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Attitudes of Healthcare Professionals Working in Different Fields Towards Organ Transplantation in the Hospital Sample and the Factors Affecting These Attitudes

Hastane Örnekleminde Farklı Alanlarda Görevli Sağlık Çalışanlarının Organ Nakline İlişkin Tutumları ve Bunu Etkileyen Faktörler

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ABSTRACT

Aim: Turkish society has profound distrust and hesitation against the concept of brain death and related cadaveric organ donation. In this study, the attitudes of health workers about organ transplantation from cadavers were investigated. The effects of race, religiosity and political conservatism parameters on the attitudes of the research group were also explored.

Methods: A total of 491 participants between the ages of 18-70 who are hospital employees in different fields were included in this study. An Organ Donation Attitude Scale (ODAS) was applied to the participants, which evaluates organ donation from cadavers explicitly, and the relationships between the emerging trend and the demographic characteristics of the participants, their education, the task they are responsible in the hospital, ethnicity and sectarian origins, religiosity and political conservatism characteristics were evaluated.

Results: ODAS scores of our sample group did not show a significant relationship in age, gender, ethnic origin and sect. There was a negative relationship between cadaveric organ transplantation and religiousness and a positive relationship with liberal political views. On the other hand, there was a significant difference in the attitude toward organ transplantation regarding education levels, position in the hospital, and the geographical region where the person came from.

Conclusion: Higher education and liberal worldview has a positive effect on organ donation attitude from cadaver. On the other hand, there is a negative relationship between religiosity and the approach to organ donation from cadaver.

Key Words: Organ donation, Brain Death, Attitude, Education

ÖZET

Amaç: Türk toplumunda beyin ölümü ve buna bağlı kadavradan organ bağışı kavramına karşı ciddi bir güvensizlik ve tereddüt bulunmaktadır. Bu tereddüt için şimdiye kadar eğitim eksikliği en önemli sorun olarak vurgulanmıştır. Çalışmamızda bu konuda en iyi eğitim düzeyine sahip olduğu düşünülen sağlık çalışanlarının kadavradan organ nakli konusundaki tutumlarını araştırdık. Ayrıca ırk, dindarlık ve politik muhafazakârlık parametrelerinin araştırma grubunun tutumları üzerindeki etkilerini değerlendirdik.

Yöntemler: Bu çalışmaya farklı alanlarda hastane çalışanı olan 18-70 yaş arası toplam 491 katılımcı dahil edilmiştir. Katılımcılara özellikle kadavradan organ bağışını değerlendiren bir Organ Bağışı Tutum Ölçeği (OBTÖ) uygulanmış ve burada ortaya çıkan eğilim ile katılımcıların demografik özellikleri, eğitimi, hastanede aldıkları görev, etnik ve mezhepsel kökenleri, dindarlık ve politik muhafazakârlık özellikleri arasındaki ilişkiler değerlendirilmiştir.

Bulgular: Örneklem grubumuzun Organ Bağışı Tutum Ölçeği (OBTÖ) puanları yaş, cinsiyet, etnik köken ve mezhep açısından anlamlı bir ilişki göstermemiştir. Buna karşın eğitim, hastanede yapılan görev, kişinin geldiği coğrafi bölge bakımından organ nakli tutumu hakkında anlamlı farklılık izlenmiştir. Ayrıca kadavradan organ nakline olumlu yaklaşım ile dindarlık düzeyi negatif ve liberal yöndeki politik tutum arasında pozitif yönde bir korelasyon izlenmiştir.

Sonuç: Yüksek öğrenim ve liberal dünya görüşü kadavradan organ bağışı tutumu üzerinde olumlu bir etkiye sahiptir. Buna karşın dindarlık ile kadavradan organ bağışına yaklaşımda negatif bir ilişki söz konusudur. Ancak ülkemizdeki kadavradan organ nakline yönelik tutum sadece eğitim ile açıklanmayacak şekilde komplekstir. Ülkemiz için kültürel dini ve diğer farklı sosyal yönlerin kavramsal incelenmesi gereklidir.

Anahtar Kelimeler: Organ bağışı, Beyin Ölümü, Tutum, Eğitim

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Introduction

Organ transplantation can be completed in two forms, cadaver and living. The High Council of Religious Affairs in Turkey decided that organ donation is allowed in Islam, and the first fatwa that targeted organ donation and transplantation in Turkey was issued in 1980. In addition, brain death, the basis of organ transplantation from cadavers, is recognized as legal death in our country regarding medical interventions or organ transplants along with civil and criminal law. Despite the previously mentioned mindset of legal and official religious authorities on this issue, reaching the desired level of organ donation has not been possible, especially from cadavers in our country. According to the International Registry of Organ Donations and Transplants (IRODaT -UOBTK 2022), organ donation from cadavers for 2021 per million population is 40.8 in Spain, 41.6 in the United States, 24.7 in France, 26, while it is 11.5 in Iran, it is only 3.6 in our country [1]. From another perspective, as of July 2019, there are a total of 489,593 organ donors in Turkey, and only 8 out of every 1,000 people over the age of 18 are organ donors who have given consent [2].

The results of a study on Turkish society confirm this situation in the attitude plan as well. According to the results of this research, only 0.7% (n=22) of 3000 people stated that they donated their organs, and 88.3% (n=2629) did not want to donate [3]. This situation also coincides with Muslims who live in Western countries showing the same reluctance to accept brain death and organ donation from cadavers [4]. Demirkıran and his colleagues aimed to reveal religious and cultural aspects of organ donation in their study on the general population. As a result, they stated that religious reasons were especially compelling. The study revealed that fewer participants approved of organ donation than expected, and the problem might be related to education [5]. Studies on organ donation in Turkey especially emphasize the lack of awareness and education among the population [5, 6, 7].

In this study, the main aim was to evaluate the attitudes of employees who work in various fields in the hospital, who can represent different education levels and social layers, such as doctors, nurses, pharmacists, technicians and other health personnel, patient caregivers and administrative personnel, and who are expected to be more knowledgeable about the subject than the general population, towards organ transplantation. The study also aims to evaluate the possible effects of gender, age, ethnic and sectarian origin, religiosity and political conservatism parameters on attitudes.

Material and Methods

A total of 491 healthcare professionals, aged between 18-70 years, working in different positions in two private hospitals belonging to the same group in the province of İstanbul, who gave informed consent, were included in the study. The study was approved by the İstanbul Medipol University Local Ethics Committee (Ethics Report No: 10840098-772.02-E.44287).

After obtaining informed consent, participants were first asked to answer questions regarding demographic characteristics, education, hospital position, ethnic and sectarian origin, and definitions of religiosity and conservatism. They were then asked to answer questions assessing their practical and theoretical knowledge about brain death. Finally, Rumsey and colleagues' Organ Donation Attitude Scale (ODAS) was applied to evaluate the attitudes of the participants towards organ donation. [8].

The attitude was defined as the dependent variable in this study. The research was conducted on 491 healthcare workers selected using the purposive sampling model. The distribution of personal characteristics of the sample group is given in Table 1. In the research, personal information (gender, age, education, occupation (the position he assumed at the hospital), geographical region of origin, ethnicity, and sect) was recorded. In addition, participants were asked how they defined themselves on a scale of 10 in terms of religiosity and political conservatism (Not religious (1) / Very religious (10) and again Conservative (1) / Liberal (10). Participants' theoretical (training) and practical (organ donor recognition) knowledge about organ donation was determined by a four-question survey.

ODAS responses, which measure participants' attitudes towards organ donation from cadavers, were evaluated on a 5-point Likert scale (No, I strongly disagree, I do not agree, I am not sure, I am not sure, I agree, Yes, I strongly agree). The scale consists of 20 questions in total. The score range is between 20 and 100, while questions 2,13,14,16 do not support organ donation, questions numbered 4,5,6,7,10,11,15,17,18,19,20 support organ donation, and questions 1,3,8,9 neutral. High scores indicate a positive attitude towards organ donation [8].

Statistical analysis

Descriptive statistics (frequency and percentages) were calculated for the demographic and other descriptive characteristics of the participants. The age ranges of the participants were divided into four groups 17-25, 26-35, 36-45 and 46+. Their education is divided into primary education, high school, associate degree, university and higher. The geographical region where the participants originate; is divided into Mediterranean/Aegean and Marmara, Black Sea, Central Anatolia, and East and Southeast Anatolia. It is organized into 4 groups in terms of their duties in the hospital: 1) Technician/nurse/midwife/pharmacist, 2) doctor, 3) Service

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personnel and 4) Administrative personnel. Statistics were made by classifying them into four groups Turkish, Kurdish, Arab and others in terms of ethnic origin and Hanafi, Alevi, Shafi and others for the sect.

The internal consistency of the ODAS scale was calculated with Cronbach's alpha. Independent groups t-test and/or one-way analysis of variance (ANOVA) was applied to examine the differentiation status of the responses of our sample group to the attitude statements about organ donation from cadavers with ODAS according to gender, age, education status, and working status in the hospital. Least Significant Differences (LSD) analysis was performed to identify the sources of differences for the variables that showed significance. Finally, Pearson correlation analysis was used to determine the relationships between religiosity and political conservatism. IBM-SPSS 25.0 program was used in the analysis, and the significance was checked at the lowest $p < .05$ level.

Results

The characteristics of our sample group, gender, classified age, education, hospitalization, ethnicity, sect and self-definition of religiosity and political conservatism (n= 491) are shown in Table 1.

The table shows that 73.3% of the sample group is female,and 26.7% is male. 48.1% of the group is in the age range of 17-25, 26.1% in the age range of 26-35, 15.6% in the 36-45 age range, and 10.1% in the age range of 46 and over. 6.4% of the group has a primary education, 14.7% high school, 31.5% associate degree, and 47.4% a university or higher education. In terms of geographical origin, 67.6% of our sample is Marmara, Aegean and Mediterranean; 13.3% are from the Black Sea, 8.7% are from Central Anatolia, and 10.5% are from the East and Southeast regions. 39.5% of our sample work in the hospital as technicians, nurses, midwives and pharmacists, 18.7% as doctors, 10.0% as service personnel, and 31.8% as administrative personnel. Regarding ethnicity, 89.6% of our sample is Turkish, 7.7% is Kurdish, 1.7% is Arab, and 1.1% is from other ethnic origins. In terms of the sect, 84.1% stated that they belonged to Hanafi, 2.8% to Alevi, 5.9% to Shafi and 7.2% to other sectarian groups. When asked how the participants describe themselves in terms of religiosity and political conservatism, the sample group's religiosity means = 6.56, standard deviation =2.03 in scoring between 1-10 points; political conservatism mean = 5.42, standard deviation = 1.94. On the other hand, when the data were classified into three groups, 6.4% of the group stated that they were not religious, 38.6% were slightly religious, 55.0% were religious; 14.8% defined themselves as politically conservative, 60.9% neither conservative nor liberal, and 24.3% liberal.

Table 1. All characteristics and frequencies of the sample group

Groups		
Gender		
Woman	360	73.3
Male	131	26.7
Age (Group)		
17-25	234	48.1
26-35	127	26.1
36-45	76	15.6
46+	49	10.1
Education		
Primary education	31	6.4
High school	71	14.7
associate degree	152	31.5
University and above	229	47.4
Area		
Marmara, Aegean and Mediterranean	265	67.6
Black Sea	52	13.3
Middle anatolia	34	8.7
East and Southeast	41	10.5
Job		
Technician and Nurse, Midwife and Pharmacist	186	39.5
Doctor	88	18.7
Service staff	47	10.0
Administrative Staff	150	31.8
Ethnicity		
Turkish	420	89.6
Kurd	36	7.7
Arabic	8	1.7
Other	5	1.1
Sect		
Hanafi	387	84.1
Alevi	13	2.8
Shafi	27	5.9
Other	33	7.2
Piety		
Not Religious	31	6.4
Slightly Religious	186	38.6
Religious	265	55.0
Political Conservatism		
Conservative	71	14.8
Neither conservative nor liberal	293	60.9
Liberal	117	24.3

The rate of receiving training on organ donation from the participants is 43.5%, and the rate of knowing someone who donates an organ is 42.5%.

For ODAS, which can be scored between 20-100 points, the mean of the sample group was = 76.86, the standard deviation =11.78; the lowest score was calculated as 27, and the highest score was calculated as 100. On the other hand, the Cronbach alpha internal consistency coefficient of the scale was calculated as .86.

As shown in Table 2, independent groups t-test was performed to examine the differentiation status of the sample group's ODAS scores according to gender. As a result of the analysis, the difference between the mean of the gender groups for ODAS scores was not found significant (t=1.05; p>.05). Similarly, a one-way ANOVA was performed to examine the differentiation of ODAS scores according to ethnicity and sect. No significant difference was found as a result of the analysis (F=.28; p>.05) and (F=1.53; p>.05), respectively. However, as seen in Table 2, the differentiation of the ODAS scores of the sample group according to the education level is significant and has a high effect size. The difference between the one-way ANOVA and the means of the training groups was significant (F=11.73; p<.001). As a result of the LSD analysis carried out to determine the sources of the differences, the average of associate degree graduates and university and higher graduates is compared to the average of primary school graduates; The average of associate degree graduates and university and higher graduates was found to be significantly higher than the average of high school graduates. Similarly, a one-way ANOVA was performed to examine the job variable of

Table 2. Organ Donation Attitude Scale (ODAS) and t-Test for Gender

Point	Group	n	$\bar{x}$	ss	t	Sd	p	$Cohens\ d$
ODAS	Woman	360	77.18	10,852	1.054	489	.292	-
	Male	131	75.90	14,275				

Organ Donation Attitude Scale (ODAS) and ANOVA for Education, Region, Occupation, Ethnicity, Sect

Point	Group	n	$\bar{x}$	ss	F	p	LSD	
ODAS	primary education (1)	31	69.84	10,178	11,726	.000	3,4>1 3,4>2	.07
	High School (2)	71	72.03	13,319				
	Associate Degree (3)	152	76.78	9,987				
	University + (4)	229	79.36	11,894				
ODAS	Mar., Aegean, Mediterranean (1)	265	78.50	12,296	2,721	.044	1>2	.02
	Black Sea (2)	52	74.04	13,500				
	Central Anatolia (3)	34	75.63	12,836				
	East, Southeast(4)	41	75.15	9,324				
ODAS	Technician/technician and Nurse, Midwife and Pharmacist (1)	186	77.59	11,085	15,416	.000	2>1,3,4 1.4>3	.09
	Doctor (2)	88	82.66	12,843				
	Service Personnel (3)	47	69.51	9,321				
	Administrative Staff (4)	150	75.49	11,026				
ODAS	Turkish (1)	420	76.87	12,157	.284	.837	-	-
	Kurdish (2)	36	76.25	9,639				
	Arab (3)	8	79.17	10,667				
	Other (4)	5	80.50	11,061				
ODAS	Hanafi (1)	387	76.76	11,884	1,533	.205	-	-
	flame (2)	13	80.06	19,494				
	Shafi (3)	27	74.77	8,358				
	Other (4)	33	80.37	11,049				

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the participants in the hospital. As a result of the analysis, the difference between the averages of the occupational groups for ODAS scores was found to be significant with a high effect size (F=15.42; p<.001). As a result of the LSD analysis carried out to determine the sources of the differences, the average of the doctor group is compared to the average of the technician, nurse, midwife and pharmacist group, service personnel and administrative personnel; It was determined that the average of the technician, nurse, midwife and pharmacist group and administrative personnel group was significantly higher than the average of the service personnel group. Another significant relationship is related to our experimental group's geographical region of origin. According to the one-way ANOVA results, the difference between the means of the regional groups for ODAS scores was significant and had a moderate effect size (F=11.73; p<.001). As a result of the LSD analysis carried out to determine the sources of the differences, it was found that the Marmara, Aegean and Mediterranean groups and their averages were significantly higher than the Black Sea average.

As can be seen in Table 3, Pearson correlation was used to determine the relationships between ODAS scores and age, perception of religiosity, and political conservatism. As a result of the analysis, while the relationship between ODAS scores and the age variable was not found significant (r=-.008; p>.05), religiosity and political conservatism scores were significantly related. While the negative view towards organ donation increases as they define themselves more religiously, the positive view increases as they describe themselves as more liberal as a political view.

Discussion

The main reason for selecting the hospital staff as a sample group for our research was to form a group with practical and theoretical experience and knowledge about brain death and organ donation compared to the general population.This group also includes many different educational and social strata that can represent the population of Turkey. In the sample group, there are health professionals such as doctors, technicians, nurses, and pharmacists, a relatively educated but non-professional segment such as administrative personnel, and a segment with a low level of education such as caregivers and cleaning personnel.

Table 3. Relationships between ODAS Scores and Age, Perception of Religiosity, Political Conservatism

Variables	OBTO Scores		
	n	***r***	***p***
Age	486	-.008	.863
Religiosity	482	-.141	.002
Political Conservatism	481	.150	.001

When we look at the literature, it is seen that the level of knowledge of the general population about organ transplantation in our country needs to be increased. Akbulut and his colleagues' study on attitudes, awareness and knowledge levels about organ donation in a general population of 3000 people reported the proportion of those with direct knowledge about organ transplantation as 1.5%. From the population, only 33.9% of the participants thought they had sufficient knowledge about organ donation [3]. According to Akbulut et al., in another research, religious officials were selected as a sample group. 33.5% of religious officials reported receiving information about the subject from in-service training symposiums. However, only 17.9% said they think they have sufficient knowledge about organ donation [9]. Again, in the organ transplant attitude study conducted on the general population in the form of an internet survey, it was reported that 87.7% of the participants did not have any personal experience with organ donation. The source of information of the sample group was mostly the internet and the media [5]. Furthermore, a better knowledge level is observed in samples similar to our sample. In an organ transplant attitude and knowledge research conducted on a university hospital staff, when it was questioned whether the participants had sufficient knowledge about organ donation, 50.2% answered "yes" [7]. The rate of our participants receiving theoretical training on organ donation is 43.5%, and the rate of knowing someone who donates an organ is has 42.5%.

Previous studies in Turkish society reveal the reluctance to organ transplantation from cadavers and the relationship of this situation with education. Demirkıran et al. evaluated a general population of 317 people and reported that only 39.4% of those surveyed would donate their organs [5]. The study showed that educational status influenced the percentage of donor donors. In the survey completed by Hot et al., 24% of nurses stated that they did not accept brain death as actual death [10]. In another study, in a sample of 200 nurses working in the hospital, 58% of the nurses stated that they could donate their organs, and 54% stated that they could donate their relatives' organs in case of brain death [11]. In a sample of 735 people from the medical faculty hospital, 44.4% (n=326) of the participants were asked "yes", 24.8% (n=182) "no" and 30.9% (n=227) replied, "I have no idea" [7].

At this point, we observe that the behavior of filling out an organ donation card is much rarer than the attitude expressed. In the research conducted by Cillimlioğlu, it was determined that only 10.3% of all participants had an organ donation card. Education is also critical here, with most donation card holders being medical students (53.9%) [7]. Again, in a study conducted on 277 intensive

care nurses, 52.71% of the nurses stated that they were considering organ donation, while only 20.22% filled out an organ donation card [12].

The differentiation of the ODAS scores of the sample group according to the education level is significant and has a high effect size. It has been seen that a high level of education is the most determining factor for a positive attitude. Another determinant is the duties of the employees in the hospital. The doctors display the highest positive attitude, and the service personnel exhibits the lowest positive attitude. We can say that at least one level of education lies behind this situation. These findings are compatible with other examples published in our country. Among the health professionals, 58.9% of the residents and 48.1% of the medical faculty students stated the intention of their organ donation [7]. In a sample of 307 people, including health personnel working in the hospital, it has been reported that as the education level increases, the percentage of intention to define brain death as an actual death and to donate their own or a relative's organs when brain death occurs [13]. Religious beliefs and worldviews are other crucial factors in a person's decision to donate organs. Although it is recognized as religious values affect attitudes towards organ donation, people of the same religion may have different opinions on this issue. While some participants who think positively about organ donation associate it with their religious beliefs, others who oppose it base it on their beliefs. [5] However, the situation may be different for different cultural frameworks. Alhawari et al. investigated how religious and sectarian beliefs affect attitudes towards brain death and organ donation in their study with the participation of 1306 people from Germany. According to the results, it has been seen that members of the same religion and belief share similar positions. Significant differences emerged between religious people belonging to different religions and those without religious affiliation. According to the research results, especially the concept of brain death was rejected by Muslims, Buddhists, and Hindus.Jews, Protestants, and non-religious people agreed that a person with brain death was irreversibly dead. It has also been noted that Sunni Muslims, Hindus and Buddhists mostly reject organ donation after brain death [14]. On the other hand, as in Turkey, religious authorities in many Muslim countries accept brain death and support organ donation [5]. Despite the numerous rules supporting organ donation, Muslims have no consensus on whether organ donation is in line with Islam [15]. According to the data provided by Demirkıran et al., 36.5% of the 301 Muslim participants approach organ donation positively, while 6.3% are negative and associate it with religious reasons. These participants stated that they would never donate and thought that organ donation was inappropriate according to their religion [5]. According to the findings of this study, there is an inverse relationship between people's self-identification as more religious and their positive attitude towards organ donation. However, it is seen that religious thinking and perception can also change over time. In a recent study, the rate of those who found organ donation compatible with their religious beliefs was reported as 84% [16]. In an organ donation attitude study conducted in Burdur, 58.0% of the participants stated that organ donation is rewarding (sevap) when they evaluate organ donation from a religious point of view [2]. Among the reasons for not donating organs in our country, the factor of religious belief, which was 26% in 1990, decelerated to 13% in 2000. However, on the other hand, the proportion of those who did not give reasons for a negative attitude increased from 23% to 40% [7]. This situation may still indicate a negative religious mindset that is not expressed or does not want to be expressed. It seems that Turkish religious officials are also confused about this issue. Only 4 out of 550 religious officials (0.7%) who participated in educational seminars on the subject have donated organs before. After attending the seminars, only 32 of them (5.9%) volunteered to donate. However, 83.3% of the religious officials who participated in the study said Islam allows organ donation and transplantation [17]. A similar attitude is also observed in the general society. Although 84% of the respondents in the study of Kececioglu et al said that organ donation is by the Islamic faith, and 77% said that they are in favor of organ donation and transplantation, 86% still said that they would not donate [18] The same attidute has been reported in American muslims [19].

According to other findings in this study, the positive attitude towards organ donation increases as the liberal trend increases from the point of view of political conservatism. Although this finding seems to be in harmony with the mentioned characteristics of the negative approach to organ transplantation from cadavers in our country due to the decrease in the tendency to higher education and religiosity, in our opinion, the formulation of the problem may not be so simple and distinct. Apart from education, the data of this study suggest that there is no such clear polarization among our participants. The average religiosity of our participants was x =6.56 out of 10, while the average political conservatism was x =5.42. In other words, in general, our sample describes itself as both religious and closer to liberal (6.4% not being religious at all and 14.8% being conservative). As some authors have stated, the main problem here is that the concept of brain death, the fundamental concept in organ transplantation from a cadaver, has not been discussed sufficiently at a conceptual level within our own cultural and religious framework [20, 21, 22, 23, 24].

Limitations: The limitations of our study; Due to the nature of the survey method, informed consent must be

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obtained before the survey, so people with a negative attitude towards organ transplantation may have been less willing to participate. The survey method may have affected our findings. Again, since the sample group of our study was composed only of İstanbul and cultural influences are critical in organ donation acceptance, our findings may indicate a slightly different result from the whole of Turkey.

Conclusion; Organ donation from brain-dead people is a procedure that works well despite some problematic areas that are still being discussed in Western societies. The situation seems to be more complicated for Turkey and the Islamic community. Although medically and legally supported and recognized and even imposed by religious discourse, there are probably many different points of resistance where brain death is not widely accepted in society [25]. This study observed that while education and liberal worldview positively affected the attitude to organ transplantation from a cadaver, religious belief had a negative effect. However, in our opinion, the problem requires a much broader perspective from a conceptual point of view. Fifty years after the introduction of brain death, the basic concept of organ transplantation from a cadaver, the subject's essence, has not yet been conceptually sufficiently discussed within our cultural framework.

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