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Organ transplantation – the view of healthcare employees

Transplantacja narządów w opinii pracowników systemu ochrony zdrowia

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Słowa kluczowe

transplantacja narządów, postawa,
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S u m m a r y

Introduction. Transplantation medicine is still the source of many moral and ethical issues, which also affect healthcare employees.

Aim. The aim of the work was to learn the attitudes and opinions of healthcare employees concerning donation of organs and transplantation.

Material and methods. The study involved 262 randomly selected healthcare employees (doctors, nurses, and midwives). The research tool used in the study was an original survey questionnaire.

Results. Organ removal from live donors was accepted by 100% of midwives and nurses, and by 99% of doctors, while from deceased donors by 96.16% of doctors and approx. 95% of nurses and midwives. To the removal of organs after the death of a close relative would not give their consent 6.73% of doctors and 1.86% of nurses. About 90% of the participants would agree to have their own organs removed for transplantation after their death, regardless of the profession. Only 6.73% of doctors, 2.8% of nurses and 1.96% of midwives were of the opposite opinion.

Conclusions. Health care employees accept the removal and transplantation of organs from living and cadaveric donors, but the acceptance is lower if the situation affects them directly, when they face this extremely difficult decision in their own lives or in the situation of death of a close relative.

S t r e s z c z e n i e

Wstęp. Medycyna transplantacyjna wciąż wyłania szereg problemów natury obyczajowej i etycznej, które dotyczą również pracowników systemu ochrony zdrowia.

Cel pracy. Poznanie postaw i opinii na temat dawstwa narządów i transplantacji wśród pracowników systemu ochrony zdrowia.

Materiał i metody. Badania przeprowadzono z udziałem 262 losowo wybranych pracowników systemu ochrony zdrowia (lekarze, pielęgniarki, położne). Narzędziem badawczym, wykorzystanym do przeprowadzenia badań, był kwestionariusz ankiety.

Wyniki. Pobieranie narządów od dawców żywych akceptowało 100% położnych i pielęgniarek oraz 99% lekarzy; od dawców zmarłych akceptowało 96,16% lekarzy i ok. 95% pielęgniarek i położnych. Na pobranie narządów po śmierci osoby bliskiej nie zgodziłoby się 6,73% lekarzy i 1,86% pielęgniarek. Ok. 90% ankietowanych niezależnie od wykonywanego zawodu zgodziłoby się, aby po ich śmierci pobrano narządy celem przeszczepienia. Przeciwnych było 6,73% lekarzy, 2,8% pielęgniarek i 1,96% położnych.

Wnioski: Pracownicy systemu ochrony zdrowia akceptują pobieranie i przeszczepianie narządów od dawców żywych i zmarłych, jednak akceptacja ta maleje, jeśli dotycza to nas bezpośrednio i w obliczu śmierci bliskiej osoby lub za życia stajemy przed tym bardzo trudnym wyborem.

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INTRODUCTION

In recent years, the knowledge and awareness of organ donation and transplantation has grown in the so-

cietry, which has contributed to an increase in the number of transplants both from living and deceased donors. However, the number of transplants still

does not satisfy the needs of those who are on the waiting lists (1, 2). Although the declared approval for transplantation is quite high, as a community we are still not well prepared to become organ donors after death. The declared positive attitude does not translate into actual acceptance of organ removal (3, 4). Acquiring organs from dead or living persons does not only depend on the attitude of the community but also on the effort of many medical circles, institutions and organizations. It greatly depends on the doctors themselves – on their professionalism, determination, but also sensitivity and psychological skills necessary in a conversation with the family of a potential donor (5). Personal conviction among doctors and nurses and the local environment also play a great role in the process of obtaining organs for transplantation (6). The situation of making the decision about the removal of organs for transplantation after the death of a close relative is not only difficult for the family but also for the medical personnel. One thing that prevents them from establishing contact with the family of the dead one is the fear concerning the person's dignity, the wish to spare the family traumatic experiences and care about their emotional well-being (7). And although Polish law (8, 9) obliges healthcare centers to make the preliminary qualification of the potential donor and carry out clinical studies, not all hospitals diagnose the death of the brain and appoint a committee to discontinue the treatment and in – the case of lack of contraindications – carry out the removal of organs. One reason for the failure to identify potential donors may be the inability to talk with the dead person's family about the potential removal, or fear connected with such a conversation, but the local attitude to transplantation, especially in small towns, is also a significant factor. This is no problem in hospitals where many identifications and removals are done, but it is otherwise in small hospitals, where the brain death diagnosis, donor identification and organ removal are very rarely carried out. The medical personnel of those hospitals do not always have knowledge concerning the identification of the potential donor, or experience in difficult conversations with the families. The innovative part of our research is that we decided to study the attitude of midwives, who accompany humans at birth and do not encounter in their work the brain death or the procedure of organ removal and transplantation.

AIM

The aim of the work was to learn the attitudes and opinions of health care employees concerning donation of organs and transplantation.

MATERIAL AND METHODS

The study involved 262 healthcare employees (doctors, nurses, and midwives) randomly selected from hospitals in Białystok and Ełk. The research tool used in the study was a survey questionnaire. The questions in the questionnaire referred to organ transplantation.

The study was approved by the Bioethics Committee of the Medical University of Białystok. Each person

participating in the study was informed of its purpose and of the anonymity of the survey.

Software such as Excel and Statistica 10.0 from Statsoft was used in the statistical analysis of the collected data. The following tests were used in statistical calculations: the Chi-square test, the Mann-Whitney test and the Kruskal-Wallis test. Results at the level of $p < 0.05$ were considered to be statistically significant. Differences in the participants' beliefs concerning transplantation depending on the medical profession and religious practice were investigated in the work.

RESULTS

In the group of 262 participants, there were 40.85% of nurses, 39.68% of doctors and 19.47% of midwives. Women prevailed in the whole study group: 76.72%, compared to 23.28% of men. The mean age of participants was 38.4 ± 10.9 years. More than a half (59.92%) of the participants were below 40 years of age, and 40.08% – over 40. The vast majority of the respondents (80%) lived in town. More than a half (62.98%) were married. People who had never married accounted for 27.86%, the divorced ones 6.87%, and widows and widowers 2.29%. The majority of the group composed practicing believers. Atheists accounted for 3.82%. The most common religion among the participants was Catholicism (76.72%); there were 18.70% Orthodox people and 0.76% Protestants.

Acceptance for the transplantation of organs removed from living and deceased donors

Treatment using organs removed from living donors was accepted by all midwives, by 99.0% of nurses and by 97.12% of doctors. The removal and transplantation of organs from deceased donors, was accepted by 96.16% of doctors, 95.33% of nurses and 94.11% of midwives. Doctors significantly more often objected to this method of treatment than nurses (1.92% vs 0.93%; $p = 0.0275$) (tab. 1).

Consent to having organs removed from deceased relatives

A significant difference was found between the doctors and the nurses ($p = 0.0052$). The percentage of people who would allow the removal of organs from deceased close relatives was 86.54% among doctors, 76.47% among midwives and 73.83% among nurses. The mean age of those people was 37.8 ± 11.1 years. About 24% of nurses and midwives, as well as 6.73% of doctors, did not know in what way to answer the question. The mean age of those who could not answer the question was 43.8 ± 9.6 years. 6.73% of doctors and 1.86% of nurses would not agree to the removal of organs after the death of a close relative (tab. 2). The mean age of the opposing ones was 48.8 ± 11.5 years. Nonbelievers more often expressed such a consent than believers did (40% vs 34.92%).

Table 1. Approval for treatment with the use of organs removed from living and deceased donors.

Approval for treatment with the use of organs removed	Doctor	Nurse	Midwife	Total
	%	%	%	%
From living donors				
Definitely yes	72.12	61.68	58.82	65.27
Rather yes	25.0	37.38	41.18	33.21
Hard to say	1.92	0.93	0.0	1.14
Rather no	0.0	0.0	0.0	0.0
Definitely no	0.96	0.0	0.0	0.38
Total	100	100	100	100
From dead donors				
Definitely yes	72.12	54.21	56.86	61.83
Rather yes	24.04	41.12	37.25	33.59
Hard to say	0.96	3.74	5.88	3.05
Rather no	1.92*	0.93*	0.0	1.15
Definitely no	0.96	0.0	0.0	0.38
Total	100	100	100	100

*p = 0.0275 (doctor vs nurse)

90% of doctors, nurses and midwives would agree to have their organs removed after their own death. The mean age of those people was 37.3 ± 10.7 years. 6.73% of doctors, 2.8% of nurses and 1.96% of midwives were against it. The mean age of these people was 46.0 years (tab. 2).

Regarding religious practices versus the answer to this question, 70% of nonbelievers and 59.92% of believers chose "definitely yes"; 10% of nonbelievers and 4% of believers were against it.

Table 2. Consent to the removal of organs from close relatives after their death and after the respondent's own death.

Consent to the removal of organs	Doctor	Nurse	Midwife	Total
	%	%	%	%
After the death of a close relative				
Definitely yes	8.08	25.23	29.41	35.11
Rather yes	38.46	48.60	47.06	44.27
Hard to say	6.73	24.30	23.53	17.18
Rather no	3.85*	0.93*	0.0	1.91
Definitely no	2.88*	0.93*	0.0	1.53
Total	100	100	100	100
After their own death				
Definitely yes	62.5	58.88	58.82	60.31
Rather yes	26.92	30.84	31.37	29.39
Hard to say	3.85	7.48	7.84	6.10
Rather no	2.88	1.87	1.96	2.29
Definitely no	3.85	0.93	0.0	1.91
Total	100	100	100	100

*p = 0.0052 (doctor vs nurse)

Participants' talking to their family members concerning their decision to allow the removal of organs after their own death

Approx. 39% of nurses and approx. 30% of doctors had not talked to their family members about their decision to donate organs after death. The mean age of those who had informed their families about their will was 37.9 ± 11 years. The mean age of those who had not was 39.5 ± 10.8 years. Religious practice had no impact on talking to family members; every third believer and nonbeliever alike had never talked to their families about the will to have their organs removed after death.

Declaration of will

24.3% of nurses, 18.27% of doctors and 15.69% of midwives had the declarations of will. 5.88% of midwives and approx. 2% of doctors and nurses had declared their objection in the Central Objection Register. 7.63% of the participants had never thought about it.

Who should ultimately decide about the removal of organs from a dead person?

The percentage of people who thought that the law should ultimately decide about the removal of organs from a deceased person was 54.81% among doctors, and 35% among nurses and midwives. The idea that the family should decide it was supported by 33.33% of midwives, 28.04% of nurses, and 18.27% of doctors (tab. 3).

Table 3. Who should ultimately decide about the removal of organs from a deceased person.

Who do you think should ultimately decide about the removal of organs from a deceased person?	Doctor	Nurse	Midwife	Total
	%	%	%	%
Law	54.81*	36.45*	35.29	43.51
Family	18.27	28.04	33.33	25.19
Hard to say	26.92	35.51	31.38	31.3
Total	100	100	100	100

*p = 0.0408 (doctor vs nurse)

The mean age of persons who thought that the family's consent is necessary was 38.9 ± 11.8 years, and those who chose the law, 37.8 ± 10.8 years. More unbelieving (70%) than believing (42.46%) participants were of the opinion that the law should ultimately decide about the removal of organs from a deceased person. 25.79% of believers and 10% of atheists seconded that the ultimate decision be made by the family.

Doubts and fears of the respondents connected with the transplantation of tissues and organs

Doubts and fears of the studied health care professionals connected with the transplantation of tissues and organs are presented in table 4.

Table 4. Doubts and fears connected with the transplantation of tissues and organs.

Doubts and fears connected with the transplantation of tissues and organs	Doctor	Nurse	Midwife	Total
	%	%	%	%
Fear of the loss of the remaining paired organ in the case of donors within the family	3.85	6.54	11.76	6.4
Doubts concerning the brain death	5.77*	10.28*	5.88	7.63
Fear of complications after the transplantation	4.81*	18.69*	17.65	12.98
Fear of organ trade	1.92	3.74	0.0	2.29
No response	68.27	48.60	43.14	55.34
No doubts	15.38	12.15	21.57	15.27
Total	100	100	100	100

*p = 0.0091 (nurse vs doctor)

Participants' readiness to become live donors of tissue or paired organs.

60.78% of midwives, 47.66% of nurses and 42.31% of doctors expressed their consent to become live donors of tissue or paired organs. 45.8% of the respondents had never thought about it. 8.65% of doctors, 7.84% of midwives and 2.8% of nurses would not donate their organs.

Respondents' attitude towards organ transplantation

The majority (approx. 90%) of doctors, nurses and midwives had a positive attitude towards organ transplantation, 6.73% of doctors and approx. 5% of nurses and midwives were neutral, and the negative attitude occurred in the group of nurses – 0.93%. No significant difference was found between religious practice of the respondents and their attitude towards transplantation.

DISCUSSION

There are many studies concerning the doctors', nurses' or medical students' knowledge and attitudes concerning organ donation, but we have not found any that included the opinions of midwives. Midwives accompany humans at birth and not at death. In their work they do not meet patients with brain death and do not participate in the procedure of donor identification, organ removal and transplantation, unlike nurses or doctors, who quite often encounter the death of a person. On this account, does the knowledge and opinion of midwives concerning organ donation and transplantation differ from that of doctors and nurses?

The results of our study indicate that the same percentage (approx. 94%) of doctors, nurses and midwives declared a positive attitude to organ transplantation. A negative attitude was declared by 0.93% of the respondents, all of them were nurses. Regardless of the profession, approximately 99% of the respondents accepted treatment with the use of organ transplanta-

tion from living donors. However, despite such great acceptance of this treatment method in the medical circle, when the same individuals were asked about readiness to become living donors of tissue or a paired organ, only 48.9% of them would agree to that. In that group, midwives most often expressed their consent (60.78%), nurses – 47.66%, and doctors, the least often (42.31%). Objection to becoming a living donor was expressed by 8.65% of doctors, 7.84% of midwives and 2.8% of nurses. According to studies by other authors, 87.7% of nurses support transplantation, and 68.8% would consider the donation of their own organs if that be necessary (10). In a study by Sque et al. (11) carried out in Great Britain it was shown that 78% supported organ transplantation. In that study it was also found that more nurses working at dialysis units supported organ donation than in the case of nurses working at other units. According to the study by Akgün et al. (12), doctors manifest greater readiness to donate organs for transplantation than do nurses. In the present study, nurses expressed greater readiness to donate organs than did doctors. In a study carried out among 292 students of a Korean nursing school it was shown that the students support organ donation and are willing to become potential donors in the future, but this requires educational activity (13).

The present study shows that 95.42% of the respondents accept the removal and transplantation of organs from deceased bodies. Doctors significantly more often supported the removal of organs from deceased donors (72.12%), as compared to much fewer nurses (54.21%) and midwives (56.86%). According to research carried out by CBOS, 96% of the Polish society support transplantation *ex mortuo* (14).

In the case of a death of a close relative, 86.54% of doctors, 76.76% of midwives and 73.83% of nurses would agree to the removal of organs. The highest percentage of objections (8%) occurred among doctors. Among midwives there were no objections. In another study, in which we studied the residents of Podlasie region, the results were similar – 76% of the residents would agree, and 8.1% would not (14). In that study, we found that people with higher education would significantly more often allow organ removal from a relative after their death than people with primary education (46.7 vs 22.2%; p < 0.001) and with secondary education (46.7 vs 30.5%) (15).

In the present study we observed a high degree (90%) of declared readiness to donate organs after one's own death among all the health care professionals. 7.84% of nurses and midwives and 3.85% of doctors found it hard to decide. Even 4.2% would not agree to the removal of organs after their own death. Older persons, by non-believers, and by doctors, more often expressed this attitude. In the group of nonbelievers, 10% are definitely against the donation of organs after death, and among the believers, 1.59%. When the respondents were asked about having declared their objection in the Central Objection Register, only

2.67% confirmed they had done so. Midwives prevailed in that group. A public opinion study by Martinez et al. (16) carried out in Spain in 1995 confirmed the readiness of 65% of people to donate organs after their own death, and 93% in the case of the death of a close relative. It must be emphasized that Spain is currently the country with the highest percentage of organ removals. In a study carried out at the Teheran University among medicine students most of the studied population (85%) were willing to donate their organs after death, too (17).

In many cases, families would not disagree to having organs removed for transplantation from their deceased relatives if they knew the dead person's will in that regard. As our study shows, 66.03% of the respondents have talked to their family members about their decision concerning organ donation after death. This most often occurred among doctors (70.19%), more rarely among midwives (66.67%) and nurses (61.68%). Younger people and nonbelievers more often did it. The high percentage of participants who had talked to their families about organ donation may be related to the nature of their work. CBOS research shows that 3/4 of Poles have never talked with their families about the wish to donate organs after death. These were most often older people with primary education (14).

A great help in making this difficult decision that family members face at the death of a loved one is the declaration of will. In Poland it has no legal effect but is an expression of the person's intention regarding organ donation. In our study, 20.23% of the respondents had the declaration of will: 24.3% of nurses, 18.27% of doctors and 15.69% of midwives.

Presumed consent functions in Poland, which means that if someone did not declare an objection to organ removal, pursuant to Polish law it is assumed that the person agrees to have organs removed after death. However, it is customary to ask the donor's family to give consent to the removal of organs. The respondents were asked whether doctors should inquire the family members about their acceptance for the removal. Approximately 44.90% answered yes, every third respondent was neutral, and every fifth person thought the family should not be asked. Most Polish people (76%) are of the opinion that doctors are obliged to talk to families about the potential removal of organs from their deceased relatives, although in the light of law organs can be removed from anybody who did not declare their objection while living (18).

The study shows that according to 54.81% of doctors, the law should ultimately decide about organ removal, 26.92% of them are unsure, and 18.27% think the family's consent is essential. Among nurses and midwives, the opinions differed: 1/3 of them thought the law should be decisive, 1/3 were for the family, and 1/3 were unsure. A considerable difference was also observed between the answers of believers and non-believers. 70% of nonbelievers thought that the law

should decide about the removal of organs after death, while among the believers 42.46% shared this opinion. Similar conclusions were also drawn by CBOS (14). In our study, when the respondents were asked who should decide about the removal of organs for transplantation – the family or the person themselves while still alive – 76% answered that it was each person's individual decision. 18% of the respondents thought the family should decide. This option was most often chosen by older people, who participated in religious practices several times a week.

It would be fitting to analyses the issue of the level of knowledge among healthcare professionals concerning both the medical and the previously mentioned legal aspects of organ transplantation. The insufficient level of knowledge concerning organ donation is not only a problem of Polish medical professionals but also occurs in other countries. A study by Bener et al. (19), concerning the knowledge and attitudes of nurses and doctors towards organ donation in Qatar, covered 268 doctors and 253 nurses, and it proved that many doctors (72.4%) and nurses (74.7%) did not know that the brain death was a criterion of human's death. It also showed that nurses (61.3%) more often than doctors (23.9%) reported insufficient knowledge about donation. In a study by Makara-Studzińska et al. (20), focused on nurses working at the University Hospital in Lublin, 68% of nurses knew what presumed consent was. In our study, 86.65% of doctors, 70.09% of nurses and 65.12% of midwives knew the procedure of recognizing brain death.

Transplantation is associated with many doubts and problems. Due to doubts prevailing in the society, the number of organs removed for transplantation in Poland still does not match the needs. The late professor Wojciech Rowiński (21) was of the opinion that the skeptical attitude in the society mostly results from the unclear criteria related to the recognition of brain death, the problem with expressing consent or objection to organ donation after death, and the principles of selecting organ recipients or fears connected with commercialization of transplantation. In our study, 7.63% of people had some doubts concerning the diagnosis of brain death. These were most often nurses, more rarely doctors or midwives.

Thanks to the transplantation of organs many patients have the opportunity to get a new, better and happy life. The number of such people would be higher if more donors were declared. With time, the awareness of transplantation is growing in the society, but many people still have doubts. This also refers to healthcare professionals. Doctors and nurses may play an important role in educating our society – they should all the time encourage to declare the will of donating organs for transplantation after death. The knowledge of regulations concerning transplantation medicine may be an important factor affecting the increase of readiness to donate organs in the society, thus increasing the number of transplantations.

CONCLUSIONS

1. Healthcare employees accept the removal and transplantation of organs from living and cadaveric donors, but the acceptance is lower if the situation affects them directly and they face this extremely difficult decision in their own lives or in the situation of death of a close relative.
2. The most effective method of increasing the number of organ transplants is ensuring sufficient level of knowledge not only among the whole community but also among the medical staff, since many ethical and moral barriers among healthcare employees result from the lack of knowledge on the subject.

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