

Organ and Cadaver Donation; Student Opinions from Different Cultures.

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ABSTRACT

Objective: Despite organ donations, the need for organs is increasing daily, and efforts to increase organ donation continue without slowing down. Cadaver donation, necessary for medical education, is an issue waiting to be supported worldwide. In our study, a questionnaire was applied to measure the knowledge and attitudes of Turkish and international students toward organ and cadaver donation.

Material and Methods: A total of 305 students, including 236 Turkish citizens and 68 international students, participated in the study. Students accessed the prepared questionnaires via a Google form.

Results: It was determined that there was a statistical difference between Turkish and international students regarding their knowledge about organ donation compared to cadaver donation (Turkish students 78.8 % (n=186) yes, international students 57.4 % (n=39) yes). In the social circles of Turkish and international students, organ donations were more common than cadaver donations, and a statistically significant difference was found for both groups (Turkish students 42.8 % (n=101) yes, international students 48.5 % (n=33) yes). The reasons for donating their bodies (Turkish students 48.3% (n=114) "For use in organ transplantation", international students 35.3 % (n=24) "Because your body is useless after death and decays"), and organs (Turkish students 35.6 % (n=84), international students 32.4 % (n=22) "For use in organ transplantation") of Turkish and international students differed significantly.

Conclusion: Based on the answers given by the students, it has been concluded that donations will increase when information is provided about the importance of organ and cadaver donation.

Keywords: Body donation, organ donation, medical education, gross anatomy education

INTRODUCTION

Despite the rapid development of new methods and techniques in organ transplantation, attempts to increase the worldwide donation rate continue rapidly to respond to the increasing demand for organs (1). While it is at the level of 10 to 34 per million/population per year in Western societies (2), this rate is below 5 in Asia (3), and the rate of organ donation from cadavers in our country is 4 per million (4).

Although the number of brain deaths detected over the years is increasing, there is no increase in the number of family permissions for organ donation at the same rate. Among the total brain death detection numbers, the rate of brain death with family permission is around 20 percent (5). However, cadavers, indispensable in medical education, have been accepted for many years as a necessity for the education of health personnel. In addition to being dissected to understand the body in anatomy lessons, cadavers are also used for scientific purposes for applying surgical skills and developing new surgical techniques (6, 7).

In the literature, many studies conclude that there are obstacles to organ and body donation, such as superstitions, anxiety, fears, sociocultural differences, fiqh concepts belonging to belief systems, and lack of understanding and awareness (8).

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While the number of organ-donor donors in America is 169 million, only 3 out of 1000 people die in a way that allows organ donation (9).

However, despite the absence of a specific institution in America dedicated to recording the number of body donations, it is estimated that around 20,000 Americans donate their bodies to science annually (10).

In our country, it is reported that there are 587,382 registered volunteer donors in the Turkish Organ and Tissue Donation Information System (11). In contrast, the number of cadaver donors is not known precisely because a particular institution does not follow them.

While organ and body donations are generally accepted highly positively in studies, it is understood from international data that sufficient donation efficiency has not been achieved worldwide (12).

In light of this information, the planned study; Based on the problem of inadequacy in organ and body donation, aims to investigate the perspectives, knowledge levels, attitudes, and behaviors of students from different nations (with different ethnic origins) studying in the field of health at our University.

MATERIAL and METHODS

This study was started with the approval of ...Health Sciences Non-Interventional Research Ethics Committee (2022/33). ... University Faculty of Health Sciences (physiotherapy and nursing students) had 618 students studying as 1st-year students in the 2022-2023 academic year, of which 129 were international students. The sample size was calculated using the sample size method with a known population size, with an incidence of 50%, an error margin of 0.03, and a reliability level of 95%. As a result of the calculations, it was envisaged to apply a questionnaire to approximately 237 students studying at ... University. A total of 305 students participated in the study.

Data collection process: The questionnaire form, which was created under three headings as "Socio-Demographic Data Form, Thoughts on Organ Donation, and Thoughts on Cadaver Donation" via Google forms, was carried out by sharing links to the participants who wanted to participate in the study and accepting the answers.

SPSS 23.0 program was used to evaluate the data. The data obtained from the research; were presented using descriptive criteria (percentage, frequency). Frequency values were calculated for the descriptive findings obtained from the survey data of the study group. Pearson Chi-Square test and Crosstab analysis were used to compare the variables determined by the measurement between groups. A p-value of < 0.05 was accepted as the statistical significance level.

RESULTS

Cronbach's Alpha analysis was found to be 0.786.

Demographic Findings

Of the 304 students participating in the study, 77.3% (n=235) were female, and 87.5% (n=266) of the participants were between the ages of 18-24, and 9.9% (n=30) were between the ages of 25-34.

77.6% (n=236) of the participants were citizens of the Republic of Turkey, and 22.4% (n=68) were international students from Asia, Africa, and the Balkans. When the family education level of the participants was evaluated, 72.4% (n=218) of their mothers had a high school or lower education, and 73% (219) of their fathers had a high school or lower education. The income status of 65.7% of the participants was below 8000tl.

Body and Organ Donation

It was determined that there was a statistical difference between Turkish and international students in terms of their knowledge about organ donation based on cadaver donation ('Do you have any information about cadaver-body donation?' Turkish students 78.8% (n=186) yes, 21.2% (n=50) no; international students 57.4% (n=39) yes, 42.6% (n=29) no. 'Do you know about organ donation?' Turkish students 80.9% (n=191) yes, 19.1% (n=45) no, international students 64.7% (n=44) yes, 35.3% (n=24) no), (p<0.05).

How do you think the cadavers used in the health field are procured?" When the answers to the question were examined, no statistical difference was observed between the two groups (Turkish students 64% (n=151), international students 60.3% (n=41) 'By donation' ; Turkish students 20.3% (n=48), international students 13.2% (n=9) 'From unclaimed corpses' ; Turkish students 15.7% (n=37), international students 26.5% (n=18) 'Imported'), (p≥ 0.05).

While Turkish students expressed the same opinion on the relationship between the use of cadavers for quality and qualified education in the field of health and organ donation for human health ('Is it necessary to use cadavers for quality and qualified education in the health field?' Turkish students 91.9% (n=217) yes, 9.1% (n=29) no; international students 80.9% (n=55) yes, 19.1% (n=23) no. 'Is organ donation necessary for human health?' Turkish students 91.5% (n=216) yes, international students 69.1% (n= 47) yes, 29.9% (n=21) no. It was seen that international students supported cadaver donation more in this regard based on organ donation, and it was found statistically significant (p<0.05).

When the answers given by Turkish students about importing cadavers and donor organs were compared, the number of those accepting donor organ imports was higher, and a statistically significant difference was observed ($p < 0.05$). ('Is it necessary to import cadavers from abroad for health education?' Turkish students 22.9% (n=54) yes, 34.3% (n=81) I don't know; international students 38.2% (n=26) yes, 22.1% (n=15) I don't know. 'Should the donor organ be imported?' Turkish students 41.5% (n=98) yes, 33.5% (n=79) I don't know; international students 39.7% (n=27) yes, 32.4% (n=22) I don't know.). No statistical difference was observed in international students ($p \geq 0.05$).

It was observed that Turkish and international students had a more positive attitude towards organ donation than cadaver donation ($p < 0.05$). When the answers given were examined, a statistically significant difference was found between the two groups ($p < 0.05$), ('Do you donate cadavers?' Turkish students 33.1% (n=78) no, 39.8% (n=94) I don't know; international students 44.1% (n=30) no, 23.5% (n=16) I don't know. 'Do you donate organs?' Turkish students 75.4% (n=178) yes, 19.5% (n=19.5) I don't know; international students 54.4% (n=37) yes, 20.6% (n=14) I don't know.).

When the answers of Turkish and international students were examined, it was concluded that they would like to donate organs rather than body donations in their social circles, and a statistical difference was found ('Are there people in your social circle who donated their cadavers?' Turkish students 7.6% (n=18) yes, 77.5% (n=183) I don't know; international students 27.9% (n=19) yes, 45.6% (n=31) I don't know. 'Would you like your social circle to donate organs?' Turkish students 78.8% (n=186) yes, 14.8% (n=35) I don't know; international students 54.4% (n=37) yes, 27.9% (n=19) I don't know.), ($p < 0.05$).

'In what ways do you think organ transplantation is performed?' Turkish students 81.8% (n=193) I don't know, 13.1% (n=31) from cadaver donors, 0.8% (n=2) from living donors, 4.2% (n=10) both cadavers and from living donors; international students 41.2% (n=28) I don't know, 17.6% (n=12) from cadaver donors, 16.2% (n=11) from living donors, 25% (n=17) both cadavers and from living donors. There was a statistically significant difference between the two groups in the question ($p < 0.05$).

There was a statistically significant difference between the statements of Turkish and international students about giving up after cadaver-organ donation ('Do you have the right to give up after a cadaver donation?' Turkish students 32.2% (n=76) yes, 64.8% (n=153) I don't know; international students 32.2% (n=76) yes, 36.8% (n=25) I don't know), ($p < 0.05$).

When the answers of Turkish students about "Family, spouse, friend and relative's prevention of donation after your cadaver or organ donation" were compared, there was a statistical difference ($p < 0.05$). In contrast, no statistical difference was observed in international students ($p \geq 0.05$), ('Do you want your relatives to donate your body after you die?' Turkish students 32.2% (n=76) yes, 39% (n=92) I don't know; international students 39.7% (n=27) yes, 33.8% (n=23) I don't know. 'After donating your organs, do your family, spouse, friend or relative prevent you from donating?' Turkish students 28.4% (n=67) yes, 44.5% (n=105) I don't know; international students 23.5% (n=16) yes, 51.5% (n=35) I don't know.) (Table 1, 5). In Turkish students, the idea of donating the organs of their "relatives after death" showed a statistically significant difference compared to cadaveric donation, while positive significance was observed for organ donation; no statistically significant difference was found among international students ($p \geq 0.05$).

In Turkish and international students' social circles, organ donations were higher than cadaver donations, and a statistically significant difference was found for both groups ($p < 0.05$), ('Are there people in your social circle who donated their cadavers?' Turkish students 7.6% (n=18) yes, 77.5% (n=183) I don't know; international students 27.9% (n=19) yes, 45.6% (n=31) I don't know. 'Do you have organ donors in your social circle?' Turkish students 22% (n=52) yes, 57.2% (n=135) no; international students 33.8% (n=23) yes, 32.4% (n=22) no.).

"Why would you like to donate cadavers?" When the question was examined, a statistical difference was found between Turkish and international students ($p \leq 0.05$) ('To train better healthcare workers.' Turkish students 34.3% (n=81), international students 26.5% (n=18); 'For use in organ transplantation.' Turkish students 48.3% (n=114), international students 25% (n=17); 'Because your body is useless after death and decays.' Turkish students 11.9% (n=28), international students 35.3% (n=24); 'I think it is religiously appropriate.' Turkish students 1.7% (n=4), international students 5.9% (n=4); 'Others' Turkish students 3.8% (n=9), international students 7.4% (n=5)).

"Why do you want to donate organs?" When the question was examined, a statistical difference was found between Turkish and international students ($p \leq 0.05$), ('I never thought about organ donation.' Turkish students 25% (n=59), international students 23.5% (n=16); 'For religious reasons.' Turkish students 10.6% (n=25), international students 25% (n=17); 'For family reasons' Turkish students 22.9% (n=54), international students 10.3% (n=7); 'Because it will be exploited commercially' Turkish students 33.9% (n=80), international students 16.2% (n=11); 'Because I don't trust those in the healthcare field because they won't show enough respect.' Turkish students 7.6% (n=18), international students 25% (n=17)).

It was seen in the survey results that Turkish and international students knew where to donate organs based on cadaver donation, and a statistically significant difference was found ($p \leq 0.05$), ('I know where to make a body donation' Turkish students 48.7% (n=115) no, 28.4% (n=67) I don't know; international students 50% (n=34) no, 29.4% (n=20) I don't know. 'I know where to donate organs' Turkish students 47% (n=111) yes, 20.3% (n=48) I don't know; international students 47.1% (n=32) yes, 26.5% (n=18) I don't know.).

When Turkish and international students decided to donate organs based on body donation, there was a statistical difference between the two groups in terms of family support ($p \leq 0.05$), and it was seen that they received more family support for organ

donation ('My family supports me when I decide to donate my body' Turkish students 40.7% (n=96) no, 50.4% (n=119) I don't know; international students 35.3% (n=24) no, 42.6% (n=29) I don't know. 'My family supports me when I decide to donate organs.' Turkish students 31.8% (n=75) yes, 47% (n=111) I don't know; international students 33.8% (n=23) yes, 47.1 (n=32) I don't know.').

Turkish and international students stated that organ donation was religiously appropriate based on cadaver donation, and a statistical difference was found within the group ('Is body donation appropriate in terms of religion?' Turkish students 30.1% (n=71) yes, 53.4% (n=126) I don't know; international students 42.6% (n=29) yes, 41.2% (n=28) I don't know. 'Is organ donation appropriate in terms of religion?' Turkish students 41.9% (n=113) yes, 52.1 (n=123) I don't know; international students 50% (n=34) yes, 32.4% (n=22) I don't know.), ($p \leq 0.05$).

Turkish students asked, "Do you think religious belief is effective in the insufficiency of cadaver donation based on organ donation? When the answers to the question were compared, a statistical difference was found ($p \leq 0.05$) (Turkish students 83.5% (n=197) yes, 11.4% (n=27) I don't know; international students 38.2% (n=26) yes, 44.1 (n=30) I don't know) and it was determined that the yes option was given more in cadaver donations (Turkish students 35.6% (n=84) I agree, 49.6% (n=117) I'm undecided; international students 33.8% (n=23) I agree, 41.2% (n=28) I'm undecided.). A statistically significant difference was also found among international students ($p \leq 0.05$). However, it was determined that the yes response to the effect of religious belief in organ donation was higher compared to cadaveric donation. Based on the cadaver donation of Turkish students, the idea that the clergy should give information and lead in organ donation dominated, and a statistical difference was found ($p \leq 0.05$). A statistical difference was also found among international students ($p \leq 0.05$), and it was seen that the idea of clergy giving information and leading the way about cadaver donation about organ donation came to the fore ('The clergy should inform and lead on body donation.' Turkish students 70.3% (n=166) I agree, 22.5% (n=53) I'm undecided; international students 47.1% (n=32) I agree, 32.4% (n=22) I'm undecided. 'Clergy should inform and lead on organ transplantation and donation.' Turkish students 77.1% (n=182) yes, 14% (n=33) I don't now; international students 42.6% (n=29) yes, 35.3% (n=24) I don't know.').

There was a statistical difference in the proposition that there may be situations that prevent organ donation, rather than cadaver donation, in terms of religion among Turkish students.

There was no statistical difference between the answers of international students, "There may be situations that prevent organ and cadaver donation in terms of religion" ($p \geq 0.05$), ('Why don't you want to donate your body?' Turkish students 29.2% (n=69), international students 27.9% (n=19) 'I never thought about donating my body'; Turkish students 15.7% (n=37), international students 17.6% (n=12) 'For religious reasons'; Turkish students 19.5% (n=46), international students 17.6% (n=12) 'For family reasons'; Turkish students 20.3% (n=48), international students 20.6% (n=14) 'Because it will be exploited commercially'; Turkish students 9.7% (n=23), international students 13.2% (n=9) 'I don't think it's religiously appropriate.; Turkish students 5.5% (n=13), international students 2.9% (n=2) 'Because those educated in the field of health will not show enough respect.'). (Why don't you want to donate organs?' Turkish students 25% (n=59), international students 23.5% (n=16) 'I never thought about organ donation. '; Turkish students 10.6% (n=25), international students 25% (n=17) 'For religious reasons. '; Turkish students 22.9% (n=54), international students 10.3% (n=7) 'For family reasons'; Turkish students 33.9% (n=80), international students 16.2% (n=11) 'Because it will be exploited commercially'; Turkish students 7.6% (n=18), international students 25% (n=17) 'Because I don't trust those in the healthcare field because they won't show enough respect.').

Table 1. Questions asked about body donation and their answers.

Do you have any information about cadaver-body donation?				
Citizen	Yes (%)	No (%)		p
Turkish	78,8 (n=186)	21,2 (n=50)		(p≥ 0,05)
International	57,4 (n=39)	42,6 (n=29)		
Is it necessary to use cadavers for quality and qualified education in the health field?				
Citizen	Yes (%)	No (%)		p
Turkish	91,9 (n=217)	9,1 (n=29)		(p≥ 0,05)
International	80,9 (n=55)	19,1 (n=23)		
Shouldn't training be done on a dead person's body for whatever purpose?				
Citizen	No (%)	I don't know (%)		p
Turkish	62,3 (n=147)	24,6 (n=58)		(p≥ 0,05)
International	38,2 (n=26)	27,9 (n=19)		
How did you learn about cadaver-body donation?				
Citizen	School-textbooks seminars	Social media		p
Turkish	%43,2 (n=102)	%28,4'ü (n=67)		(p≥ 0,05)
International	%52,9'u (n=36)	%22,1'i (n=15)		
Is it necessary to import cadavers from abroad for health education?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	22,9 (n=54)	34,3 (n=81)		(p≥ 0,05)
International	38,2 (n=26)	22,1 (n=15)		
How do you think the cadavers used in the health field are procured?				
Citizen	By donation	From unclaimed corpses	Imported	p
Turkish	%64 (n=151)	%20,3 (n=48)	%15,7(n=37)	0,08
International	%60,3 (n=41)	%13,2 (n=9)	%26,5 (n=18)	(p≥ 0,05)
Do you donate cadavers?				
Citizen	No (%)	I don't know (%)		p
Turkish	33,1 (n=78)	39,8 (n=94)		(p≥ 0,05)
International	44,1 (n=30)	23,5 (n=16)		
Do you have the right to give up after a cadaver donation?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	32,2 (n=76)	64,8 (n=153)		(p≥ 0,05)
International	36,8 (n=25)	44,1 (n=30)		
After your cadaver donation, will your family, friend, or relative create a situation that will prevent your cadaver donation?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	47 (n=111)	41,5 (n=98)		(p≥ 0,05)
International	45,6 (n=31)	29,4 (n=20)		
Would you like your social circle to donate body?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	42,8 (n=101)	34,4 (n=86)		(p≥ 0,05)
International	48,5 (n=33)	17,6 (n=12)		
Are there people in your social circle who donated their cadavers?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	7,6 (n=18)	77,5 (n=183)		(p≥ 0,05)
International	27,9 (n=19)	45,6 (n=31)		
I know where to make a body donation.				
Citizen	No (%)	I don't know (%)		p
Turkish	48,7 (n=115)	28,4 (n=67)		0,923(p≥ 0,05)
International	50 (n=34)	29,4 (n=20)		
My family supports me when I decide to donate my body.				
Citizen	No (%)	I don't know (%)		p
Turkish	40,7 (n=96)	50,4 (n=119)		(p≥ 0,05)
International	35,3 (n=24)	42,6 (n=29)		
Do you want your relatives to donate your body after you die?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	32,2 (n=76)	39 (n=92)		0,23(p≥ 0,05)
International	39,7 (n=27)	33,8 (n=23)		
Is body donation appropriate in terms of religion?				
Citizen	Yes (%)	I don't know (%)		p
Turkish	30,1 (n=71)	53,4 (n=126)		0,129(p≥ 0,05)
International	42,6 (n=29)	41,2 (n=28)		
Do you think there are enough body donations in your country?				
Citizen	No (%)	I don't know (%)		p
Turkish	83,5 (n=197)	12,7 (n=30)		(p≥ 0,05)
International	45,6 (n=31)	38,2 (n=26)		
The clergy should inform and lead on body donation.				
Citizen	I agree (%)	I'm undecided (%)		p
Turkish	70,3 (n=166)	22,5 (n=53)		(p≥ 0,05)
International	47,1 (n=32)	32,4 (n=22)		
There may be a religious obstacle to body donation.				
Citizen	I agree (%)	I'm undecided (%)		p
Turkish	35,6 (n=84)	49,6 (n=117)		0,134 (p≥ 0,05)
International	33,8 (n=23)	41,2 (n=28)		
It is okay for people other than my ethnicity to donate their bodies.				
Citizen	I don't agree (%)	I'm undecided (%)		p
Turkish	38,6 (n=91)	45,8 (n=108)		(p≥ 0,05)
International	22 (n=15)	45,6 (n=31)		
There is no harm in donating the body of people other than my own religious belief.				
Citizen	I don't agree (%)	I'm undecided (%)		p
Turkish	40,3 (n=95)	37,7 (n=89)		(p≥ 0,05)
International	19,2 (n=13)	42,6 (n=29)		

Table 2. Reasons for body donation.

Citizen	Why don't you want to donate your body?						P
	I never thought about donating my body	For religious reasons	For family reasons	Because it will be exploited commercially.	I don't think it's religiously appropriate.	Because those educated in the field of health will not show enough respect.	
Turkish	%29,2 (n=69)	%15,7 (n=37)	%19,5 (n=46)	%20,3 (n=48)	%9,7 (n=23)	%5,5 (n=13)	0,905 (p≥ 0,05).
International	%27,9 (n=19)	%17,6 (n=12)	%17,6 (n=12)	%20,6 (n=14)	%13,2 (n=9)	%2,9 (n=2)	

Table 3. Ideas for increasing body donation.

Citizen	What do you think is the most effective method to increase cadaver donations?							P
	Inclusion in educational institutions and curricula.	Financial support for donors.	Media support.	Prioritizing donors in the field of health and education.	Organizing cadaver donation campaigns.	Raising religious awareness as well as making donations attractive.	Allocating funds to relevant institutions to support donations by the state.	
Turkish	%27,1 (n=64)	%19,9 (n=47)	%19,5 (n=46)	%14 (n=33)	%9,3 (n=22)	%2,1 (n=5)	%8,1 (19)	(p≥ 0,05)
International	%17,6 (n=12)	%8,8 (n=6)	%27,9 (n=19)	%13,2 (n=9)	%14,7 (n=10)	%1,5 (n=1)	%16,2 (11)	

Table 4. Reasons for donating cadavers.

Citizen	Why would you like to donate cadavers (your body)?					p
	To train better healthcare workers.	For use in organ transplantation.	Because your body is useless after death and decays.	I think it is religiously appropriate.	Others	
Turkish	%34,3 (n=81)	%48,3 (n=114)	%11,9 (n=28)	%1,7 (n=4)	%3,8 (n=9)	(p≥ 0,05)
International	%26,5 (n=18)	%25 (n=17)	%35,3 (n=24)	%5,9 (n=4)	%7,4 (n=5)	

Table 5. Questions asked about organ donation and their answers.

Do you know about organ donation?					
Citizen	Yes (%)	No (%)			p
Turkish	80,9 (n=191)	19,1 (n=45)			(p≥ 0,05)
International	64,7 (n=44)	35,3 (n=24)			
Is organ donation necessary for human health?					
Citizen	Yes (%)	No (%)			p
Turkish	91,5 (n=216)	9,5 (n=20)			(p≥ 0,05)
International	69,1 (n= 47)	29,9 (n=21)			
How did you learn about organ donation?					
Citizen	School-textbooks , seminars	Social media			p
Turkish	%46.2 (n=109)	%24.6 (n=58)			(p≥ 0,05)
International	%55.9 (n=38)	%16.2 (n=11)			
Should the donor organ be imported?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	41,5 (n=98)	33,5 (n=79)			0,887 (p≥ 0,05).
International	39,7 (n=27)	32,4 (n=22)			
In what ways do you think organ transplantation is performed?					
Citizen	I don't know	From cadaver donors.	From living donors.	Both cadavers and from living donors.	p
Turkish	%81,8 (n=193)	%13,1 (n=31)	%0,8 (n=2)	% 4,2 (n=10)	(p≥ 0,05)
International	%41,2 (n=28)	%17,6 (n=12)	%16,2(n=11)	%25 (n=17)	
Do you donate organs?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	75,4 (n=178)	19,5 (n=19.5)			(p≥ 0,05)
International	54,4 (n=37)	20,6 (n=14)			
Do you have the right to give up after organ donation?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	33,5 (n=79)	55,9 (n=132)			0,186 (p≥ 0,05).
International	39,7 (n=27)	44,1 (n=30)			
After donating your organs, do your family, spouse, friend or relative prevent you from donating?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	28,4 (n=67)	44,5 (n=105)			0,576 (p≥ 0,05).
International	23,5 (n=16)	51,5 (n=35)			
Would you like your social circle to donate organs?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	78,8 (n=186)	14,8 (n=35)			(p≥ 0,05)
International	54,4 (n=37)	27,9 (n=19)			
Do you have organ donors in your social circle?					
Citizen	Yes (%)	No (%)			p
Turkish	22 (n=52)	57,2 (n=135)			(p≥ 0,05)
International	33,8 (n=23)	32,4 (n=22)			
I know where to donate organs.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	47 (n=111)	20,3 (n=48)			0,460 (p≥ 0,05)
International	47,1 (n=32)	26,5 (n=18)			
My family supports me when I decide to donate organs.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	31,8 (n=75)	47 (n=111)			0,915(p≥ 0,05)
International	33,8 (n=23)	47,1 (n=32)			
Do you want your relatives to donate your organs after you die?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	64,8 (n=153)	23,7 (n=56)			(p≥ 0,05)
International	44,1 (n=30)	41,2 (n=28)			
Is organ donation appropriate in terms of religion?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	41,9 (n=113)	52,1(n=123)			(p≥ 0,05)
International	50 (n=34)	32,4 (n=22)			
Do you think there are enough organ donations in your country?					
Citizen	No (%)	I don't know (%)			p
Turkish	76,3 (n=180)	20,3 (n=48)			(p≥ 0,05)
International	32,4 (n=22)	50 (n=34)			
Do you think that religious belief affects the inadequacy of organ donation?					
Citizen	Yes (%)	I don't know (%)			p
Turkish	83,5 (n=197)	11,4 (n=27)			(p≥ 0,05)
International	38,2 (n=26)	44,1 (n=30)			
Clergy should inform and lead on organ transplantation and donation.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	77,1 (n=182)	14 (n=33)			(p≥ 0,05)
International	42,6 (n=29)	35,3 (n=24)			
There may be a religious obstacle to organ transplantation and donation.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	34,3 (n=81)	44,9 (n=106)			(p≥ 0,05)
International	36,8 (n=25)	41,2 (n=28)			
It is okay for people other than my own ethnicity to donate their organs.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	36,4 (n=86)	37,3 (n=88)			(p≥ 0,05)
International	42,6 (n=29)	42,6 (n=29)			
It is okay for people other than my own religious belief to donate their organs.					
Citizen	I agree (%)	I'm undecided (%)			p
Turkish	34,7 (n=82)	37,3 (n=88)			0,07(p≥ 0,05)
International	19,6 (n=14)	42,6 (n=29)			
I accept organ donations from someone of different ethnicity.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	77,5 (n=183)	16,9 (n=40)			(p≥ 0,05)
International	58,8 (n=40)	19,1 (n=13)			
I accept organ donations from someone with different religious beliefs.					
Citizen	Yes (%)	I don't know (%)			p
Turkish	75 (n=177)	19,9 (n=47)			(p≥ 0,05)
International	52,9 (n=36)	25 (n=17)			

Table 6. Reasons for organ donation.
Why don't you want to donate organs?

Citizen	I never thought about organ donation.	For religious reasons.	For family reasons	Because it will be exploited commercially.	Because I don't trust those in the healthcare field because they won't show enough respect.	P
Turkish	%25 (n=59)	% 10,6 (n=25)	% 22,9 (n=54)	% 33,9 (n=80)	% 7,6 (n=18)	(p≥ 0,05)
International	%23,5 (n=16)	% 25 (n=17)	% 10,3 (n=7)	% 16,2 (n=11)	% 25 (n=17)	

Table 7. Ideas for increasing organ donation.
What do you think is the most effective method to increase organ donation?

Citizen	Including curricula in educational institutions.	Financial support for donors.	Media support.	Prioritizing donors in the field of health and education.	Organizing organ donation campaigns.	Allocating funds to relevant institutions to support donations by the state.	P
Turkish	%25,8 (n=61)	% 16,1 (n=38)	% 18,6 (n=44)	% 16,1 (n=38)	% 16,1 (n=38)	% 7,2 (n=17)	(p≥ 0,05)
International	%26,5 (n=18)	% 8,8 (n=6)	% 36,8 (n=25)	% 5,9 (n=4)	% 14,7 (n=10)	% 7,4 (n=5)	

Table 8. Reasons for organ donation.
Why do you want to donate organs?

Citizen	For use in organ transplantation	Because your body is useless after death and decays.	Humanely and conscientiously	For religious reasons	I could be in the same situation.	p
Turkish	% 35,6 (n=84)	% 5,9 (n=14)	% 26,7 (n=63)	% 0,4 (n=1)	% 31,4 (n=74)	(p≥ 0,05)
International	% 32,4 (n=22)	% 25 (n=17)	% 26,5 (n=18)	% 1,5 (n=1)	% 14,7 (n=10)	

DISCUSSION

In line with the decision of the person's free will, after he dies medically, allowing his tissues and organs to be used in treating other patients is called "organ donation." Information centers on this subject are Organ Transplant Centers located in many cities, and patients are transferred according to the Transplant Waiting List records with national coordination. The literature has determined that education, socio-economic level, culture, and religion affect people's attitudes toward organ donation the most (13, 14). Most of the participants in the study are citizens of the Republic of Turkey, while the others are international students from Asia, Africa, and the Balkans. When the family education level of the participants was evaluated, most of their mothers had a high school or lower education, and most of their fathers had a high school or lower education. The income status of 65.7% of the participants was below 8000tl. When demographic data, organ donation, and willingness to donate cadavers are compared, the low rates confirm the relationship between socio-economic status and donation rate.

"Is it necessary to use cadavers for quality and qualified education in the health field?" Most Turkish and international students answered yes to the question, which corresponds to the data in the previous study on the importance of cadavers in anatomy and medical education (15, 16).

"Is organ donation necessary for human health?" 91.5% of Turkish students and 69.1% of international students answered yes to the question. The inadequacy of organ donation from cadavers is a common problem that many countries are working on. While 80% of donors are cadaveric and 20% live in European countries, in Turkey, on the contrary, 75% of donors are alive, and 25% are cadaveric (17). The inclination of international students to support cadaver donation over organ donation can be attributed to the prevalence of cadaver donors in foreign countries.

Cahill and Ettarh (2009) questioned the role of dissection and the contribution of cadavers to education in their survey study (18). Most of the students stated that the importance of the cadaver and its contribution to education is precious. Cadaveric dissection is the main component of anatomy education (19). In this study, "Is it necessary to use cadavers for quality and qualified education in the health field?" Most Turkish and international students answered yes to the question. Students think that working on a cadaver is not an objectionable action.

"Which ways do you think organ transplantation is performed?" It was seen that most Turkish and foreign students answered the question, "I don't know." In the processes related to organ donation, the "level of knowledge" affects people's attitudes. Studies show that those with the correct information donate more organs. A study stated that most individuals had little knowledge about organ donation, were not donors, and were undecided about organ donation (20). Lack of information is a significant factor in people's decision-making. However, according to the data of our study, most of the students wanted to donate organs even though they did not know how to transplant organs.

"Will you donate cadavers?" 39.8% of Turkish students do not know the answer to the question; 44.1% of international students answered no. Unfortunately, the concept of cadaver donation is almost unknown. Cultures have defined limits to what they will accept, encompassing aspects such as the act of dissection, the scope of postmortem research, the utilization of human embryos for study, and even the understanding of brain death. Jones (1998) stated that training and work with cadavers constitute a part of that culture. It is essential to explain the benefits of body donation in countries like Turkey, where cadaver donation is insufficient (21). An increase in education level increases awareness of cadaver donation; In a study conducted by Mağazacı et al. (2018), among the participants who were willing to donate their bodies to scientific studies and anatomy education, the students in the 5th grade significantly outnumbered the students in the first four years (22). In a survey conducted among

Iranian medical students, 25% of the students stated that they were optimistic about donating their bodies as cadavers (23). Another study showed that Australian students reported a very high rate of positive opinions about cadaver donation (24).

Do you donate organs?" While 75.4% of Turkish students answered yes to the question, It was seen that 54.4% of international students answered yes. A study conducted with 158 medical students from Pakistan stated that 81.6% of the students viewed organ donation positively. In addition, this study determined that 71.2% of the students supported organ donation because they saw it as a humanitarian duty (25). It has been observed that 84% of physicians in Germany will donate their organs after death, and 23% of physicians in Turkey have an organ donation card. This rate is 22% in India, which is among the countries in the lower rank, and Turkey (26).

As a result of a study, 97.4% of the participants stated that they supported organ donation, but when asked whether they would donate their organs, 56.5% stated that they would donate after death. According to a study conducted in Pakistan, 62% of the participants view organ donation positively, but the rate of donating their organs is halved (27).

"Why would you not want to donate cadavers?" When the question was examined, it was seen that the answer followed the answer of Turkish and foreign students as it would be exploited commercially, very close to the answer "I never thought of cadaver donation." When the answers given are examined, it is seen again that adequate information transfer is significant. Body donation is the permanent or temporary body donation after death for use in medical education and research. This gift, which is so precious that it cannot be compared with any material value, is presented to the development of humanity and science (28). In some countries, disinfection, burial, or cremation of the donated corpse is done free of charge, while in others, the donor is required to participate in the expenses. No fee is charged in our country.

When the question "Why would you not want to donate organs" was examined, it was seen that Turkish students answered because it could be exploited commercially at a high rate, while foreign students answered because of religious reasons and because I did not trust those in the field of health. The literature has determined that people's attitudes toward organ donation are affected mainly by education, socio-economic level, culture, and religion (12).

When asked, "Why would you like to donate a cadaver?" most Turkish students said that it is for use in organ transplantation, and secondly, it is for good health education. The answers of international students are also similar to Turkish students. The study's data showed that when sufficient information is provided, awareness that cadaver training and donation are necessary for training a good health worker can be created.

While most Turkish students stated that it was used in organ transplantation and for humanitarian-conscientious reasons to the question "Why do you want to donate organs" foreign students gave similar answers to Turkish students at the same rate. Both Turkish and international students have a favorable view of organ donation.

It is seen that Turkish and international students know where to donate organs based on cadaver donation. Almost no country in the world has a central organization that accepts body donations. The person who wants to donate becomes a "donor" by applying to the Anatomy department of the nearest medical school (29, 30). The International Federation of Anatomists Associations (IFAA), at its 2014 Beijing meeting, proposed to create an international network on body donation and to provide international assistance to countries that have difficulties in organizing donation programs (31).

When Turkish and international students decided to donate organs based on body donation, there was a statistical difference between the two groups regarding family support. It was seen that they received more family support for organ donation. The family is known to be essential in the decision-making process for body and organ donation. The education of the family and communication within the family about body-organ donation is critical.

Turkish and international students stated that organ donation is religiously appropriate, referring to cadaver donation. While the idea of clergy giving information and leading in organ donation based on the cadaver donation of Turkish students was dominant, the idea of providing information and leading the way in cadaver donation for international students came to the fore. Due to individuals' misconceptions of religion and gaining knowledge from traditional teachings, religious-based opposition to body-organ donation. From a religious standpoint, Islam permits the utilization of deceased individuals' bodies for purposes such as disease discovery, development of new treatments, or determination of the functions of body components or organs (32).

CONCLUSION

As a result, studies aiming to raise awareness about body-organ donation and increase participation in body-organ donation should be developed by considering many factors such as sociodemographics, cultural characteristics of societies, personal development and knowledge levels of individuals, and personality traits. Considering that increasing the knowledge level of an organization is critical, it is essential to plan regular training seminars and prepare programs with media support. The importance and value of the subject should be accurately conveyed to the students in every respect, and it should be ensured that the students who donate their bodies as cadavers deserve respect because of their contributions to education and science, and those who donate their organs deserve respect because of the sanctity of giving life to a human being.

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