

## Factors Affecting Attitude Toward Organ Donation Among Nursing Students in Warsaw, Poland

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### ABSTRACT

**Background.** The opinion of future nursing professionals can influence the number of transplants. The objective of this study was to analyze the attitude of nursing students at the Medical University of Warsaw in the center of Poland toward organ donation and determine the factors that affect this attitude.

**Methods.** The study was conducted in the 2011 to 2012 academic year. The study population consisted of nursing students. Type of sampling consisted of sampling in points of compulsory attendance, in the 5 nursing courses with the higher degree of fulfillment of 80%. Measuring instrument used was the validated questionnaire (PCID-DTO Rios). The questionnaire was completed anonymously and was self-administered.

**Results.** The completion rate was 96% (793 of 828). Of the students surveyed ( $n = 793$ ), 69% ( $n = 547$ ) were in favor of organ donation and transplantation, 25% ( $n = 201$ ) were undecided, and 6% ( $n = 45$ ) were against. This attitude was related to being in favor of donating the organs of a relative ( $OR = 3.174$ ;  $P < .001$ ); discussion of the subject with the family ( $OR = 2.188$ ;  $P < .001$ ); positive attitude toward donation and transplantation of the father ( $OR = 3.039$ ;  $P = .001$ ); considered to having good information on the subject ( $OR = 8.695$ ;  $P < .001$ ); being a regular donor blood ( $OR = 3.597$ ;  $P = .001$ ); not worried by the possible mutilation of the body after donation ( $OR = 6.802$ ;  $P < .001$ ); and accepting other treatment options of the body such as the burial ( $OR = 1.683$ ;  $P = .015$ ).

**Conclusions.** More than 30% of the nursing students are not in favor of organ donation, but this attitude is conditioned by several psychosocial factors.

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**O**RGAN transplantation is a unique therapy that requires participation of other human beings for its realization. In Poland, most of the organs come from deceased donors, with a donation rate in 2014 of 15.4 deceased donors per million people [1]. Nursing plays a fundamental role within the process of organ donation and transplantation. In this respect, nursing students as future professionals have a major influence on the opinion of the rest of the population about organ donation and transplantation. Any unfavorable attitude of this group would be

an obstacle in increasing organ donation [2–5]. The aim was to analyze the attitudes of nursing students toward organ donation and transplantation (ODT) and the factors that determine these attitudes at the Medical University of Warsaw, in central Poland.

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## METHODS

## Study Population

The study population included nursing students at the Medical University of Warsaw in the center of Poland during the 2011 to 2012 academic year ( $n = 793$ ), of all years of the diploma and degree.

## Selection Sample

A representative sample of each of the 3 diploma courses and 2 courses for the master's degree was obtained. To avoid bias of sample selection, the questionnaire was applied in each of the courses in points of compulsory attendance. For inclusion, it needed a completion rate above 80% of the potential respondents in completing compulsory attendance points.

## Measuring Instrument and Study Variables

Attitudes were assessed through the use of a validated psychosocial questionnaire on organ donation and transplantation (PCID-DTO Rios). The questionnaire was completed anonymously and was self-administered. As dependent variables, study attitude toward organ donation themselves, the independent variables to study, were (1) personal-social, (2) information and knowledge about ODT, (3) social interaction, (4) prosocial behavior, (5) religion, and (6) attitude toward the body.

## Statistical Analysis

Descriptive statistics, Student's  $t$ -test, and  $\chi^2$  test were completed with analysis of residuals and logistic regression analysis.

## RESULTS

The completion rate was 96% (793 of 828). Attitude toward the ODT between nursing students was favorable in 69% ( $n = 547$ ), 25% were undecided ( $n = 201$ ), and 6% ( $n = 45$ ) had an unfavorable opinion. The variables that are associated with a more favorable attitude toward the donation were age ( $P = .048$ ), need to cover the bodies ( $P = .025$ ), talk about donation and transplantation ( $P = .046$ ), donate the organs of a family ( $P < .001$ ), commenting with the family ( $P < .001$ ), commenting with friends ( $P < .001$ ), favorable opinion toward the donation of the father ( $P < .001$ ), favorable opinion toward the donation of the mother ( $P < .001$ ), commenting on the item to the partner ( $P < .001$ ), express the possibility of needing a transplant ( $P = .013$ ), level of information about ODT ( $P < .001$ ), being a regular blood donor ( $P < .001$ ), and performing pro-social activities ( $P = .024$ ). Of the variables, attitude toward the body stands out regarding mutilation and/or scarring ( $P < .001$ ), accepting incineration ( $P = .013$ ), accepting burial ( $P < .001$ ), and accepting autopsy ( $P < .001$ ).

**Table 1. Variables Influencing Attitude Toward Cadaveric Organ Donation Among University Students of Nursing at the Medical University of Warsaw**

Variable	Regression Coefficient $\beta$	Standard Error	Odds Ratio (Confidence Intervals)	$P$
Attitudes toward organ donation by a family member:				
No ( $n = 269$ )			1	
Yes ( $n = 519$ )	1.155	0.242	3.174 (5.102–1.976)	<.001
Discuss with the family on donation and transplantation:				
No ( $n = 267$ )			1	
Yes ( $n = 526$ )	0.902	0.191	2.188 (3.584–1.694)	<.001
Opinion of the father before the donation and transplantation:				
Yes, it is against ( $n = 104$ )			1	
Yes, it is favorable ( $n = 209$ )	1.113	0.341	3.039 (5.952–1.560)	.001
Don't know ( $n = 449$ )	0.411	0.290	1.508 (2.666–0.853)	.157
Other ( $n = 31$ )	0.663	0.611	1.941 (6.410–0.585)	.278
My information about donation and transplantation is:				
Bad ( $n = 31$ )			1	
Good ( $n = 236$ )	2.163	0.549	8.695 (25.641–2.967)	<.001
Normal ( $n = 425$ )	1.943	0.527	6.993 (19.607–2.481)	<.001
Low ( $n = 26$ )	1.433	0.717	4.184 (16.949–1.027)	.046
Zero ( $n = 75$ )	1.425	0.580	4.149 (12.987–1.333)	.014
Give blood:				
No, and I shall not ( $n = 100$ )			1	
Yes, usually ( $n = 120$ )	1.281	0.371	3.597 (7.462–1.742)	.001
If occasionally ( $n = 208$ )	1.273	0.320	3.571 (6.666–1.908)	<.001
No, but would be willing ( $n = 364$ )	1.175	0.293	3.236 (5.747–1.824)	<.001
Fear of mutilation or scars:				
Yes, I am very concerned ( $n = 130$ )			1	
Gives me concern ( $n = 360$ )	1.918	0.268	6.802 (11.494–4.032)	<.001
I don't know ( $n = 303$ )	0.992	0.251	2.695 (4.405–1.647)	<.001
Acceptance of burial:				
No ( $n = 253$ )			1	
Yes ( $n = 540$ )	0.521	0.214	1.683 (1.106–2.560)	.015

Students who had a correct knowledge of the concept of brain death also showed a more favorable attitude toward ODT ( $P = .014$ ). No association was observed with respect to the variable of religion professed ( $P < .001$ ).

In multivariate analysis, they persisted as independent variables in the influential opinion toward the donation of the own bodies: the student information on ODT; the attitude toward organ donation; discussion with the family on the donation; the information transmitted by the parent; being a blood donor; being afraid of mutilation or/and scaring; and being in favor of burial, as can be seen in [Table 1](#).

## DISCUSSION

Studies of CBOS (Public Opinion Research Center), a reference current in Poland on the population-based studies, reveal that from the beginning of the year 1994, 83% of Poles approved the acquisition of organs from deceased patients for transplant, along the years this percentage increased to 94% in 2012 [1]. It emphasizes that in our study, the attitude of nursing students is not very favorable, compared with the Polish population, only 69% of nursing students would donate their organs. The methodology and questionnaire are different, which may justify some of the differences found. This fact is very important, because we have to bear in mind that it is crucial in nursing professionals to obtain an adequate education from beginning of the process of donation and transplantation of solid organs themselves [6,7]. In addition, the survey data show that this attitude does not improve throughout their studies. As well, in the 1st year, 64% were in favor; 70% in the 2nd year, 70% in the 3rd year, 75% in the 4th year, and 66.9% in the 5th year, without significant differences ( $P = .289$ ). Therefore, it would be advisable to improve the training and information on ODT among nursing students in Poland. We know that future of health professionals with a high level of knowledge on this topic are more likely to have a favorable attitude toward the ODT than those without a good knowledge [2,4,8,9]. Thus, our series shows that the students with higher level of information showed a more favorable attitudes toward ODT compared with those who indicated that they have no information on the subject ( $P < .001$ , 79%

vs 19%). Finally, it is noted that conversation about ODT in the family reinforces a positive attitude [7]. For this reason, among the strategies to increase awareness about organ donation, it is important to encourage dialog in the socio-family on the subject.

## CONCLUSIONS

We can say that an improvement in the training on ODT among nursing students in Poland is necessary. They are a group that generates opinion in the population, and their negative attitudes can have a significant negative impact on society's attitude toward organ donation.

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