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Assessment of medical personnel knowledge about the function of transplant coordinator with reference to current Polish legislation

Abstract

Introduction. Initially, a transplant coordinator assisted in the process of removal and transplantation of organs. The most important rule in the Polish legislation is the Act of July 17th, 2009, amending the Act on removal, preservation, and transplantation of cells, tissues, and organs. Professional qualifications of a transplant coordinator are specified by the Regulation of the Minister of Health of December 4th, 2009 on detailed conditions of removal, preservation, and transplantation of cells, tissues, and organs.

Aim. The study aimed to assess the knowledge of medical personnel about the function of a transplant coordinator with reference to the current Polish legislation.

Material and methods. The study was conducted in April 2013 among 100 selected health professionals (25 physicians, 62 nurses, and 13 persons representing other medical professions) with the use of a questionnaire comprising 42 close-ended simple choice questions and one multiple-choice question. They were referring to various aspects associated with the legal axiology of transplantation, procedure of organ donation, and tasks of a donation coordinator, as well as one open-ended question about the age of respondents.

Results. Statistically significant differences between the occupational groups were found in relation to questions about legal and medical aspects. As many as 21 nurses (34%), 26 physicians (92%), and 6 persons representing other medical professions (46%) ($p < 0.000$) provided the correct answer to a question referring to determination of death, and 19 nurses (31%), 7 physicians (28%), and 5 persons representing other medical professions ($p < 0.021$) answered correctly to a question about the key premise to determine brain death.

Conclusions. 1. The knowledge of medical personnel about the function of a transplant coordinator and the legal provisions concerning brain death determination needs to be supplemented. 2. There is a need of constantly supplementing knowledge of medical personnel about the clinical aspects of transplantation.

Keywords: transplant coordinator, transplantation, law, knowledge, nurses, physicians.

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INTRODUCTION

Initially, a transplant coordinator assisted in the process of removal and transplantation of organs as well as organized the entire transplantation procedure, usually voluntarily. Celia Wight, a nurse from a hospital in Cambridge in the 1970s was the first coordinator in the world [1]. In Poland, the profession of transplant coordinator was first introduced in the Act of July 17th, 2009 amending the Act on removal, preservation, and transplantation of cells, tissues, and organs [2]. According to the classification of professions and specializations, the profession of coordinator of donation and transplantation of tissues and organs is referred to under code number 325904 and is a part of a group named: middle personnel, not classified elsewhere (code number 3259). A transplant coordinator has the following tasks: obtaining

tissue and organ donors by speaking with family of a potential deceased donor, performing laboratory tests with reference to tissue and organ donors, following procedures of removal of cells and tissues and storing them in a cell and tissue bank, performing other related tasks, and others. Professional qualifications of a transplant coordinator are specified in the Regulation of the Minister of Health of December 4th, 2009 on detailed conditions of removal, preservation, and transplantation of cells, tissues, and organs. This Regulation states that only a person with 1) at least secondary medical education; and who 2) completed training for coordinators, confirmed with a certificate may become a transplant coordinator [3]. Trainings are run by POLTRANSPLANT for all coordinators not less than every 2 years [4]. By the end of 2011, 316 persons, including 167 nurses, 130 doctors, and 19 persons with other medical degrees had completed

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Post-graduate Course for Transplant Coordinators. By the end of 2011, POLTRANSPLANT had concluded contracts with 200 coordinators, including 126 physicians and 74 nurses [4].

AIM

The aim of the study was an attempt to assess the level of knowledge of medical personnel about the function of a transplant coordinator with reference to current Polish legislation as well as the knowledge of transplantation procedure, position and tasks of a transplant coordinator presented by physicians, nurses, and members of other medical professions (analytical laboratory staff, X-ray laboratory staff, and medical rescue workers) that participate in the donation procedure.

MATERIAL AND METHODS

The study enrolled 100 participants: 81 women and 19 men. The study group comprised 62 nurses, 25 physicians, and 13 persons representing other medical professions. The mean age was 46 years (min. 22, max. 65, SD: 8, median: 46). A majority of the respondents had a length of service between 20 and 30 years (39 persons) and between 10 and 20 years (33 persons). A significant part of the study participants (92 persons) worked in a regional hospital.

A voluntary and anonymous survey was conducted among surgical ward personnel in April 2013 with the use of a questionnaire developed by the authors. The questionnaire was distributed among the participants by a person conducting the study. The questionnaire comprised 42 close-ended single-choice questions and one multiple-choice question relating to various aspects associated with the legal axiology of transplantation, procedure of organ donation, and tasks of a donation coordinator, as well as one open-ended question about the age of the respondents.

Statistical analysis of the study results

Statsoft STATISTICA 10.0 program (licensed to Warsaw Medical University) was used for statistical analysis of the results. Owing to the fact that three separate professional groups (nurses, doctors, and persons representing other professions) were compared and due to the nature of the data (qualitative, non-parametric data), the non-parametric Kruskal-Wallis test was used for the statistical analysis. The significance level was established at $p < 0.05$.

RESULTS

Regardless of their medical profession, all study participants supported the idea of transplantation. A majority of the total (94 persons) knew that transplantation issues are subject to European law. The correct answer was provided by 95% of nurses, 100% of doctors, and 77% of persons representing other medical professions. Only 31 study participants knew that cerebrovascular diseases are the main causes of brain death in Poland. Differences between answers of the study participants from particular professional groups were statistically significant ($p < 0.021$). The correct answer was given by 19 nurses (31%), 7 doctors (28%), and 5 persons

representing other medical professions (38%). Less than half of the respondents (43 persons) knew that under Polish law, a coordinator must ask family members about the opinion of a potential donor concerning organ donation. Nurses were more knowledgeable about this issue compared to the remaining groups. The correct answer was given by 30 nurses (48%), 8 doctors (32%), and 5 persons representing other medical professions (38%). See Table 1 for details on the level of knowledge of medical personnel about the basics of transplantation.

Although a vast majority of the respondents knew that transplantation issues are subject to European law and that the Polish Transplantation Act imposes criminal penalties for organ trafficking, only half of all study participants correctly indicated the legislative act regulating transplantation issues in Poland, i.e. knew that it is the Act of July 1st, 2005 r. as amended. See Table 2 for details concerning legislation on organ transplantation in Poland.

Slightly over half of the study participants provided the correct answer to a question on the duration of initial observation of a potential donor with primary brain injury (i.e. that it lasts 6 hours). There was also a similar proportion of correct answers to a question about the cranial nerve reflexes examined twice by the Committee during brain death determination. Only 50 persons knew that these are the following: the pupillary response to light, corneal reflex, caloric test, pain involving cranial nerves, gag and cough reflex, oculocephalic reflex, and evaluation of reactivity of the respiratory centre. See Table 3 for detailed data.

A majority of the respondents knew that a transplant coordinator should have excellent knowledge of Polish and European law on organ transplantation as well as that a coordinator is obliged by Polish law to follow and supervise the procedures of removal of cells, tissues and organs. Almost 40% of the study participants responded correctly to a question concerning the time frame of the work of a transplant coordinator, indicating that there is no such frame during a transplantation procedure. See Table 4 for details on the level of knowledge of the respondents about the work of a transplant coordinator during a transplantation procedure.

DISCUSSION

No publications on the knowledge of entire medical personnel about the role of a transplant coordinator or transplantation procedure have been found in the world scientific literature (PubMed database, phrases searched: transplantation, transplantation, transplant coordinator, in the years 2000-2012) and Polish scientific literature (Polish Medical Bibliography). However, it is possible to find the results of studies on the opinions and attitudes of different social groups towards transplantation [5-10].

The available Polish scientific literature (Polish Medical Bibliography) presents two articles on the assessment of knowledge of nurses about organ transplantation [9,10]. Because there were no publications devoted to assessment of knowledge of organ transplantation or the role of a transplant coordinator in the legal context among the entire medical personnel that may participate in a transplantation procedure, the present study may be regarded as innovative.

The results of both Polish and world studies demonstrate the increasing approval of using transplantation for treatment of patients with end-stage organ disease. In the 2009 CBOS study, 91% of the respondents expressed their approval of post-mortem organ donation [5]. A hundred percent of the medical community participating in the present study supported the idea of organ transplantation.

In the aforementioned CBOS study, 82% of the respondents were willing to donate their organs after death. In the report "Special Eurobarometer: Europeans and organ donation" prepared in 2006, a majority of the respondents were willing to donate their organs after death [5,6]. In our study, only 13 out of 100 respondents carried with themselves a signed declaration of intent. In our study, 92% of doctors, 82% of nurses, and 77% of persons representing other medical professions confirmed such knowledge. Our study results demonstrated that the main sources of information on organ transplantation for medical personnel were the following: literature for physicians and press and television for nurses ($p<0.028$), whereas the provisions of law constituted the least preferred source of knowledge for the entire medical personnel ($p<0.008$).

No publications on the knowledge of the role of a transplant coordinator under the current provisions of law have been found. Our study showed that a majority of the respondents

had good knowledge of these provisions. Correct answers of physicians to most questions on the donation procedure and provisions of law relating to it constituted a statistically significant difference. Physicians had excellent knowledge of legal regulations on criminal penalties for organ trafficking ($p<0.034$). They provided the correct division of brain injuries ($p<0.015$), whereas other professional groups (analytical laboratory staff, X-ray laboratory staff, and medical rescue workers) demonstrated better knowledge of the key premises to determine brain death ($p<0.021$). Only 31 out of 100 respondents indicated cerebrovascular diseases as a cause of brain death. The scores by groups were as follows: 38% of persons representing other medical professions, 31% of nurses, and 28% of doctors.

The group of physicians also indicated the 6-hour initial observation in primary brain injury ($p<0.034$). The same group also had better knowledge of the reflexes tested in the procedure of brain death determination ($p<0.000$). Only half of the study participants had the knowledge of tests conducted by the Committee when determining brain death and the scores by groups were as follows: 92% of doctors, 46% of those representing other medical professions, and only 34% of nurses.

The entire group of physicians also showed better knowledge of the provisions of law regulating the position

TABLE 1. General knowledge of the study group about transplantation.

No.	Question	Answer	Answers of the entire group	Nurses	Physicians	Persons representing other medical professions	p
1	Do you support organ donation?	Yes	100 (100%)	62 (100%)	25 (100%)	13 (100%)	$p<1.000$
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I haven't thought about that	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
2	What is the source of your knowledge about transplantology?	Internet	69 (69%)	44 (71%)	16 (64%)	9 (69%)	$p<0.818$
		Trainings	29 (29%)	17 (27%)	11 (44%)	1 (8%)	$p<0.060$
		Literature	29 (29%)	10 (16%)	18 (72%)	1 (8%)	$p<0.000$
		My workplace	51 (51%)	34 (55%)	13 (52%)	4 (31%)	$p<0.289$
		Friends	15 (15%)	9 (15%)	6 (24%)	0 (0%)	$p<0.146$
		Press and television	62 (62%)	42 68	10 (40%)	10 (77%)	$p<0.028$
		University course	13 (13%)	9 (15%)	3 (12%)	1 (8%)	$p<0.792$
		Provisions of law	14 (14%)	6 (10%)	8 (32%)	0 (0%)	$p<0.008$
		I haven't been interested in this problem yet.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	$p<1.000$
		Other	1 (1%)	0 (0%)	1 (4%)	0 (0%)	$p<0.223$
3	In which year was the first transplantation performed in Poland?	1965	3 (3%)	1 (2%)	2 (8%)	0 (0%)	$p<0.881$
		1966	49 (49%)	34 (55%)	8 (32%)	7 (54%)	
		1967	8 (8%)	1 (2%)	5 (20%)	2 (15%)	
		I do not know	40 (40%)	26 (42%)	10 (40%)	4 (31%)	
4	When was Poltransplant established?	In 1995	11 (11%)	4 (6%)	6 (24%)	1 (8%)	$p<0.015$
		In 1996	47 (47%)	33 (53%)	8 (32%)	6 (46%)	
		In 1997	2 (2%)	0 (0%)	2 (8%)	0 (0%)	
		I do not know	40 (40%)	25 (40%)	9 (36%)	6 (46%)	
5	Is Poltransplant an institution that centrally manages the process of organ donation and transplantation?	Yes	80 (80%)	45 (73%)	25 (100%)	10 (77%)	$p<0.641$
		No	0 (0%)	0 (00%)	0 (0%)	0 (0%)	
		I do not know	20 (20%)	17 (20%)	0 (0%)	3 (23%)	

of a transplant coordinator ($p<0.035$), professional qualifications required from a transplant coordinator ($p<0.029$), his or her tasks ($p<0.012$), forms and aims of training stipulated by law ($p<0.025$), performance of laboratory tests by a transplant coordinator ($p<0.006$), and knowledge of the provision of law obliging a transplant coordinator to follow

and supervise the procedures of removal of cells, tissues and organs.

The available literature presents the assessment of knowledge of nurses. Makara-Studzińska et al. also drew attention to continuous education of medical personnel in the field of medical and legal aspects of post-mortem organ donation [9].

TABLE 2. Knowledge of study group about legislation on organ transplantation in Poland.

No.	Question	Answer	Answers of the entire group	Nurses	Physicians	Persons representing other medical professions	p
1.	Which legislative act regulates the issues on organ transplantation in Poland?	Act of October 26th, 1995	10 (10%)	6 (10%)	4 (16%)	0 (0%)	$p<0.573$
		Act of July 1st, 2005, as amended	50 (50%)	31 (50%)	12 (48%)	7 (54%)	
		I do not know	40 (40%)	25 (40%)	9 (36%)	6 (46%)	
2.	Are the issues on organ transplantation subject to European law?	Yes	94 (94%)	59 (95%)	25 (100%)	10 (77%)	$p<0.003$
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	6 (6%)	3 (5%)	0 (0%)	3 (23%)	
3.	What type of informed consent for post-mortem organ donation is valid in Poland?	Formal consent of a prospective donor	8 (8%)	6 (10%)	1 (4%)	1 (8%)	$p<0.465$
		Consent of family of a deceased person	9 (9%)	4 (6%)	0 (0%)	5 (38%)	
		Implied consent	72 (72%)	41 (66%)	24 (96%)	7 (54%)	
		I do not know	11 (11%)	11 (18%)	0 (0%)	0 (0%)	
4.	Which types of objections to post-mortem organ donation can be made, under Polish law on transplantation?	Objection made only in the Central Register of Objections (CRS)	13 (13%)	7 (11%)	5 (20%)	1 (8%)	$p<0.103$
		Objection made in the Central Register of Objections (CRS) and oral declaration made before two witnesses, confirmed by them in writing	4 (4%)	4 (6%)	0 (0%)	0 (0%)	
		Objection made in the Central Register of Objections (CRS) or oral declaration made before two witnesses, confirmed by them in writing, or written declaration signed in their own hand	66 (66%)	39 (63%)	20 (80%)	7 (54%)	
		I do not know	17 (17%)	12 (19%)	0 (0%)	5 (38%)	
5.	Does Polish Transplantation Act impose any criminal penalties for organ trafficking?	Yes	85 (85%)	49 (79%)	24 (96%)	12 (92%)	$p<0.034$
		No	1 (1%)	1 (2%)	0 (0%)	0 (0%)	
		I do not know	14 (14%)	12 (19%)	1 (4%)	1 (8%)	
6.	According to the Directive of the European Parliament, for how many years should documents on the transplantation procedure be stored?	10	19 (19%)	11 (18%)	7 (28%)	1 (8%)	$p<0.766$
		30	51 (51%)	33 (53%)	10 (49%)	8 (62%)	
		I do not know	30 (30%)	18 (29%)	8 (32%)	4 (31%)	
7.	Does a coordinator, under Polish law, have to ask family members about the opinion of a potential donor concerning organ donation?	Yes	43 (43%)	30 (48%)	8 (32%)	5 (38%)	$p<0.699$
		No	32 (32%)	16 (26%)	12 (48%)	4 (31%)	
		I do not know	25 (25%)	16 (26%)	5 (20%)	4 (31%)	
8.	Is there a Polish legal regulation that imposes on a transplant coordinator a duty to ask close friends and relatives for their consent to remove organs from a potential deceased donor?	Yes	18 (18%)	13 (21%)	4 (16%)	1 (8%)	$p<0.794$
		No	53 (53%)	31 (51%)	14 (56%)	8 (62%)	
		do not know	29 (29%)	18 (29%)	7 (29%)	4 (31%)	
9.	Are there information sources on organ transplantation available to the general public in Poland?	Yes	84 (84%)	51 (82%)	23 (92%)	10 (77%)	$p<0.326$
		No	9 (9%)	7 (11%)	2 (8%)	0 (0%)	
		I do not know	7 (7%)	4 (6%)	0 (0%)	3 (23%)	
10.	Do you carry with you a signed declaration of intent in which you state your consent to donate your tissues and organs after death?	Yes	13 (13%)	8 (13%)	2 (8%)	3 (23%)	$p<0.427$
		No	87 (87%)	54 (87%)	23 (92%)	10 (77%)	

Insufficient knowledge of organ transplantation and of various aspects related to this issue influences the willingness to become a transplant coordinator. Only 5 out of 100 respondents in our study declared the willingness to become a transplant coordinator ($p < 0.015$). The scores by groups were as follows: 3% of nurses, 2% of doctors, and 0% of persons representing other medical professions. Our study can be compared to another study by the aforementioned author

and Celiński, in which they concluded that the knowledge of nurses does not depend on their workplace or education, but greatly influences their attitude towards the issue of organ transplantation in general [10]. Our study confirmed this conclusion with reference to the aforementioned reluctance of both physicians as a highly educated professional group and the remaining respondents to become a transplant coordinator in their healthcare entity and local society.

TABLE 3. Specialised knowledge of study participants about transplantation issues.

No.	Question	Answer	Answers of the entire group	Nurses	Physicians	Persons representing other medical professions	p
1.	Brain injuries can be classified into:	Primary supratentorial and infratentorial, secondary	61 (61%)	31 (50%)	23 (92%)	7 (54%)	$p < 0.015$
		Primary, supratentorial, secondary	11 (11%)	11 (18%)	0 (0%)	0 (0%)	
		I do not know	28 (28%)	20 (32%)	2 (8%)	6 (46%)	
2.	The duration of initial observation of a potential donor with primary brain injury amounts to:	6h	52 (52%)	33 (53%)	16 (64%)	3 (23%)	$p < 0.034$
		12h	15 (15%)	9 (15%)	2 (8%)	4 (31%)	
		I do not know	33 (33%)	20 (32%)	7 (28%)	6 (46%)	
3.	The duration of initial observation of a potential donor with secondary brain injury amounts to:	6h	7 (7%)	6 (10%)	0 (0%)	1 (8%)	$p < 0.648$
		12h	60 (60%)	36 (58%)	18 (72%)	6 (46%)	
		I do not know	33 (33%)	20 (32%)	7 (28%)	6 (46%)	
4.	According to legal regulations, the use of device-based testing can reduce the procedure of brain death determination to:	6 hours	14 (14%)	6 (10%)	7 (28%)	1 (8%)	$p < 0.127$
		3 hours	44 (44%)	27 (44%)	12 (48%)	5 (38%)	
		I do not know	42 (42%)	29 (47%)	6 (24%)	7 (54%)	
5.	A committee determining brain death comprises the following specialists:	Paediatrician, anaesthesiologist, surgeon	0 (0%)	0 (0%)	0 (0%)	0 (0%)	$p < 0.537$
		Anaesthesiologist, neurologist, surgeon	86 (86%)	50 (81%)	25 (100%)	11 (85%)	
		Brain surgeon, urologist, psychiatrist	2 (2%)	1 (2%)	0 (0%)	1 (0%)	
		I do not know	12 (12%)	11 (18%)	0 (0%)	1 (0%)	
6.	A committee determining death following irreversible cessation of circulation of blood comprises the following specialists:	anaesthesiologist, paediatrician, psychiatrist	0 (0%)	0 (0%)	0 (0%)	0 (0%)	$p < 0.071$
		Anaesthesiologist, cardiologist, internist	86 (86%)	51 (82%)	24 (96%)	11 (85%)	
		Emergency medicine physician, dermatologist, urologist	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	14 (14%)	11 (18%)	1 (4%)	2 (15%)	
7.	The cranial nerve reflexes examined twice by the Commission during brain death determination include:	The pupillary response to light, corneal reflex, caloric test, pain involving cranial nerves, gag and cough reflex, oculocephalic reflex and evaluation of reactivity of the respiratory centre;	50 (50%)	21 (34%)	23 (92%)	6 (46%)	$p < 0.000$
		The pupillary response to light, corneal reflex, pain involving cranial nerves, gag and cough reflex, oculocephalic reflex, and evaluation of reactivity of the respiratory centre;	31 (31%)	26 (42%)	2 (8%)	3 (23%)	
		I do not know	19 (19%)	15 (24%)	0 (0%)	4 (31%)	
8.	Are systemic diseases absolute contraindications to organ donation?	Yes	62 (62%)	36 (58%)	20 (80%)	6 (46%)	$p < 0.248$
		No	21 (21%)	11 (18%)	4 (16%)	6 (46%)	
		I do not know	17 (17%)	15 (4%)	1 (4%)	1 (8%)	
9.	Is hypertension a relative contraindication to organ donation?	Yes	53 (53%)	37 (60%)	11 (44%)	5 (38%)	$p < 0.062$
		No	30 (30%)	11 (18%)	14 (56%)	5 (38%)	
		I do not know	17 (17%)	14 (23%)	0 (0%)	3 (23%)	

TABLE 4. Knowledge of the study group of the function and work of a transplant coordinator in the process of transplantation.

No.	Question	Answer	Answers of the entire group	Nurses	Physicians	Persons representing other medical professions	p
1.	Is the profession of a coordinator of donation and transplantation of cells, tissues and organs included in Polish law?	Yes	80 (80%)	51 (82%)	22 (88%)	7 (54%)	p<0.035
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	20 (20%)	11 (18%)	3 (12%)	6 (46%)	
2.	Does Polish law specify the professional qualifications of transplant coordinators?	Yes	85 (85%)	54 (87%)	23 (92%)	8 (62%)	p<0.029
		No	2 (2%)	2 (3%)	0 (0%)	0 (0%)	
		I do not know	13 (13%)	6 (10%)	2 (8%)	5 (38%)	
3.	Are the tasks of a transplant coordinator listed in the Polish legislative acts?	Yes	83 (83%)	54 (87%)	22 (87%)	7 (54%)	p<0.011
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	17 (17%)	8 (13%)	3 (12%)	6 (46%)	
4.	Does Polish legislation specify the form and aims of training of transplant coordinators?	Yes	71 (71%)	43 (69%)	22 (88%)	6 (46%)	p<0.025
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	29 (29%)	19 (31%)	3 (12%)	7 (54%)	
5.	Who sets up the training framework programmes for transplant coordinators?	Minister in charge of education	7 (7%)	7 (11%)	0 (0%)	0 (0%)	p<0.160
		Minister in charge of health	77 (77%)	46 (74%)	22 (88%)	9 (69%)	
		I do not know	16 (16%)	9 (15%)	3 (12%)	4 (31%)	
6.	Does a transplant coordinator, under Polish law, need to obtain tissue and organ donors?	Yes	63 (63%)	40 (65%)	17 (68%)	6 (46%)	p<0.326
		No	15 (15%)	6 (10%)	6 (24%)	3 (23%)	
		I do not know	22 (22%)	16 (26%)	2 (8%)	4 (31%)	
7.	Do Polish provisions of law allow a transplant coordinator to conduct laboratory tests required for tissue and organ donors?	Yes	56 (56%)	31 (50%)	20 (80%)	5 (38%)	p<0.006
		No	10 (10%)	6 (10%)	3 (12%)	1 (8%)	
		I do not know	34 (34%)	25 (40%)	2 (8%)	7 (54%)	
8.	Does Polish law oblige a transplant coordinator to follow and supervise the procedures of removal of cells, tissues and organs?	Yes	85 (85%)	53 (85%)	24 (96%)	8 (62%)	p<0.018
		No	1 (1%)	1 (2%)	0 (0%)	0 (0%)	
		I do not know	14 (14%)	8 (13%)	1 (4%)	5 (38%)	
9.	Is there a legal regulation that enables a transplant coordinator to supervise other personnel members when coordinating the process of donation and transplantation?	Yes	56 (56%)	38 (61%)	12 (48%)	6 (46%)	p<0.332
		No	4 (4%)	3 (5%)	0 (0%)	1 (8%)	
		I do not know	40 (40%)	21 (34%)	13 (52%)	6 (46%)	
10.	Should a transplant coordinator have excellent knowledge of Polish and European law on organ transplantation?	Yes	95 (95%)	59 (95%)	25 (100%)	11 (85%)	p<0.121
		No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
		I do not know	5 (5%)	3 (5%)	0 (0%)	2 (15%)	
11.	Is there any time frame of the work of a transplant coordinator during a transplantation procedure?	Yes	23 (23%)	15 (24%)	6 (24%)	2 (15%)	p<0.162
		No	39 (39%)	19 (31%)	15 (60%)	5 (38%)	
		I do not know	38 (38%)	28 (45%)	4 (16%)	6 (46%)	
12.	Is there any provision of European law that obliges the entire medical personnel participating in the process of donation to have proper qualifications and training on this issue?	Yes	75 (75%)	49 (79%)	18 (78%)	8 (68%)	p<0.510
		No	5 (5%)	1 (2%)	2 (8%)	2 (15%)	
		I do not know	20 (20%)	12 (19%)	5 (20%)	3 (23%)	
13.	Would you like to become a transplant coordinator in your healthcare entity and local society?	Yes	5 (5%)	3 (5%)	2 (8%)	0 (0%)	p<0.015
		No	61 (61%)	35 (56%)	20 (80%)	6 (46%)	
		I haven't thought about that	34 (34%)	24 (39%)	3 (12%)	7 (54%)	

CONCLUSIONS

1. The knowledge of medical personnel about the function of a transplant coordinator and the legal provisions concerning brain death determination needs to be supplemented.
2. There is a need of constantly supplementing knowledge of medical personnel about the clinical aspects of transplantation.

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