



Attitude, Knowledge and Donor Card Volunteering of Nursing Students Regarding Organ Donation

Hemşirelik Öğrencilerinin Organ Bağışı Konusunda Tutumu, Bilgisi ve Donör Kartı Gönüllülüğü

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ABSTRACT

Objective: To shed light on the educational curriculum and determining the organ donation attitude, knowledge and donor card willingness of students who study nursing.

Methods: This study is a descriptive and cross sectional. The study is a descriptive cross-sectional design. The research was carried out on 203 students studying in the nursing department of a private university. The data were collected with Organ Donation Attitude and Knowledge Scales, which were validated and reliable in Turkey. The significance value was accepted as $p < 0.05$.

Results: The students' organ donation knowledge (9.95 ± 2.14) and donor card volunteer scores (mean \pm standard deviation) (2.94 ± 0.89) were low. Although the students' organ donation positive attitude scores were 106.75 ± 13.21 , the rate of supporting being a cadaver donor was 73.8%. 91.6% of the students did not intend to donate their organs after death. The semester they study, place they live and the education level of their parents did not seem to have a significant effect on the point average of organ donation knowledge, attitude and donor card willingness ($p > 0.05$).

Conclusions: It can be stated that lack of knowledge had more effect on students' fear on attitude points rather than religion. Planned training on subjects such as brain death and the grieving process in undergraduate education may affect the motivation of students about organ donation.

Keywords: Organ donation, attitude, knowledge, donor card volunteering, nursing student

ÖZ

Amaç: Bu çalışmada, hemşirelik eğitim programında okuyan öğrencilerin organ bağışı konusundaki tutum, bilgi ve donör kartı gönüllülükleri belirlenerek eğitim müfredatına rehberlik edilmesi hedeflendi.

Yöntemler: Çalışma, tanımlayıcı kesitsel bir tasarımdır. Araştırma, özel bir üniversitenin hemşirelik bölümünde okuyan 203 öğrenci ile gerçekleştirilen bu çalışmanın verileri Türkiye'de geçerlik ve güvenilirliği yapılmış Organ Bağışı Tutum ve Bilgi Ölçekleri ile toplandı. Önemlilik değeri $p < 0,05$ olarak kabul edildi.

Bulgular: Öğrencilerin organ bağışı bilgi ($9,95 \pm 2,14$) ve donör kartı gönüllülük puan ortalamaları (ortalama \pm standart sapma) ($2,94 \pm 0,89$) düşüktü. Öğrencilerin organ bağışı pozitif tutum puanları $106,75 \pm 13,21$ olmasına karşın, kadavra donör olmayı destekleme oranı %73,8 idi. Öğrencilerin %91,6'sı ölümden sonra organlarını bağışlamayı düşünmüyordu. Öğrencilerin organ bağışı tutum, bilgi ve donör kartı gönüllülük puan ortalamaları üzerinde okumakta oldukları eğitim dönemi, yaşadıkları yer, ebeveynlerinin eğitim düzeyi anlamlı bir etkiye sahip değildi ($p > 0,05$).

Sonuç: Öğrencilerin tutum puanları üzerindeki korkularında dinsel değerlerden çok bilgi eksikliğinin ağırlık kazandığı söylenebilir. Lisans eğitiminde beyin ölümü, yas süreci gibi konularda verilecek planlı eğitimlerin, öğrencilerin organ bağışı konusunda motivasyonlarını etkileyebilir.

Anahtar Sözcükler: Organ nakli, tutum, bilgi, donör kartı gönüllülük, hemşirelik öğrencisi

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Received: 26.05.2021

Accepted: 02.07.2021

Cite this article as: Yazıcı Sayın Y, Dağcı M. Attitude, Knowledge and Donor Card Volunteering of Nursing Students Regarding Organ Donation. Bezmialem Science 2022;10(4):512-7

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Introduction

Organ transplantation is an important option in the treatment of patients with organ failure. In countries such as England, America and Germany, the process of identifying potential donors is managed by nurses and nurses are generally trusted to overcome this problem. For this reason, nurses' organ donation attitudes, knowledge and volunteerism are important (1-3).

In the organ donation system in the UK, nurses have responsibilities that involve many complex processes such as identifying potential donors and preparing the family for the possibility of organ donation, explaining the process and obtaining approval. They are given a good education in order to be successful in this field (2). For this reason, training on subjects such as the donor process and brain death before and after graduation is considered important (4,5). The best examples of this are; the 99% rate of identification and referral of potential donations from existing donors after brain death in the UK, and the 91% rate of dealing with families for donations (6). In a study conducted in Turkey between 2013 and 2017, it was reported that 74.3% of the patients who died could not be used for organ donation due to the rejection of their legally responsible relatives (7).

The Spanish model, which cares about the cooperation of nurses and physicians, is adopted in organ donation counseling (8). In studies conducted in Turkey, it is stated that knowing the attitudes of nurses towards organ donation during the school period for donor counseling may contribute to their education (5,9,10).

In this study, it was aimed to determine the attitudes, knowledge and donor card volunteering status of the students studying in different classes of the nursing education program and to guide the education curriculum in this regard.

Research Questions

Nursing students;

- Does he/she have a positive attitude towards organ donation?
- Does he/she have sufficient information about the donor process?
- Does he/she want to have a donor card?
- Are there any situations that affect organ donation attitudes, information and card volunteering?

Method

Design

The research is a descriptive and cross-sectional design.

Center

This research was conducted at the beginning of the 2019-2020 academic year at the nursing department of the faculty of health sciences of a private foundation university.

Nursing department students take the organ transplantation course as a 2-hour theoretical course in the surgical diseases nursing course in the second semester of their 2nd year. During this lesson, very limited information can be given about brain death and the concerns of patients and their relatives about transplantation. There is no systematic educational infrastructure specific to the donor process in the curriculum content.

Time

The research was carried out between October and November in the fall semester of the 2019-2020 academic year, when new student registrations were completed and classes started actively.

Universe and Sample

The universe and sample of this study consisted of all students studying in the nursing department. A total of 236 nursing students (n=54 in 1st grade, n=49 in 2nd grade, n=44 in 3rd grade, n=89 in 4th grade) were enrolled in the 2019-2020 academic year. The number of students who participated in the study voluntarily was 203 (n=54, 100% of 1st grade; n=42, 85.7% of 2nd grade; n=43, 97.7% of 3rd grade; and n=64, 71.9% of 4th grade) which constituted 86.0% of all students. Students who did not volunteer to participate in the study and who filled in the data collection tools incompletely were excluded from the study (14%).

Inclusion criteria: Being a nursing undergraduate student, participating voluntarily in the study, speaking Turkish.

Exclusion criteria: Foreign exchange students, the students who filled in the data form incompletely.

Data Collection Tool

The Data were collected by using 2 scales as collection tools. The first scale was the Organ Donation Attitude Scale (ODAS) which was adapted by Kent and Owens (11). Its validity and reliability study in Turkish was performed by Yazıcı Sayın (12). The scale was first developed by Parisi and Katz (13) in 1986 and adapted to the present day by Kent and Owens (11) in 1995. The adapted form of the scale included 46 items (23 positive, 23 negative items) showing attitudes towards organ donation. Each item of the scale was in the format of a 6-point Likert scale, ranging from "strongly agree" to "strongly disagree". The Turkish scale was presented in a questionnaire form. The first part of the scale included socio-demographic data. In the second part, there were 40 items (20 positive, 20 negative items) that determined the organ donation attitude. The "charity and moral values and beliefs" sub-dimension of ODAS consisted of 20 items and indicated positive attitudes towards organ donation (PATOD). The possible score for PATOD was between 20-120. Negative attitudes towards organ donation (NATOD) included 2 sub-dimensions. The first was "medically neglect" (MN) and the second was "fear of bodily injury" (FBI). The sub-dimensions of the scale, MN and FBI, each had 10 questions and their scores varied between 10-60. The total NATOD score was between 20-120. High positive and low negative scores indicated strong voluntary attitudes towards organ donation. In the third part, there were questions about the opinions of the participants about

the organ donation, and a question about organ donor card volunteering (ODCV) with a 5-point Likert. ODCV was scored between 1-5. The questions in this section were not mandatory to take an attitude. However, researchers could add any questions they wanted here. Cronbach's alpha (α) of PATOD was 0.92 and Cronbach's α of NATOD was 0.91, and total Cronbach's α was 0.85 (12). These values showed that the scale was reliable.

The second scale used in the study was the Organ Donation Knowledge Questionnaire (ODKQ). This questionnaire was developed by Emirali et al. (14) by examining the current national and international literature and educational materials. It contained a total of 17 questions (9 correct, 8 incorrect) consisting of correct and incorrect answers. The questions consisted of two subgroups, the first one was about donor characteristics (age, organ donation definition, cadaver and living donor type, brain death and medical death, recipient and donor characteristics), the second one was about ethical, legal and medical conditions (permission from the individual and his/her family about organ donation...etc.). The score range was between 0-17, as the score increased, the level of knowledge was evaluated positively, as it decreased, it was evaluated negatively. The Cronbach's α was 0.88.

In the present study, Cronbach's α of ODAS was 0.770; PATOD and NATOD items were 0.866 and 0.920, respectively. Cronbach's α of ODKQ was 0.674. These values showed that both scales were reliable.

Data Collection

The instructors of relevant courses were interviewed to determine the appropriate time according to the course status of the students included in the study. The data were collected 30 minutes before the lesson, with the permission of the lecturer who usually attended the last lesson in the morning. Before delivering the forms, the researcher explained the background and reason for the study, encouraged participants to participate without any pressure, gave explanation on how to fill out the data form, and gave information about the voluntary participation form on the scale. Each student filled out the form in class and gave it back.

Statistical Analysis

Data analysis was done in computer environment with SPSS 24.0 package program. The distribution of data was checked with the Kolmogorov-Smirnov test. The data were analyzed for normal distribution. Accordingly, comparisons were made with one-way analysis of variance (ANOVA) test and independent t test. For continuous variables, data were expressed as mean \pm standard deviation (SD), median, and range (minimum-maximum). Ratios were used for categorical variables. The results were evaluated at the 95% confidence interval and the significance level of $p < 0.05$.

Ethical Aspects

The ethical permission (Ethics committee permission number: 12/11/2018-17105) from the relevant University Hospital Non-Clinical Research Ethics Committee, institutional permission from the Faculty of Health Sciences Nursing Department, and

written informed consent from the participants were obtained for the study.

Results

Of the students 93.6% were female, the average age was 20.88 ± 1.77 years (25.6% in the 17-19 age range, 59.6% in the 20-22 age range, 14.8% in the 22-25 age range), 99.5% were single, and 68.5% of them graduated from Anatolian Science High School. All of their parents had a low education level (59.1% of their fathers had primary education; 60.1% of their mothers were literate). Of the students 70.4% were living in the city and 31.5% were fourth grade students.

Table 1 contains some introductory information of the students. When the introductory information about organ donation was examined, 83.7% of the students did not know the working structure of the organ donation registration system in Turkey, and only 2.5% had a donor card. Of the students 73.8% preferred cadaver donors for organ donation, but 91.6% wanted to be buried with their organs when they died. They showed the first three organs that they could donate the least as skin, external genitalia and eye, respectively. Regarding the type of organ donation, 1.5% were against organ donation from opposite sex and 15.8% were against organ donation from animals. Table 2 shows nursing students' organ donation attitude, knowledge and donor card volunteer scores. The students' donor card volunteer scores were very low (2.94 ± 0.89). Organ donation attitudes, knowledge and donor card volunteering of the students were not related to the place of residence and parental education level ($p > 0.05$). Only as the education level of the mother increased, the donor card volunteer score increased ($p < 0.001$). In addition, there was no statistically significant difference in terms of organ donation knowledge scores, total positive attitudes and negative attitudes between 1st, 2nd, 3rd and 4th grade classes ($p > 0.05$). However, the fear of medical neglect score in negative attitudes of the 4th grade class students (28.89 ± 10.51) was significantly higher than that of 1st grade class (23.37 ± 7.78) and 3rd grade class (23.97 ± 8.28) students ($p = 0.007$). Organ donation card volunteering had the lowest score in the first grades (2.55 ± 0.92).

Discussion

In this descriptive cross-sectional study, the organ donation attitude, knowledge and donor card volunteerism of students studying in the nursing department of a private university in Istanbul, Turkey were evaluated.

In the present study, the fact that there was no difference between the organ donation knowledge scores of newly enrolled students and students studying in the last year (4th grade), might suggest that sufficient information was not provided in this area during the education process. The fact that the majority of the students did not have a donor card also supported their ignorance in this area. Despite the positive attitude in the studies of nursing students on organ donation in Turkey, the very low rate of having a donor card draws attention to the need for a change in the curriculum related to the donor process (5,9,10). Contrary to the presented study, Martínez-Alarcón et al. (15) reported that senior students had more knowledge about organ transplantation

Table 1. Descriptive features (n=203)

Features	n	%
The class year		
1 st year student	54	26.6
2 nd year student	42	20.7
3 rd year student	43	21.2
4 th year student	64	31.5
Knowing the working structure of the organ donation registration system in Turkey		
Yes	33	16.3
No	170	83.7
The presence of donor card		
Yes	5	2.5
Type of donor they support		
Cadaver	150	73.8
Live	39	26.2
The first 4 organs they can donate least (n=93)		
Face	61	14.0
Eye	53	12.2
External genitalia	51	11.8
Skin	46	10.6
Possible will for their post-mortem bodies		
To be buried	186	91.6
Other (respectively): being donated for research, being frozen, being mummified, being cremated	17	8.3
Reaction to organ type*		
Being against organ transplants of the opposite sex	3	1.5
Not supporting artificial organ transplant	18	8.9
Being against animal transplant	32	15.8
Total	203	100

*More than one answer given

than first year students. In addition, in our study, the fact that students' parental education level and place of residence did not have an effect on their organ donation attitude, knowledge and donor card volunteering scores might suggest that the family and environment were not aware of this issue. Tam et al. (16) reported that the education level of the parents did not correlate with the attitudes and knowledge levels of the students. However, in the presented study, only the education level of the mother was effective on the donor card willingness score. This finding was confirmed by Mikla et al. (17). Although there is a similar study in the literature, this effect of the mother's education level on donor card willingness in the presented study may also be a coincidence.

The fact that students' total positive and negative attitudes did not show a difference in terms of the duration of their education could be attributed to the lack of theoretical information on the donor process in the curriculum. When the negative attitudes of the students were examined, the increase in the "fear of

medical neglect" scores in the 4th grade students, contrary to the expectations, might be related to the malpractice events they perceived during clinical applications.

The fact that there was no difference in the "fear of bodily injury" among the 1st, 2nd, 3rd and 4th grade students could be explained by the fact that their knowledge deficiencies were the same. In addition, the fact that they showed organs such as the skin, genital organs, eyes and face as the organs that would be donated the least could be associated with the fact that body image was more important at a young age. There was not enough data to say that religious values and judgments played a role in these thoughts. However, the fact that they were not against a donor organ from living or non-living person or from an animal suggested that they could make an evaluation independent of religious beliefs and values. These findings indicated that, contrary to previous research findings in Asia (10,17-21) and Europe (22-24), on the basis of students' organ donation attitudes, ignorance about the donor process and donor counseling might be at the forefront rather than the influence of religious beliefs and values. In this study, students' ignorance of the donor process, transplantation, and brain death might be the reason why they rejected the possibility of being a cadaver donor after death. Although the positive attitude scores were high in the study, the conflict of these scores with the other findings suggested the presence of ignorance and that socially expected responses might be given.

Enriching the education curriculum of students, especially on brain death, the grieving process, the operation of the organ donation registry system in the country, and the obstacles to cadaver donation, can increase positive attitudes and encourage them to become a donor candidate for donor counseling (5,9,10). Some researchers stated in their studies that this young generation studying in the health department at university was confused about brain death and that they were "not sure" about accepting it while encouraging organ transplantation (18,19). However, according to the literature, nurses should encourage potential donors due to the vital role they play in the organ donation process. For this reason, it is reported that they should receive adequate training to be able to explain the organ donation process, get approval, and enable donors and their families to understand the participation process (2). Organ donor organizations provide a standardized approach training to both medical and nursing students in the USA in order to facilitate the process and to use donor resources effectively (25). In fact, it is tried to provide a better education to students with the module in which there are a standardized patient, an actor depicting a living donor candidate and educational materials (film, panel discussion, reading list) used as a supplement (26). In studies conducted in Italy (24) and Spain (27), it was reported that ignorance negatively affected the organ donation attitudes of nursing students. Whinesan et al. (28) showed that the education given to nursing students by experienced clinical nurses made a significant change in their attitudes. However, in some studies, it was reported that there was no relationship between students' level of organ donation knowledge and their attitudes towards

Table 2. Attitude, willingness and knowledge levels of students according to the grade level they are studying

Feature	Negative attitude (NT)	Positive attitude/helpfulness	NT/ medical neglect	NT/bodily injury	Organ donation card willingness	Knowledge score
	Mean ± SD (min-max)	Mean ± SD (min-max)	Mean ± SD (min-max)	Mean ± SD (min-max)	Mean ± SD (min-max)	Mean ± SD (min-max)
The place of residence						
District	48.03±16.15 (18-85)	106.2±13.19 (63-126)	24.06±9.65 (10-48)	28.76±10.47 (10-51)	10.01±1.08 (7-17)	10.01±1.82 (7-17)
Province	47.59±16.00 (18-93)	106±13.21 (27-124)	26.38±9.35 (10-54)	27.06±10.03 (10-54)	9.92±2.27 (5-27)	9.92±2.27 (5-27)
Test: t; p value	0.178;0.860	-0.355;0.723	-1.575;0.118	0.070;0.278	-1.524;0.130	0.309;0.758
Father's education						
Literate	47.27±16.67 (18-93)	108.01±13.33 (63-126)	25.28±10.39 (10-54)	27.68±9.55 (10-50)	9.79±2.11 (5-17)	2.85±0.91 (1-5)
Primary school and above	48.03±15.59 (18-82)	105.89±13.11 (27-124)	25.98±8.82 (10.48)	27.48±10.61 (10-54)	10.05±2.17 (6-27)	3.00±0.87 (1-5)
t; p value	-0.326;0.745	1.122;0.264	-0.497;0.620	0.142;0.887	1.194;0.234	-0.863;0.389
Mother's education						
Literate and Illiterate	47.13±14.32 (23-93)	107.45±12.05 (63-126)	24.66±8.64 (12-54)	27.86±9.64 (10-54)	9.72±1.79 (5-17)	2.77±0.88 (1-5)
Primary school and above	48.61±18.32 (18-88)	105.70±14.80 ((27-123)	27.25±10.47 (10-49)	27.12±10.96 (10-48)	10.28±2.56 (7-27)	3.19±0.84 (1-5)
t; p value	-0.616;0.539	0.927;0.375	1.850;0.066	0.492;0.624	-1.692;0.093	-3.396; 0.001
The class year						
1st year student	47.44±13.02 (76-24)	107.77±12.38 (123-63)	23.37±7.78 (48-10)	29.16±8.65 (54-11)	2.55±0.92 (4-1)	9.50±1.42 (13-5)
2nd year student	48.40±18.65 (93-18)	104.23±17.75 (126-27)	25.59±10.52 (54-10)	27.95±11.28 (50-10)	2.97±0.92 (5-1)	10.47±2.28 (17-7)
3rd year student	44.90±13.70 (75-26)	107.65±11.73 (121-77)	23.97±8.28 (40-13)	26.30±8.72 (49-10)	3.02±0.63 (4-2)	9.72±1.35 (12-6)
4th year student	49.40±17.84 (85-18)	10.95±13.31 (124-71)	28.89±10.51 (48-10)	26.81±11.45 (51-10)	3.20±0.89 (5-1)	10.14±2.82 (27-6)
F; p	0.707;0.549	0.684;0.563	4.167; 0.007*	0.802;0.494	5.732; 0.001**	1.995;0.116
Total	47.72±16.01 (93-18)	106.75±13.21 (126-27)	25.69±9.47 (54-10)	27.56±10.17 (54-10)	2.94±0.89 (5-1)	9.95±2.14 (27-5)

F: ANOVA, t: Independent t-test, *There is a significant difference between Classes 1 and 4, and Classes 3 and 4, **The difference between classes 1, 3 and 4 is significant

organ donation (15,22). Studies in Europe and America have reported that increasing knowledge in educational settings that reflect social status increases interest in organ donation and encourages more people to carry donation cards (19,29).

Being informed about the donor process during undergraduate education may encourage them to seek counseling in this field after graduation. Thus, they can motivate themselves for the power that can strengthen their ability to identify and direct potential donors (25). Although lectures and presentations, which are traditional educational initiatives in today's Turkey, seem to meet the information needs of nursing students, they have little effect on their attitudes towards organ donation (30). It is important to include trainings that develop behavior and awareness in improving students' attitudes towards organ donation and encouraging them to donate.

Study Limitations

Considering the possibility that students had to fill in the data forms collectively in the classroom and interact with each other, the effect of these on the results was unknown.

Conclusion

Organ donation attitudes of nursing students were independent of religious beliefs and values. The lack of information about the donor process drew attention to the importance of education on brain death and understanding the patient and his/her family in this process. The low level of donor card volunteering suggested that there were important barriers in their behavior development and awareness in this area.

Although the findings of the study were limited to the students in the study, it was important in terms of showing the importance

of inclusion of trainings that addressed the lack of knowledge among students and concerns about negative attitudes in the curriculum.

Ethics

Ethics Committee Approval: Ethical permission (Ethics committee permission number: 12/11/2018-17105) from the relevant University Hospital Non-Clinical Research Ethics Committee, institutional permission from the Faculty of Health Sciences Nursing Department.

Informed Consent: Written informed consent from the participants were obtained for the study.

Peer-review: Externally peer reviewed.

Authorship Contributions

Design: Y.Y.S, M.D., Data Collection or Processing: M.D., Analysis or Interpretation: Y.Y.S, Literature Search: Y.Y.S, Writing: Y.Y.S

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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