

20 questions divided into eight categories of function, such as span dressing, getting up from a chair, eating, walking, personal hygiene, reaching, gripping and every day activities. Patients evaluate each activity in a four-point scale from 0 (which means no disability) to 3 (which means completely disabled). Furthermore, categories are gathered and transformed to an overall HAQ score with a 0–3 scale. The lowest increment is 0.125. Differences in HAQ over 0.22 are considered to be statistically significant and are termed the minimal clinically important difference (MCID). HAQ is a disease-specific test, created for patients with RA [19].

Functional tests for patients with rheumatoid arthritis

Proprioception examination as a component of sensorimotor control systems is highly significant to the process of determination of joint stability disorders. It is possible to develop rehabilitation program based on targeted examination responsive to patient's objective functional issues [21, 22]. Many methods of integrity and functionality of sensorimotor control systems evaluation, is based on the examination of variables connected with afferent and efferent paths, as well as of the final result of skeletal muscle's activation. Peripheral afferentation is estimated through examination of proprioception. Proprioception diagnostics consists of such elements as: tests on joint position sense, kinesthesia and muscle tension sense.

Joint position sense is examined through the analysis of precision of active and passive repetition of joint position, both, in the closed and open biokinematic chains [21, 22]. Acuity of joint position sense (JPS) reproduction is a factor which describes proprioceptive acuity.

In order to measure JPS, the particularly dedicated equipment should be applied. The patients are informed about the proceedings which include covering their eyes to avoid visual evaluation of joint position. Reproduction of the passive positioning of joint angle is an indicator of proprioceptive perception. The examination of JPS includes holding the joint in one position for 15-20 seconds to remember it. Furthermore, repeating the position three times is required. The angular error of divergence is obtained [23].

During the examination of proprioception on stabilometric platform patient was required to walk along the round tract five times, with the scope of 5° and 10° of a talocrural joint. Average trace error (ATE) and average force variation (AFV) for left and right lower limb were calculated by computer software.

Functional examination of proprioception using the stabilometric platform

Single-leg stance: The dislocation of the center of foot pressure (CoP) may be estimated by a force plate. Patients are required to stand on their dominant foot with closed and opened eyes. The average values of the better trials are measured for the length of the path and the moving area. Summing up the distances between consecutive data points allows to obtain the path length. The sum of areas of the triangles between the geometric center of all the points and two consecutive data points give the moving area.

Romberg's test: Patients are required to stay as calm as possible on a platform for 60 seconds with opened and closed eyes. Statistical analysis should be conducted basing on the average values of the better two of the three trials. The stability-index values are automatically calculated, whereas a low number indicates good balance.

Evaluation of foot arch is based on a determination of Wajsflog and Sztriter-Godunov indexes, as well as Clarke's angle, using a computer analysis of feet by podoscope. All indexes determined the range of foot arch fall. Value of limbs load is measured by weight test.

Sensorimotor training in rheumatoid arthritis.

Sensorimotor training (SMT) is a process which is meant to restore neuromuscular control and activate mechanisms adjusting muscular patterns in order to maintain local and global stability. Improvement of stabilization of particular joints allows proper control of body position and movement.

The aim of SMT is to stimulate afferent pathways in order to improve proprioception, joints dynamic stability and reorganization of muscular patterns influencing functions melioration. Improvement of aforementioned parameters is crucial in maintaining proper balance, locomotive function and dynamic protection of joints.

According to Janda, sensorimotor training should consist of three stages: static, dynamic and functional [24].

In static phase, patient performs motor tasks including dislocation of body weight and maintenance of the centre of mass without dynamic activity of extremities. This kind of activity initiates reflexive, automatic postural reactions influencing proper position of pelvis and peripheral joints which require active stability. Application of SMT allows to restore neuromuscular control without exacerbation of rheumatoid arthritis symptoms.

Elevation of the level of difficulty or advancement of sensorimotor system is conducted by limitation of support surface, elimination of visual control and introduction of bases of different stability. Further stage began when patient is able to maintain stable body position in changing environment. Stable body position in crucial parts of biokinematic chains allows appropriate manipulation of extremities movements. Dynamic phase is impeded by the resistance which occurs during movements of extremities or corpus. The last stage of SMT is functional training with performance of abilities acquired in previous stages. Functional training is based on the performance of every day activities with proper movement pattern and stability [24, 25, 26, 27, 28].

The important part of sensorimotor training in patients with rheumatoid arthritis is to maintain proper foot arch during static and dynamic exercises. Destructions in minor foot joints cause static efficiency disorders which determinates proper body position and movement pattern [4, 29].

The ability to maintain proper foot arch is necessary to further stages of sensorimotor training where patients use such devices as stability discs, mats, Redcord systems, TRX, stabilometric platform Prokin 3.

Conclusion

Rheumatoid arthritis is a chronic inflammatory disease able to promote articular deformities resulting from pannus, presenting bone erosions, ligament ruptures and lesions in the joint capsule. Since the mechanoreceptors are located in these structures, besides surrounding muscles and tissues, the sense of position and articular movement may be jeopardized. With the purpose of improving the functional capacity of these patients, over the past few years, studies have been carried out on new forms of rehabilitation (dynamic, statics, land and water exercise). Many different patient-related outcomes and quality-of-life measures, both, disease specific and generic, have been used to assess RA.

Short Form 36, EuroQoL (EQ-5D) and HAQ are most commonly applied. Arthritis Impact Measurement Scale (AIMs-2), Nottingham Health Profile (NHP) and Rheumatoid Arthritis Quality of Life (RAQoL) questionnaires are less frequently applied despite their individual specific advantages.

The aim of sensorimotor training is to restore neuromuscular control and initiate mechanisms adjusting muscular patterns in order to maintain local and global stability. Sensorimotor training should be an important part of complex rehabilitation process for patients with rheumatoid arthritis according to sensorimotor disorders caused by damages of mechanoreceptors from inflammated periarticular tissue.

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Analysis of the determinants of dissatisfaction with workplace in medical personnel

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Introduction

High level of occupational stress can lead to many health problems, increase the risk of accident, and reduce the efficiency and quality of work; moreover, it impairs functioning of a whole organization [1].

Occupational stress is a frequent problem which affects the health of workers to a various degree [2].

According to Carayon and Smith, there are five factors which can increase the level of stress within an organization by their mutual interrelationships [3]:

- Individual characteristics of workers, e.g. associated with the status of one's health, individual objectives and motivation, and life and occupational experiences,
- Tasks given to a worker, e.g. work overload or too low level of work, pressure of time, excessive control,
- Tools and technology – insufficient skills in utilization of certain tools and devices, potentially leading to frustration,
- Physical factors, e.g., temperature, humidity, environmental pollutants,
- Organizational factors, e.g., social support, lack of clearly defined pathway of professional development.

The work-related stress should be analyzed from worker's and organization's perspective.

Signals that suggest worker's exposure to occupational stress include [4]:

- Decreased effectiveness of work, e.g. lower motivation and involvement, loss of control over work, ineffective spending of a work time,
- Withdrawal from work, e.g. shorter work time, longer breaks, lack of contact with a worker,
- Regression, e.g. excessive irritability, tendency to irritation and crying,

- Aggressive behavior, e.g. nasty behavior, unjustified criticizing of other workers, mobbing,
- Physical signals, e.g. fatigue, changes of body weight, gastric problems, nervousness during conversation,
- Other behaviors, e.g. visible changes of behavior such as scruffy look, alcohol abuse, experiencing accidents at a workplace and at home.

Prolonged exposure of workers to stress is associated with many unfavorable changes in the work of their organization [5]:

- Absenteeism of workers, e.g. many sick leaves or absences,
- Absenteeism-related costs, i.e. costs of salaries paid for the time of absence,
- High fluctuation of staff – large number of workers leaving an organization, costs associated with training new staff,
- Effectiveness of work – longer time of completing tasks, overloading other workers with extra work, higher number of complaints,
- Stress of workers – response to stress, overall fatigue,
- Mobbing and aggression – higher frequency of reported pathological behaviors,
- Health problems – expenses of workers for treatment, higher number of sick leaves.

Data included in the report of the European Agency for Safety and Health at Work suggests that 67% of workers experience the negative consequences of unfavorable psychosocial occupational conditions. The most frequently reported burdens include too high intensity of work and work overload, and improper interpersonal relationships. Due to unfavorable working conditions, 30% of workers from European Union suffer from musculoskeletal disorders, and 28% experience the consequences of stress [6].

International Labor Organization (ILO), whose objectives include the protection of workers health and improvement of working conditions, developed a comprehensive educational program aimed at the prevention of the negative consequences of stress [7]. ILO patronizes many conferences, electronic publications and textbooks containing tips on the organization of safe workplaces [7].

Ministerial departments dealing with issues of work safety were organized in all EU-member countries [7].

The European Agency for Safety and Health at Work is another organization monitoring occupational exposure to psychosocial factors. A part of this organization is the Topic Center on Good Practice – Stress at Work. Moreover, the Agency organized so-called third-generation centers, including the Central Institute for Labor Protection – National Research Institute in Poland [8].

Information on stress and methods of its prevention is also disseminated by the International Stress Management Association. This organization joins specialists from many countries, including Great Britain, France, Germany, and India. The principal objectives of the Association include education and counseling [5].

The Interdepartmental Agreement on fighting occupational stress was signed in Belgium. Its objectives include monitoring of psychosocial burden with surveys and other validated instruments. This project was approved by both employers and worker unions [9]. The 'Fund for Occupational Life' was organized by Swedish government in order to provide good working conditions [l0]. Finland is another country which promotes knowledge of safe working conditions. An educational program for workers and employers, regarding psychosocial risks at a workplace, was initiated in this country [11].

According to World Health Organization recommendations, control of harmful occupational factors should include three basic levels: primary, secondary, and tertiary prevention [12].

Primary prevention should reduce aggression at a work place by offering proper working conditions, associated with high level of occupational safety. Preventive measures should be aimed at reducing the levels of both external and internal aggression.

Aggression can be associated with the dissatisfaction of patients' expectations regarding the level of healthcare, e.g. long waiting times to specialists, lack of reliable information, necessity of paying for certain procedures. Also the way of communication from medical personnel, e.g. using raised voice or autocratic style, may induce the frustration of patients. Even individuals without mental disorders can show negative emotions and aggression under such circumstances [13].

Prevention of aggression within organization should include building positive organizational culture supporting both worker and employer, along with the education of workers with regards to fair-play behaviors and constructive ways of coping with stress at a workplace.

Secondary prevention refers to all activities aimed at improving knowledge and skills of workers. Additionally, this form of prevention includes all activities oriented at alleviation of the negative consequences of occupational stressors [14].

Tertiary prevention includes all activities addressed to individuals who experienced aggression and resultant disorders of health.

The aim of this study was to identify the causes of dissatisfaction with workplace in medical personnel, and to compare the level of the dissatisfaction experienced by nurses and midwives.

Material and methods

The study performed between January, and December 2012 in Podlaskie Province included 246 nurses and 230 midwives employed at open or closed healthcare units.

Detailed characteristics of the participants are presented in Tables, I and II. Participation in this study was voluntarily, and all the procedures were accepted by the Local Bioethical Committee of the Medical University of Bialystok.

The participants were surveyed using our own modification of Subjective Evaluation of Work questionnaire [8]. This survey enables to determine the individual perception of work-related stress. The burdensomeness of each factor is scored using a five-item scale, where ‘1’ corresponds with the absence of a given factor at a workplace, and ‘5’ to respondent’s irritation from the presence of this occupational factor, which extends even outside the work time. Prior to survey, the respondents were instructed on the way of completing the questionnaire [8].

All statistical calculations were performed using the Statistica 7 (StatSoft®, Poland) package.

Results

Midwives between 40 and 45 years of age (28.26%) represented the largest group of our respondents, while the percentage of 20-25-year-old midwives (9.57%) was the lowest.

Women between 35 and 40 years of age (28.05%) were the greatest subgroup of nurses, and the smallest comprised 25-30-year-old women (9.57%; Tab. I).

Midwives and nurses did not differ significantly in the distribution of their educational levels (Tab. II).

Midwives were characterized by significantly higher level of subjectively perceived stress at a workplace (Tab. III)

Too small staff and the necessity of working in a hurry were identified as the most stressful occupational factors for both nurses and midwives (Tab. IV and V).

Table I. Distribution of age in the studied population.

Age	**Midwives**		**Nurses**		**Total**	
	N	%	N	%	N	%
20-25	22	9,57%	32	13,01%	54	11,34%
25-30	25	10,87%	23	9,35%	48	10,08%
30-35	19	8,26%	26	10,57%	45	9,45%
35-40	55	23,91%	69	28,05%	124	26,05%
40-45	65	28,26%	54	21,95%	119	25,00%
45-50	33	14,35%	29	11,79%	62	13,03%
50-55	6	2,61%	12	4,88%	18	3,78%
55-60	5	2,17%	1	0,41%	6	1,26%
Total	230	100,00%	246	100,00%	476	100,00%

Table II. Distribution of educational levels in the studied population.

Education	**Midwives**		**Nurses**		**Total**	
Higher medical education	70	30.43%	92	37.40%	162	34.03%
Other higher education	23	10.00%	20	8.13%	43	9.03%
Secondary education	137	59.57%	132	53.66%	269	56.51%
Vocational education	0	0.00%	2	0.81%	2	0.42%
Total	230	100.00%	246	100.00%	476	100.00%

Table III. Subjectively perceived level of stress at a workplace in the studied population.

Perception of stress	**Nurses**	**Midwives**	**Total**
No	180	140	320
	37.82%	29.41%	67.23%
Yes	66	90	156
	13.87%	18.91%	32.77%
Total	246	230	476
	51.68%	48.32%	100.00%

Table IV. Occupational stressors identified by studied nurses.

Factor	**Stress**		**P**
	No	**Yes**	
Working in a hurry	23.11%	7.35%	0.0014**
Life-saving procedures	13.87%	5.25%	0.0381*
Overloading with duties	15.13%	6.51%	0.0473*
Too small staff	23.95%	10.50%	0.0117*
Inadequate salary	19.96%	7.14%	0.0081**
Interpersonal treatment	13.87%	5.25%	0.0381*
Poor treatment	2.73%	0.84%	0.3836
Lack of equipment	3.82%	2.31%	0.2724

Table V. Occupational stressors identified by studied midwives.

Factor	**Stress**		**P**
	No	**Yes**	
Working in a hurry	19.54%	9.66%	0.0478*
Life-saving procedures	9.87%	5.67%	0.2672
Overloading with duties	9.24%	7.14%	0.5881
Too small staff	18.28%	12.61%	0.2672
Inadequate salary	16.18%	7.03%	0.0433*
Interpersonal treatment	13.24%	7.56%	0.1882
Poor treatment	3.36%	1.47%	0.2019
Lack of equipment	4.20%	4.62%	0.5244

Midwives significantly more often than nurses gave answer ‘very frequently’ when asked if they transferred to a workplace problems experienced at home. However, both professional groups did not differ significantly in the prevalence of answer ‘frequently’ to the this question (Tab. VI).

Table VI. Frequency of transferring to a workplace problems experienced at home in the studied group.

Transferring to a workplace problems experienced at home	**Nurses**	**Midwives**	**Total**
Never	134	112	246
	28.15%	23.53%	51.68%
Sporadically	102	91	193
	21.43%	19.12%	40.55%
Frequently	9	9	18
	1.89%	1.89%	3.78%
Very frequently	1	18	19
	0.21%	3.78%	3.99%
Total	246	230	476
	51.68%	48.32%	100.00%
Chi-square test (p)			0.00062***

Table VII. Frequency of transferring home problems experienced at a workplace in the studied group.

Frequency of transferring	**Nurses**	**Midwives**	**Total**
Frequently	37	31	68
	7,77%	6,51%	14,29%
Very frequently	5	24	29
	1,05%	5,04%	6,09%
Never	79	66	145
	16,60%	13,87%	30,46%
Sporadically	125	109	234
	26,26%	22,90%	49,16%
Total	246	230	476
	51,68%	48,32%	100,00%
Chi-square test (p)			0,00208**

Midwives and nurses did not differ significantly regarding the frequency of transferring home problems experienced at a workplace (Tab. VII).

Table VIII. Subjectively perceived irritation at a workplace in the studied population.

Perception	**Nurses**	**Midwives**	**Total**
No	202	151	353
	42.44%	31.72%	74.16%
Yes	44	79	123
	9.24%	16.60%	25.84%
Total	246	230	476
	51.68%	48.32%	100.00%
Chi-square test (p)			0.0000***

Irritation at a workplace was significantly more frequent in midwives than in nurses (Tab. VIII).

Table IX. Frequency of getting irritated at a workplace in the studied population.

Frequency	**Nurses**	**Midwives**	**Total**
Never	11	18	29
	2.31%	3.78%	6.09%
Sporadically	198	149	347
	41.60%	31.30%	72.90%
Frequently	32	43	75
	6.72%	9.03%	15.76%
Very frequently	5	20	25
	1.05%	4.20%	5.25%
Total	246	230	476
	51.68%	48.32%	100.00%
Chi-square test (p)			0.0003***

Our respondents varied considerably with regards to the frequency of getting irritated at a workplace (Tab. IX).

Table X. Subjectively assessed severity of sleep-related problems in the studied population.

Sleep – related problems	**Nurses**	**Midwives**	**Total**
Never	72	72	144
	15.13%	15.13%	30.25%
Sporadically	140	105	245
	29.41%	22.06%	51.47%
Frequently	24	29	53
	5.04%	6.09%	11.13%
Very frequently	10	24	34
	2.10%	5.04%	7.14%
Total	246	230	476
	51.68%	48.32%	100.00%
	Chi-square test (p)		0.01340*

Both nurses and midwives experienced sleep-related problems at various frequency (Tab. X). Nurses more often than midwives assessed their financial status as good (Tab. XI).

Table XI. Subjectively assessed financial status in the studied population.

Financial status	**Nurses**	**Midwives**	**Total**
Very good	17	21	38
	3.57%	4.41%	7.98%
Good	99	69	168
	20.80%	14.50%	35.29%
Sufficient	94	95	189
	19.75%	19.96%	39.71%
Insufficient	36	45	81
	7.56%	9.45%	17.02%
Total	246	230	476
	51.68%	48.32%	100.00%
		Chi-square test (p)	0.09995

Discussion

Our study revealed that both midwives and nurses experienced stress at their workplaces. Usually the stress resulted from the simultaneous influence of many unfavorable factors including to small staff and the necessity of working in a hurry.

Previous studies of European healthcare personnel revealed that nurses from Slovakia, Greece, and Latvia are exposed to the highest levels of occupational stress. In contrast, the lowest levels of stress were experienced by healthcare personnel from Great Britain, Czech Republic, and Netherlands [2, 6, 7, 9, 10].

A study of Swiss nurses shoed that their occupational stress resulted from the influence of such factors as the necessity of taking care and offering sympathy to patients, interpersonal conflicts with their colleagues, unambiguity of professional role, and improper relationships with supervisors [14, 15].

Another study, conducted at intensive care units from three hospitals in United States, showed that continuous exposure to traumatic events, and prolonged stress are reflected by higher prevalence of post-traumatic stress disorder, anxiety, and depression in nurses [7].

A Korean study of clinical nurses revealed significant association between the level of experienced physical and psychological fatigue, the frequency of uncontrolled manifestation of anger, and the prevalence of depression [12, 16].

Similar findings were documented by researchers from the Institute of Occupational Medicine in Lodz. They observed that individuals who experience aggression at a workplace more frequently report various somatic symptoms (e.g. headache, fatigue), psychological disorders (lack of satisfaction with performed tasks, anger, impression of being valueless), and problems with professional functioning (occupational stress, burnout syndrome) [9, 13, 16].

Our study revealed that both midwives and nurses experienced sleep-related problems at various frequency [16].

The European NEXT-Study (Nurses' Early Exit Study, QLK6-CT-2001-00475) conducted in EU states (Belgium, Finland, France, Netherlands, Germany, Great Britain, Italy, Poland, and Slovakia) and in one non-EU state (Norway) showed that nurses from all these countries experience sleep-related problems [2 ,6, 9]. The deficit of sleep was the lowest in in nurses from Netherlands, and the largest in Slovakian nurses. Sleep-related problems were reported by 47.2% of Polish nurses [2, 6, 7].

Deficiency of sleep is most frequent among hospital personnel employed in a work shift system. The necessity of waking up before 5 a.m. is one significant determinant of sleep deficiency. Due to its psychophysical consequences, work should be started later than at 7 a.m. The problem of starting work too early occurs in Poland and Slovakia. Sufficient duration of sleep in midwives and nurses and is reflected by more effective work and better coping with stress [7, 9].

Previous studies revealed that the demand for sleep decreases with age. Consequently, younger workers are more severely affected by sleep deficiency. Sleepiness during the day is the direct consequence of sleep deficiency and can be reflected by worse functioning of medical personnel during the day [6, 7, 9].

Our study revealed that both midwives and nurses transferred to their workplaces problems experienced at home and vice versa.

Simultaneous performance of social roles of worker and family member requires considerable resources of devotion, time, and optimism. Previous studies revealed that conflicts related to social roles are more frequent among nurses from Finland and Slovakia [1, 5, 9]. The results of Polish studies suggest that conflicts associated with playing social roles occur most commonly among 30-35-year-old nurses. Probably, this age bracket corresponds to the highest levels of professional and private activity [7, 9].

A study conducted by the Finish Institute of Occupational Medicine showed that workers who experience private problems, work less efficiently due to attempts to solve them during working hours [6, 9].

Our findings suggest that changes that would prevent the negative consequences of exposure to unfavorable occupational conditions should be implemented at Polish healthcare units. Both employers and managerial staff at all levels should be involved during the implementation of the repair programs. Systemic solutions should refer not only to the conditions at a workplace but also at home. Activities implemented previously in Scandinavian countries were reflected by many benefits for both workers and employers. Therefore, the implementation of such proven solutions decreasing psychosocial burden at a workplace should be considered in our country [2, 6, 9].

Conclusions

Dissatisfaction with a workplace is determined by the prevalence of sleep-related problems and exposure to stress.

Midwives experience higher levels of occupational stress than nurses.

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PROBLEMS
OF OBSTETRICS
AND PERINATOLOGY

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Awareness of Medical University of Białystok students with regards to sexually-transmitted diseases

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Introduction

Sexually transmitted infections (STIs) are often associated with chronic diseases and can have severe impacts on host reproductive success [1].

For airborne or socially transmitted pathogens, patterns of contact by which the infection spreads tend to be dispersed and each contact may be of very short duration. By contrast, the transmission pathways for STIs are usually characterized by repeated contacts with a small subset of the population [1].

Here we review how heterogeneity in sexual contact patterns can influence epidemiological dynamics, and present a simple model of polygyny/polyandry to illustrate the impact of biased mating systems on disease incidence and pathogen virulence [1].

Sexually-transmitted diseases are listed amongst the most prevalent infectious conditions. In 1999, about 340 million of patients suffered from sexually-transmitted diseases worldwide, including 11.76 million of patients with syphilis, 62.35 million with gonorrhea, 91.98 million with chlamydiosis, and 170 million with trichomoniasis [2, 3, 4].

According to the WHO there are an estimated 448 million new cases of sexually transmitted infections (STIs) which are acquired worldwide annually [2].

If diagnosed in time, these infections can be treated easily with minimal morbidity as well as decreased economic burden. Mycoplasma genitalium is an emerging cause of STIs and has been implicated in urogenital infections of men and women around the world [5].

Due to the wide prevalence of sexually-transmitted infections, their constantly increasing incidence rate, and long-term health and social consequences, conditions of this group constitute an important health problem worldwide [3].

Sexually-transmitted diseases constitute an important health problem as, aside from the consequences associated with acute infection, they can cause numerous long-term effects, including infertility, miscarriage, injuries of the nervous system, and cancers [6].

Due to their wide prevalence and heterogeneity, sexually-transmitted infections constitute an emerging problem [7]. This may be the result of the influence of social and custom-related factors, as well as the inefficiency of healthcare services. Thus, modernized, intensified, and consistent education addressed at both the patients and healthcare personnel can play an important role in the prevention of sexually-transmitted infections [7].

In the course of nursing education, issues related to infections are included only in the basic curricula of microbiology and parasitology [8]. However, only general topics, such as the systematics of pathogens, their morphology and physiology, routes of transmission, and prevention, are covered by the educational programs, which do not focus on the specificity of sexually-transmitted diseases. Only the knowledge on HIV and viral hepatotropic infections is extensively presented [8].

Although information related to genital infections is included in the curricula of obstetrics, gynecology, and obstetrical and gynecological nursing during nursing education, it pertains solely to the inflammatory conditions of the reproductive tract and female infertility [9].

Female youths, particularly adolescent, are more vulnerable to risks of STDs from unprotected sexual activity both biologically and as a result of cultural norms that limit their ability to protect themselves. For instance, in adolescent females, the immature cervix is made up of constantly changing cells which make young females susceptible to certain sexually transmitted organisms. Also, entrenched gender norms continue to constrain young women’s control over their sexual and reproductive lives. Condom use is still infrequent during early premarital sex and is extremely low within early marriage [10, 11, 12, 13].

Condoms are useful in decreasing the spread of certain STDs, such as chlamydia and gonorrhea; however, it does not fully protect against other infections such as genital herpes, genital warts, syphilis, and AIDS [14].

The aim of this study was to assess the level of students’ knowledge regarding the most frequent causes of sexually-transmitted infections.

Materials and methods

The study was conducted between May 1st, 2011 and November 30th, 2011 and included 200 randomly selected students of the Medical University of Bialystok.

The participants studied medicine, nursing, midwifery, and emergency medical services. Males and females aged between 20 and 36 years were enrolled into the study.

The participation was voluntary and anonymous. The study was approved by the Local Bioethical Committee of the Medical University in Bialystok (decision no. R-I-002/306/20011).

The diagnostic survey used the validated SDT-KQ questionnaire, which assesses the knowledge on sexually-transmitted diseases.

The STD-KQ questionnaire was developed by Jaworski & Carem in 2007. The responders were presented with 27 statements, each scored as P – true, F – false, and NW – I do not know.

The overall score were calculated using the attached key. Each correct answer was awarded one point. The maximum available number of points was equal to 27. The false statements included those numbered 1, 2, 5, 7, 10, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, and 26, while the true ones comprised 3, 4, 6, 8, 9, 12, 14, and 27.

The results were analyzed using Statistica 7PL (StatSoft, Poland) package and documented as graphs and tables.

Results

The study included 147 (75.5%) women and 53 (26.5%) men. The age of the participants ranged between 20 and 36 years: 151 students (75.5%) belonged to 20-25 years of age group, 40 (20%) to 26-30 years of age group, and 9 students (4.5%) were aged 31-36 years. Women (63%) predominated amongst our responders.

The participants studied the following subjects at the Medical University of Bialystok: midwifery (n=50, 25%), nursing (n=50, 25%), emergency medical services (n=50, 25%), and medicine (n=50, 25%).

We found that the students possessed the greatest knowledge on the etiology of genital herpes (87.0%), HPV (87.0%), early signs of HIV infection (66.5%), etiology of sexually-transmitted diseases (88%), prognosis after HIV infection (76.5%), pathogenesis of herpes (74.0%), etiology of HIV infection (80.5%), and prevention of type B hepatitis (95.5%).

In contrast, our responders showed insufficient knowledge regarding the etiology of genital warts, as only 2.5% of them replied correctly to this question. The fraction of correct answers regarding the therapy of gonorrheal and *Chlamydia trachomatis* infection was 8% and 13.5%, respectively (Tab. 1).

Table 1. Survey assessing the knowledge on sexually-transmitted diseases (*STD – KQ*) by *Jaworski & Carey, 2007*. Part 1.

Statement	**True**		**False**		**I do not know**		**No.**
	n	**%**	**n**	**%**	**n**	**%**	
Genital herpes is caused by the same virus as HIV infection.	6	3.0%	174	**87.0%**	20	10.0%	1
Frequent urinary tract infections increase the risk of chlamydial infection.	70	35.0%	65	**32.5%**	65	32.5%	2
There is no treatment for gonorrhea.	16	8.0%	150	**75.0%**	34	17.0%	3
Individuals who are affected with other sexually-transmitted infection are more prone to HIV infection.	66	**33.0%**	92	46.0%	42	21.0%	4
The terms “human papilloma virus (HPV)” and “HIV” refer to the same pathogen.	5	2.5%	174	**87.0%**	21	10.5%	5
Anal intercourse is associated with increased risk of type B viral hepatitis.	59	**29.5%**	73	36.5%	68	34.0%	6
Genital (penile or vaginal) ulceration develops shortly after HIV infection.	14	7.0%	133	**66.5%**	53	26.5%	7
There is no treatment for chlamydiosis.	27	13.5%	123	**61.5%**	50	25.0%	8
Woman with genital herpes can transmit this condition to her neonate at birth.	136	**68.0%**	27	13.5%	37	18.5%	9
Woman can suspect gonorrheal infection solely on the basis of self-observation of her body.	87	43.5%	61	**30.5%**	52	26.0%	10
All sexually-transmitted diseases are caused by the same virus.	9	4.5%	176	**88.0%**	15	7.5%	11

Human papilloma virus (HPV) can cause genital warts.	5	**2.5%**	174	87.0%	21	10.5%	12
Use of special condoms (the so-called Lambskin – made of lamb intestines) protects against HIV infection.	33	16.5%	109	**54.5%**	58	29.0%	13
Human papilloma virus (HPV) can cause cervical cancer.	140	**70.0%**	28	14.0%	32	16.0%	14

Table 1. Survey assessing the knowledge on sexually-transmitted diseases (*STD – KQ*) by *Jaworski & Carey, 2007*. Part 2.

Statement	**True**		**False**		**I do not know**		**No.**
	n	**%**	**n**	**%**	**n**	**%**	
Genital warts can be transmitted solely during vaginal intercourse.	40	20.0%	100	**50.0%**	60	30.0%	15
Problems related to sexually-transmitted diseases are usually more serious in men than in women.	39	19.5%	101	**50.5%**	60	30.0%	16
Women can suspect chlamydial infection on the basis of unpleasant vaginal smell.	57	28.5%	79	**39.5%**	64	32.0%	17
Further course of the disease can be predicted on the basis of positive HIV testing.	12	6.0%	153	**76.5%**	35	17.5%	18
There is a vaccine which prevents gonorrhea.	14	7%	133	**66.5%**	53	26.5%	19
Women can suspect sexually-transmitted disease (venereal disease) solely on the basis of self-observation of her body.	112	56.0%	55	**27.5%**	33	16.5%	20
Genital ulceration is a prerequisite for	12	6.0%	148	**74.0%**	40	20.0%	21

genital herpes transmission to the sexual partner.							
There is a vaccine which prevents chlamydial infection.	9	4.5%	120	**60.0%**	71	35.5%	22
Type B hepatitis can be detected solely on the basis of somatic symptoms.	35	17.5%	127	**63.5%**	38	19.0%	23
Individuals with a history of gonorrhea are protected against another gonorrheal infection.	12	6.0%	142	**71.0%**	46	23.0%	24
Human papilloma virus (HPV) can cause HIV.	7	3.5%	161	**80.5%**	32	16.0%	25
Washing genitals after sexual intercourse is sufficient to protect against the transmission of genital warts.	14	7.0%	132	**66.0%**	54	27.0%	26
There is a vaccine which protects against hepatitis type B.	191	**95.5%**	0	.0%	9	4.5%	27

Discussion

Sexually transmitted diseases (STDs) are a major health problem affecting mostly young people, not only in developing, but also in developed countries [15]. Evidence from anthropological and ethological studies suggests that there is much heterogeneity in sexual behaviour of humans and animals, both in rates of sexual activity and in patterns of sexual contact [16, 17, 18, 19]. Polygynous and polyandrous mating systems are particular examples, where one sex tends to have a much higher variance in partner acquisition rate compared with the other sex [16, 17, 18, 19]. Some people carry the infection for long period and during this time; an infected individual can spread the disease [20]. Complications of STIs include inflammation of pelvic and cervix in women, inflammation of urethra and prostate in men, and fertility and reproductive system problems in both sexes. Also, infants may be infected in the womb or during birth with possible consequences include still birth, blindness, and permanent neurological damage [20].

Five of the studies reviewed assessed the knowledge of participating adolescents on STDs in general [21]. In the England study, all in all 59.7% of the participants knew that

STDs in general can be symptom-free. Among girls, knowledge was higher among year 11 than year 9 pupils, while the opposite was true for boys. The proportion of boys in year 9 who knew this fact (64.2%) was considerably higher than that of year 9 girls (53.8%) [21].

Reports on students' knowledge with regards to sexually-transmitted diseases is sparse. Publications dealing with doctors' knowledge on HIV and AIDS can be found sporadically in Polish and foreign literature. The results of our study provide additional evidence of the urgent need to continue to educate adolescents about reproductive health issues. The findings of the study indicate that young people have great worries about their reproductive life and mistrust the available methods. This study has shown fairly good and consistent knowledge about genital chlamydia infections but inferior knowledge regarding viral infections, especially HPV. Although good knowledge is a necessary prerequisite for safe sexual behaviour it does not in itself ensure an adequate protective behaviour. Most women seem to have been at a higher risk for STD transmission as teenagers.

Methods of promoting health care-seeking behaviour include: national and local media campaigns; education for youth in and out of school; community initiatives (e.g. peer education initiatives, clubs); education in health facility waiting areas; education as part of the STD clinical consultation; education targeted at populations with behaviours putting them at increased risk (e.g. sex workers and clients); workplace AIDS/STD education programmes. Messages on health-seeking behaviour alone may not be enough to motivate people to use clinical services for STD. Other complementary measures will need to be put in place concurrently. Most important among them is improvement of the provision of health services. The exact form of an STD programme will depend on the general health care system. The existence of a clearly defined management structure, however, is crucial to the success of STD control. It is recommended that there be a specific budget allocation. The implementation of programmes should be decentralized as far as possible, but the areas for which the central management structure will remain responsible may include: political advocacy; national policy decisions, including selection of priorities in the implementation of activities; allocation of resources for prevention and treatment of STDs; planning and guidance on routine service delivery and necessary referral systems; ensuring sustainability of services; planning of specific activities for STD control (e.g. interventions targeted at vulnerable groups); developing and monitoring training; developing and distributing guidance on case management; ensuring that recommended drugs are available; supervision of coverage and quality of services; situation analysis, and ensuring that essential operational research is performed; surveillance systems; evaluation of the programme. Thus, ideally, the role of the national programme management involves promotion, implementation, planning and coordination [13].

According to Wdowiak et al. [22], students represent low level of knowledge on chlamydiosis (as many as 50.1% of the participants), *Trichomonas vaginalis* infections (44%), and syphilis (38.7%), and intermediate level of knowledge with regards to HIV (69.3%), HPV (43.5%), and gonorrhea (44.7%). Our study revealed that 87% of students possess considerable knowledge on HIV and HPV and are able to distinguish between these two pathogens.

The reported awareness of HPV among the surveyed adolescents was generally low (identification from given list), ranging from 5.4% in the study by Höglund et al. [23] to 66% in the study by Pelucchi et al. [24]. In the two studies which also reported results for females and males separately, awareness was observed to be statistically significantly higher among females than among males: 16.4% vs. 9.6% in the Swedish study by Gottvall et al. [25] and 71.6% vs. 51.2% in the Italian study by Pelucchi et al. [24]. In the study by Höglund et al., only one of the participating 459 adolescents mentioned HPV (in response to an open question on known STDs) [23]

According to Markowska et al. [8], 75.3% of nurses are aware that gonorrhea is not always asymptomatic, and 39.5% knew that a woman can suspect chlamydial infection on the basis of unpleasant vaginal smell.

Our study revealed extremely low level of knowledge related to chlamydial infections; only 13.5% of the responders replied correctly to the question on the treatment of this condition. Additionally, only 30.5% of the participants correctly identified the signs of gonorrhea.

In the study performed by Selwet et al. [26], the responders had the greatest difficulty with listing the signs of sexually-transmitted diseases. As many as 40% of the participants were unable to identify any of these signs, 44% of them reported solely genital itching, 34% tingling, and 20% non-physiological genital discharge [26].

In our study, 39.5% of the responders gave correct answer to the question on the signs of chlamydial infection.

In Dyk's study, 97.1% of the participants correctly identified the main routes of HIV infection, and 78.6% of them responded correctly to the question about the prevention of infection with this pathogen [27]. According to Marek et al. [28] high school students had generally better knowledge on HPV: 30% of males and 50% of females were aware of this infection. Only half of those (50.4%) who had heard of HPV prior to the survey knew that HPV may induce cervical cancer. The relation between HPV infection and genital warts was even lesser-known (27.8%). These authors observed a remarkable confusion in the consideration of HPV infection as a venereal disease. About 70–75% of students thought HPV infection to be a venereal disease and 25–30% did not. Furthermore, one in five students (19.4%) did not even believe that HPV infection may cause cervical cancer.

WHO STD programmes should: deliver primary prevention activities (promotion of safer sexual behaviour, condom provision) in conjunction with National AIDS Programmes; promote accessible, acceptable and effective case management of persons with STD through public and private health care systems, including first-level health care, using simple algorithms based on syndromic diagnosis; include STD prevention and care services in maternal and child health, antenatal and family planning services; target acceptable and effective STD care services to populations identified as being particularly vulnerable to infection with STDs, including the human immunodeficiency virus (HIV); promote early STD health care-seeking behaviour together with education related to sexual behavior [13]. Our study revealed high level of knowledge on HIV infection etiology since as many as 80.5% of our students responded correctly to the relevant question. However, the percentage of correct responses regarding the prevention of HIV infection was only 54.5%.

Conclusion

The education standards of future healthcare personnel should be expanded to include topics related to the signs and treatment of sexually-transmitted diseases.

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Female infertility as a psychological problem

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Introduction

According to the World Health Organization (WHO), infertility is defined as inability to conceive despite 12 months of regular sexual intercourse (3-4 times per week) without any contraception [1].

According to worldwide estimates, the problem of infertility concerns 10-18% of couples, corresponding to reproductive problems in every sixth marriage. In many European countries, the prevalence of infertility has been a subject of extensive epidemiological studies conducted between 1988 and 1999. The prevalence of female infertility was estimated at between 5% and 8% in Norway, Romania, Czech Republic, and Ukraine, above 10% in Denmark, Finland, Sweden, and Canada, and 18% in Switzerland. However, the epidemiological data on the prevalence of infertility in Poland is lacking. Therefore, the epidemiological figures characterizing the problem in question amongst Polish couples have to be derived from the estimates of European Society of Human Reproduction and Embryology (ESHRE). According to this data source, the infertility affects 10-15% of Polish couples, which corresponds to approximately 1 million of couples of reproductive age. However, research suggests that only 19% of infertile couples seek specialist medical help [2, 3, 4].

Within the past few decades, a new and far-reaching phenomenon has been observed in which an increasing number of women start a family relatively late in their reproductive lives. Today, this delay in childbearing is socially accepted and relates primarily to increased opportunities for education, career choices and effective birth control measures. However, advanced age is a well-known risk factor for infertility. Moreover, the success rates of elderly women in programmes of assisted reproductive techniques are relatively low in comparison with their younger counterparts [5, 6, 7, 8, 9]. It is beyond dispute that both the diagnosis and therapy of infertility put a heavy psychological and physical burden on most patients [10, 11, 12, 13]. Many authors believe infertility causes a life crisis for the couples concerned, others consider it the most stressful event in patients' lives, on a par only with divorce or the death of a loved one [14, 15, 16]. In order to overcome the crisis, patients often need to reorientate themselves and re-organise the situation [17].

Infertility can represent both a cause and consequence of emotional disorders [18]. Parenthood constitutes an important stage of psychosexual and social development in women and men, giving them an opportunity to realize their life plans and satisfy many of their needs [19, 20]. The inability to possess a child is not only associated with unsatisfied requirements related to the female and male biological roles, but is also reflected by the loss of potential object of love, lower self-esteem, doubts related to one's level of body fitness, and the fear of losing control over the implementation of life goals [19]. According to literature, couples who attempt to conceive are exposed to three basic social burdens: mental, social, and existential frustration [20]. Some authors also include the economical frustration as the costs of infertility treatment, and particularly assisted reproduction techniques, are extremely high. The process of evaluating and treating infertility represents the other important issue; it can be extremely harmful to the couple affected with this condition. Aside from being invasive, the procedures related to the evaluation and treatment of infertility constitute huge interference in the intimate and private life of infertile couple, and affect their system of values as well as ethical and moral standards [20, 21].

The aim of this study was to use the General Health Questionnaire to identify the psychological consequences associated with the evaluation and treatment of infertility.

Materials and methods

The questionnaire survey included 99 randomly selected women, who were diagnosed and treated due to infertility at the Gynaecology Department of the University Clinical Hospital in Bialystok between November 1st, 2010 and March 1st, 2011. The responders were informed that the participation in the study is anonymous, and that they can withdraw at any stage. The survey was approved by the Local Bioethical Committee of the Medical University in Bialystok (decision no. R-I-002/593/2010).

The study involved the validated General Health Questionnaire developed by Goldberg [22]. This instrument is used to examine the mental health of adults, and is characterized by good psychometric parameters. The questionnaire was developed as a screening tool to identify individuals whose mental status was temporarily or persistently disrupted due to experienced difficulties, problems, or mental disorder.

Two versions of GHQ questionnaire were used. The short version (GHQ-12) comprised 12 questions regarding the state of mental health, and allowed for distinguishing between mentally “normal” and “impaired” individuals. The longer version (GHQ-28) included 7 statements grouped in 4 scales. This instrument enables comprehensive identification of problems related to somatic symptoms, anxiety, sleeplessness, functional disorders, and depressive symptoms. Each of the statements included in GHQ-12 and GHQ-28 questionnaires was scored on a 4-item scale by choosing the following answers: better than usual, (the same) as usual, worse than usual, and significantly worse than usual. The abovementioned categories, presented as columns in the questionnaire, were scored as 0-0-1-1 points, respectively. The higher is the final score, the greater is the probability of mental disorders in a given individual [22].

The cut-off point of GHQ-12 questionnaire was set at two-thirds of the available points, which means that only women who scored higher than 2 points were qualified as presenting with a mental disorder. In the case of GHQ-28 questionnaire, the cut-off value was set at five-sixths of the available points; therefore, women with more than 5 points were classified as having a mental disorder. Examination with the longer version of GHQ (GHQ-28) allowed for the identification of disorders related to anxiety and sleeplessness (scale B), somatic disorders (scale A), and rarely documented depressive type of disorders (scale D).

Statistical analysis

Continuous variables (GHQ-12 and GHQ-28 scores) were presented as arithmetic means and their standard deviations (SD). Normal distribution of the continuous variables was verified with the Shapiro-Wilk test. The influence of grouping variables (number of previous pregnancies and their outcome, knowing the cause of infertility, number of diagnostic tests performed) on mean values of continuous variables was analysed with the Mann-Whitney U-test or Kruskal-Wallis test. The qualitative variables (fractions of patients whose mental status was classified as poor or good according to GHQ-12 and GHQ-28 scores) were presented as numbers and percentages. The influence of the grouping variables on the distribution of the qualitative variables was analysed with the Pearson’s chi-square test or the Fisher’s exact test. All calculations were conducted with Statistica 7 package (StatSoft, Poland), with the level of statistical significance set at $p<0.05$.

Results

The analysis of the short version of the General Health Questionnaire (GHQ-12) revealed the signs of mental disorders in as many as 60.6% of the examined women. The results of the longer version of the General Health Questionnaire (GHQ-28) also suggest that 59.6% of the participants were characterized by increased level of the so-called mental distress. Mean scores of GHQ-12 and GHQ-28 in the examined women were equal to 4.46 (SD=3.96) and 8.66 (SD=7.11), respectively (Tab. 1).

Table 1. General health status of the studied women according to GHQ-12 and GHQ-28 questionnaires.

	n	mean	SD	minimum	median	maximum
GHQ-12	99	4.46	3.96	0	4	12
GHQ-28	99	8.66	7.11	0	8	26
GHQ-28A	99	2.40	2.06	0	2	7
GHQ-28B	99	2.89	2.45	0	3	7
GHQ-28C	99	2.13	2.26	0	1	7
GHQ-28D	99	1.23	1.54	0	0	7

Mental status of the examined women was not influenced by the number of previous pregnancies as this parameter did not significantly affect the mean scores of GHQ-12 and GHQ-28, as well as the distribution of women in poor and good mental status (p=0.213 and p=0.582, respectively) (Tab. 2).

Table 2. Influence of the number of previous pregnancies on GHQ-12 and GHQ-28 scores.

Number of pregnancies	GHQ-12		GHQ-28	
	mean	SD	mean	SD
0	4.00	3.79	7,97	7,08
1	5.83	4.33	10,50	6,86
2	6.14	4.18	11,14	8,63
3	(-)	(-)	6,00	(-)
5	6.00	(-)	10,00	(-)
p-value	0.213		0.582	

Additionally, the outcome of previous pregnancies did not have a significant influence on the scores of GHQ-12 and GHQ-28 and the distribution of patients in poor and good mental status. The only exception pertained to the subgroup of women with a history of induced miscarriage: patients from this group were characterized by higher (at a border of statistical significance, p=0.05) mean value of GHQ-28 score (Tab. 3).

Table 3. Influence of the previous pregnancy outcome on GHQ-12 and GHQ-28 scores.

Medical abortion	GHQ-12		GHQ-28	
	mean	SD	mean	SD
no	5.35	4.11	9.39	6.50
yes	7.75	4.72	16.75	7.23
p-value	0.300		0.050	

Our analysis revealed that patients who were aware of the cause of their infertility were characterized by significantly higher scores of GHQ-28 (p=0.011). However, similar relationship was not observed in the case of GHQ-12 questionnaire (p=0.412, Table 4).

Table 4. Influence of knowing the cause of infertility on GHQ-12 and GHQ-28 scores.

Known cause of infertility	GHQ-12		GHQ-28	
	mean	SD	mean	SD
no	4.14	4.11	6.88	6.02
yes	4.80	3.81	10.47	7.72
p-value	0.412		0.011	

Furthermore, it was observed that the number of diagnostic tests performed in the studied women had a significant influence on the mean values of both GHQ-12 (p=0.007) and GHQ-28 scores (p=0.002) (Tab. 5).

Table 5. Influence of the number of diagnostic tests performed in the studied women on GHQ-12 and GHQ-28 scores.

Number of diagnostic tests	GHQ-12		GHQ-28	
	mean	SD	mean	SD
1	1.43	2.30	3.71	3.30
2	2.81	4.11	4.95	6.45
3	4.48	3.39	8.62	6.25
4	5.57	4.01	11.07	8.74
5	5.21	3.51	10.57	6.25
6	5.75	4.71	10.00	6.09
7	11.00*	1.00	20.67*	4.73
8	4.33	3.79	10.67	7.51
p-value	0.007		0.002	

Discussion

Several studies have investigated gender differences in psychosocial responses of couples in treatment for infertility. In general, men were found to be less motivated than their partners towards fertility treatments [23, 24].

Stoleru et al. [23] concluded that in women, stress factors reflected reactive changes to infertility, whereas in men, stress and sexual problems represented aetiological factors. It is possible that among the male population, occupational stress serves as an aetiological factor, while in women it might be a consequence of their infertility status.

GHQ questionnaires are frequently used for research purposes and allow for the identification of individuals at increased risk of mental disorders in a given population [22]. Mean scores of the short (GHQ-12) and long version of General Health Questionnaire (GHQ-28) in our women were found to be 4.46 and 8.66, respectively. These values correspond to the signs of the so-called mental distress, i.e. transient or persistent inability related to normal, healthy functioning. Assessment with GHQ-28 questionnaire identified the most frequent health-related problems, such as anxiety and sleeplessness, somatic disorders, and behavioural problems. However, few women showed depressive disorders. Similar findings were previously reported by Łepecka-Klusek et al. [25] who observed a prevalence of post-traumatic stress disorder in a group of infertile couples. Also, Janczur-Bidzan and Bielawska-

Batorowicz [26, 27] confirmed that the diagnosis of infertility and the necessity of treatment represent huge stress to the infertile couples.

According to Domar et al. [28] the prevalence of depression amongst infertile women is twice as high as in the controls; additionally, they are characterized by higher scores in depression-related scales. In the study conducted by these authors, the highest scores of depression were documented in patients with infertility of unexplained aetiology [28]. In our study, the incidence of mental disorders (significantly higher mean values of GHQ-28 scores) was observed in those patients who were aware of the cause of their infertility. The association between infertility and mental disorders was previously confirmed by Guerra et al. [29] and Connolly [30]. In a group of 110 infertile couples, Guerra et al. revealed mental disorders in 61.1% of women and 21% of men. However, these individuals were most frequently diagnosed with adaptation disorders rather than with depression. The incidence of mental disorders correlated positively with the number of treatment cycles, type and duration of infertility, and female gender. Moreover, women showed more signs of mental disorders than their partners, and were the only gender affected with dysthymia, and somatomorphic and conversion disorders. Also, other authors point to the more frequent occurrence of mental disorders in women as compared to men, as women are more involved in the therapeutic process of infertility and more prone to severe emotional reactions (e.g. anxiety, fear, depression) [29, 30].

Janczur-Bidzan [26] used the Minnesota Multiphasic Personality Inventory (MMPI) and the STAI CD self-assessment questionnaire to examine 120 women, and observed that while individuals treated for infertility lack pathological personality traits, they are characterized by higher level of anxiety as compared to healthy controls. This suggests that only the group of women profiled as possessing pathological traits shows the signs of poorer life adaptation, higher levels of psychological stress and anxiety, and difficulties with accepting the female role [26].

Our study revealed that the number of diagnostic tests for infertility exerts a significant impact on both the mean values of GHQ-12 and GHQ-28 scores, and the fraction of patients in poor mental status. In the case of all these parameters, a greater number of performed tests were reflected by poorer mental status of participating women. Nearly one half of women included in the study conducted by Downey et al. [31] reported that the subjectively-assessed quality of sexual life was significantly diminished during the assessment of infertility; this pertained also to the deterioration in the mood of 75% of the participants. According to other authors, infertile women show higher levels of anxiety and depression as compared to the general population, and these characteristics manifest during the evaluation and treatment of infertility. Observed negative emotional reactions include frustration and anger, lower self-esteem, stress, chronic fatigue, interpersonal problems, and obsessive thoughts [26].

Conclusion

Due to the presence of the signs of mental disorders in women diagnosed and treated due to infertility, the therapeutic process needs to be modified, and clinical psychologists and/or psychiatrist should be included in the therapeutic team.

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Quality of life and the prevalence of menopausal symptoms and depressive disorders in perimenopausal women

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Introduction

According to the 1996 WHO definition, menopause refers to the last normal menstrual bleeding in woman's life [1]. Problems associated with perimenopausal period affect many millions of women. According to the current demographic evidence, about 25 million of women worldwide enter this period every year; moreover, recent data revealed evident growing tendency in the percentage of at least 50-year-old women in all regions. The yearly increase in this fraction is estimated at 2.65% [2].

The transition from the reproductive to the non-reproductive stage is the result of a reduction in the female hormonal production by the ovaries. This transition is normally not sudden or abrupt, it tends to occur over a period of years, and it is a natural consequence of aging. However, for some women, the accompanying signs and effects that can occur during the menopause transition years can significantly disrupt their daily activities and their sense of well-being [3].

The perimenopausal symptoms can cause many medical and psychological problems; moreover, they affect the quality of life and self-esteem. The objective assessment of the health-related quality of life includes the type of condition and the severity of its symptoms, and resultant functional, social, and economic limitations. Accordingly, the health status or the degree of its loss and potential presence of disability of various degrees can be defined. The subjective assessment of health status is used to determine the quality of life [4].

Modern women have numerous roles and tasks. Their health and good functioning are important not only in terms of individual needs, but also from the social point of view. Middle-aged women represent a significant fraction of the society, which is associated with an increased scope of their roles and responsibilities. Women function as mothers, wives, workers, and caregivers of older individuals. This overload with various roles and menopausal period can be reflected by difficulties in mental and somatic functioning, and lead to depressive symptoms [5].

Depression is defined as an impairment of emotional life, manifested mostly by the feeling of sadness, depression, and discouragement. Moreover, it can be associated with problems with expressing joy, satisfaction, and pleasure [6, 7].

Due to its atypical clinical manifestation, the perimenopausal depression is referred to as the masked depression. It has a high prevalence during the climacterium, among others, as a result of the similarity between the symptoms of depression and estrogen deficiency. The spectrum of symptoms includes sleeplessness, mood changes, anxiety, irritability, problems with concentration and memory, and the loss of libido [8, 9].

Menopausal women reported fewer problems and ill health than expected in one study: 80% of the women did not to report depression or 60% did not report hot flushes. In another, 95% of otherwise productive 52–56-year-old and up to 64% of 42–46-year-old women reported that they suffered from mild, moderate, or severe climacteric symptoms [10, 11].

The Menopause Rating Scale is a health-related Quality of Life scale developed in the early 1990s and step-by-step validated since then. Recently the MRS scale was validated as outcomes measure for hormone therapy. The suspicion however was expressed that the data were too optimistic due to methodological problems of the study. A new study became available to check how founded this suspicion was [12, 13].

The aim of this study was to analyze the quality of life, occurrence of menopausal symptoms, and depressive disorders in perimenopausal women.

Materials and methods

The study included 200 perimenopausal women between 45 and 65 years of age. The participation in the study was voluntary and anonymous. The study was conducted between April and December 2010 in Podlaskie province, amongst the patients of Gynecological Wards of J. Śniadecki Voivodeship Specialist Hospital in Bialystok, and the Clinic of Gynecology at the University Clinical Hospital in Bialystok. The protocol of the study was approved by the Local Bioethical Committee (decision no. R-I-002/584/2010).

We used the validated Menopause Rating Scale (MRS), which includes 11 statements referring to the prevalence of hot flushes/sweating, cardiac problems, sleeping problems, depressive mood, irritability, anxiety, physical and mental fatigue, sexual problems, urinary bladder problems, vaginal dryness, and the discomfort of joints and muscles. The participants assessed the severity of each of those symptoms in a 4-item scale, where 0 corresponded to the lack of a given syndrome, and 1 to 4 described its severity (mild, moderate, severe, or extremely severe, respectively).

The maximum overall score (44 points) corresponded to the maximum severity of complaints, while 0 points meant the lack of menopausal symptoms. Additionally, depending on the nature of symptoms, their severity was classified in three dimensions: psychological symptoms (depression, irritability, anxiety, physical and mental fatigue; 0 to 16 points), vegetative symptoms (hot flushes/sweating, cardiac problems, sleeping problems, discomfort of joints and muscles; 0-16 points), and urogenital symptoms (sexual problems, urinary bladder problems, vaginal dryness; 0 to 12 points) [12, 14, 15, 16].

Additionally, the participants completed the Utian Quality of Life (UQOL) questionnaire, a standardized and useful clinical instrument enabling the assessment of the quality of professional life, health, emotional life, and sexual life. The scale was developed by Utian et al. [17] and was approved by the North American Menopause Society (NAMS) in 2002. The questionnaire comprises 23 statements, each assessed in a 5-item scale. Each statement represents one of four subscales (professional life, health, emotional life, sexual life). The global score is determined on the basis of mean number of points for each subscale and its standard deviation (SD). The global quality of life is classified as low, moderate, or high [18, 19, 20, 21]. Finally, the participants were examined with Beck Depression Inventory, which assesses patient's mood during the previous day; this scale is widely used in psychiatry as a measure of depressiveness. The scale comprises 21 statements referring to the current mood of the responder. Each statement is graded in a 4-item scale (from 0 to 3 points), depending on its severity. The sum of points corresponds to the level of depressiveness: lack of depression (0-11 points), mild depression (12-19 points), moderate depression (20-25 points), or severe depression (26 points and above) [22, 23].

The statistical analysis conducted with SPSS 12.0 package included the parametric tests for the means, analysis of correlation, and multiple regression analysis. The statistical significance of all tests was set at $p<0.05$.

Results

Examination with validated MRS questionnaire revealed that sleeping problems (12%) represent the most frequent complaint of the examined patients, followed by sexual problems (11.4%), vaginal dryness (11.1%), and urinary bladder problems (11%). Less frequently reported symptoms included irritability (10.7%), anxiety and hot flushes (10.4%), discomfort of joints and muscles (10.2%), depressive mood (9.7%), physical and mental fatigue (9.2%), and cardiac problems (8.8%) (Tab.1).

Table 1. Prevalence of symptoms reported in the MRS scale.

Question no.	**Score**	**Psychological symptoms**		**Somatovegetative symptoms**		**Urogenital symptoms**		**Overall**	
		n=200	%	n=200	%	n=200	%	n=200	%
1				334	10.4%			334	10.4%
2				280	8.8%			280	8.8%
3				384	12.0%			384	12.0%
4		310	9.7%					310	9.7%
5		342	10.7%					342	10.7%
6		333	10.4%					333	10.4%
7		294	9.2%					294	9.2%
8						274	11.4%	274	11.4%
9						263	11.0%	263	11.0%
10						266	11.1%	266	11.1%
11				325	10.2%			325	10.2%
Sum of points		1279	40.0%	1323	41.3%	803	33.5%	3405	114.8%

Analysis of the Utian Quality of Life score revealed that mean professional life score was equal to 21 out of 25 available points. The responders also assessed their health status and its influence on their quality of life. Mean quality of life score for this dimension was 20 out of 21 available points. Mean scores for emotional life and sexual life dimensions amounted to 19 out of 20 points and 9 points, respectively. Mean global quality of life score (including professional, health, emotional, and sexual sphere) was 69 points (Tab. 2).

Table 2. Quality of life according to the Utian Quality of Life scale.

	Lower quality of life				**Higher quality of life**
	-2SD	-1SD	Mean	+1SD	+2SD
Professional life	9	15	21	27	33
Health	12	16	20	24	28
Emotional life	11	15	19	23	27
Sexual life	3	6	9	12	15
Total	45	57	69	81	93

The examination with Beck Depression Inventory revealed that high percentage of patients (30%, n=60) showed the signs of severe depression. Mild and moderate depression was detected in 53 (26.5%) and 30 (15%) responders, respectively (Table 3).

Table 3. Severity of depression determined with Beck Depression Inventory.

Beck Depression Inventory		
		%
Lack of depression	0-11 points	28.5%
Mild depression	12-19 points	26.5%
Moderate depression	20-25 points	15.0%
Severe depression	26 and more points	30.0%

Discussion

The overall health and wellbeing of middle-aged women have become a major public health concern around the world. More than 80% of the women experience physical or psychological symptoms in the years when they approach menopause, with various distress and disturbances in their lives, leading to a decrease in the quality of life [3].

Climacterium is associated with an array of neurovegetative and psycho-emotional disorders. These problems can lead to numerous diseases and cause difficulties in adaptation to external environment; moreover, they can be reflected by a diminished quality of life [24]. This study revealed that the severity of symptoms affecting somatovegetative and psychological sphere is usually moderate, while the urogenital symptoms are mild. Most commonly, our responders reported problems with sleep (12%), sexual problems (11.4%), vaginal dryness (11.1%), and bladder problems (11%). In another MRS questionnaire study examining 358 Asian (Malaysian) women between 40 and 65 years of age, the most frequently reported complaints included discomfort of joints and muscles (80.1%), physical and mental fatigue (67.1%), and sleeping problems (52.2%) [25]. The MRS scale was also used by Wanderlein and Clauder, who examined 716 German women aged between 40 and 70 years. Similar to the Asian study, the discomfort of joints and muscles was reported most frequently (24%), followed by sexual problems (16%) [26]. In the study conducted by Chow et al. [27] the most frequently reported symptoms included back pain (68%), fatigue (59%), loss of memory (55%), vaginal dryness (50%), hot flushes (49%), sleeplessness (46%), loss of libido (46%), skin dryness (41%), and depression (40%).

Our previous study also revealed mild intensity of somatovegetative symptoms (33.3%); the most frequently reported complaints included psychological (37.8%) and urogenital problems (49.5%) [28].

Using the Utian Quality of Life (UQOL) scale, we found that the professional life score equaled to 21 out of 25 available points. The UQOL scores for health status, emotional life, and sexual life amounted to 20 out of 21, 19 out of 20, and 9 points, respectively. Mean average score of all domains of life was 69, with the available scores ranging between 45 and 93 points.

Saton et al. [29] analyzed the quality of life of Japanese women and observed that increasing severity of climacteric symptoms associated with perimenopausal and postmenopausal period is associated with marked decrease in all possible spheres of the quality of life. According to Blumel [30], the perimenopausal period is associated with 3.48-fold risk of diminished quality of life in its psychosocial domain, 5.72-fold risk of physical functioning deterioration, and 3.24-risk of decreased quality of life in the sexual domain. The quality of life in physical and sexual sphere diminishes with age. According to Wilkund et al. [31], the quality of female's life changes markedly during the perimenopausal period, and the signs of climacterium play an important role in this process. Lai et al. [32] revealed a significant decrease in the quality of life with regards to physical, mental, social, and environmental functioning; however, they did not confirm the role of the vasomotor symptoms.

Our study revealed high severity of depressive symptoms in the examined women. Beck Depression Inventory assessment showed that 60 women (30%) were affected with severe depression. Another 53 participants (26.5%) had mild depression, and 30 women (15%) suffered from moderate depression.

According to Sprawka et al. [33], the depressive symptoms occur in 35% of premenopausal women (45-49 years of age) and in 55% of postmenopausal patients.

Jagielska et al. [34] used the Beck Depression Inventory to examine 61 women with the manifestations of climacterium; they observed that 45.9% of their participants suffered from mild depression, 34.42% had no depressive symptoms, and 9.84% were affected with moderate to severe depression. Signs of depression were not documented in 32% of 183 women aged between 45 and 65 years examined by Bielawska-Batrowicz; 44% of her participants suffered from mild depression, and 24% were diagnosed with moderately severe depression [35].

In the study by Kulesza-Brończyk et al. [28] no depression was documented in 64.4% of women from Podlaskie province. Mild depression was observed in 12.8% of the participants, and moderate and severe depressive disorders were diagnosed in 5.2% and 2% of the subjects, respectively.

Conclusion

The menopause, a natural life change, represents the beginning of a new phase of a woman's life in which, with a positive attitude, she may fulfil many life ambitions that she has previously not had the opportunity to pursue. The age of menopause has not changed in past centuries; however the life span has gradually increased. Today's women spend one third of their life time after menopause. Menopausal symptoms, signs of depression, and diminished quality of life determine poor psychosocial functioning and require psychological support.

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Influence of general exercise on the course of perinatal period

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Introduction

The American College of Obstetricians and Gynecologists (ACOG) has published a set of guidelines for exercise during pregnancy and the postpartum period. These recommendations are made for women who do not have any additional risk factors for adverse maternal or perinatal outcome [1]. During pregnancy, there is a progressive lumbar lordosis causing a displacement in the woman's center of gravity. To compensate for the lordosis, pregnant women increase the anterior flexion of the cervical spine and abduct the shoulders [2]. These anatomical changes may cause low pain because of the increased strain on the muscles and ligaments of the vertebral column. In addition, there is increased laxity of joints and ligaments, especially the interspinous and sacroiliac joints, pubic symphysis, knees, and ankles [3].

Physical activity of pregnant women, appropriate preparation to delivery, and rehabilitation during puerperium markedly improve the quality of life in this group. Due to the increase in body weight, the progression of pregnancy is associated with reversible changes in spinal curvatures. Furthermore, an increased strain on the knee, tarsal, and metatarsal joints is observed, frequently leading to pain. As a result of increasing pelvic diameter, the center of gravity displaces in anterior-inferior direction [4, 5, 6]. Cervical or lumbosacral pain constitutes the most frequent complaint amongst pregnant women [7]. Various physiotherapy modalities are used to alleviate the spinal pain, including massage (allowed from the second trimester) of cervical and lumbar spine, kinesiotherapy, respiratory exercise, and general exercise [8, 9, 10].

Moderate physical activity in the form of physical and respiratory exercise, walking, swimming, Pilates, and yoga is recommended for women with low-risk pregnancies [4, 11, 12].

The duration of exercise should be limited to approximately 30 minutes-1 hour, and should not fatigue the pregnant woman.

Lamaze childbirth educators are responsible for teaching wellness-based classes that do not add to the anxiety of the current, fear-based culture of maternity health care. Historically, Lamaze educators have been the champions of normal birth and have presented expectant parents with information to help them advocate for themselves against potentially harmful interventions [13]. Participation in Lamaze classes is recommended during the 2nd trimester. The principal objectives of this educational modality include psycho-prophylaxis of labor, presentation of basic theoretical background of pregnancy and delivery, training in respiratory exercises that could be useful at labor, training in neonatal care, and breastfeeding training [13, 14, 15, 16, 17].

Adrenaline and noradrenaline are released during exercise. Because noradrenaline is a uterine stimulant it could potentially cause uterine contractions and preterm labor [18]. However, studies have shown that physical activity does not usually stimulate uterine activity [19, 20]. Spinnewijn et al. more recently reported an increase in uterine activity during maternal exercise at term [21]. Moderate exercise may help reduce the risks that result from a cesarean delivery such as uterine infection, surgical wound complications, cardiopulmonary and thromboembolic conditions, longer hospital stays, and higher readmission rates [22].

General exercise is a simple form of physical activity which is associated with numerous advantages for pregnant women and their babies. General training improves physical condition of the mother and increases her exercise tolerance. Lung capacity of pregnant woman is increased due to respiratory training; moreover, this form of training improves oxygen saturation of peripheral blood and oxygen supply to the mother and neonate, develops the mechanism of pushing, and improves the function of the abdominal press. Kegel exercise is reflected by the strengthening of reproductive tract muscles, increased elasticity of pelvic floor muscles, and attenuation of pain associated with the changes in spine statics, and especially the lumbosacral pain [23, 24, 25, 26].

In healthy pregnant women without obstetric or medical complications, the benefits of exercise outweigh the risks. Therefore, pregnant women should continue to exercise, provided careful guidelines are followed. However, pregnant women may have to modify their exercise regimens because of the physiologic changes associated with pregnancy. Although lower birth weights are noted among offspring of women who exercise during pregnancy, these birth weights are still within normal ranges. There currently are no data to confirm that exercise during pregnancy has deleterious effects on the fetus [27]. Exercise during pregnancy is associated with less depression and anxiety and with higher feelings of selfesteem. Pregnant women who exercised during pregnancy cited improvement of mood as the most important benefit to exercise [28].

The aim of this study was to analyze the influence of general exercise during Lamaze classes on the course of perinatal period and labor.

Materials and methods

The survey included 200 women during the first week of puerperium, among them 100 randomly selected patients of the Obstetrical Department of the Perinatology and Obstetrics Clinic with the School of Birth at the University Clinical Hospital in Bialystok, and 100 women who were hospitalized at the Department of Gynecology and Obstetrics in Pro-Medica Municipality Hospital in Elk. The study was conducted between May 1st, 2011 and November 30th, 2011 with an aid of a survey developed solely for the purpose of this research; Visual Analogue Scale (VAS) was also employed. VAS is used for subjective scoring of pain and constitutes a reliable instrument enabling the determination of pain severity. The scale is in the form of a 10 cm ruler on which the patient can indicate the severity of pain. The lack of pain corresponds to 0, whereas the strongest imaginable pain to 10. The protocol of the study was approved by the Local Bioethical Committee of the Medical University of Bialystok (decision no. R-J-002/446/2011). The material was analyzed with Statistica 7PL (StatSoft, Poland) statistical package, and documented as graphs and tables.

Results

Out of 200 responders, 72 (36%) declared participation in Lamaze classes during their pregnancies. In the case of 39 women from Bialystok and 33 participants from Elk, the classes' curriculum covered psycho-prophylaxis of labor (Fig. 1).

In the opinion of 31 women, respiratory training proved the most useful component of Lamaze classes delivered in Elk; also, general exercise was assessed as equally useful. In contrast, women who completed Lamaze classes in Bialystok, ranked respiratory and general exercise in the second and third position according to their usefulness (Fig. 2).

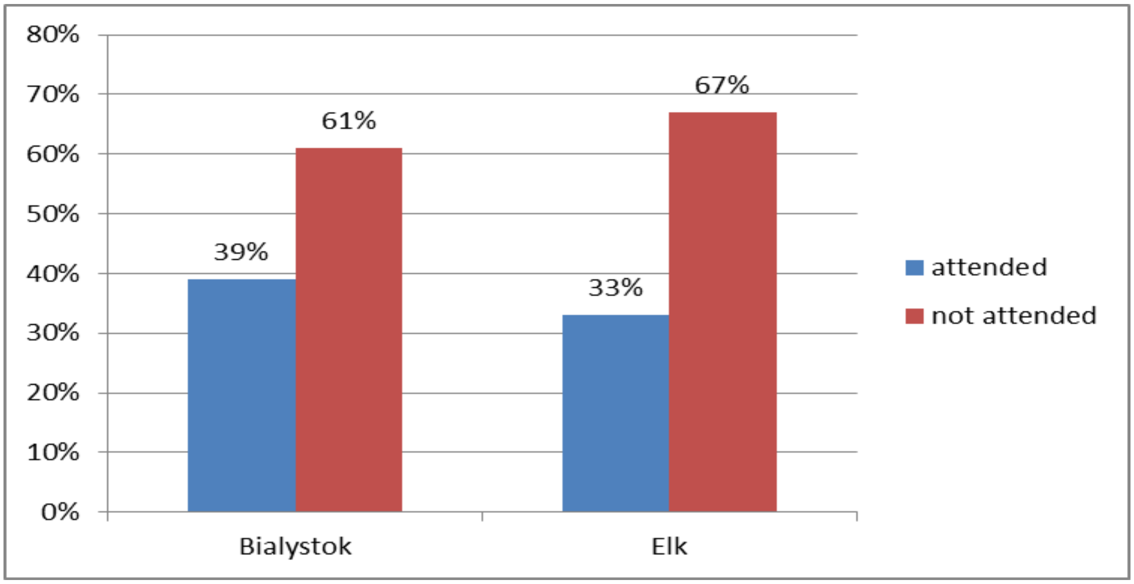

Figure 1. The number of women who attended Lamaze classes.

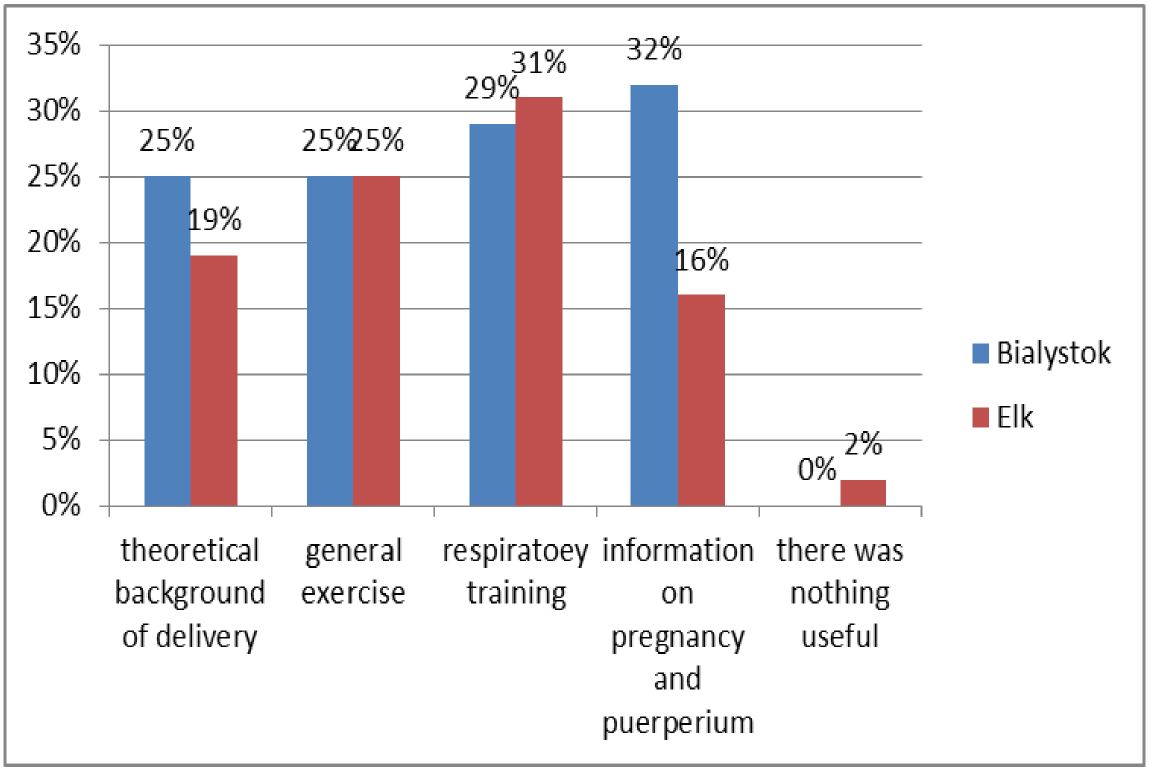

Figure 2. Most useful components included in the curricula of Lamaze classes.

Physical exercise included in Lamaze classes offered in Elk improved the physical condition and relaxed women to a similar extent. In the case of women attending Lamaze classes in Bialystok, 32 felt more relaxed due to the physical exercise, but only 22 declared exercise-related improvement in physical condition (Fig. 3).

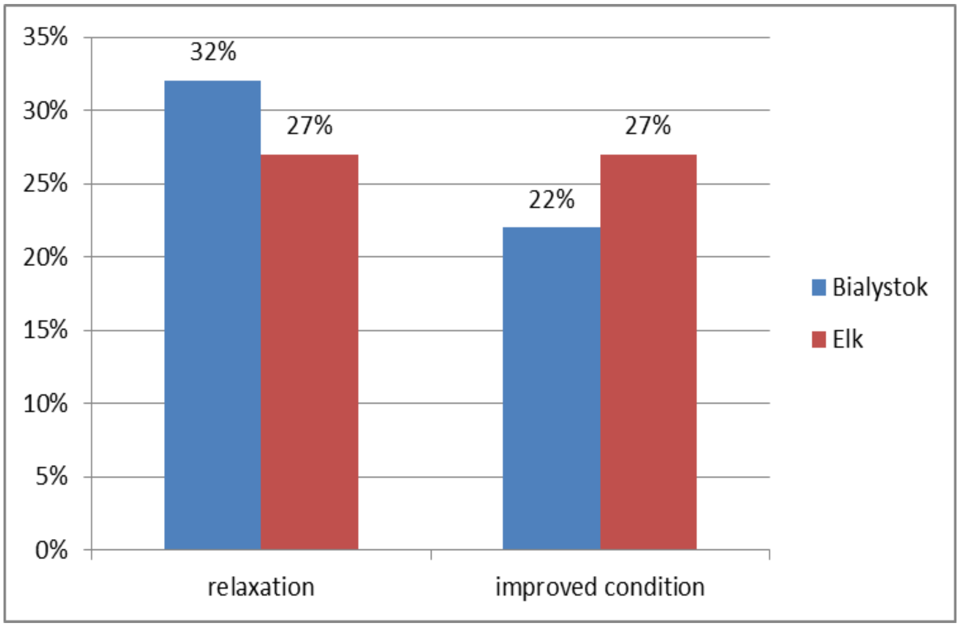

Figure 3. The effects of physical exercise.

A decrease in experienced pain was reported by 57 (81.4%) responders. The number of women attending Lamaze classes in Białystok and Elk who declared the reduced severity of pain was equal to 30 and 27, respectively (Fig. 4).

As many as 85.7% of the responders declared that they improved their ability to relax between uterine contractions as a result of participating in Lamaze classes; the fraction of women who declared possessing this ability without attending Lamaze classes was equal to 61.5% (Table 1).

The subjective score of pain amongst patients attending Lamaze classes was 7.17 points compared to 8.10 points amongst women who did not participate in such form of childbirth education. Subanalysis of pain scores in women from both participating cities revealed a similar phenomenon (Table 2).

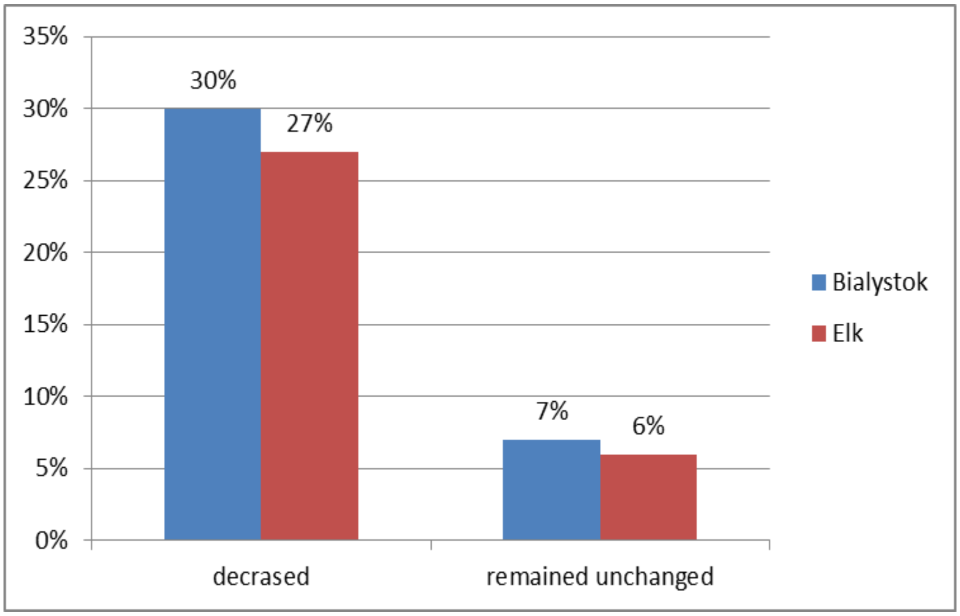

Figure 4. Influence of general physical exercise on the severity of back pain.

Table 1. Influence of physical exercise on the ability to relax between uterine contractions.

Variability	**Bialystok**		**Elk**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**
Ability to relax after Lamaze classes	31	83.8	29	87.9	60	85.7
Ability to relax without Lamaze classes	40	63.5	40	59.7	80	61.5

Table 2. Mean subjective scores of labor pain.

Relationship	**Bialystok**	**Elk**	**Total**
Experiencing pain after Lamaze classes	7.446	6.88	7.17
Experiencing pain without Lamaze classes	8.32	7.88	8.10

Discussion

Women should engage in physical activity throughout their entire lives. During physical training in Lamaze classes, pregnant women practice respiratory exercise, general exercise, exercise improving joint mobility, isometric and relaxation exercise, as well as exercise increasing the elasticity and relaxation of perineal and pelvic floor muscles. These forms of exercise protect them against venous congestion of the lower limbs, strengthen the paraspinal muscles, and prevent back pain [16, 29, 30, 31].

Physical exercise during pregnancy has many advantages. These advantages pertain mostly to the cardiovascular and musculoskeletal system; additionally, they are helpful in staying in good condition and exert a positive impact on the emotional sphere.

However, despite numerous positive effects of physical exercise on maternal and fetal body, it is rarely practiced by pregnant women. Studies about the effect of exercise on cardiac output during pregnancy have shown conflicting results. Knuttgen and Emerson reported cardiac output after cycle exercise to be similar in pre- and postpartum subjects [32]. Bader et al. found the cardiac output during exercise on a cycle ergometer to increase 30% to 40% in the supine position, similar to the case with a reference control group [33]. There were no postpartum results reported, however. Ueland et al. on the other hand, reported that the increase in cardiac output during cycle exercise was higher in pregnant subjects versus postpartum subjects [34, 35].

The musculoskeletal system responses of a pregnant woman to exercise are similar to those of a nonpregnant woman, provided there is no low-back pain or pelvic pain. A recent study by Dumas found that a minimal to moderate weight-bearing exercise program did not result in significant increases in knee laxity [36].

A study by McIntyre and Broadhurst to assess the possible cause of low-back pain in pregnancy revealed the sacroiliac joint to be the cause of the back pain, as opposed to the iliolumbar ligament [37].

Kolanko et al. [38] revealed that only 4% of pregnant women participate in Lamaze classes. In contrast, our study documented an increase in the fraction of women involved in this form of childbirth training. As many as 35% of 200 responders declared participating in Lamaze classes, and 44% of our participants engaged in physical activity before becoming pregnant.

Our findings suggest that physical exercise relaxes and improves the mood and condition of pregnant women. Other authors have also documented this phenomenon.

According to Wadsworth et al., more than one half of pregnant women experience lumbar spinal pain. This condition constitutes one determinant of discomfort associated with pregnancy. A preliminary study revealed that women subjected to a 12-week training program during the second half of pregnancy declared attenuation of lumbar spinal pain, and as many as 81.4% of the participants declared improvement and the attenuation of the spinal pain [39].

According to Gałuszka and colleagues physical exercise during pregnancy is effective in preventing depressive states, which are due to from hormonal changes associated with early pregnancy and resultant constant mood fluctuation, lack of support from close relatives, irritability, fear of pregnancy loss, and fatigue [40].

Similar opinion regarding the effects of physical exercise on pregnant women was presented by Fijałkowski and colleagues [41] and Sypek [42] who stated that physical activity improves general mood and positively influences sleep.

Kozłowska et al. revealed that physical exercise is a determinant of improved mood and higher self-assessment of pregnant women [29].

We analyzed the ability to relax between consecutive uterine contractions and the level of subjectively perceived pain. Women who performed exercises involving their pelvic and perineal muscles during pregnancy were more capable of relaxing between the contractions. Furthermore, these patients perceive labor pain as less severe.

Many authors have revealed that physical training in Lamaze classes includes exercises which exert positive impact on the course of pregnancy and labor, and therefore attenuate the level of experienced pain [16, 30, 31].

Kozłowska and Stanek observed better dynamics of cervical dilatation in women who were active during labor [29]. Lamaze educators encourage women to find breathing styles that enhance their relaxation. There are benefits to control and rhythmic breathing in birth and sports, and many women may choose these techniques [13].

Conclusion

General exercise has got a positive impact on perinatal period and enhances conscious participation of women in labor.

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Analysis of selected obstetrical factors affecting the quality of life of patients hospitalized at the obstetrical wards of Podlaskie province

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Introduction

The idea of continuous improvement of quality was reflected in the document developed by the WHO Regional Committee for Europe entitled HEALTH 21 – Health for All in the 21st Century. The principal objective of this document is defined in its Target 16 – Managing for Quality of Care: *"By the year 2010, Member States should ensure that the management of the health sector, from population-based health programmes to individual patient care at the clinical level, is oriented towards health outcomes"* [1, 2].

Perinatology is a scientific discipline comprising multidisciplinary activities providing comprehensive healthcare services for the mother, foetus, and neonate, including health promotion and treatment during preconception period, pregnancy, delivery, and puerperium. Various specialists are involved in these activities, among them midwives, obstetricians, and neonatologists who cooperate in providing complex and continuous monitoring [3].

Evaluation of healthcare quality during perinatal period on the basis of selected statistical parameters is a widely accepted indicator of healthcare in a given country; consequently, it is a marker of the economic and health status of the community, and reflective of the environmental conditions of living [4].

Healthcare units belong to organizations that consider providing the highest quality of services a priority as high quality translates into health, trust, safety, and, above all, patient's life. Recent years brought many changes in the field concerned with the quality of healthcare services [5, 6].

Perinatal care requires cooperation of all involved institutions and individuals, as well as the precise functioning of an information system in a given region. Three-level system of obstetrical care enables rational utilization of infrastructure (hospitals and outpatient clinics), personnel (physicians and midwives), and equipment [7, 8].

Recent changes resulting from the reorganization of healthcare were reflected by fragmentation and instability of institutions offering healthcare services to women and families. For various reasons, many women are not supervised by obstetricians during the pregnancy. This prevents them from receiving effective help. Most commonly, this situation pertains to adolescent females, single mothers, and women from pathological families. This can be reflected by the lack of complexity and continuity of care, as well as the lack of patient's cooperation with relevant outpatient clinics [9].

In the general context of medical activities, nursing care has an unquestionable impact on the course and outcome of therapy and patients' feeling of safety, level of information, and satisfaction with hospitalization. This type of care represents one of the most extensive areas of healthcare services, offered in the closest and most direct contact with the patient. Its quality is determined by the work performed by the nurses and midwives, and is influenced by other healthcare professionals [10, 11].

In Poland, the attempts to evaluate the quality of healthcare have raised a wide variety of emotions. It is important, however, that the issue of the quality of healthcare services is being discussed and that remedial activities are undertaken as a result of the increasing commercialization of healthcare. Quality is closely linked with the level of satisfaction. Patient's satisfaction is defined as the difference between obtained service and subjective expectations – if it is positive, the patient is satisfied, if negative – dissatisfaction results [12].

Ann Lawthers et al. has provided the most important areas of patient's expectations: "*..availability, good communication and information presented in a comprehensible manner, respecting his/her rights and preferences during the selection of treatment modality, continuation and coordination of the entire therapeutic process, psychological comfort during examination and treatment, and adjusting care to individual expectations and needs"* [13].

According to Marc, the mutual relationships between the woman giving birth and midwife/nurse offered in the process of providing healthcare services can be classified in terms of the so-called soft aspects, i.e. cooperation and assistance with nursing, explaining the character of performed procedures, kindness, patience, and the availability of comprehensive information, leading to the expected level of satisfaction [14].

The aim of this study was to analyse the effects of selected obstetrical factors on the quality of life of patients hospitalized at obstetric wards in Podlaskie province.

Material and Methods

The study included 942 postpartum women randomly selected among the patients hospitalized at the obstetric wards of 9 public healthcare institutions of Podlaskie province. The study was based on the survey using a questionnaire developed solely for the purposes of this study and a standardized tool kindly provided by the National Centre for Quality Assessment in Health Care in Cracow (PASAT package). The protocol of the study was approved by the Local Bioethics Committee at the Medical University of Bialystok (decision no. R-I-002/282/2011).

Data analysis was performed with Statistica 10 package (StatSoft®, Tulsa, OK, USA). The dependent variables included: 1) overall evaluation of hospitalization, and 2) patient's declaration to recommend hospital to her relatives or friends. Both variables were transformed into dichotomous variables, i.e. PASAT answers 1 to 3 were encoded as a positive answer, and answers 4 and 5 were considered as a negative answer. The scores ascribed to different components of hospitalization were considered independent variables. The effects of independent variables were verified in multivariate model of logistic regression. Odds ratios (ORs) of negative answer were determined along with 95% confidence intervals (between -95% CI and +95% CI). Only the variables with $p \leq 0.05$ were considered significant determinants of hospital evaluation. The ORs of significant variables were determined in the following manner: 1) OR higher than 1 was considered a risk factor of negative evaluation; the higher the OR, the more negative the impact of analysed factor; if not stated differently, an increase in OR correlated with poorer score for a given parameter; 2) OR lower than 1 was considered a protective factor against negative evaluation, the closer to 0, the stronger the protective effect.

Results

Effect on the general evaluation of hospitalization

Factors increasing the risk of negative evaluation of hospitalization included (beginning with the strongest risk factor): conflicting opinions expressed by the medical personnel with regards to the method of treatment and patient's status (OR=4.52; 95%CI 2.39-8.54, $p<0.001$), lack of sufficient information about the course of surgery/procedure (OR=4.51; 95%CI 1.29-15.81, $p=0.019$), medical personnel talking about patient's health status in the presence of third parties (OR=4.34; 95%CI 1.97-9.58, $p<0.001$), insufficient information on how to prepare for procedure/examination (OR=3.70; 95%CI 1.39-9.86, p=0.009), poor organization of admission to the ward (OR=2.82; 95%CI 1.17-6.79, p=0.021), lack of help in consuming meals (OR=2.76; 95%CI 1.38-5.52, p=0.004), poor sleep and rest conditions (OR=2.65; 95%CI 1.30-5.40, p=0.008), professional activity of the respondent (OR=2.60; 95%CI 1.04-6.50, p=0.042), impoliteness of ward cleaners (OR=2.17; 95%CI 1.14-4.11, p=0.018), failure to provide privacy during admission to the ward (OR=2.03; 95%CI 1.03-4.00, p=0.041), and impoliteness of the admitting personnel (OR=2.01; 95%CI 1.01-3.99, p=0.048). The older age of responders proved the only protective factor against the negative evaluation of hospitalization (OR=0.00; 95%CI 0.01-0.12, p=0.002) (Tab. 1).

Table 1. Analysed factors and the risk of negative evaluation of hospitalization. Part 1.

Variable	**OR**	**-95%CI**	**+95%CI**	**p**
Admitting department				
Duration of formal procedures	0.87	0.48	1.56	0.642
Organisation of admission to the ward	**2.82**	**1.17**	**6.79**	**0.021**
Politeness of personnel	**2.01**	**1.01**	**3.99**	**0.048**
Providing privacy	**2.03**	**1.03**	**4.00**	**0.041**
Cleanliness of admitting department	1.08	0.48	2.41	0.858
Admitting department facilities (places to sit, coat racks, etc.)	1.10	0.55	2.23	0.782
No enema on admission	0.74	0.25	2.17	0.577
No perineal shaving on admission	0.89	0.26	3.08	0.858
Admitting department procedures were not hygienic (e.g. no disposable razor was used for perineal shaving)	2.48	0.82	7.50	0.107
Obstetric ward				
Information about the daily schedule and the rules of ward functioning	0.80	0.18	3.56	0.765
Information about the location of hospital/ward facilities	4.93	0.92	26.57	0.063
Information about the dates of scheduled procedures/tests	0.63	0.24	1.68	0.357
Information on the activities required prior to procedure/examination (diet, hygiene, etc.)	**3.70**	**1.39**	**9.86**	**0.009**
Patient’s rights information	0.53	0.17	1.61	0.260
Cleanliness of patients’ room	1.57	0.68	3.66	0.291
Facilities available in patients’ room (light, furniture, coat racks, tables, lockers, etc.)	1.83	0.82	4.09	0.143
Cleanliness of toilets	0.93	0.43	2.03	0.857
Adaptation of bathrooms to patients’ needs (grips, railings, walking aids, etc.)	0.58	0.27	1.26	0.171
Sleep and rest conditions	**2.65**	**1.30**	**5.40**	**0.008**

Access to telephone	1.04	0.59	1.84	0.896
Meals				
Food variety	1.02	0.33	3.08	0.978
Amount of food	1.83	0.59	5.70	0.294
Temperature of meals	0.57	0.22	1.48	0.250
Assistance in consuming the meals	**2.76**	**1.38**	**5.52**	**0.004**

Table 1. Analysed factors and the risk of negative evaluation of hospitalization. Part 2.

Variable	**OR**	**-95%CI**	**+95%CI**	**p**
Medical care				
Careful listening to the patient	1.64	0.78	3.47	0.193
Providing privacy (examination performed solely in the presence of authorized personnel, use of the medical screen during embarrassing procedures)	1.80	0.98	3.29	0.059
Using terminology comprehensible to the patient	0.93	0.42	2.08	0.865
Friendliness of physician	0.76	0.30	1.90	0.552
Availability of physician if needed	1.73	0.71	4.20	0.227
Amount of time devoted to patient	2.28	0.89	5.84	0.085
Conflicting opinions of medical personnel with regards to patient's health and treatment	**4.52**	**2.39**	**8.54**	**<0.001**
Discussing patient's status in the presence of third parties in a manner that the patient perceived as embarrassing	**4.34**	**1.97**	**9.58**	**<0.001**
Nursing care				
Friendliness of midwives	1.99	0.98	4.05	0.057
Diligence in performing procedures/dressing (blood sampling, blood pressure measurements, placing venous catheter, change of dressing)	1.50	0.73	3.09	0.272
Availability during the day	1.62	0.67	3.94	0.286
Availability at night	1.11	0.47	2.61	0.811
Speed of response to patient's call	0.83	0.33	2.06	0.684
Nursing in the atmosphere of respect and dignity	2.10	0.81	5.47	0.128
Friendliness of ward cleaners	**2.17**	**1.14**	**4.11**	**0.018**
Availability of sufficient information				
- health status	4.16	1.12	15.51	0.034
- treatment modalities	3.13	0.82	12.00	0.095
- risk associated with treatment (procedure/surgery)	0.53	0.24	1.17	0.117
- side effects of medications	0.44	0.13	1.46	0.179
- outcome of surgery or procedure	**4.51**	**1.29**	**15.81**	**0.019**
Visiting hours consistent with patient's needs	1.41	0.99	2.00	0.058
Visiting hours disrupted patient during:				
- rest	5.76	0.61	54.44	0.127
- leisure time	0.89	0.12	6.61	0.910
- staying alone with the partner	0.35	0.12	1.06	0.063
- feeding the baby	0.55	0.16	1.89	0.340
- consuming meals	0.44	0.09	2.18	0.315

Patient's characteristics				
Older age	**0.00**	**0.01**	**0.12**	**0.002**
Educational level (decreasing)	1.04	0.73	1.49	0.816
Professional status – unemployed vs. employed	**2.60**	**1.04**	**6.50**	**0.042**
Place of residence (decreasing size of community)	1.03	0.61	1.76	0.901
Marital status – single vs. married	2.12	0.46	9.83	0.335
Earlier hospitalization at the same hospital (yes vs. no)	0.68	0.42	1.11	0.127

Effect on the recommendation of hospital

Factors increasing the risk of the lack of hospital recommendation included (beginning with the strongest risk factor): disruption of leisure time in connection with visiting hours (OR=6.38; 95%CI 1.01-40.3, p=0.049), lack of access to sufficient information on health status (OR=4.18; 95%CI 1.69-10.36, p=0.002), conflicting opinion of medical personnel with regards to the method of treatment and patient's status (OR=3.26; 95%CI 2.00-5.30, p<0.001), poor food variety (OR=3.24; 95%CI 1.42-7.42, p=0.005), poor sleep and rest conditions (OR=2.95; 95%CI 1.71-5.07, p<0.001), medical personnel talking about patient's health status in the presence of third parties (OR=2.85; 95%CI 1.51-5.40, p=0.001), insufficient amount of time devoted to the patient by medical personnel (OR=2.49; 95%CI 1.31-4.74, p=0.005), impoliteness of midwives (OR=2.39; 95%CI 1.39-4.11, p=0.002), impoliteness of the admitting personnel (OR=2.38; 95%CI 1.31-4.30, p=0.004), lack of help in consuming meals (OR=2.15; 95%CI 1.25-3.70, p=0.006), low availability of midwives at night (OR=2.11; 95%CI 1.15-3.86, p=0.016), impoliteness of ward cleaners (OR=1.96; 95%CI 1.22-3.15, p=0.006), failure to ensure privacy during admission to the ward (OR=1.91; 95%CI 1.04-3.49, p=0.036), and poorly chosen visiting hours (OR=1.56; 95%CI 1.20-2.02, p=0.001). The lack of perineal shaving on admission to the hospital proved the only protective factor against the negative recommendation of hospitalization (OR=0.14; 95%CI 0.03-0.72, p=0.019) (Tab.2).

Table 2. Analysed factors and the risk of the lack of hospital recommendation. Part 1.

Variable	**OR**	**-95%CI**	**+95%CI**	**p**
Admitting department				
Duration of formal procedures	0.62	0.36	1.05	0.074
Organisation of admission to the ward	2.07	0.99	4.33	0.054
Politeness of personnel	**2.38**	**1.31**	**4.30**	**0.004**
Providing privacy	**1.91**	**1.04**	**3.49**	**0.036**
Cleanliness of admitting department	1.04	0.54	1.99	0.911

Facilities available in admitting department (places to sit, coat racks, etc.)	1.75	0.96	3.16	0.065
No enema on admission	0.70	0.28	1.73	0.435
No perineal shaving on admission	**0.14**	**0.03**	**0.72**	**0.019**
Admitting department procedures were not hygienic (e.g. no disposable razor was used for perineal shaving)	2.39	0.97	5.92	0.060
Obstetric ward				
Information about the daily schedule and the rules of ward functioning	2.91	0.85	9.97	0.089
Information about the location of hospital/ward facilities	0.76	0.36	1.61	0.478
Information about the dates of scheduled procedures/tests	1.26	0.61	2.62	0.533
Information about the activities required prior to procedure/examination (diet, hygiene, etc.)	1.85	0.99	3.43	0.052
Patient's rights information	1.10	0.43	2.77	0.845
Cleanliness of patients' room	1.81	0.93	3.51	0.078
Facilities available in patients' room (light, furniture, coat racks, tables, lockers, etc.)	0.97	0.55	1.70	0.904
Cleanliness of toilets	1.15	0.66	1.99	0.625
Adaptation of bathrooms to patients' needs (grips, railings, walking aids, etc.)	1.00	0.61	1.63	0.996
Sleep and rest conditions	**2.95**	**1.71**	**5.07**	**<0.001**
Access to telephone	0.96	0.62	1.47	0.846
Meals				
Food variety	**3.24**	**1.42**	**7.42**	**0.005**
Amount of food	0.91	0.44	1.89	0.798
Temperature of meals	0.79	0.41	1.54	0.490
Assistance in consuming the meals	**2.15**	**1.25**	**3.70**	**0.006**

Table 2. Analysed factors and the risk of the lack of hospital recommendation. Part 2.

Variable	**OR**	**-95%CI**	**+95%CI**	**p**
Medical care				
Careful listening to the patient	1.53	0.88	2.67	0.133
Providing privacy (examination performed solely in the presence of authorized personnel, use of medical screen during embarrassing procedures)	1.38	0.90	2.11	0.136
Using terminology comprehensible to the patient	1.49	0.86	2.59	0.156
Friendliness of physician	0.97	0.52	1.82	0.931
Availability of physician if needed	1.42	0.76	2.66	0.277
Amount of time devoted to patient	**2.49**	**1.31**	**4.74**	**0.005**
Conflicting opinions of medical personnel with regards to patient's health and treatment	**3.26**	**2.00**	**5.30**	**<0.001**
Discussing patient's status in the presence of	**2.85**	**1.51**	**5.40**	**0.001**

third parties in a manner that the patient perceived as embarrassing				
Nursing care				
Friendliness of midwives	**2.39**	**1.39**	**4.11**	**0.002**
Diligence in performing procedures/dressing (blood sampling, blood pressure measurements, placing venous catheter, change of dressing)	1.60	0.91	2.82	0.105
Availability during the day	1.00	0.53	1.89	0.992
Availability at night	**2.11**	**1.15**	**3.86**	**0.016**
Speed of response to patient's call	0.80	0.42	1.54	0.506
Nursing in the atmosphere of respect and dignity	1.29	0.64	2.61	0.474
Friendliness of ward cleaners	**1.96**	**1.22**	**3.15**	**0.006**
Availability of sufficient information				
- health status	**4.18**	**1.69**	**10.36**	**0.002**
- treatment modalities	1.32	0.54	3.21	0.543
- risk associated with treatment (procedure/surgery)	0.74	0.40	1.40	0.358
- side effects of medications	0.86	0.40	1.85	0.705
- outcome of surgery or procedure	1.76	0.80	3.85	0.159
Visiting hours consistent with patient's needs	**1.56**	**1.20**	**2.02**	**0.001**
Visiting hours disrupted patient during:				
- rest	**6.38**	**1.01**	**40.30**	**0.049**
- leisure time	0.46	0.10	2.10	0.314
- staying alone with the partner	0.60	0.26	1.39	0.237
- feeding the baby	0.78	0.27	2.26	0.644
- consuming meals	0.63	0.15	2.59	0.520
Patient's characteristics				
Older age	0.17	0.02	1.49	0.111
Educational level (decreasing)	0.86	0.67	1.12	0.266
Professional status – unemployed vs. employed	1.14	0.58	2.22	0.709
Place of residence (decreasing size of community)	0.83	0.57	1.22	0.345
Marital status – single vs. married	1.01	0.40	2.55	0.985
Earlier hospitalization at the same hospital (yes vs. no)	0.86	0.60	1.22	0.387

Discussion

The principal objective of activities undertaken within the framework of the quality improvement of perinatal care is providing delivering women with conditions that would enable childbirth with dignity, i.e. in harmony with nature. Odent has summarized this with one sentence: "*Interfere the least – trust nature the most*" [15].

Patient's rights, representing a particular category of human rights, gain an increasing importance in social reality. They belong to fundamental legal and ethical standards of medical profession [16]. The hospital has a duty to ensure safety and proper level of service for each patient at every stage of hospitalization, from the moment of entering until leaving [17].

According to article 19, paragraph 1, point 2 of the Healthcare Institutions Act, the patient has the right to information about his/her health status; it is one of the basic rights of a patient hospitalized at a public or private healthcare facility and as such must be observed carefully [18]. Studies show that this right is often ignored.

In the study conducted amongst the patients of Voivodeship Hospital in Lodz, Wronski et al. showed that there exists a serious problem with regards to the communication between physicians and patients. He revealed that as many as 68% of surveyed patients indicated a lack of sufficient information from the physician with regards to their health during hospitalization [19]. In contrast, in the study by Roszkowska et al., conducted at the Cardinal Stefan Wyszynski Memorial Voivodeship Hospital in Lomza, 82% of surveyed women obtained satisfactory information with regards to their health status [20].

Our study revealed that the majority of women giving birth obtained insufficient information with regards to the preparatory activities required prior to procedure/examination (OR=3.70; 95%CI 1.39-9.86, p=0.009), as well as claimed a lack of access to sufficient information about their health status (OR=4.18; 95%CI 1.69-10.36, p=0.002). Additionally, patients hospitalized during puerperium complained about the visiting hours, which disrupted their rest (OR=6.38; 95%CI 1.01-40.30, p=0.049).

According to the data of Childbirth with Dignity Foundation, 74% of women assessed admitting personnel as friendly; 80% of the responders evaluated the attitude of obstetric ward and labour room personnel as friendly and helpful [12]. Ratajczak, in the study conducted in 2003 at a hospital in Inowroclaw, revealed that personnel's attitude towards the patients was identified as friendly by 98.08% of responders [21].

In our study, the inhabitants of Podlaskie region complained about the poor organization of admitting department (OR=2.82; 95%CI 1.17-6.79, p=0.021), failure to ensure privacy during admission (OR=2.03; 95%CI 1.03-4.00, p=0.041), and an unfriendly attitude of admitting personnel (OR=2.01; 95%CI 1.01-3.99, p=0.048).

The study by Kubicka-Kraszynska and Otfinowska revealed that women who asses their childbirth and hospitalization favourably simultaneously point to numerous violations of patient's rights. This may indicate their lack of knowledge with regards to the particular issues and acceptance of numerous customarily approved behaviours of medical personnel [12].

This study also analysed the role of the support given to women giving birth by the physicians. Careful listening to the patient and kindness were evaluated positively by our participants.

In assessing the quality of physician's care, the responders pointed to inadequate amount of time devoted to them by the physicians (OR=2.49; 95%CI 1.31-4.74, p=0.005). Furthermore, they complained that the medical personnel presented conflicting opinions with regards to patient's health status and treatment modalities (OR=3.26; 95%CI 2.00-5.30, p<0.001).

Szamotulska and Mierzejewska presented opinions of 352 mothers surveyed in 1997 regarding the delivery and medical care that were scored as good, moderate, and poor. The physicians were scored as good, moderate, or poor by 83.1%, 15.1%, and 1.8% of responders, respectively [22].

Additionally, patients' satisfaction was also analysed from the perspective of midwives' kindness. In this assessment, some of the participants pointed to midwives' lower kindness (OR=2.39; 95%CI 1.39-4.11, p=0.002) and availability at night (OR=2.11; 95%CI 1.15-3.86, p=0.016).

Women wish to be informed about everything that happens to them and their child. This markedly reduces the level of labour- and hospitalization-related stress and positively affects the cooperation between the patient and medical personnel, which is reflected by positive recommendation of the hospital.

In this study, the risk factors of the lack of recommendation included personnel behaviours such as the failure to provide sufficient information with regards to patient's health status (OR=4.18; 95%CI 1.69-10.36, p=0.002), talking about the patient's health status in the presence of third parties (OR=2.85; 95%CI 1.51-5.40, p=0.001), and inadequate amount of time devoted to the patient (OR=2.49; 95%CI 1.31-4.74, p=0.005).

In order to improve the quality of care in obstetric wards, medical personnel should undertake wide-ranging actions aimed at minimizing situations which may prove to be difficult for women during the peripartum period. The 19th and, to a large extent, the 20th century were associated with the medicalization of childbirth.

Wagner defined it as: "*a process through which natural events recorded in the life of every human being are treated as medical problems that require medical diagnosis and control, with particular attention paid to risk, pathology, and treatment*" [23].

Conclusions

The strongest negative obstetric determinants of the opinions of patients hospitalized at obstetrical wards in Podlaskie province include conflicting opinions of medical personnel with regards to the method of treatment and patient's status, failure to provide information about the outcome of surgery/procedure, medical personnel talking about patient's health status in the presence of third parties, insufficient information with regards to the preparatory activities required prior to procedure/examination, and poor organization of admission.

Numerous positive practices were documented within the assessed wards; this suggests that their personnel are trying to create the WHO-recommended conditions accommodating patient's rights.

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Influence of position during labor on the perception of labor pain

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Introduction

In 1996, the World Health Organization (WHO) reevaluated the scientific-based evidence on healthcare practices at normal childbirth, placing greater emphasis on the humanization of care [1]. After the medicalization of childbirth, the gynecological position during the expulsive period started to be considered the most adequate to perform healthcare procedures and was adopted as a classical position during childbirth [2, 3]. Women in labor experience pain of variable intensity, which is affected by psychic, mood, cultural, and organic factors as well as by the possible changes in normality (stress) and other factors which can increase, and reduce it [4]. During natural childbirth, women usually adopt a vertical position. However, despite many advantages related to the vertical position, modern medicine "enforces" labor in the supine position as it facilitates medical care during delivery [5]. Most women experience labor pain, which is caused by hormonal actions, mechanical and clinical aspects that are part of the natural labor process, as the stimulus that results from events molded by sensorial and emotional experiences, built throughout life [6, 7, 8].

The pain a woman experiences during childbirth is created by a dynamic of three individual yet related causes of pain. Each cause will create pain on its own; however it is the relationship between these causes that can create an overwhelming and dissatisfying experience for the woman in labor. The first and most straightforward cause of pain in childbirth would be due to physical sources of pain. The extent to which these discomforts overwhelm the mother will depend on her sensitivity in the tissues involved, her overall health and the position of the baby. The mother can work to positively influence some of these factors, but there are many she cannot control. Her uterus must contract, her cervix must dilate. The second cause of pain is poor body mechanics. Athletes learn quickly there is a right way, and a wrong way to move. The right way is by only using the muscles necessary for the task, and keeping the other body muscles relaxed. For example, a jog around the block can be made exceedingly difficult by tensing your upper body. Another body mechanics issue is posture and positioning.

Labor in vertical position is associated with body relaxation and larger diameter of birth canal; additionally, it exerts a positive effect on the oxygen supply of mother and her neonate, modulates pelvic diameter (e.g. the diameter of the birth canal is 30% greater in the squatting position), and favorably influences uterine perfusion [9, 10, 11, 12]. Furthermore, the use of vertical positions has a positive impact on cervical dilatation and uterine contractions, which are stronger and more regular. Moreover, the 1^{st}, 2^{nd}, and 3^{rd} phases of labor are shorter and women experience less pain resulting from neural compression. Labor in vertical position is also reflected by better oxygen supply to the fetus due to better placental perfusion. Better neonatal status was also documented immediately after labor in the vertical position [9, 10, 11, 12].

It appears that the position during labor is another factor that may affect the sensation of pain [13]. A study with 20 clinical trials about the positions in the second stage of labor confirmed that when women assume a vertical or side position, there is a reduction in the intensity of pain during the expulsive stage, compared to the supine or lithotomy positions. Deliveries that are performed in the many vertical positions had a shorter expulsive stage compared to deliveries in lithotomy. A shorter expulsive stage, and the reduced rates of assisted labor and episiotomy confirm the concept that pushing in the expulsive stage is more efficient in vertical positions [13].

The use of labor positions is regulated at the hospital level. Very frequently, supine positions are ordered as they facilitate labor-associated care, e.g. cardiotocographic recording, pelvic examination, episiotomy, and the use of obstetrical clamps or vacuum devices [14].

Although women instinctively resume vertical positions, the lack of education on the possibility of their use exerts a negative impact on patients' activity during the delivery. It is particularly important to make the patient aware that such position exerts a positive impact on her activity during delivery [15, 16, 17].

Since the review did not suggest any adverse effects for the woman and her baby of maintaining the upright position during the first stage of labour, caregivers and policy-makers may consider implementing strategies that encourage the use of upright positions during the first stage of labour. However, any such strategies would need to take account of other needed interventions during first stage of labour, such as presence of a companion and free intake of fluids to avoid routine intravenous lines. More active promotion by health-care professionals of the various vertical positions that may be adopted during the first stage of labour as part of routine care can be a simple and inexpensive intervention, provided that facilities and personnel can adapt to its requirements. This guidance with respect to adoption of vertical positions during labour or the possibility to observe other women in these positions may stimulate labouring women to move more freely and adopt vertical positions according to their need [1].

The aim of this study was to analyze the relationship between labor position and pain experienced during delivery.

Materials and methods

The study included 200 randomly selected women in labor who delivered by the vaginal route at the University Clinical Hospital in Bialystok (n=100), or the Voivodeship Specialist Hospital in Bialystok (n=100).

The study involved a questionnaire developed solely for the purpose of this survey and the Visual Analogue Scale (VAS), a reliable instrument used to determine the severity of pain. VAS is a 10 cm ruler-like scale, which the patient uses to assess the severity of pain in a scale from 0 (lack of pain) to 10 (strongest imaginable pain).

The results were analyzed using Excel software. The relationships between studied variables were tested with the Spearman's coefficients of rank correlation. The dependent variables included the level of experienced pain (from 0 to 10) and position adopted during the 1^{st} and 2^{nd} phase of labor.

The Spearman's coefficient of rank correlation was calculated using the following formula:

$$r_s = 1 - \frac{6\sum_{i=1}^{n} d_1^2}{n(n^2-1)}$$

where d_i - difference between ranks of corresponding values of x_i and y_i variables (i=1,2,…,n).

Results

Most of the responders scored their labor pain as 10 points. Mean pain scores in both hospitals were similar, but the number of patients at the University Clinical Hospital who scored their pain as a maximal (n=40) was higher than in the Voivodeship Hospital (n=33) (Fig. 1).

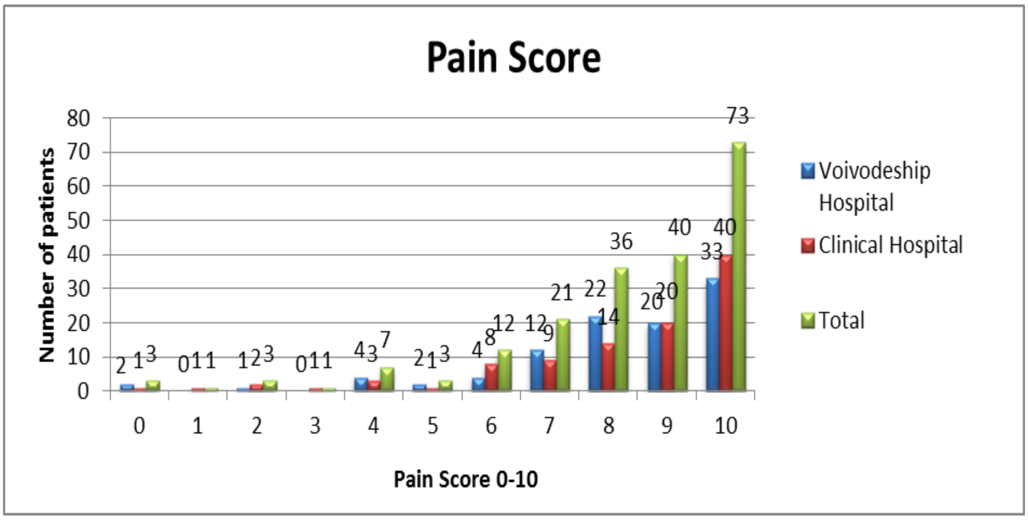

Figure 1. Severity of labor pain in a 0-10 scale.

The number of patients from the University Clinical Hospital and Voivodeship Hospital who received epidural anesthesia was 69 and 58, respectively (Fig. 2).

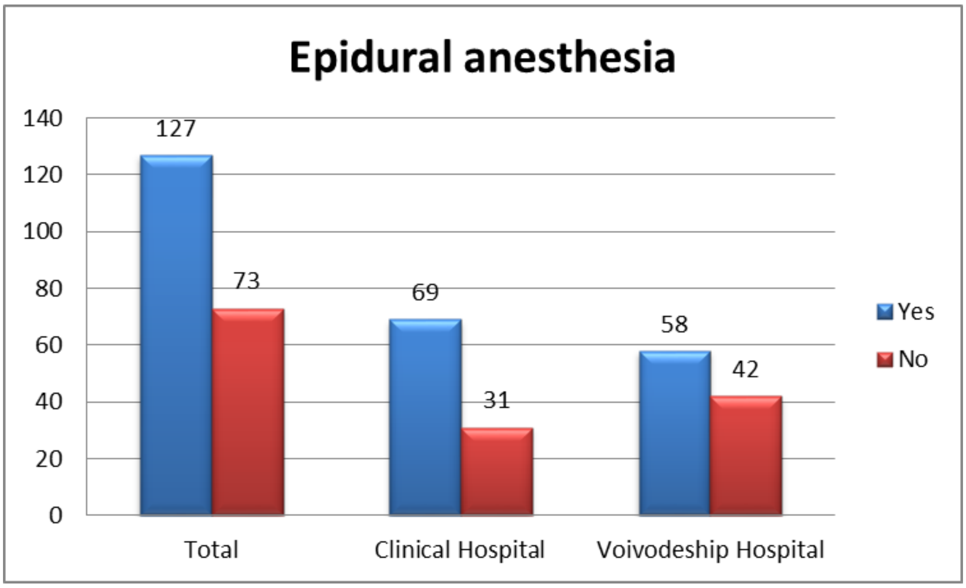

Figure 2. The prevalence of epidural anesthesia use amongst the study participants.

Labor positions during the first phase of delivery

More than one half (n=55) of patients from the University Clinical Hospital remained in bed during the first phase of delivery. About one-third of the patients did not declare a need to get up from the bed, and according to 20 of them, they were asked to stay in bed despite their preference to remain active. Less than one half of the participants (n=45) were active during the first phase of labor.

The vast majority of patients from the Voivodeship Specialist Hospital (n=90) remained active during the first phase of labor. More than one half of them declared that they tried to walk, stand, and squat as frequently as possible. Only one patient was asked to stay in bed (Fig. 3).

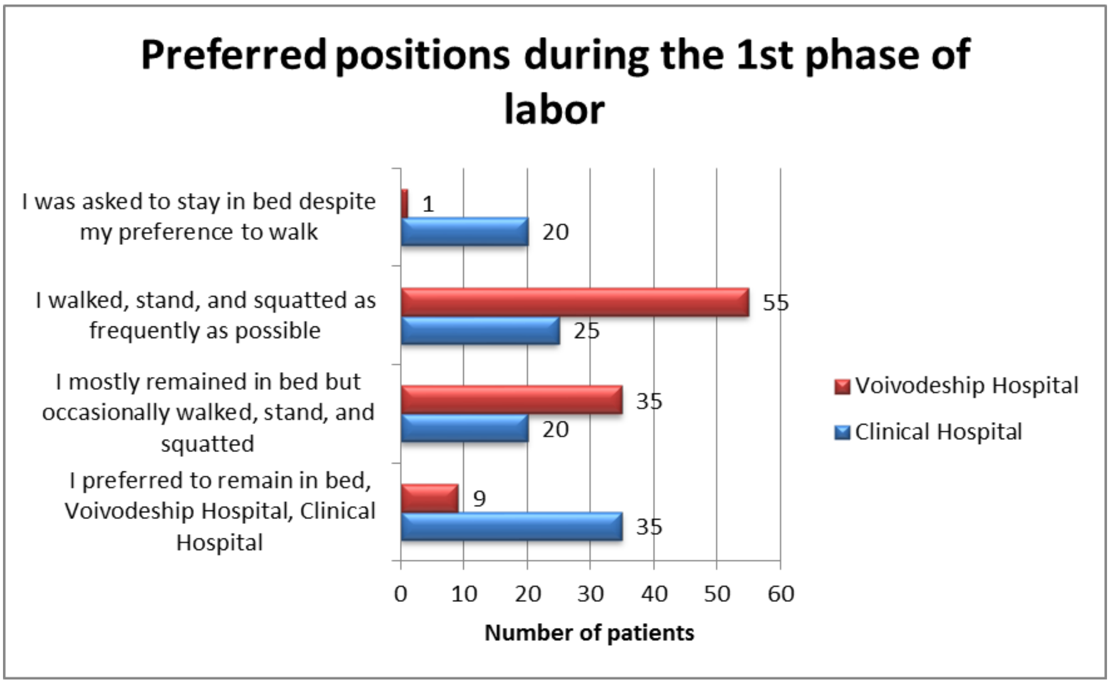

Figure 3. Preferred positions during the first phase of labor.

We observed an association between the activity of patients during the first phase of labor and the score of experienced pain. Patients who remained in bed during the first phase of labor declared higher level of experienced pain than those who remained active during delivery. Additionally, it was observed that stronger pain was experienced by those women who remained inactive against their will (Tab.1).

Relationship between position during the 1st phase of labor and pain score was verified with the chi-square test at the level of significance $\alpha = 0.01$ with $(k-1)*(r-1) = 30$ degrees of freedom, H_0: $\chi^2 \geq \chi^2_\alpha$ or H_0: variables X and Y are independent.

Labor positions during the second phase of delivery

As many as 85 women giving birth at the University Clinical Hospital could not freely select the position during the second phase of labor. Only 15 patients from this hospital could select their labor position. The number of patients from the Voivodeship Specialist Hospital who could freely select their labor position during the second phase of delivery was 51; similar fraction of patients (n=49) from this hospital could not select the labor position (Fig. 4).

Table 1. Relationship between position during the 1^{st} phase of labor and pain score.

Position during the 1^{st} phase of labor (X)	Y X	**Pain Score (Y)**											
		0	1	2	3	4	5	6	7	8	9	10	Σ
	I preferred to remain in bed	0	0	2	0	3	1	3	9	16	14	31	80
	I mostly remained in bed but occasionally walked, stand, and squatted	1	0	0	0	3	1	6	5	12	13	14	55
	I walked, stand, and squatted as frequently as possible	1	1	1	1	1	1	2	6	5	7	19	44
	I was asked to stay in bed despite my preference to walk	1	0	0	0	0	0	1	1	3	6	9	21
	Σ	3	1	3	1	7	3	12	21	36	40	73	200

Nearly all (n=99) patients from the University Clinical Hospital remained in the supine or semi-seated position during the second phase of labor. Although supine and semi-seated positions predominated also in the second phase of labor in the Voivodeship Hospital, every fourth patient from this hospital remained in the vertical or lateral recumbent position during this phase (Fig. 5).

Most responders remained in the supine or semi-seated position during the 2^{nd} phase of labor. Women remaining in the supine position experienced more severe labor pain compared to those in the semi-seated position. During the 2^{nd} phase of labor, the experienced pain was assigned a score of 10 and 9 points by 53 and 29 supine position patients, respectively. Patients who remained in the semi-seated position throughout the 2^{nd} phase of delivery slightly less frequently reported the maximum level of pain. The highest level of pain was reported by 20 women from this group; another 11 patients scored their pain as 9 points (Tab. 4).

A relationship between the position during the 2^{nd} phase of labor and the severity of experienced pain was observed. Women who could not select labor position during the 2^{nd} phase reported slightly higher level of pain. Relationship between the position during the 2^{nd} phase of labor and pain score was verified with the chi-square test at the level of significance

$\alpha = 0.01$ with $(k-1)*(r-1) = 10$ degrees of freedom, H_0: $\chi^2 \geq \chi^2_\alpha$ or H_0: variables X and Y are independent.

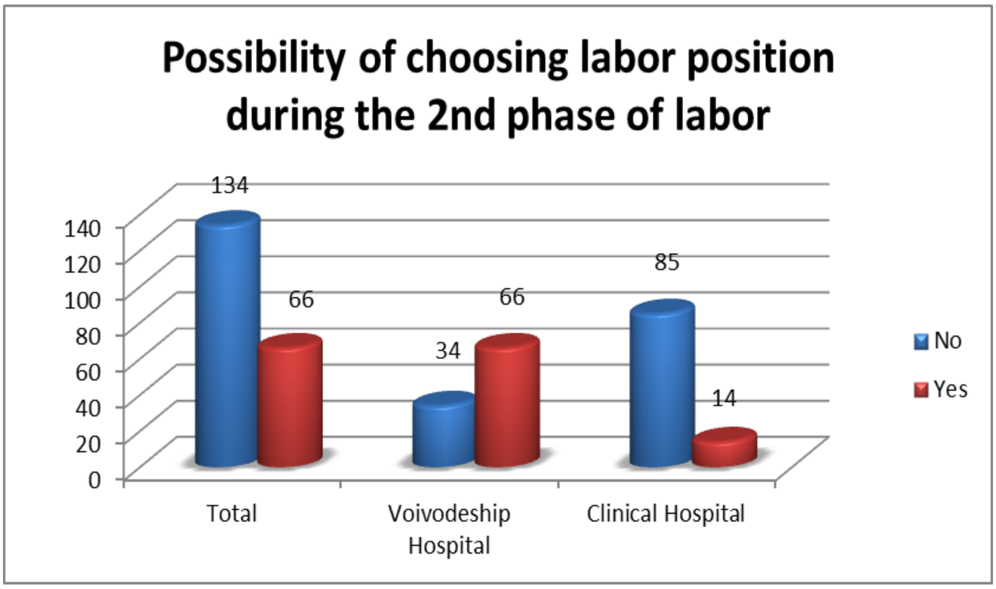

Figure 4. Possibility of choosing labor position during the second phase of labor.

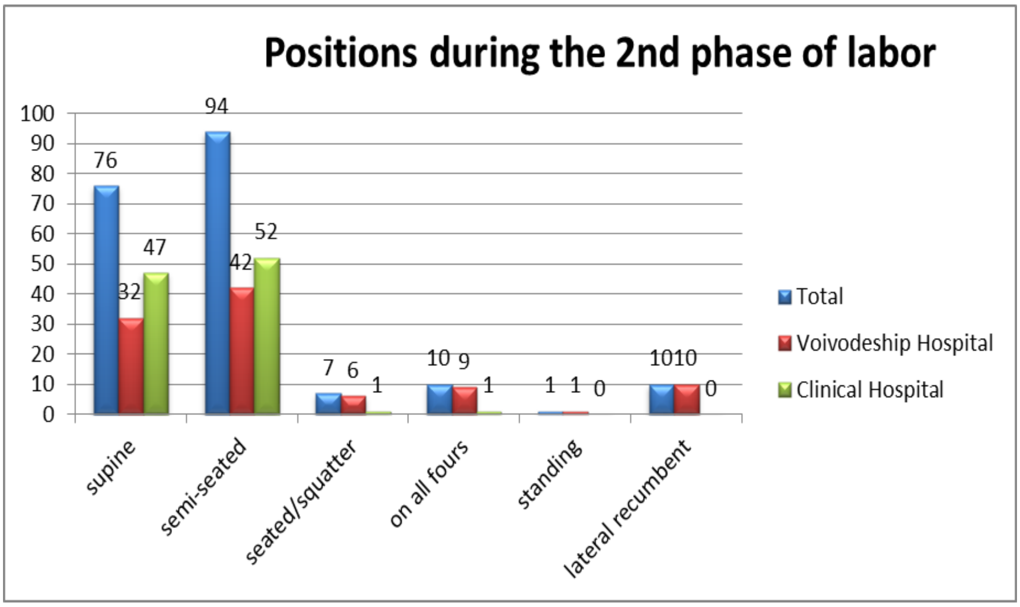

Figure 5. Labor positions during the second phase of labor.

Table 4. Relationship between the position during the 2nd phase of labor and pain score.

Position during the 2nd phase of labor (X)	Y X	Pain Score (Y)											
		0	1	2	3	4	5	6	7	8	9	10	Σ
	supine	2	1	2	1	2	1	8	10	25	29	53	134
	semi-seated	1	0	1	0	5	2	4	11	11	11	20	66
	Σ	3	1	3	1	7	3	12	21	36	40	73	200

Discussion

More and more women in both developed and developing countries are giving birth in health-care facilities, usually in bed in recumbent positions. A woman's position during labour has an important cultural imprint: in societies not influenced by Western culture, women progress through the first stage of labour in an upright position and change to other positions according to need [1].

A possible limitation of randomized controlled trials on women's position during labour may be that women in the control group cannot be prevented from adopting an upright position any time during labour if they wish to do so. The opposite is also true in the case of women who are allocated to the vertical position group during labour. It would be neither ethical nor humane to prevent them from assuming the position they wish to be in for any length of time if they wanted to. However, it is necessary to continue to evaluate the effect of different positions on obstetrical variables, comfort and general well-being of labouring women. This poses a challenge for researchers conducting randomized trials to seek strategies to allocate women to control and intervention groups in order to minimize contamination [1].

Factors that contribute to maternal and fetal well-being are becoming an increasingly common requirement both for maternity hospitals committed to the humanization of childbirth and for women themselves. Non-pharmacological and non-invasive interventions to relieve pain and ensure the comfort of women during labor should be a primary concern and it is the responsibility of healthcare workers to provide guidance on practices based on scientific evidence in order to guarantee the safety of both mother and fetus [22]. Numerous comparative studies have investigated the various vertical (all-fours or squatting position) and horizontal positions (seated or lithotomy position) with regards to their influence on the risk of birth canal injury and delivery outcome [5, 12].

The intensity of pain perceived by the women during labor and delivery, and evaluated using three instruments did not show any differences associated to the positions at childbirth, hence it cannot be affirmed that women who delivered in a lithotomy position were less sensitive to pain [18].

It is known that in the vertical position, the contractions are more regular in terms of form and rhythm. Certainly for this reason, the vertical position during labor has a positive effect on contractions, permitting a better quality in obtaining uterine dynamics, reducing the length of labor and reducing the need for oxytocin [19].

Recent evidence shows that the vertical or lateral position, when compared to the horizontal position (supine or gynecological), reduces the duration of the expulsive period, complaints of severe pain, number of C-sections, the need for episiotomy, and alterations in fetal heartbeat [20].

The results of our study analyzing the prevalence of various positions during the 1st and 2nd labor phase revealed hospital-specific differences. About one-third of responders from the University Clinical Hospital declared that they did not need to get up from the bed during the 1st phase of delivery, and 20% were asked to stay in bed despite their desire to get up. As many as 85% of the patients hospitalized at the University Clinical Hospital were not allowed to choose the childbirth position during the 2nd phase of labor. In contrast, as many as 90% of patients from the Voivodeship Hospital remained active during the 1st phase of labor, and 51% of them were allowed to choose labor position during the 2nd phase.

Furthermore, we revealed hospital-specific difference in the severity of labor pain. Despite more frequent administration of epidural anesthesia, the patients at the University Clinical Hospital experienced maximum level of pain slightly more frequently than women from the Voivodeship Hospital. Additionally, we found a significant relationship between the position during the 1st and 2nd phase of labor and the level of experienced pain. Patients who used vertical position during the 1st and 2nd phase of delivery reported lower VAS scores of experienced pain.

Lawrence et al. [21] analyzed the use of vertical positions amongst 3 706 women from several countries. According to these authors, the patients using vertical positions demanded anesthesia less frequently. Furthermore, they observed that the lower level of pain experienced by patients who used vertical positions was also associated with shorter duration of the 1st phase of labor.

The variables studied were visual analogue scale (VAS) pain scores during labor, maternal satisfaction with the pain relief technique and with delivery, desire to use the same pain relief method at a future delivery and loss of control during delivery.

Miquelutti et al. [22] studied 107 Brazilian primiparas; amongst them, 54 subjects encouraged to use the vertical positions and 53 participants not encouraged to use this position. They observed that women who were not encouraged towards active labor also preferred delivery in the vertical position in various phases of labor and for different duration. The level of experienced pain was scored using VAS before and after achieving 4 cm dilatation. The authors revealed that prior to the dilatation women who were more active during 41% of labor time experienced pain scored as lower than 4 VAS points. In contrast, patients who remained active for only 21% of labor time scored their pain above 7 VAS points. Although no significant intergroup differences in pain scores were documented at 4-6 cm dilatation, women who remained active for more than 50% of this phase declared higher satisfaction with labor than the less active patients [22].

Some remarks should be made on the reason for using a complementary efficacy analysis to deal with data resulting from a randomized, controlled trial. This was done in view of the real possibility of a positive effect of the vertical position adopted by women during labor on maternal well being and on labor that is not clearly apparent in the randomized studies, because adherence and contamination are presented as confounding factors with regard to the effect of this intervention. It is obvious that in a randomized, controlled study, a laboring woman allocated to a horizontal position group cannot be prevented from adopting a vertical position at any time during labor if she wishes to do so. The opposite is also true in the case of women who were initially allocated to the vertical position group during labor. It would be neither ethical nor humane to prevent them from assuming the horizontal position for any length of time if they so desire [22].

Gayeski and Bruggemann [20] compared vertical and horizontal positions using post-partum surveys. According to their responders, vertical positions were more comfortable and associated with lower level of experienced pain. Additionally, women who used vertical position during labor more frequently resumed normal status during puerperium (due to less severe perineal injury). Despite stronger pain and sooner experienced fatigue, the horizontal position was perceived as more comfortable by women who felt safer in this position and needed to feel that someone will take care of them [20].

In contrast, the positive influence of vertical position on the attenuation of labor pain was not confirmed in the study by Molina et al. [23], conducted in Buenos Aires in 1990s. Women in labor were asked to remain in the vertical and horizontal positions for 15 minutes at various phases of delivery; subsequently, they characterized the level of experienced pain. Most of them reported weaker pain in the horizontal position. However, the authors emphasized the fact that patients in Buenos Aires are trained in alleviating labor pain in the horizontal position.

Nonetheless, positive effect of vertical position on the attenuation of labor pain was confirmed in Birmingham study, which compared a group of women who walked during the 1st and 2nd phase of labor with those who remained lying during most of the delivery. The labor was shorter in the active group; additionally, this group was characterized by lower consumption of analgesics. Similar study conducted in the Garden Hospital in London in a group of 316 actively delivering women revealed that only 0.3% of them were administered analgesics [24, 25, 26, 27].

Conclusion

Woman should deliver in the position which she founds most comfortable and which is associated with the lowest level of experienced labor pain.

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MEDICAL PROBLEMS OF PALLIATIVE CARE

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