

Nurses' attitudes towards transplantology

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Abstract

This paper is an attempt to examine nurses' attitudes towards transplantology, a branch of clinical medicine responsible for organ transplants. 84 registered nurses were interviewed. The questionnaire was of an audit character and it was filled under the supervision of interviewers. Nurses' knowledge about issues concerning transplantology was very incomplete. Very few nurses had their own experience in being a tissue donor (blood, bone marrow) for another human being. Many participants didn't see any difference between diagnosed death of brain stem and being a potential donor. Transplantology issues are still a taboo in many families. The majority of nurses involved in the study, thought they could be a donor *ex mortuo*. As an *ex vivo* donor, participants would agree to give their bone marrow. 9.5% of interviewed nurses didn't see anything wrong in buying organs.

Key words: nurses, transplantology, donor.

Introduction

Last year, the 50th anniversary of the first successful human kidney transplantation was celebrated. December 1954, when Joe Murray performed first successful transplant of a twin kidney, is perceived to be the beginning of the human organs

transplantology era [1]. This year, it will be 40 years since Prof. Jan Nielubowicz, together with his team, transplanted a kidney taken from a dead person for the first time in Warsaw. A student nurse was the organ recipient [2]. "Alexis Carrel, who between 1900 and 1920 dreamt the dream (...) of surgical exchange of fatally sick organs into healthy ones, is considered the father of the transplantation idea" [3].

The second part of 20th century has been called transplantology times because of the sudden development of this branch of medicine. Currently, transplantology is a branch of clinical medicine. As a science it considers problems of cells, tissues and organ transplants.

An extreme failure of a particular organ, tissue defect, organ defect or they absence are the reasons leading doctors to perform that kind of surgery. About 1 million people with a transplanted organ are living around the world nowadays [1].

A term of transplant comes from the word *transplantare*, describing an activity of transplanting or moving. It is a surgical intervention of cell, tissue and organ transplantation from donor into recipient organism performed in therapeutic purposes. When a criterion of donor vital state is taken into consideration, two kinds of transplants can be distinguished: *ex mortuo* – transplanted organ comes from a dead person, *ex vivo* – transplanted organ comes from a living donor [1].

There are many reasons why transplants of organs taken from living donors – patient's relatives amount to 3-4% of all transplanting interventions in Poland. Of 1279 organs taken from donors in 2002, only 38 came from living donors. The conclusion arises that lives of huge number of patients depends on post-mortem donation [4].

Medical practise shows that benefits can be derived from the whole human body, and transplantologists underline that from a technical point of view, any organ can be transplanted [1].

Fast development of transplantology forced an act introducing precise and comprehensive regulations concerning issues of taking and transplanting organs. On 26th October 1995, The Polish Parliament passed an act about taking and transplanting cells, tissues and organs. Regulations included in that act,

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together with 10 other executive acts, came into force in March 1996. The regulations concern *ex mortuo* and *ex vivo* transplants and they are based on nine leading rules of transplantology: (1) legality of collecting organs from dead people, (2) objective diagnosis of potential donor's death, (3) preferring *ex mortuo* transplantations, (4) donor must be of age, (5) organ's trade is forbidden, (6) no announcements of payment for transplantation are allowed, (7) honesty of medical personnel, (8) due salary and (9) primacy of health needs. [5]

Although transplants become more prevalent in medical practise and develop continuously, they are not free from problems and questions. Despite the increase in number of performed transplants, the group of patients, waiting for organ or tissue, grows all the time. The supply of organs never satisfies demand for them. Therefore, problems concerning distribution of donated organs taken from human corpses, and the question of choosing the right recipient, emerge [1].

Organ transplantation is a very specific form of treatment. Apart from a patient and medical staff, an organ, taken from dead or living donor, is necessary. The biggest group of donors consists of young people, usually tragically killed in transport accidents or victims of other sudden death – e.g. suicides. A form “potential donor” describes a person, after whose death there is a theoretical possibility of taking his/her organs [2].

The Catholic Church position, which is definitely positive in the matter of organ transplants, is very important in forming social attitudes of Catholics towards transplantations. The moral authority of The Catholic Church – John Paul II, supports the idea of transplantology [7]. The Church approves transplantations but not unconditionally.

The most significant conditions, under which The Church allows *ex mortuo* organ explantations, concern donor's death and consent expressed by the donor himself. As far as the first condition is concerned, The Church accepts medical criteria of death and approves the idea of brain death. The donor's consent is the second ethical condition of organ explantations after donor's death. Christian ethical norms point to the need of conscious consent of a future donor for taking his/her organs, or acceptance given by statutory representative [7,8].

The number of dialysis increases, but still 3000 people suffering from chronic renal failure die every year in Poland. Situation of people waiting for heart or liver transplantations is much worse. In their cases there are no “substitute organ” therapy. The only rescue for those patients is transplant intervention. More than half of patients waiting for transplants die before desired surgery is performed, for the number of taken organs are not sufficient [2].

Transplant medicine, as no other medical speciality, is connected with many extremely difficult problems. One of them concerns still present difficulties resulting from complicated immunology processes. The success depends on immunological reaction of recipient's organism to new cells, tissues or organs. Transplantologists are still meeting moral barriers, which except general and social aspect, also seem to be present in medical environment. Moreover, transplantology centres experience more financial problems all the time [2].

Currently, in Poland 1771 patients await vascularized organ transplants. Meanwhile, the list of potential patients, registered

on the national List of Poltransplant Recipients, includes: 1473 kidney, 20 kidney and pancreas, 113 liver, 148 heart and 17 heart and lung recipients [6].

There is no doubt that organ transplants are modern, needed and effective method of treatment in the case of irreversible renal failure.

The purpose of our study was to examine nurses' attitudes towards transplantology and use conclusions in nursing education process at Bachelor's degree level.

Material and methods

The study utilised diagnostic survey method based on a questionnaire. Eighty-eight registered nurses were interviewed. A method of diagnostic survey with questionnaire technique was used. A questionnaire including 38 items (open, half open and closed questions) was utilised as a measuring tool. The questionnaire of an auditory character was filled under the supervision of interviewers between 17 and 19th December 2004 by the group of students at The Podhale Public School of Higher Vocational Education in Nowy Targ.

Women were the majority of the sample (98.8%). Nurses between 31 and 35 years old comprised the biggest age group – 41.7% of all participants. That group consisted only of females. The age of male participants ranged from 36 to 40 (1.2% of the cohort) and 46-50 (1.2%).

The proportion of single participants to married ones was 1 to 3. The divorced and widows comprised 2.3% of all participants. The participants worked in the following departments: interventional – 32.1% (surgical, dialysis, emergency), conservative – 35.7% (internal, paediatric), care – 5.9% (care, Social Care Centres) and outpatient care – 17.8% (outpatient clinic, schools). The rest of the sample (8.3%) didn't answer the question. The majority of participants had worked for at least 10 years.

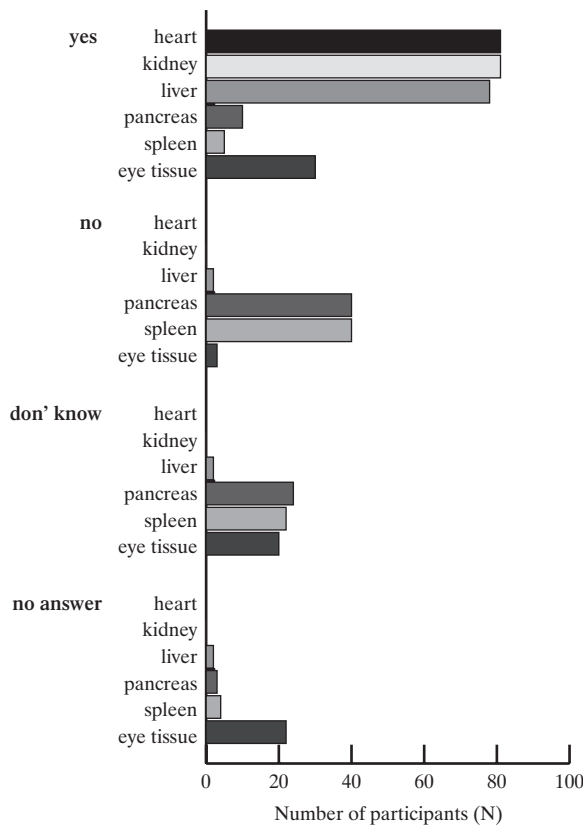
Results

Unfortunately, less than 55% of all participants knew the name of the institution coordinating organisational matters concerning transplants in Poland. All the male participants and 53.6% of female nurses comprised this group. The rest of female nurses didn't answer the question at all (15.8%) or gave a wrong name of The Centre of Transplantology (30.6%).

98.8% of interviewed nurses believed that heart and kidney transplants were possible. Smaller number of nurses (92.8%) said that liver transplantations were performed, and only 13.1% heard about pancreas transplants. The same number of participants said, spleen transplants were possible (Fig. 1).

When asked if they were donors of tissue or organs, 3.6% of all respondents said they were blood donors, and 1.2% donated bone marrow to other people. All the donors were female. This information is particularly interesting when the fact, that 29.8% stated they were honorary blood donors, is taken into consideration. 2/3rd of nurses who gave their blood weren't honorary blood donors, and they gave blood as a “respond to some kind

Figure 1. Performed transplants according to the participants

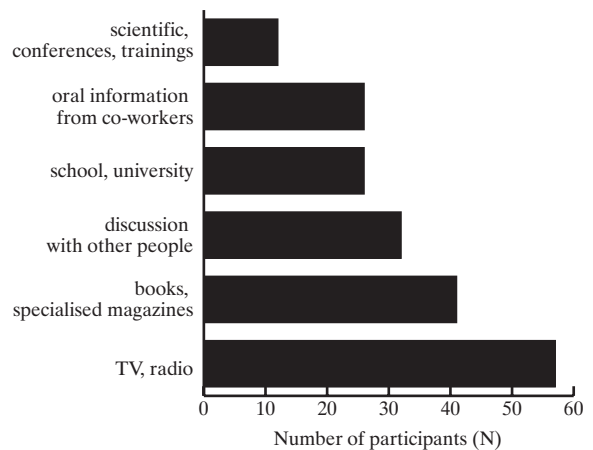


of action". 40.5% of all respondents claimed their relatives were honorary blood donors. The largest part of that group comprised of nurses' husbands (35.3%) and their parents (17.6%). 64% of nurses being an honorary blood donor, didn't give blood as a "respond to the call". The rest gave blood either as a respond to an organised action or to their relatives or strangers request. Only one person (1.2%) who wasn't an honorary blood donor gave blood as a respond to a request.

More than half of all respondents (54.8%) saw the most serious problem of current transplantology in "small number of donors", which meant, "lack of organs". The interviewed nurses perceived other problems like: "high costs of surgery" (27.4%), "small financial resources" (17.8%) and "protests of dead person relatives" linked to "small social consciousness" (23.8%) and lack of social education in that area (14.3%). 5.9% of all respondents admitted, they were not interested in problems of transplantology. Moreover, one person refused to be a post-mortem donor. In the group of nurses, who didn't care about transplantology problems, the relation of the number of respondents willing to become a donor after their death to those refusing to be a donor was 3:2.

A form "potential donor" describes a person, after whose death there is a theoretical possibility of taking his/her organs [2]. The respondents understood "potential donor" as: "every healthy man" (25%), "every person qualified as a donor" (20.2%), "every person from the street" (9.5%). 8.3% of nurses believed that a "young man, mainly after accident" is a potential

Figure 2. Sources of knowledge concerning transplantations



donor. 7.1% of all participants paid attention to the question of lack of refusal, and half of that number thought about the aspect of brain stem death (3.6%). 12% of nurses participating in the study believes that "potential donor" must express his/her consent when he/she is alive, so he/she can be *ex mortuo* donor after death.

More than 58% of the respondents met, in their professional work, a person with diagnosed death of the brain stem. This information becomes significant in the light of previous statements of respondents, where only 32% of them said they met a potential donor in their professional work. Less than half of all nurses (48.8%), who had a contact with a patient with diagnosed death of the brain stem, linked that fact with potential organ donor. The biggest group of nurses, who saw a patient with dead brain stem, worked in the surgical departments. Also, not less than 40% of nurses working in the care centres and the surgical unit and the same number of nurses from outpatient clinics stated that they took care of a patient with diagnosed death of the brain stem.

59.5% of all respondents believed that The Catholic Church "supports", "allows", "doesn't oppose" organ transplantation, 2%, however, said that The Church supports this idea but under certain conditions, which they didn't name. 26.2% of participants didn't know what kind of attitude The Church presented, and according to the opinion of 7 nurses (8.3%) The Church was against transplantations.

The majority of all respondents thought that "buying organs" is reprehensible. Only 9.5% didn't see anything wrong in it, and 2.3% of the sample believed that "it will be always possible to buy anything". Only 4.7% of the respondents noticed the legal aspect of organ trade.

For 67.8% of all respondents, the television was the main source of information about issues concerning transplantology, meanwhile school or university were classified as no 4 on that list (Fig. 2).

Presumed consent is present in half of the European countries, and it is written in the resolution of The European Cabinet. The logic of this idea called presumed consent is based on the thesis that lack of refusal means acceptance of

organ donation from one's dead body. As far as legal aspect is concerned, no one, even the closest relatives cannot successfully forbid organ donation. However, ethical aspects and morality point to the need of informing the family about intended organ donation from the body of a dead close relative.

The vast majority of the respondents (92.8%) said they didn't express their refusal to organ donation from their bodies after death. However, most of them knew how one can formulate his/her refusal e.g. 30.8% pointed to The Central Register, more than 44% – written statement. 71.4% of all nurses expressed their will to be donors, however 1/3rd of that group agreed to be a donor only after their heart dies.

The act, being in use in Poland, clearly describes the ways of refusal (article 5). 17.8% of nurses knew about registration of refusals in The Central Register. The majority (54.8%) was aware of written form of refusal, 30.9% of nurses suggested a written information in the identity card, and 7.1% believes this information can be included in the last will.

13.1% of all nurses perceived the opinion of family as a form of refusal concerning taking organs after one's death.

Very often, it is the family of a dead person, who protest against organ donation although this person never expressed refusal. That's why family discussion about that matters is so important. 1/3rd of all nurses (38%) didn't talk about these problems with their families at all. 47.6% of the sample said they talked about transplants with their relatives rarely, 13% often. 71.4% of all participants who didn't discuss transplantology matters in their families (38% of all) expressed the will to become a donor after their death. Those who want to be donors believe their families know their will in 89.5%.

As many as 64.3% of all nurses, didn't know their closest relatives' will about consent for taking organs from them after their death.

More than the half of the respondents (53.6%) claimed their relatives knew their opinion about organ donation, but only 66.7% of that group discussed that question with their families, and the rest believed their families knew their will because they presume it.

When situation of death of a close relative was concerned, 45.2% of all nurses didn't know whether they would agree to take organs from the dead, and 16.7% would protest definitely. In that last group, 57.2% of the sample didn't know their relatives' will about organ donation after their death, and 42.8% claimed they had this knowledge, so they would act according to dead person's will. Surprisingly, those who weren't sure what kind of decision they would make, said in 23.7% of the cases they knew their relatives' will.

Transplanted organs come from the dead almost always. In the case of a twin organ like kidney or bone marrow, it is possible to take them from living donors. According to 95.2% of the nurses said that an *ex vivo* donor had to be healthy, 8.7% paid particular attention to the question of absence of neoplastic diseases, and 7.5% underlined negative results of the HIV and HBS tests. 21.4% underlined also the fact of donor's consent and 17.8% remembered about demanded biological consistency between the donor and recipient.

If there was such a need, 87.4% of all nurses were ready to give their kidney to one of their relatives, and 90.5% would

agree to be a bone marrow donor for their relatives. In both cases none of the participants refused, the remaining ones answered, "I don't know". If a nurse was a kidney donor to a stranger, the majority of participants (58.3%) would say "don't know", the rest was equally divided into two groups – "yes" group (21.4%) and "no" group (20.2%). Being a bone marrow donor wasn't a problem for 55.9% of all respondents, and 11.9% of them said "no".

Discussion

Specialists believe that in Poland transplantology presents dynamic development, and creation of "Poltransplant", The Organisational-Coordination Centre for Transplantology Matters, was the turning point in more prevalent use of transplantology [4]. Surprisingly only half of the nurse respondents, working in health care, knew the name of this institution.

The following organs are transplanted in Poland: kidney, heart, liver, pancreas, and lungs. It is possible to transplant several organs at the same time (multi-organ transplants) e.g. heart with lungs or kidney with pancreas [1]. It is interesting that 13.1% of all participants thought that spleen transplants were performed.

There is no doubt that elements like: participants' experiences or his/her relatives' experiences concerning tissue or organ donation for another man, influence one's opinion. 95% of examined population didn't have any personal experiences in this area. Only 4.8% of all respondents said they were blood donors or bone marrow to other people.

Transplantology is connected with many problems concerning the following elements: immunosuppression, distribution of treatment "possibilities" (choice of recipient), ethics, morality, law and finances. Surprisingly, none of nurse respondents paid attention to medical aspects of transplants concerning immunosuppression.

The transplantology act, being in use in Poland, regulates, according to the European standards, the issues concerning transplants of tissue and organs taken from both: living and dead donors. The conditions of taking organs from dead people are based on the idea of presumed consent. Everyone has the right to express refusal, and if the possibility of taking organs from him/her is problematic, one will think about it when he/she is alive [5]. 12% of participants revealed complete lack of knowledge about law acts, who said that potential donors had to express the consent when they were alive.

Despite legal "presumed consent", 13.1% of respondent confirmed that in Polish reality the decision about taking organs from a dead person stays in his family hands. As many as 64.3% of all nurses, didn't know their closest relatives' will about consent for taking organs from them after their death. It seems to be quite interesting, since 60.7% of participants claimed they discuss topics concerning transplantations, so 3.6% touched on those issues but not when the question of learning their relatives' will was concerned.

The act, being in use in Poland, clearly describes the ways of refusal (article 5): through the registration in The Central Register, written statement signed personally and verbal state-

ment expressed in the presence of two witnesses at least when a patient is admitted to hospital or stays there [5]. Respondents showed little knowledge about possible forms of refusing to become *ex mortuo* donor. 7.1% of all respondents thought that the last will might have been a way of expressing refusal, which shows complete misunderstanding of the transplantation idea.

If a potential donor didn't express the refusal when he/she was alive, entire procedure is commenced with all its demands. The first step is to diagnose the death. Since the respirator had been invented, a new definition of death had to be formulated. Before that a classical definition was in use. The lack of heart and lungs activity was understood as the end of human life. Brain death concerns its stem, which is responsible for processes like: breathing, heart action, and blood circulation. Consciousness and biographical memory, which are placed in upper parts of the brain, die earlier. Therefore, the brain stem death means human being death as integrity, although some parts may still be alive (e.g. organs) [2,5]. Nurses didn't relate brain stem death with a potential donor, which is an undoubtful evidence of ignorance in the field of transplantology.

Shortages in donated organs caused that paid and rewarded donors appeared. The world's population is divided into poor and rich. Therefore, there is a danger that people from poor countries will sell their and their children's organs in order to avoid poverty. Polish transplantology act unambiguously forbids accepting any financial rewards for taken cells, tissues and organs (article 18). There is also a penalty of 3 years of imprisonment and even 10 years for organ trade [5]. Vast majority of participants said that "organ trade" is blameworthy, but only 4.7% paid attention to legal aspects of this procedure. Therefore, we can assume that others considered moral aspect as the most important.

In Poland no transplants of organs taken from paid donors are performed. Medical environments, parliaments of many countries, the World Health Organisation and the European Council condemned commercialisation and organ trade and passed the Bioethical Convention in 1996. Articles, with sensational titles, concerning organ thefts, more frequent nowadays, make people lose their trust and suspect the doctors responsible for transplants, and finally complicate making decisions about

approval or refusal to take organs from a donor after his/her death. The Press, radio, but most of all TV often present problems of a single person in too emotional way (while not concerning social problems). However, emotions can easily lead to carelessness [2]. For 67.8% of all respondents, the television was the main source of information about issues concerning transplantology. For a professional group like nurses, TV shouldn't be the main source of information.

Conclusions

The examined nurses possessed incomplete knowledge concerning medical and legal aspects of transplantology. Few nurses have their own experience as a blood or bone marrow donor to another person. Topics concerning transplantology are taboo in many families. The majority of the respondents claimed they could be donors *ex mortuo*. TV was the basic source of information about topics concerning transplantology for the examined nurses.

Education is of a great importance in promoting the conviction that acceptance of transplantology matters to all people. Each one of us and of our families not only can be a potential donor but also a recipient.

References

1. Kowal K. Cały do grobu... czyli rzecz o kłopotach ze społeczną tolerancją przeszczepów *ex mortuo*, <http://www.przeszczep.pl/main/a/tekst/id/135>
2. Rowiński W, Wałaszewski J, Safjan D, Safjan M. Problemy etyczno-obyczajowe przeszczepiania narządów <http://www.przeszczep.pl/main/a/tekst/id/104>
3. Thorwald J. Pacjenci. Kraków 1995. p. 101.
4. Czerwiński J, Antoszkiewicz K, Łągiewska B, Pliszczyński J, Krawczyk A. Pobieranie i przeszczepianie narządów w Polsce w 2002 roku. Poltransplant. Biuletyn Informacyjny 2003; 1.
5. The Act from 26 X 1995 about transpalnating and moving cells, tissues and organs (Dz. U. z dnia 6 grudnia 1995 (Dz.U.95.138.682 z póź. zm).
6. Wałaszewski J. Aktualny stan przeszczepiania narządów w Polsce 2004, www.przeszczep.pl
7. Jan Paweł II. Evangelium vitae art. 86. Encykliki Ojca Świętego Jana Pawła II. Kraków. Wydawnictwo Znak; 1996.
8. Jan Paweł II. Podać część siebie. Fragments of the speech for participants of the Transplantology Congress in Vatican on 20th June 1996. W drodze 1997; 1.