Evaluation of the Opinions and Knowledge of Medical School Students on Organ Donation and Transplantation

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ABSTRACT

Background: *Insufficient organ donation is one of the most significant current problems in medical care. The students of the faculty of medicine could be the strongest supporters of organ donation and transplantation, and may play an important role in increasing organ donation. This study aimed to determine the relevant educational needs of the medical students by evaluating their knowledge and opinions about organ donation and transplantation, according to their grade levels.*

Methods: *A cross-sectional study was conducted among 395 (83.6%) students in the first, third, and sixth grades of the faculty of medicine. A questionnaire consisting of 42 questions was used to measure their opinions and knowledge about organ transplantation.*

Results: *Among the students who responded, 6.8% (n = 27) had donated their organs and 81.4% of the donors had donation cards, while 73.4% (n = 290) were considering organ donation. The percentages of women and students at the grade six level considering organ donation were significantly higher (P < .05). The study revealed that 38.7% of the students did not have enough knowledge about organ donation, 47.8% stated that they had some knowledge and 61.8% of the students did not know the principles of brain death. The students of all grades reported that most of the information about organ donation and transplantation was obtained from their family and friends.*

Conclusion: *As medical students progress through the grade levels, their perceptions and knowledge of organ donation and transplantation also increase positively. Courses on organ donation and transplantation can be added to the curriculum from the very first year of medical education.*

Keywords: *Organ donation, transplantation, education, medical students, opinions*

INTRODUCTION

Organ transplantation is the best and often the only life-saving treatment for end-stage organ failure. The most recent data from the WHO Global Observatory on Donation and Transplantation indicate that over 130 000 solid organ transplants are performed worldwide. Although impressive, it is estimated that this number represents less than 10% of the global need.[1] Currently, 80% of organ transplants are provided by donors who are brain-dead.[2]

In 2018, 37 386 organ transplants were performed in the United States, of which 22 003 were reported as kidney transplants (15.561 cadaveric transplants, 6442 living donor transplants), 8250 as liver transplants (7849 cadaveric transplants, 392 living donor transplants), 3440 as heart transplants, 2562 as lung transplants, 1027 as pancreas transplants, and 104 as thin intestinal transplants.[3] Due to the insufficient number of organ donors in the United States, it was made mandatory in 1998 for terminally ill patients to report whether or not they wished to be organ donors.[4]

The organ donation rate of a region is calculated as the number of organ donors per million population (PMP). Currently, the countries with the highest organ donation rate globally are Spain at 48 PMP, Croatia at 41.2 PMP, and Portugal at 33.68 PMP, respectively, all from Europe. The relevant rates are 33.32 PMP in the United States and 7.47 PMP in Turkey.[5]

According to the October 2019 report of the Turkey Organ and Tissue Donation System in Turkey (TOTDS), the number of registered and valid living donors in the TOTDS system is 493 423. In the same report, the number of live donors was reported as 31 341. Of the patients awaiting organ transplantation in 2019, 1143 were registered for heart, 90 for lung, 22 981 for kidney, 2294 for liver, 293 for pancreas, 1 for small intestine, 1673 for cornea, and 3289 for bone marrow transplants, which is a total of

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31 764 patients. In 2019, 10 720 organ transplantations were performed of the kidney, liver, heart, lung, pancreas, small intestine, cornea, and bone marrow.[6]

Even in countries considered to be advanced in transplantation, organ transplant activity is not at the desired level. It has been shown in various studies that education, occupation, socioeconomic level, culture, religion, ethnicity, and the development of the country are important factors in cultivating positive approaches to organ donation.[7-9]

The society needs to be informed in order to increase organ donation and transplantation. In this context, the role of physicians is very important in identifying potential donors, communicating with organ donor coordinators, obtaining consent from the families of the potential donors, and approaching the issue as role models.[10,11] It is reported that medical school students approach organ donation and transplant more positively than other university students.[7,12]

It is very important for health workers to be more knowledgeable and more sensitive about organ transplantation and donation than other community and occupational groups. Therefore, this study was planned to determine the opinions of medical students about organ transplantation and donation.

MATERIALS AND METHODS

The students undergoing medical education in this study were part of the 6-year program at the Fırat University Medical School. The universe of this cross-sectional study consisted of all students in the first, third, and sixth years of Fırat University Medical School in the 2018-2019 academic year. After the approval of the ethics committee (February 21, 2019/04/14) from the Chairmanship of Non-Interventional Research Ethics Committee of Fırat University, a field study was conducted in March-May. Data were collected using a questionnaire developed by the researchers. The questionnaire was tested for comprehensibility by a preliminary application to 20 people, and the necessary corrections were then made. A total of 395 students from 472 participated in the study (83.7%), of whom 72.1% (n = 145) were first-year students, 90.2% (n = 130) were third-year students, and 94.4% (n = 120) were sixth-year students. Participation was voluntary, after reading and signing the informed consent form. The students were asked to answer a research questionnaire including 11 questions about socio-demographic details, 21 questions about opinions and approaches on organ donation, and 10 questions about general knowledge, a total of 42 questions.

Statistical Analyses

The SPSS 22.0 software package was used for statistical analysis of the data obtained in the study. Chi-square or Fisher's exact tests were used to examine the relationships between categorical variables. In statistical analyses, results of $P < .05$ were considered significant, and values were expressed as mean with standard deviation.

RESULTS

The mean age of the students was 21.33 ± 2.45 (min. 17-max. 32) years, and 50.6% (n = 200) were women. Of these, 73.4% (n = 290) were considering donating their organs. Table 1 shows the distribution of the students considering organ donation, according to their descriptive characteristics.

When students were asked about their reasons for organ donation, they stated that their primary objectives were life recovery and healing; second, that a need for organ transplant might arise for themselves or for a relative; third, that it made them feel good psychologically; and fourth, the feeling that a part of them would continue to live after their death. When the students who did not want to donate their organs are asked for their reasons, the most common first answer was that they did not have a reason; second, the idea that their body's integrity would be disrupted; third, that their religious beliefs and lack of knowledge hindered them; fourth, that their organs could be given to people they did not want; and lastly, concern that the organ mafia would be involved.

The year-wise distribution of students' opinions and attitudes regarding organ donation and transplantation is presented in Table 2. The data reveal that 6.8% (n = 27) of the students stated that they donated their organs. Of the students who donated their organs, 51.8% (n = 14) stated that other family members or individuals in their neighborhood had also donated organs, and 7.4% (n = 2) stated that they had a relative waiting for transplantation. There was no significant difference between the classes of the students who donated their organs ($P > .05$).

The knowledge status of the students regarding organ donation and transplantation is presented in Table 3.

Table 1. Distribution of Students' Thoughts About Donating Organs, According to Their Descriptive Characteristics

	Considering Organ Donations			
Characteristics	Positive, n (%)	Negative, n (%)		Total*, n (%)
Gender				
Female	167 (83.5)	33 (16.5)		200 (50.6)
Male	123 (63.1)	72 (36.9)		195 (49.4)
	χ^2 = 21.102		*P* = .001	
Age groups				
20 years and under	118 (72.0)	46 (28.0)		164 (41.5)
21 years and older	172 (74.5)	59 (25.5)		231 (58.5)
Year				
I	107 (73.8)	38 (26.2)		145 (36.7)
III	85 (65.4)	45 (34.6)		130 (32.9)
VI	98 (81.7)	22 (18.3)		120 (30.4)
	χ^2 = 8.493		*P* = .014	
Place of residence before college				
Village/town	48 (70.6)	20 (29.4)		68 (17.2)
City/big city	242 (74)	85 (26)		32 (82.8)
	χ^2 = 0.337		*P* = .562	
Family income				
Low	13 (72.2)	5 (27.8)		18 (4.6)
Moderate	258 (72.7)	97 (27.3)		355 (89.8)
High	19 (86.4)	3 (13.6)		22 (5.6)
	χ^2 = 2.003		*P* = .373	
Presence of chronic disease				
Yes	23 (79.3)	6 (20.7)		29 (7.3)
No	267 (73.0)	99 (27.0)		366 (92.7)
	χ^2 = 0.557		*P* = .456	
Donors of organs in or around the family				
Yes	54 (13.7)	45 (83.3)		9 (16.7)
No	179 (45.3)	119 (66.5)		60 (33.5)
I don't know	162 (41.0)	126 (77.8)		36 (22.2)
	χ^2 = 8.712		*P* = .013	
Relative waiting for organ donation or received organ donation				
Yes	24 (82.8)	5 (17.2)		29 (7.3)
No	266 (72.7)	100 (27.3)		366 (92.7)
	χ^2 = 1.399		*P* = .237	

*The percentage of columns was taken.

Of the respondents, 13.4% stated that they have knowledge about organ donation; and 9.7 % (n = 14) of the first-year students, 11.5% (n = 15) of the second-year students, and 20% of sixth-year students (n = 24) answered yes to the question "do you have enough knowledge about organ donation?" and the difference was found to be statistically significant ($P < .01$) (Table 3); 62.8% (n = 91) of the first-year students, 60% (n = 78) of the third-year

Table 2. Distribution of Students' Opinions on Organ Donation and Transplantation by Year

Opinions	First Year, n (%)	Third Year, n (%)	Sixth Year, n (%)	Total*, n (%)
Do you think organ donation is life-saving?				
Yes	134 (35.9)	124 (33.2)	115 (30.8)	373 (94.4)
No	2 (40.0)	1 (20.0)	2 (40.0)	5 (1.3)
Undecided	9 (52.9)	5 (29.4)	3 (17.6)	17 (4.3)
	χ^2 = 2.711	*P* = .643		
Would you like to take organs from another person for you or your relatives?				
Yes	114 (34.4)	115(34.7)	102 (30.8)	331 (83.8)
No/Undecided	31 (48.4)	15 (23.4)	18 (28.2)	64 (16.2)
	χ^2 = 5.073	*P* = .077		
Do you approve live donor transplantation?				
Yes	85 (31.5)	88 (32.6)	97 (35.9)	270 (68.4)
Yes	15 (53.6)	7 (25.0)	6 (21.4)	28 (7.1)
No	45 (31.0)	35 (26.9)	17 (14.2)	97 (24.6)
	χ^2 = 16.241	*P* = .003		
Did you donate your organs?				
Yes	7 (25.9)	11 (40.7)	9 (33.3)	27 (6.8)
No	138 (37.5)	119 (32.3)	111 (30.2)	368 (93.2)
	χ^2 = 1.541	*P* = .463		
Having organ donation card (n = 27)				
Yes	6 (27.3)	10 (45.4)	6 (27.3)	22 (81.4)
No	1 (0.2)**	1 (0.2)	3 (0.6)	5 (18.6)
Did you inform your family that you donated your organs? (n = 27)				
Yes	6 (27.4)	8 (36.3)	8 (36.3)	22 (81.5)
No	1 (0.2)**	3 (0.6)	1 (0.2)	5 (18.5)
Who do you want to donate your organs to? (n = 395)***				
First-degree family members	34 (23.4)	19 (14.6)	28 (23.3)	81 (20.5)
Relatives	21 (14.5)	12 (9.2)	19 (15.8)	52 (13.2)
Opposite sex	12 (8.3)	11 (8.5)	10(8.3)	33 (8.4)
Individuals with different beliefs	10 (6.9)	11 (8.5)	10 (8.3)	31 (7.8)
It does not matter	83 (57.2)**	78 (60.0)	83 (69.2)	244 (61.8)
Would you accept the donation of his/her organs when one of your family dies?				
Yes	52 (29.2)	55 (30.9)	71 (39.9)	178 (45.1)
No	27 (39.1)	25 (36.2)	17 (24.6)	69 (17.5)
I don't know	66 (44.6)	50(33.8)	32 (21.6)	148 (37.5)
	χ^2 = 15.608	*P* = .004		

(*Continued*)

Opinions	First Year, n (%)	Third Year, n (%)	Sixth Year, n (%)	Total*, n (%)
Why don't you want to donate the organs of someone in your family? (n = 69)				
Not wanting to take responsibility for someone else	26 (17.9)	26 (20)	14 (11.7)	66 (16.4)
Not approving organ donation	7 (4.8)	4 (3.1)	0 (0)	11 (2.8)
Not to be misunderstood	3 (2.1)	5 (3.8)	1 (0.8)	9 (2.3)
Another health worker is more effective	1 (0.7)***	2 (1.5)	0 (0)	3 (0.8)
Do you think religious beliefs prevent organ donation?				
Yes	28 (36.4)	27 (35.1)	22 (28.6)	77 (19.5)
No	67 (33.7)	66 (33.2)	66 (33.2)	199 (50.4)
I don't know	50 (42.0)	37 (31.1)	32 (26.9)	119 (30.1)
	$\chi^2 = 2.717$	$P = .612$		

*The percentage of columns was taken.
**Statistics could not be obtained.
***One person responded more than once.

students, and 42.5% (n = 51) of the sixth-year students stated that the information on this subject provided during medical education was insufficient, and the difference was found to be significant ($P < .01$) (Table 3).

Seventy percent (n = 84) of the sixth-year students, 30.7% (n = 40) of the third-year students, and 18.6% (n = 27) of the first-year students answered yes to the question "do you know the principles of brain death diagnosis?" and the difference was found to be significant ($P < .001$) (Table 3). Regarding the law on organ donation in our country, 69.9% of the students stated that they did not know of its existence, and this rate was found to be significantly higher among the first and third-year students compared to sixth-year students ($P < .001$) (Table 3).

Figure 1 presents the routes of access to information about organ donation and transplantation. Wall panels as a source of information were reported by only 9.1% of the students, which, though at the lowest rate, cannot be underestimated. The first-year students stated that the most common route of access to information about organ donation and transplantation was through TV shows, while it was through family and friends for the third and sixth-year students. The sixth-year students also reported that they obtained information from health professionals, more significantly than the other classes ($P < .00$) (Figure 1).

The students' answers to the question of what could be done to increase organ donation in our country are given in Figure 2. Most of the students suggested that relevant education should be given in schools.

DISCUSSION

The positive approach of medical students to organ donation and transplantation, and their exemplary function as role models for their patients are very important in persuading their patients and relatives.

In the study, similar to the literature, a majority (94.4%) of the students think that organ transplantation is life-saving.[7] In addition, 73.4% of the students are considering donating their organs. In a study conducted by Bilgel et al.[13] among medical students in our country, the rate of willingness to donate organs was reported as 58.4%. In our study, 73.8% of the first-year, 65.4% of the third-year, and 81.7% of the sixth-year students reported that they were considering donating their organs. Naçar et al.[14] reported the rate of medical school students who were considering donating their organs as 45.4% in the first year and 58.8% in the sixth year, while Akkaş et al.[15] reported 40% in the first year and 60% in the sixth year.

It is seen that there is a difference in the ratio of willingness to donate organs between the medical students of different countries. In Malaysia and Iran, it has been

Table 3. Distribution of Students' Knowledge Status on Organ Donation

Knowledge Status	First Year, n (%)	Third Year, n (%)	Sixth Year, n (%)	Total*, n (%)
Do you have enough knowledge about organ donation?				
Yes	14 (26.4)	15 (28.3)	24 (45.3)	53 (13.4)
No	68 (44.4)	50 (32.7)	35 (22.9)	153 (38.7)
Somewhat	63 (33.3)	65 (34.4)	61 (32.3)	189 (47.8)
Was enough information provided during the education?				
Yes	12 (27.9)	10 (23.5)	21(48.8)	43 (10.9)
No	91 (41.4)	78 (35.4)	51 (23.2)	220 (55.7)
Somewhat	42 (31.8)	42 (31.8)	48 (36.4)	132 (33.4)
	χ^2 = 12.015	P = .017		
Was enough information provided during the education?				
Yes	12 (27.9)	10 (23.5)	21 (48.8)	43 (10.9)
No	91 (41.4)	78 (35.4)	51 (23.2)	220 (55.7)
Somewhat	42 (31.8)	42 (31.8)	48 (36.4)	132 (33.4)
	χ^2 = 14.894	P = .005		
Which organ transplants is being done in our country?**				
Kidney	133 (91.7)	120 (92.3)	112 (93.3)	365 (92.4)
Liver	120 (82.8)	122 (93.8)	111 (92.5)	353 (89.4)
Face transplant	124 (85.5)	111 (85.4)	100 (83.3)	335 (84.8)
Heart	119 (82.1)	106 (81.5)	90 (75)	315 (79.7)
Retina	94 (64.8)	89 (68.5)	70 (58.3)	253 (64.1)
Pancreas	69 (47.6)	56 (43.1)	47 (39.2)	172 (43.5)
Lungs	75 (51.7)	57 (43.8)	65 (54.2)	197 (49.9)
Small intestine	44 (30.3)	38 (29.2)	31 (25.8)	113 (28.6)
Skin	67 (46.2)	72 (55.4)	56 (46.7)	195 (49.4)
Nerve	19 (13.1)	16 (12.3)	13 (10.8)	48 (12.2)
Bone marrow	118 (81.4)	107 (82.3)	102 (85)	327 (82.8)
Do you know the principles of brain death?				
Yes	27 (17.9)	40 (26.5)	84 (55.6)	151 (38.2)
No	118 (48.4)	90 (36.9)	36 (14.8)	244 (61.8)
	χ^2 = 77.967	$P < .001$		
Do you know that there is a law on organ donation in our country?				
I know	32 (26.9)	32 (26.9)	55 (46.2)	119 (30.1)
İ don't know	113 (40.9)	98 (35.5)	65 (23.6)	276 (69.9)
	χ^2 = 20.411	$P < .001$		

*The percentage of columns was taken.
**One person responded more than once. Statistics could not be obtained.

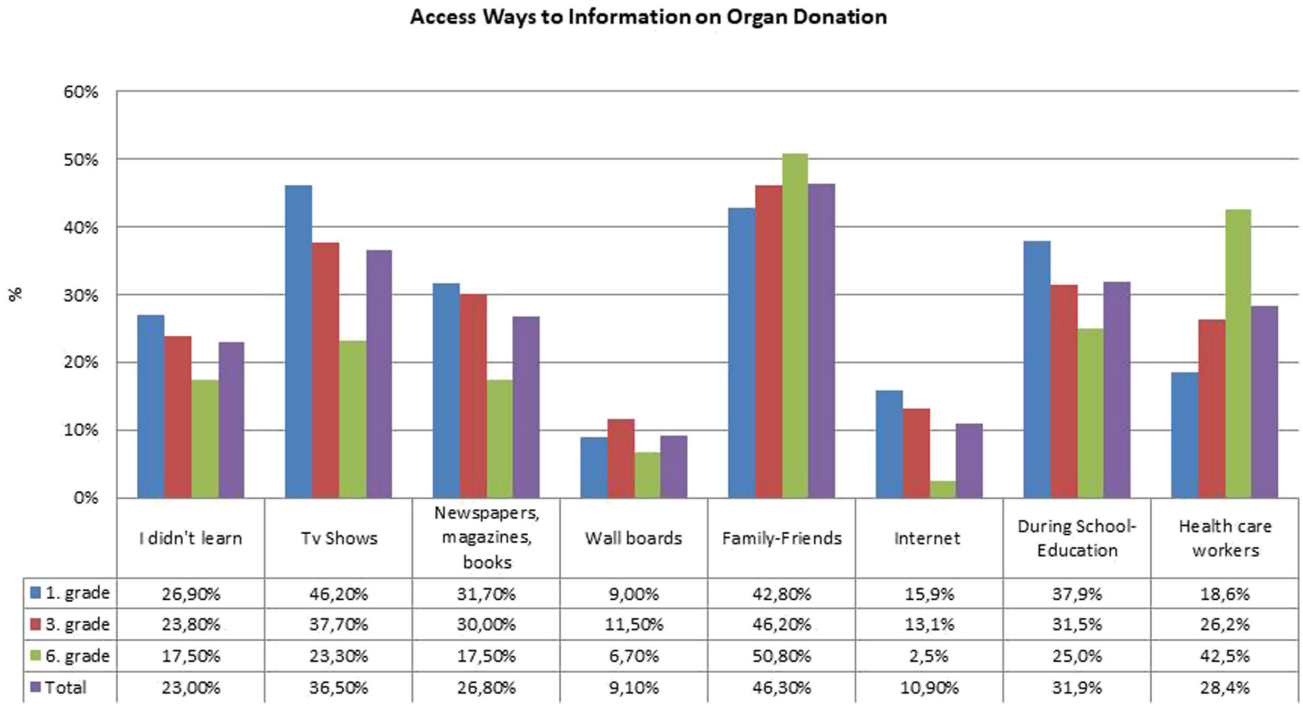

Figure 1. Students' routes of accessing information on organ donation and transplantation according to the year of medical school.

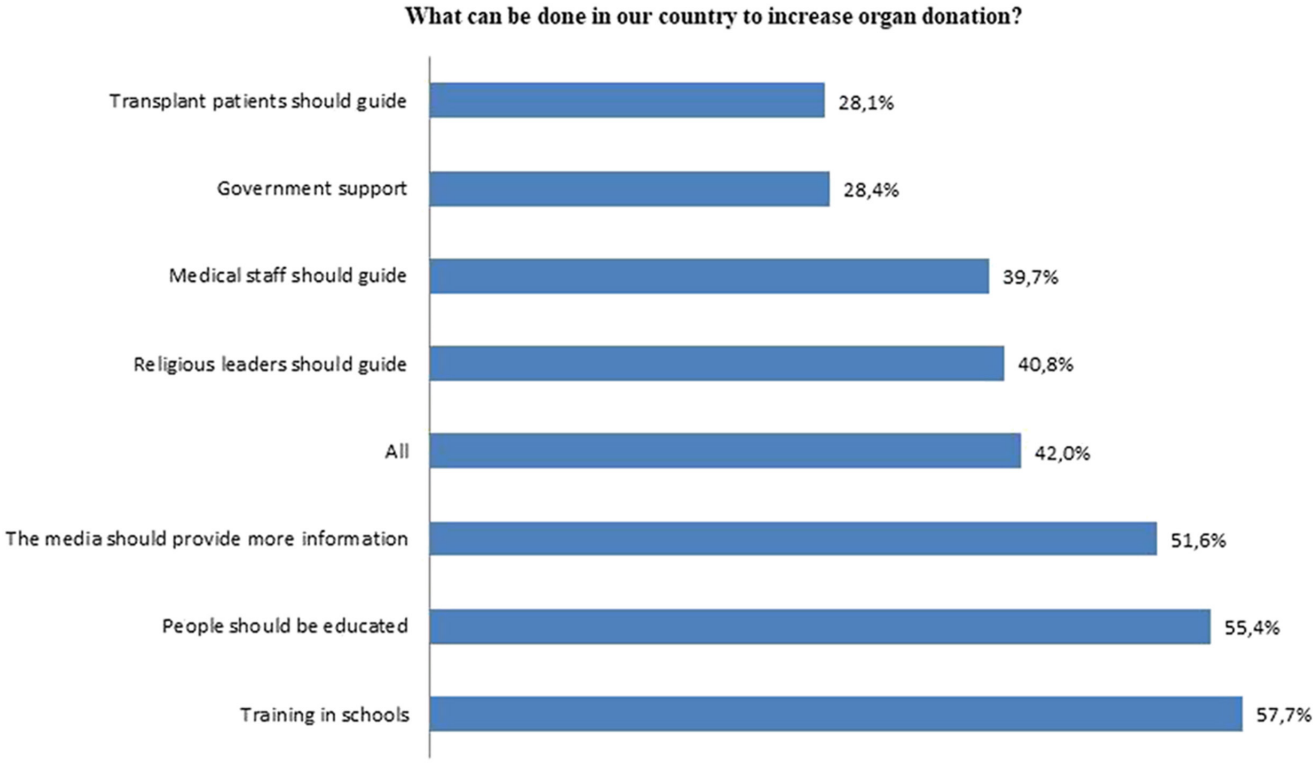

Figure 2. Distribution of answers to the question of what can be done in our country to increase organ donation.

reported that 50% of medical students want to donate their organs.[8,9] The corresponding ratio is more than 70% in the medical schools in western countries. In addition, it is reported that 2-12% of the medical students do not favor organ donation.[11,16-20] The high rates reported in our study have been attributed to the increased interest and positive effects of education regarding organ donation and transplantation in recent years.[13]

The thoughts and attitudes of individuals toward organ donation and transplantation are affected by some socio-demographic variables.[18] In our study, it was seen that women approached organ donation more positively and were significantly more willing to donate organs than men. In a study conducted by Naçar et al.[14] in Turkey, it was reported that a higher proportion of women considered donating their organs. In a study conducted in Italy, it was reported that female students attending medical school were more positive toward organ donation,[18] while Tumin et al. reported that there was no gender difference among medical students considering organ donation in Malaysia.[8]

Our study revealed that a significantly greater proportion of students were willing to donate their organs if they had family members who were organ donors, similar to the literature. In a study conducted in Malaysia, it was reported that students whose family members had organ transplant cards were significantly more interested in organ donation.[8] In a study conducted among multi-center medical school students, it was reported that students with family members who donated their organs were more willing to donate.[17]

The reasons why individuals want to or do not want to donate organs may vary. In our study, the students stated that they considered donating their organs first as a life-saving and healing gesture; second, that the need for an organ transplant could arise for themselves or a relative; and third, that they felt good psychologically. In the literature, the most commonly reported reason for organ donation is the thought that someday, the individual himself/herself, or a relative, may need an organ transplant.[16-18]

Students who did not want to donate their organs primarily stated that they could not really attribute their unwillingness to any reason. The idea that their bodily integrity would be disturbed was the second most commonly stated reason, followed by restricting religious beliefs and insufficient knowledge. Burra et al. stated that medical school students do not accept organ donation mainly because they doubt the validity of the criteria accepted for brain death and do not find it philosophical, moral, or ethical.[18] In a study conducted in Iran, the primary reasons for students' unwillingness to become organ donors were their religious beliefs and the idea that the integrity of their body would be disrupted.[21] In Egypt, the unwillingness for organ donation was attributed to the lack of trust in a highly commercialized health care system.[22]

In this study, 83.8% answered yes when questioned on whether they or their close relatives would want to receive organs from another person if needed, and there was no significant difference between the classes. In a study by Gazibara et al., more than 85% of the students reported that they would accept organs or tissues from another donor when needed.[23] Having an organ donation card is very important in terms of showing the individuals' approval. In our study, 6.8% (n = 27) of the students stated that they donated their organs, and 81.4% (n = 22) of the donors stated that they had an organ donation card. Akkaş et al.[15] reported that 8% of the first-year students and 10% of the sixth-year medical students had donation cards. Koçak et al.[24] reported that 1.8% of medical students had donation cards. Uzuntarla[25] reported that 24.5% of the doctors working in a tertiary health care facility had an organ donation card. In different countries, the proportions of medical students having a donation card were reported as 3.9%,[23] 21%,[26] 75.8%,[19] and 80%.[11] Although the proportion of students considering organ donation was high, the rate of those who actually donated their organs was low. In our country, it is necessary to increase the organ donation rate by transforming the positive idea of donation into action.

Students were observed to approach organ donation with a rather humanistic attitude. Thus, 61.8% of the students reported that it was not important who the organ recipient would be, and 20.5% stated that they would donate to first-degree relatives. Similar to our study, Rydzewska et al.[20] reported that 54.5% of the students were willing to donate organs to any person. However, according to some studies, the majority of the students want to donate their organs to their families, relatives and friends first.[21,23,27]

It was seen that the rate of students who stated that their family could donate their organs after death was less than those who accepted to donate their own organs, showing their unwillingness to take the responsibility of another person as the most effective factor. In the literature, it is reported that medical school students who think of

donating their own organs are positive toward donation of their organs via family members after death.[7,20,21,26] In the study by Atamanuk et al.,[26] medical students who refused to approve donation of their organs via family members after death primarily revealed their lack of trust in the transplant system, and their worry that they would not actually be dead, as the major reasons.

In this study, 50.4% of the students stated that their religious belief did not prevent organ transplantation, 19.5% stated that it was an obstacle, and 30.1% stated that they did not know about this subject. In a study conducted among different university students in our country, 68.6% of the students stated that organ donation is allowed for religious purposes, 5% reported it is forbidden religiously, and 26.4% had no idea about the subject.[7] In the literature, there are studies indicating that religious views and beliefs affect the point of view of organ transplantation among medical school students,[17,21] as well as studies indicating that there is no affection.[18] In a study conducted in Malaysia, it was reported that medical school students belonging to a religion allowing organ transplantation had positive opinions on organ donation.[8] In Turkey, a Muslim country, with the announcement of the Islamic concept that allows organ donation to a wider audience, there is a visible increase in the organ donation rate.

More than 79% of the students surveyed in our study were aware of the kidney, liver, face, heart, and bone marrow transplantation performed in our country. A few of the students were aware of nerve and small intestine transplants. Similar studies conducted in Germany and Iran have reported that students are most aware of kidney, heart, liver, and eye transplants.[19,21]

In the study, 38.2% of all students and 55.6% of sixth-year students stated that they know the principles of brain death. According to our findings, in the last years of medical education, the students' level of knowledge about brain death increases significantly. In a study conducted at the University of Tabriz, it was reported that the medical students' knowledge about brain death is poor and that there is a need to raise awareness on this issue.[21] According to the results of our study, it has been revealed that the principles of brain death should be an area of focus from the first year of medical education.

The number of students who knew that there is a law on organ donation was found to be quite low. The first and third-year students were significantly less aware of the existence of the law on organ donation in our country. All students were not familiar with the legal status of organ donation, similar to the reports in the literature.[21,22,28] A study on the awareness of organ transplantation law among medical students in Brazil, stated that 51% of the students had heard of the transplantation law, 47.3% were unaware, and only 1.7% knew the law in detail.[28] In a study conducted in Italy, it was proposed to add legal dimensions to the education curriculum in order to raise awareness in the first 3 years of medical school.[18] According to the results of our study, it would be appropriate to add the legal dimensions in organ transplantation and donation to the education program for the first 3 years.

In our study, 46.3% of the students stated that they got information from their family and friends about organ donation and transplantation. Studies conducted in this field report that 75% of medical students who think positively about organ donation and transplantation discuss this issue with their family and friends.[16,17,27] In Poland, where organ donation can be made with the consent of the family even after an individual has died, it was determined that individuals had registered for organ donation without informing their families and this was the reason for the low rate of organ donation after death.[20]

As a means of accessing information about organ donation and transplantation, the first-year students stated that they obtained this information mostly from TV shows, and the third and sixth-year students stated that it was mostly through family and friends. The literature[1] supports our study, and very few students in the first years of medical education have reported that they received information about organ donation through the lessons.[29] It is stated that sixth-year students are mostly informed from theoretical courses and educational programs.[15] In addition, medical students in France stated that they received very good information during their education.[30] Different studies have reported that medical school students obtained the most information about organ transplantation from newspapers, books, the internet, and TV.[9,21] The need for information about organ transplantation was reported to decrease after training, and there was an increase in the willingness for organ donation, especially among fourth-year students.[29] Students who have knowledge about organ donation and transplantation are more interested in donating their organs.[27]

In this study, answers to the question of what can be done in order to increase organ donation in our country stated that first, education should be given in schools; second, the public should be educated; and third, the

media should pay more attention to this issue. In the study by Kocaay et al.,[7] 83.9% of the students stated that donations could be increased through public education and organ donation awareness campaigns, and 81.8% indicated media campaigns. In the study by Rydzewska et al.,[20] medical students proposed this issue should be led first by the donors, followed by the university and the media. Promotion of organ donations and transplantation through schools, media, conferences by health professionals, and during religious affairs may increase organ donations and transplantation.

CONCLUSION

The results of this study show that medical students have positive views on organ donation and transplantation from the first year of their education, and their knowledge and tendencies increase during the last years of medical education. Although information is given about organ donation and transplantation during the medical education process, this education is not at the desired level yet. Therefore, it is very important that young physician candidates graduate from the faculty with training in organ donation and transplantation. Programs aiming to increase students' awareness and knowledge should be added to the curriculum, beginning with the first year of the education process.

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Informed Consent: Verbal or written consent was obtained from the dean of the medical school and the medical school students who participated in the study.

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