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ARAŞTIRMA / RESEARCH

Knowledge, attitudes and behaviors of physicians about organ donation

Hekimlerin organ bağışı konusunda bilgi tutum ve davranışları

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Abstract

Purpose: This study aimed to determine knowledge, attitudes and behaviors of physicians regarding organ donation.

Material and Methods: This study was conducted in Kahramanmaras, a city in Mediterranean region of Turkey. The study was conducted between March 1st and June 9th 2015 by including physicians working in Public Health Centers, Necip Fazil State Hospital, and in Medical Faculty Hospital of Kahramanmaraş Sutcu Imam University. A survey comprising questions regarding participants' sociodemographic characteristics, knowledge, attitudes, and behaviors about organ donation was applied by face to face interview method.

Results: Out of 267 physicians included in the study 160 (59.9%) were male, while 107 (40.1%) were female. The mean age of participants was 34.91±6.98 (min=24, max=55) years. Only 33 (12.4%) physicians were registered organ/tissue donors and had organ donor cards, while 234 (87.6%) were not. Out of all, 128 (47.9%) were willing and agreed to donate organs, and 44 (16.5%) refused to donate organs, while 95 (35.6%) were hesitant regarding being a donor. Kidney, liver, cornea, and heart/heart valves were organs/tissues that can be transplanted according to 267 (100%), 253 (94.8%), 245 (91.8%), and 240 (89.9%) physicians, respectively

Conclusion: The organ donation related knowledge of physicians is significantly poor. Unfortunately, the registration rate as organ donor and willingness to donate organs were found to be low among physicians.

Key words: Organ donation, physician, knowledge.

Öz

Amaç: Bu çalışmada hekimlerin organ bağışı konusunda bilgi, tutum ve davranış özelliklerinin ortaya konulması amaçlanmıştır.

Gereç ve Yöntem: Bu çalışma Türkiye'nin Akdeniz bölgesinde yer alan Kahramanmaraş ilinde gerçekleştirildi. Bu çalışma 01.03.2015-09.06.2015 tarihlerinde Kahramanmaraş Sütçü İmam Üniversitesi Tıp Fakültesi Hastanesi, Necip Fazıl Devlet Hastanesi ve Aile Sağlığı merkezlerinde çalışan hekimler üzerinde yapıldı. Katılımcılara sosyodemografik özelliklerini, organ bağışı konusundaki bilgi, tutum ve davranışlarını sorgulayan anket uygulandı.

Bulgular: Çalışmamızda yer alan katılımcıların 160'ı (%59.9) erkek, 107'si (%40.1) kadın, yaş ortalaması 34.91±6.98 (min=24, max=55) olarak saptandı. Katılımcıların 33'ü (%12.4) organ bağışı kartı olduğunu, 234'ü (%87.6) ise olmadığını belirtti. Hekimlerin 128'i (%47.9) organ bağışında bulunmayı istediğini, 44'ü (%16.5) istemediğini, 95'i (%35.6) ise bu konuda fikri olmadığını belirtti. Katılımcıların bağışlanabilir organ ve dokular içerisinde en yüksek oranda bildikleri sırasıyla; böbrek (n=267, %100), karaciğer (n=253, %94.8), kornea (n=245.%91.8), kalp ve kalp kapağı (n=240, %89.9) yer almaktaydı.

Sonuç: Çalışmamızda hekimlerin organ bağışı konusunda önemli bilgi eksiklikleri olduğu ortaya konuldu. Ayrıca hekimlerin organ bağışı için kayıt yaptırma ve organ bağışı yapma isteğinin düşük oranda olduğu belirlendi.

Anahtar kelimeler: Organ bağışı, hekim, bilgi.

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INTRODUCTION

Organ transplantation is the most important treatment method in terms of improvement survival and quality of life of patients suffering from organ failure[1]. In last two decades besides, significant medical and technological developments in organ transplantation; the number of patients waiting for transplantation increases every day, and a significant number of these die before transplantation because of chronic diseases and lack of organ donation[2,3]. Since some organs and tissues are obtained only from cadaver, transplantation from cadavers has a vital importance. In developing countries 80% of donors for organs are cadavers[2]. Nevertheless, 87.1% of organ donations are made by living individuals, while 12.9% are taken from cadavers, in Turkey[4].

In United States, 123025 patients are in need for organ transplantation, while there are 3517 individuals in organ donor list, and 7282 organ transplantation are performed in 2015 (data for 16/06/2015). Furthermore, it is stated that 21 patients on transplantation list die every day[5]. On the other hand, the data (for 16/06/2015) of Ministry of Health of Turkey showed that there are 28634 patients in organ transplantation list, while 1987 patients underwent organ transplantation, and 1363 patients underwent corneal transplantation, in Turkey. Additionally, families of 23.4% of individuals with brain death gave consent for organ donation from the patient[4]. The code regarding organ donation and transplantation dates back to 1979 in Turkey, according to which regardless the previous consent of a deceased person the consent of family members is sufficient for donation[6].

Many factors such as age, level of education, socioeconomic status, personal and family view, cultural background and religion affect the views of individuals about organ donation and transplantation[7-9]. The literature has identified the influence of physicians' view and approach on people's attitudes and behaviors[10,11]. American physicians working in primary care are reported to experience difficulties in interview with patients about organ donation, which was stated to due to lack of related training[12]. Another study showed that 61% of intensive-care personnel commit improper approach towards family members of donor[13]. Therefore, we aim to determine knowledge, attitudes and behaviors of physicians regarding organ donation, in this study.

MATERIALS AND METHOD

This study was conducted in Kahramanmaras, a city with a population of 1 million, in the Mediterranean region of Turkey. In accordance with Helsinki Declaration (Seoul, 2008), approval was obtained from the ethical committee of the Medical School of Kahramanmaraş Sütçü İmam University.

With a prospective design, the study was conducted between 01.03.2015 and 09.06.2015 by including physicians working in Public Health Centers (primary health-care provider), Necip Fazil State Hospital (secondary health-care provider), and in Medical Faculty Hospital of Kahramanmaraş Sutcu Imam University (tertiary health-care provider). Physicians were informed before study and those (n=267) who agreed to participate were included in the study.

Out of all, 118 physicians (44.2%) were those working in primary health-care, 38 (14.2%) were in secondary, and 111 (41.6%) were working in tertiary health-care system. A survey, constituted based on related literature, and comprising questions regarding participants' sociodemographic characteristics, knowledge, attitudes, and behaviors about organ donation was applied by face to face interview method. In the first part of the survey sociodemographic characteristics of physicians were questioned. The second part of the survey attitudes and behaviors regarding organ donation were examined. While, the final part of the survey comprised questions assessing the level of knowledge about organ donation.

Statistical analysis

Statistical analyses were carried out using SPSS 20.0. Mean values, frequencies and standard deviations were used for assessment of the data. That the comparison of the physicians' attitudes and behaviors towards organ donation was assessed using Ki-square and Kruskal-Wallis tests. A p value of <0.05 was considered statistically significant.

RESULTS

Out of 267 physicians included in the study 160 (59.9%) were male, while 107 (40.1%) were female. The mean age of participants was 34.91 ± 6.98

(min=24, max=55) years. The average of duration of professional experience was 10.35±6.73 (min=1, max=30) years. Socio-demographic characteristics of the participants are presented in table 1.

Table 1. Socio-demographic characteristics of participants

Characteristics	Groups	n (%)
Age	24-30 years	97 (36.3%)
	31-40 years	111 (41.6%)
	41-55 years	59 (22.1%)
Gender	Male	160 (59.9%)
	Female	107 (40.1%)
Marital Status	Married	200 (74.9%)
	Single	67 (25.1%)
Institution	Public Health Centers (Primary care)	118 (44.2%)
	State Hospital (Secondary care)	38 (14.2%)
	Medical Faculty (Tertiary care)	111 (41.6%)
Duration of Profesional Experience (years)	1-5 years	71 (26.6%)
	6-10 years	84 (31.5%)
	11-15 years	57 (21.3%)
	16-30 years	55 (20.6%)

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Unfortunately only 33 (12.4%) physicians were registered organ/tissue donors and had organ donor cards, while 234 (87.6%) were not. Of registered organ donors 20 (12.5%) were male, and 13 (12.1%) were female. Out of all, 128 (47.9%) were willing and agreed to donate organs, and 44 (16.5%) refused to donate organs, while almost one third (n:95, 35.6%) were hesitant regarding being a donor. Of male participants 72 (45.0%) were willing and agreed to donate organs, while this number was 56 (52.3%) for females. The registration of male and female physicians as organ donor ($p = 0.932$), and the willingness to donate organs ($p = 0.500$) were found to be statistically similar.

Table 2. Participants' attitudes and behaviors about organ donation.

Statements	I Agree n (%)	No Idea n (%)	I Disagree n (%)
I am willing to donate my organs.	128 (47.9%)	95 (35.6%)	44 (16.5%)
I am willing to attend training about organ donation.	141 (52.8%)	0 (0%)	126 (47.2%)
I consider my knowledge about organ donation sufficient.	79 (29.6%)	59 (22.1%)	129 (48.3%)
Physicians sufficiently inform public about organ donation.	27 (10.1%)	125 (46.8%)	115 (43.1%)
Physicians should provide more information about organ donation for applicants in their clinics.	185 (69.3%)	51 (19.1%)	31 (11.6%)
I don't give information about organ donation unless being asked.	155 (58.1%)	45 (16.9%)	67 (25.1%)
Organ donation is compatible with Islamic rules.	170 (63.7%)	77 (28.8%)	20 (7.5%)
Organ donors should be financially supported by the state.	105 (39.3%)	57 (21.3%)	105 (39.3%)
Organ transplantation to individuals with drug abuse history is not suitable.	95 (35.6%)	79 (29.6%)	93 (34.8%)
I am willing to donate organ for a first degree relative in need.	197 (73.8%)	57 (21.3%)	13 (4.9%)
I am willing to donate organs of my first degree relatives after death.	106 (39.7%)	124 (46.4%)	37 (13.9%)
I want my family members to let my organs to be donated after my death.	128 (47.9%)	102 (38.2%)	37 (13.9%)
I do not care about the one I will donate.	151 (56.6%)	48 (18.0%)	68 (25.5%)

Furthermore, there was no statistically significant difference between physicians from different hospitals (p=0.933). Forty-three (16.1%) physicians had previously received basic training about organ donation, while 141 (52.8%) were willing to attend a related education program. Out of all, 79 (29.6%) physicians stated that they have sufficient knowledge about organ donation. Participants' attitudes and behaviors about organ donation are presented in table 2

Kidney, liver, cornea, and heart/heart valves were organs/tissues that can be transplanted according to 267 (100%), 253 (94.8%), 245 (91.8%), and 240 (89.9%) physicians, respectively. The answers of participants regarding transplantable organs/tissues are presented in table 3.

Table 3. Distribution of transplantable organs/tissues according to particitants

Organ/Tissue	**n (%)**
Liver	253 (94.8%)
Kidney	249 (93.3%)
Cornea	245 (91.8%)
Heart/heart valves	240 (89.9%)
Lung	147 (55.1%)
Cartilage	59 (22.1%)
Extremities	82 (30.7%)
Facial tissue and scalp	177 (66.3%)
Pancreas	102 (38.2%)
Tendon	48 (18.0%)
Small bowel	50 (18.7%)
Bone	48 (18.0%)
Muscle tissue	42 (15.7%)

Out of all 250 (93.6%) physicians considered organ donation as an important lifesaving issue. A number of physicians (n:105, 39.3%) emphasized that the state should financially support organ donor. Of participants 204 (76.4%) stated that organ donation could be performed after brain death, while 206 (77.29%) expressed that it can be done while donors are alive. Interestingly, 146 (54.7%) participants did not know where to apply for organ donation, while 121 (45.3%) stated that they where to apply. Participants' responses to questions regarding knowledge about organ donation are presented in table 4.

The statement "organ donation is compatible with Islamic rules" was agreed by 170 (63.7%) physicians; however, 20 (7.5%) consider organ donation against Islamic rules, while 77 (28.8%) stated that they have no idea regarding issue. Out of all, 68 (25.5%) stated that they care about who they donate, while 95 (35.6%) participant disagree to donate individuals with history of drug use

Table 4. Participants' responses to questions regarding knowledge about organ donation.

	I agree n (%)	**No Idea n (%)**	**I disagree n (%)**
Organ donation can be performed after brain death	204 (76.4%)	24 (9.0%)	39 (14.6%)
Organ donation can be done while donors are alive	206 (77.29%)	23 (8.6%)	38 (14.2%)
If there is no contrary declaration, cornea can be removed without permission	75 (28.1%)	119 (44.6%)	73 (27.3%)
Donor has the right to withdraw the decision about organ donation	215 (80.5%)	36 (13.5%)	16 (6.0%)
I know where to apply for organ donation	121 (45.3%)	0 (0%)	146 (54.7%)
Organ donation is a lifesaving issue	250 (93.6%)	14 (5.2%)	3 (1.1%)
Organs can be donated for money	18 (6.7%)	29 (10.9%)	220 (82.4%)

Regarding organ donation to relatives, 197 (73.8%) agreed to donate organ to their first degree relatives in need. Furthermore, 106 (39.7%) participants agreed to give consent for organ donation from their first degree relatives. Similarly, 128 (47.9%) physicians wanted their family members to let organ donation after their death. Out of all, 27 (10.1%) physicians stated that healthcare professionals provide sufficient information about organ donation, while 185 (69.3%) stated that physicians should provide more information for applicants about organ donation. On the other hand, 155 (58.1%) participants stated that physicians do not provide information about organ donation for the patients unless asked.

DISCUSSION

In the present series 12.4% of all physicians (12.5% of males and 12.1% of females) were registered organ/tissue donors and had organ donor cards. Furthermore, 47.9% of all participants (45.0% of males and 52.3% of females) were willing and agreed to donate organs. The registration of male and female physicians as organ donor, and the willingness to donate organs were found to be statistically similar. The literature showed that 12% of physicians in Iran[14], 18% of physicians in Belgium[15] were registered organ donors, while this rate was 76.3% in United States[16]. A study from Turkey revealed that 59.1% of physicians working in transplantation unit, and 34.2% of those working in dialysis units were registered organ donor with organ donor card on[17]. Related literature revealed that, the rate of being registered as organ donor is 3.7% in general population[18], while this rate is 5.3% among university students[19], 5.2% among health care professionals[20], and 0.6% among Muslim imams[21]. A study by Alkhatiba et al. showed that the rate of registration as organ donor was similar between male and female physicians ($p=0.06$)[16]. In the literature, 46.6% of health care workers[22], 55.1% of physicians[23], 22.4% of imams[21] were determined to be willing for organ donation. The present study and other similar studies showed that the rate of physicians registered as organ donors and the rate of those willing for organ donation is higher compared to other professionals. This finding is potentially affected by level of development of the country.

In the present study 16.1% of physicians previously had basic training about organ donation, while 52.8% were willing to attend a related education. Additionally, 29.6% of physicians stated that they have sufficient knowledge about organ donation. A study from the Netherlands showed that 53.6% of physicians had trained about organ donation, while 41% were willing to attend a similar training[24]. The rate of previously trained physicians in our study population was significantly lower compared to those from the Netherlands, while the rate of willingness to attend a related training was similar. The cause of low rate of those with insufficient knowledge was the low number of physicians had training about organ donation, in the present study.

Regarding organ/tissues that can be transplanted, 100% physicians stated that kidney, liver, hearth and cornea[25] can be transplanted; in a study previously conducted in Turkey 100% of physicians stated that kidney as transplantable organ, while this rate was 96.4% for liver, 87.1 for heart, and 88.4% for cornea[17]. However, in the present study, kidney, liver, cornea, and heart/heart valves were organs/tissues that can be transplanted according to 100%, 94.8%, 91.8%, and 89.9% physicians, respectively. Kidney is the best known transplantable organ; due to factors such as the kidney is the first transplanted organ, high number of living donors, and common application in multiple centers.

In the present series, 93.6% of physicians considered organ donation as an important lifesaving issue. Similarly, this rate was 97.7% among physicians from Saudi Arabia[26]. On the other hand, the relatively low rate of willingness for organ donation is an interesting finding. In our series, 54.7% of physicians did not know where to apply for organ donation. Other studies conducted in Turkey revealed that 40%-64.3% of participants do not know where to apply for organ donation[3,21,27]. This finding strongly indicates the lack of promotional activities campaigns towards organ donation, in our country.

In this study, the statement "organ donation is compatible with Islamic rules" was agreed by 63.7% of physicians. Additionally, 25.5% stated that they care about who they donate, while 35.6% of participants disagree to donate individuals with history of drug use. In a previously conducted study, in Turkey, 100% of physicians working in transplantation units, and 97.4% of physicians working in dialysis units were agree that organ transplantation is compatible with Islamic rules[17].

However, only 78.6% of mosque imams had stated that organ transplantation is compatible with Islamic rules, in a previous study from the same region[21]. In the literature, there are different approaches to organ donation by different sects and groups of Islam, mostly with the dominancy of positive ideas, which are controversial sometimes. However, High Board of Religious Affairs of Turkey has declared a decree stating that organ donation is allowed in Islam[28]. Furthermore, the holy Qur'an clearly states "if anyone saves a life, it would be as if he saves the life of all humanity"[29]. This study and other similar studies show that organ donors might pay attention and care about the socio-demographic and medical characteristics (such as religion, alcohol or drug use history) of the recipients[3,21]. This finding might be attributable to Muslim donors' sensitivity about the possibility of consumption of forbidden food (pork, alcohol, and etc.) by possible organ recipients.

In our series 47.9% of physicians wanted their family members to let organ donation after their death. Regarding organ donation to relatives, 73.8% agreed to donate organ to their first degree relatives in need. Furthermore, 39.7% participants agreed to give consent for organ donation from their first degree relatives. Similarly a study from Karachi revealed that 35.8% of health care professionals were willing to donate their organs after death[30], while this rate was 56.6% among health care professionals from United Kingdom[31]. In our study, physicians showed hesitation towards to donate the organs of their first degree relatives in case of death. In accordance with the related literature, willing towards organ donation tends to increase when the recipient or the patient in need is the relative of donor[3,21,32]. These finding is indicative of the impact of cultural and familial values on organ donation.

In this study, only 10.1% of physicians stated that health care professionals provide sufficient information about organ donation, while 69.3% stated that physicians should provide more information for applicants about organ donation. On the other hand, more than half of (58.1%) the participants stated that physicians, unfortunately, do not provide information about organ donation for the patients unless asked. In Belgium, 1% of physicians working in primary care stated that they have been asked more than one question regarding organ donation per month, while 2% encountered one question per month, while 54% of physicians got less than one question per month, and interestingly 43% stated that they had not received question at all, for the last 5 years[15].

The present study and related literature show that patients utilize physicians as an alternative source for organ donation. Nevertheless, it is observed that patients are not sufficiently informed about organ donation by their physicians. In this respect it is important to motivate physicians and mandate them in terms of providing more information for patients.

Obtained findings suggest that the organ donation related knowledge of physicians is significantly poor regarding organ donation, which is possibly caused by lack of related educational programs. There is a strong need for educational activities about organ donation towards physicians. Unfortunately, the registration rate as organ donor and willingness to donate organs were found to be low among physicians. Furthermore, it is observed that physicians do not show appropriate attitude towards spreading of organ donation. During providing health care, all physicians should inform and motivate their patients, which is vital for future of organ donation. In this respect, there is a need for development and implementation of related policies by Ministry of Health.

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