

A Survey of the Opinions of Health Care Personnel Working in a Teaching Hospital on Organ Donation and Transplantation

Bir Eğitim Hastanesinde Çalışan Sağlık Personelinin Organ Nakli ve Bağışıyla İlgili Görüşleri

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ABSTRACT

Objective: This study was planned to define opinions and attitudes of the staff working in a tertiary health institute for organ transplantation and donation.

Materials and Methods: A questionnaire form including a total of 27 closed and open-ended questions was distributed to 256 of the 519 health care personnel staff who were reached and asked to fill the form completely.

Results: Of the 256 health personnel who answered the questionnaire, 20.7% (n=53) were physicians, 34.8% (n=89) nurses, 3.1% (n=8) administrative personnel, 10.5% (n=27) personnel, 13.7% (n=35) technicians and 17.2% (n=44) medical secretaries. The attitudes on organ donation and transplantation improved with rising educational level ($p<0,001$). The attitudes with respect to organ donation were clearly positive and the educational levels were higher among the physicians and the nurses and both statistically different than those of the other personnel ($p<0,05$). The difference between the organ donation status of different professions was also significant ($p<0,001$). When examined, the answers given to the question, "Would you make an attempt for organ donation in case of brain death of one of your relatives?" resulted in: 50.8% (n=130) as 'yes' and 49.2% (n=126) as 'no'. Despite having relatives waiting for organs, %6.3 (n=8) of the participants were not willing to donate organs of their relatives in the case of brain death. Student-t and One-way Anova tests were used for the statistical analysis of the outcomes. The differences among the groups was determined by *post hoc* analysis.

Conclusion: Despite the increasing need for organs to be transplanted today, health care staff do not have a complete and

ÖZET

Amaç: Bu çalışmada, bir üçüncü basamak sağlık kuruluşunda çalışan personelin organ nakli ve bağışıyla ilgili görüş ve tutumlarının belirlenmesi amaçlandı.

Gereç ve Yöntem: Çalışan 519 sağlık personelinin ulaşılabilen ve formu eksiksiz dolduran 256'sına, görüşlerini ortaya çıkarma amacıyla, 5'i sosyodemografik özelliklere, 14'ü organ nakli ve bağışına ilişkin görüşlere, 6'sı hastanede açılacak olan nakil merkezi konusundaki görüşlere yönelik, kapalı ve açık uçlu sorulardan oluşan 27 soruluk anket formu uygulandı. Sonuçların istatistiksel analizi için student-t test, ki-kare testi kullanıldı. Gruplar arasındaki farklar Anova ve post hoc analiziyle belirlendi.

Sonuçlar: Ankete yanıt veren 256 sağlık personelinin %20,7'si (n=53) doktor, %34,8'i (n=89) hemşire, %3,1'i (n=8) idari personel, %10,5'i (n=27) personel, %13,7'si (n=35) tekniker, %17,2'si (n=44) tıbbi sekreterdi. Organ/doku bağışı ve nakli konusundaki tutumlar ile eğitim düzeyleri arasındaki fark istatistiksel olarak anlamlıydı ($p<0,05$). Sağlık personelinin organ bağışlama durumları ile meslekler arasındaki fark istatistiksel olarak anlamlıydı ($p<0,001$). "Bir yakınınızın beyin ölümü halinde organlarının bağışlanması konusunda girişimde bulunur musunuz?" sorusuna verdikleri yanıtlar incelendiğinde, %50,8'inin (n=130) evet, %49,2'sinin (n=126) hayır yanıtını verdikleri görüldü. Yüzde 6,3'ünün (n=8), organ bekleyen yakını olmasına rağmen yakınlarının beyin ölümü halinde organlarını bağışlamayacakları saptandı.

Yorum: Nakledilecek organa gereksinim arttığı günümüzde, sağlık çalışanları başta olmak üzere toplumun birçok kesiminin nakli gerçekleştirilen organlar hakkında tam ve doğru bilgi birikimine sahip olmadığı ve organ bağışında bulunma oranlarının yetersiz

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accurate knowledge of organs transplantation, and their preparedness for organ donation is not satisfactory. The only way to reach the desired target in organ transplantation is to increase the number of organ donations. For the solution of this problem society must acquire sufficient knowledge and the awareness should be increased through the education.

Keywords: Attitude, health care worker, lung transplantation, organ donation, transplantation

kaldığı görülmektedir. Organ naklinde istenilen hedefe ulaşmanın tek yolu organ bağış sayısını artırmaktır. Bu sorunun çözümü için tüm toplumun yeterli bilgi ve farkındalığa sahip olması gerekmektedir ve hedef eğitim, bilinçlendirme ve bilgilendirme ile farkındalığın artırılmasıdır.

Anahtar kelimeler: Akciğer nakli, organ bağışı, sağlık çalışanı, tutum, transplantasyon

INTRODUCTION AND OBJECTIVE

Transplantation and donation of the vital organs are a concern closely related with the development level of societies as well as people's attitudes and behavior, religious beliefs, traditions and cultural values.^{1,2}

In our country, the first successful, inter-relatives organ transplantation involving the donation of a kidney from a mother to her 12 years old son was performed by Dr Haberal and his team. The first cadaver kidney transplantation was carried out by the same team with a kidney from "Eurotransplant" on 10 October 1978, also, the first domestic cadaver kidney transplantation was performed by the same team after the enacting of law no. 2238, in Hacettepe Hospital Transplantation Unit with the kidney from a citizen who died in a traffic accident on 27 July 1979.^{3,4,5}

In our country, studies and practices regarding organ donation are conducted in line with 'Organ and Tissue Removal, Storage, Vaccination and Transplantation Law' enacted in 1979. According to this law, organs to be donated can be taken from the dead persons up to 60 years old and any compos mentis individual aged 18 years and over can donate her/his organs.³

The organ and tissue donations are not sufficient, the donation system is completely based on voluntaries basis and organ donations have not been achieved at the desired level.⁶

The most important stage of transplantation is clearly organ donation. Similarly to the situation in Asian and the Middle Eastern countries, cadaver organs cannot be supplied in sufficient quantities in our country, which has lead to an increase in the deficit between the need and supply of the organs to be transplanted. The most crucial solution in the use of cadaver donors is to popularize organ donation. However, organ donations are insufficient for all patients waiting for organs. This is mainly due to lack of information, especially for health care staff, religious beliefs and ethical and economic problems.^{1,7,8}

From the religious aspect, there are several confirmatory and encouraging decisions in Islam. However, it must be noted that, there is a belief to the contrary among the people about organ-tissue transplantation, that it is not permitted by Islam; and, sometimes avoidance of organ-tissue donation

is observed on account of the fear or the concern of "What will people say?".⁹

It is obvious that health care professionals should have more knowledge on organ transplantation and donation compared both to the community and the other occupational groups, since their sensitivity on this issue is critical in terms of public health. In this context, we aimed in this study to determine the opinions of health staff working in Yedikule Teaching Hospital for Pulmonology and Thoracic Surgery on organ donation and transplantation and to take their views on the new lung transplant center to be opened in the hospital.

MATERIALS AND METHODS

The study was conducted with 256 of 519 staffs working in Yedikule Teaching Hospital for Pulmonology and Thoracic Surgery between September 2010 and October 2010. Those who could be reached were asked to complete the questionnaire forms so that their opinions on organ donation and transplantation and their views on the new lung transplant center to be opened in the hospital could be evaluated.

The questionnaire prepared by the researchers to collect the data of this study included a total of 27 open and closed-ended questions with 5 for socio-demographic characteristics, 14 for the opinions on organ donation and transplantation and 6 to take their views on the new transplant center to be opened in the hospital. The questionnaire forms were distributed after the necessary information was provided to the health care staff. Then, the data obtained from the questionnaire were evaluated.

Student-t and One-way Anova tests were used for the statistical analysis of the outcomes.

RESULTS

Of the 256 health care personnel that answered to the questionnaire, 34.8% (n=89) were nurses, 45.7% were in the age range of 20-30, 62.9% were females, 59.8% were married, 33.6% were high-school graduates, 35.9% had a professional

experience and 51.2% had an institutional experience between 1 and 5 years. All socio-demographic information has been tabulated in **Table I**.

Of the health care personnel 22.3% were found to have donated organs and 9.4% to have a relative or friend who had donated organs or was waiting for transplantation. The information about considerations related to organ donation and transplantation is summarized on **Table II**.

Exactly 82.2% (n=212) of health care personnel supported organ/tissue transplantation and donation. Of the health care staff 57.4% stated that they previously received training on this issue, and 36.3% of them counted the professional training among the resources of education. Of the persons who had not donated organs, 40.2% indicated not to have thought about it, 24.2% indicated that they did not feel ready for this and 12.9% believed there is not a systematic organ donation organization as their reason for not to donating. The knowledge and attitudes of the staff on organ donation and transplantation have been summarized on **Table III**.

Of the health care personnel, 68,8% was found not to have information about the lung transplant center to be opened in our hospital, 51,6% not to recognize the lung transplant team, 73% not to have information about the activities and meetings by the team, and 59,4% not to want to take part in the lung transplant team. Of them 53,1% stated that lung transplant can be performed in our hospital, while 34.8% were undecided and 12.1% against. As the reason of failure for lung transplants performed in the hospital, 30,5% indicated that infection control could not be provided, 26,2% the operating room and intensive care unit conditions were unsuitable and 13,3% imaging and laboratory conditions, coordination and team spirit are insufficient (**Table IV**).

The differences between their general opinion on organ donation and transplantation ($p<0,05$), previous information status ($p<0,001$), their organ donation status ($p<0,001$), whether they knew or not where organ donation was to be made ($p<0,01$), their reaction to donation of their organs by relatives after their death ($p<0,001$), preparedness to attempt donating the organs of their relatives in case of brain death ($p<0,001$) and the differences in their professions and hence their education was statistically significant. Attitudes on organ donation and transplantation improved as the education level increased. This difference was statistically significant ($p<0,001$). Also, the opinions of the physicians and the nurses on organ donation were clearly positive and statistically different than those of the other health care personnel. No statistically significant differences were found between the variable of age, gender, marital status, professional and institutional experience and, information, attitude and opinions on the organ donation and transplantation ($p>0,05$) (**Table V**).

Table I. Socio-demographic characteristics

	n	%
Profession		
Physician	53	20,7
Nurse	89	34,8
Administrative staff	8	3,1
Personnel	27	10,5
Technician	35	13,7
Medical Secretary	44	17,2
Age		
20–30 years	117	45,7
31–40 years	88	34,4
41–50 years	37	14,5
51–60 years	14	5,5
Gender		
Female	161	62,9
Male	95	37,1
Marital Status		
Married	153	59,8
Single	103	40,2
Educational Status		
High school graduate	86	33,6
Associate degree	70	27,3
Bachelor degree	40	15,6
Postgraduate	60	23,4
Professional Experience		
1–5 years	92	35,9
6–10 years	53	20,7
11–15 years	40	15,6
16–20 years	37	14,5
21–25 years	11	4,3
26 years and more	23	9
Institutional Experience		
1–5 years	131	51,2
6–10 years	56	21,9
11–15 years	26	10,2
16–20 years	23	9
21–25 years	10	3,9
26 years and more	10	3,9

DISCUSSION

Organ transplantation is the treatment of choice in the patients with end stage organ failure. However, in our country organ supply is much below the need, increasing the number of the patients waiting for an organ. Insufficient and imperfect knowledge and negative attitudes of the society on this issue are among the biggest obstacles to organ donation. This handicap can be overcome with information and awareness activities as a result of the cooperation of several occupational groups. Health care personnel are one of the key points in increasing of the awareness about organ donation and transplantation. They can increase the knowledge level of the

Table II. Considerations related to the organ donation and transplantation

	n	%
The reaction for the relatives to donate his/her organs after the death.		
Yes	148	57,8
No	108	42,2
The status of attempting for organ donation in the case of brain death of one of his/her family		
Yes	130	50,8
No	126	49,2
Reason for not making an attempt in organ donation in case of death of a relative		
I don't want to undertake the responsibility of others on this topic	96	37,5
I think they will misunderstand me	15	5,9
I don't approve organ donation	9	3,5
I believe another health personnel will be more effective on this topic instead of me	8	3,1
Other	5	2
Status of having a relative or friend that had donated organs		
Yes	57	22,3
No	199	77,7
Status of having a relative or friend had undergone transplantation or waiting for organs		
Yes	24	9,4
No	232	90,6

society on this issue with their background and influence the public opinion with their attitudes and beliefs.

Although organ donation in Turkey differs from one region to another, it was reported in several studies being between 0% and 3.6%.^{8,10-16} In our study, organ donation and transplantation were considered positive with a high rate, although it was seen that the actions taken for this did not have the same rate. Considering the positive behavior and actions of health care personnel on organ donation and transplantation should set an example for the community, donation rate was seen to be almost equal in both the health care personnel and the society. It is an inevitable fact that organ and tissue transplantation coordinators who are experienced and well-equipped on this issue to provide sensitivity and awareness by training particularly their colleagues, all occupational groups and the community. In order to eliminate incorrect or insufficient knowledge on this issue, the training programs should be established considering the causes of refusal for organ donations.

In this respect of the issue, the frequency persons who stated that "they had never thought of this subject" was 25-44.2% in other studies. These results have shown that

information and awareness increasing activities are not sufficient. On the other hand, reasons based on religious beliefs were in the fourth rank by 8.2% underlining once again the need for religious authority to give attention and make efforts to alleviate the concern, because Islam does not prevent organ donation, but takes this as to the benefit of the society.⁷

Of the health care personnel, 42.6% who had not been previously informed on organ donation and transplantation, and 36.3% who did not to know where to donate organs demonstrate the knowledge gap on this issue. All the health care professionals who will receive in-service training will help to increase the sensitivity in this subject. In other conducted studies, health care personnel indicated the written and visual media as sources of information.^{1,9,17} Of the personnel included in this study, 24.5% also showed written and visual media as a source of information, emphasizing that the media should correctly direct the community on organ donation and transplantation as with all other matters.

In response to the question on which organs were transplanted in our country, kidneys were identified most frequently. Both nursing students and health care personnel identified the kidneys as the most frequently transplanted

Table III. Knowledge and attitudes related to the organ donation and transplantation

	n	%
General opinion on organ/tissue transplantation and donation		
I support	212	82,8
Undecided	39	15,2
I am opposite	5	2
Status of previously being informed on organ/tissue transplantation and donation		
Yes	147	57,4
No	109	42,6
Information resources for organ/tissue transplantation and donation		
Media	93	36,3
Health institute or health staff	63	24,6
Vocational training	60	23,4
Other	2	0,8
Status of having a relative or friend that had donated organs		
Yes	57	22,3
No	199	77,7
Status of actual organ donation		
Yes	29	11,3
No	227	88,7
Donated organs		
Liver	2	0,8
Kidney	4	1,6
Heart	2	0,8
Eye	1	0,4
All	24	9,4
Organs and Tissues Transplanting in Our Country		
Kidney	247	96,5
Bone Marrow	199	77,7
Liver	198	77,3
Heart	185	72,3
Cornea	164	64,1
Lung	151	59
Heart valve	126	49,2
Pancreas	28	10,9
Small bowel	28	10,9

Table III. (continued)

	n	%
Reasons for not to donate organs		
I never thought	103	40,2
I don't feel ready.	62	24,2
I don't think there is a systematic organ donation organization.	33	12,9
I don't want due to the religious reasons.	21	8,2
I don't want my body's integrity to be impaired.	20	7,8
No confidence	20	7,8
I don't know where to apply	18	7
I don't believe organ transplantation centers are sufficient.	18	7
Fear	16	6,2
My health conditions are not convenient.	15	5,9
I am affected from the negative news published on the media.	12	4,7
Other	19	7,4
The status of knowing where to apply for organ donation		
Yes	163	63,7
No	93	36,3

organs in two different studies.^{17,18} This may be caused by the fact that kidney transplantation can be done both from live donors and cadavers, and it is the most common and successful transplant operation.

Of our personnel, 42.2% stated they don't want their organs to be donated by a relative after their death, 49.2% specified that he/she will not make an attempt to donate a relative's organs in the case of brain death and 37.5% stated that they didn't want to undertake the responsibility for other persons, indicating that individuals should make their own decision on organ donation when they are alive and should inform their families about this decision. In studies about why families reject donating organs of persons in whom brain death had occurred, the main reasons for refusal were not knowing or rejecting the criteria of brain death; religious reasons; believing that organs and tissues donated would not be used appropriately; fear of the organ trafficking; the thought of integrity of the body must be protected after death; interfamilial conflict and the thought of "he/she would not want to donate".^{19,20,21} Organ donations will reach to the desired levels by cooperation of health care personnel to overcome the lack of information about brain death, religious officials to eliminate religious concerns, law makers to reduce organ trafficking and the thoughts of incorrect use, statesmen to prepare new legal regulations to increase organ donations

and media workers to communicate these to a wide audience in a correct and efficient way, and by increasing awareness of the society on this issue.

Lung transplantation is a well-defined treatment method in patients with chronic respiratory failure that has not got any alternative treatment due to the end stage diseases.²² Comparing to the good progress in other solid organ transplantations in our country over the last 25 years, it is noted that lung transplantation has been neglected. The first being in 1998, lung transplantation has been performed total nine times with five heart-lung transplantation, but a real success could not be achieved.²³ Negative attitudes and concerns of the health-care professional on this issue are normal, since lung transplantation is the most difficult surgery among solid organ transplantations and there is a lack of effective and continuous lung transplant centers in Turkey. However, 31.2% of the health care professionals did not to have any information about the lung transplant center to be opened. Attention of the health care personnel should be drawn to this point. The Ministry of Health should obligate specialist doctors in brain death committees and intensive care nurses in particular, and all the rest of the health-care professionals to receive a standard training in their specific area by organ and tissue coordinators and transplantation professionals.

Table IV. Opinions of the health care personnel about the transplantation unit to be opened in our hospital

Opinions	n	%
Status of being informed on the transplantation unit will be opened in our hospital		
Yes	176	68,8
No	80	31,2
Status of recognizing the transplantation team		
Yes	124	48,4
No	132	51,6
Status of being informed about the activities and meetings held by the transplantation team		
Yes	69	27
No	187	73
Can be lung transplantation performed in our hospital?		
Yes	136	53,1
Undecided	89	34,8
No	31	12,1
The reasons for lung transplantation could not be performed in our hospital		
Infection and failure to control it	78	30,5
Inconvenient operating room and intensive care conditions	67	26,2
Insufficient imaging and laboratory conditions	34	13,3
Deficiency in coordination and team spirit	34	13,3
Insufficient intellectual capacity of the patient will undergo transplantation	28	10,9
The short survival duration of the patients undergoing transplantation	27	10,5
Appropriate donors are not available	26	10,2
Deficiency in transplantation team's knowledge and skill	25	9,8
Legal procedure and infrastructure constraints	24	9,4
Other	10	3,9
The status of willing or not to take place in transplantation team		
Yes	104	40,6
No	152	59,4

In conclusion, despite increasing need for organs to be transplanted, many sectors of the community, especially health care personnel do not have complete and correct information on the organs that are transplanted, and their organ donation rates are below than the expected. Lack of sufficient knowledge in the society, particularly on organ donation, negatively affects the existing sensitivity to donation. For the solution of this problem, all communities must have sufficient knowledge and awareness should be

increased through education Starting from the primary schools, the educational programs prepared in line with this purpose should be given continuously in all the schools and military stations. Furthermore, informative publications should take place in visual and written media, reaching a wider public, and the organ donation should be encouraged. Only way to reach the desired target in organ transplantation is to increase the number of organ donations.

Table V. Opinions of the health care personnel about the transplantation unit to be opened in our hospital

	Physician		Nurse		Administrative staff		Personnel		Technician		Medical secretary		p Value
	n	%	n	%	n	%	n	%	n	%	n	%	
General opinion													
I support	51	96,2	73	82	7	87,5	20	74,1	24	68,6	37	84,1	
Undecided	2	3,8	15	16,9	1	12,5	6	22,2	9	25,7	6	13,6	p<0,05
I am against	0	0	1	1,1	0	0	1	3,7	2	5,7	1	2,3	
Status of previously being informed													
Yes	50	94,3	60	67,4	2	25	7	25,9	13	37,1	15	34,1	
No	3	5,7	29	32,6	6	75	20	74,1	22	62,9	29	65,9	p<0,001
Status of donating organs													
Yes	16	30,2	5	5,6	1	12,5	2	7,4	3	8,6	2	4,5	
No	37	69,8	84	94,4	7	87,5	25	92,6	32	91,4	42	95,5	p<0,001
Status of knowing where to apply for organ donation													
Yes	36	67,9	66	74,2	7	87,5	16	59,3	21	60	17	38,6	
No	17	32,1	23	25,8	1	12,5	11	40,7	14	40	27	61,4	p<0,01
The reaction for the relatives to donate his/her organs after the death													
Yes	42	79,2	55	61,8	2	25	13	48,1	13	37,1	23	52,3	
No	11	20,8	34	38,2	6	75	14	51,9	22	62,9	21	47,7	p<0,001
The status of attempting for organ donation in the case of brain death of one of his/her family													
Yes	42	79,2	47	52,8	1	12,5	12	44,4	11	31,4	17	38,6	
No	11	20,8	42	47,2	7	87,5	15	55,6	24	68,6	27	61,4	p<0,001

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