



Organ Donation in Turkey: The Knowledge, Approaches and Opinions of Family Physicians

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Abstract

Background: Considering the gap between organ donors and receivers, it can be assumed that family physicians may play an important role in organ donation. Thus, we aimed to investigate the family physicians' approaches to organ donation in Turkey.

Methods: In this cross-sectional study, an online survey was sent to all family physicians working in Family Health Centers in Turkey Between Jul – Sep 2018. The survey questioned the knowledge, approaches, and opinions about organ donation issues, besides the socio-demographic characteristics.

Results: Most physicians stated that they had given information to their patients on this subject at least occasionally (59.19%, n=998). Among participants, the most common reason for refusing consent for organ donation was the fear of commercial abuse (19.66%, n=244). Most participants (52.61%, n=887) stated that they had been positively affected by the media about organ donation. Some physicians were uncertain about the reliability of the brain death diagnosis (18.39%, n=310). A minor group stated that organ donation might be religiously inappropriate (10.50%, n=177).

Conclusion: Although most of the family physicians had a positive manner about organ donation, there was still some wrong knowledge of the participants about legal and medical aspects of organ donation, as well as some other concerns like organ trafficking and reliability of brain death diagnoses, whereas religious concerns were not significant.

Keywords: Organ transplantation; Organ donation; Family physicians; Primary care; Legal regulations

Introduction

Organ transplantation is a special form of treatment, which encompasses the entire medical process that allows living cells or tissues to maintain their functions in the recipient, involving many medical disciplines during the transplantation process.

Although the roots of transplantation reached ancient times, the first documented successful organ transplantation was undertaken in 1954, which

was accepted as a milestone in modern medicine (1). Since that time, there has been a growing interest of the physicians and a great demand of the patients for organ and tissue transplantation (1, 2). In Turkey, the first successful organ transplantation was made in 1975 at Hacettepe Medical Faculty, after an unsuccessful attempt of heart transplantation in 1968 at Ankara Yüksek İhtisas Hospital (3).



Today, thanks to scientific developments, many kinds of organs and tissues can be successfully transplanted, including blood, kidney, heart, liver, lung, skin, pancreas, cornea, bone marrow, and even face (4-6). Although these organs and tissues can be obtained from both living donors and deceased ones, most of the transplantation procedures are performed with organs that are obtained from alive people due to the lack of deceased donors (7).

Although the transplantation process brings great hope to many desperate patients, there are major ethical and legal problems as well, like obtaining the organs and fairly selecting the receivers, which has caused some substantial regulations in this area (1, 2). For this purpose, some working groups and committees in many countries decide the rules of organ donation and transplantation. Mainly there are two models of consent for organ donation as “informed consent model” and the “presumed consent model” (8). In the informed consent model, individuals can choose to donate organs but, in some countries, the relatives may have an opposition to this choice of the individual (e.g., Turkey), whereas they are not able to oppose a deceased persons’ wishes in some other countries. On the other hand, in the hard version of the presumed consent model, doctors can remove organs from every adult who dies unless a person has registered to opt-out (e.g., Austria) or belongs to a group defined by law being against an opt-out system. But some countries adopt the soft version of this model, where the relatives are allowed to tell doctors not to take organs, but doctors may not ask their opinion (e.g., Belgium), whereas, in some other countries, doctors are encouraged to ask relatives for their agreement at the time of death (e.g., Spain) (1, 8-12).

Currently, more than 26,000 patients are waiting for organ transplantation in Turkey (13). Despite this, only 0.9% of the Turkish population over 18 are organ donors (14). Considering the gap between organ donors and receivers, it can be assumed that family physicians may play an important role in encouraging people for organ do-

nation (15-17). Thus, in this study, we aimed to investigate the family physicians’ approach to organ donation in Turkey.

Materials and Methods

Study design

This cross-sectional study was conducted between Jul – Sep 2018. An e-mail containing the online questionnaire link was sent to all family physicians (n=23,992) working in Family Health Centers in Turkey, consisting of both specialists and unspecialized family physicians. A total of 2244 (9.35%) participants responded to the questionnaire link. After excluding 558 incomplete or null attempts, finally 1686 (7.03%) answers were accepted as valid for the analysis, which was found to have the confidence coefficient of 99%, within the 0.03 margin of error, according to power analysis.

Data collection instruments

A structured questionnaire consisting of 39 questions was used in the study, which had two parts. In part one, socio-demographic characteristics were obtained by six items as age, sex, duration of professional experience, the city they worked in, chronic illnesses of themselves and their family members. In part two, 33 items were used to obtain data about physicians’ knowledge about organ donation and their approaches to it, questioning legal, ethical, and religious aspects as well as medical issues.

Statistical analysis

The data, which was obtained digitally, is imported to IBM SPSS (Chicago, IL, USA) v.20 package program. Descriptive statistics were given in numbers and percentages. Chi-square tests and adjusted residual analysis were used to compare categorical variables. The threshold for statistical significance is accepted as $P < 0.05$.

Ethical approval

Ethical approval was obtained from the local ethics committee (AYBU Ethics Committee, approval number 2018/13). Legal permissions were

taken from the related department of the Turkish Ministry of Health (Act date: 17.04.2018 number: 49654233-604.02-E.594). A brief explanation informing about study objectives and statement of privacy for personal data were added at the beginning of the questionnaire.

Results

The median age of the participants was found 42 (min: 24, max: 70, IQR:15) yr old. The median duration of professional experience was 16 (min: 1, max: 45, IQR: 16) yr. Gender distribution was as 27.5 % (n=463) female and 72.5 % (n=1223) male. Most of the participants were working in Istanbul (11.4%, n=193), whereas minimum participation was from cities of Aksaray and Mardin (0.06%, n=1; for both). The frequencies of answers for some structured questions were combined in Table 1.

Table 1: Combined answer distribution of some structured questions

<i>Questions</i>	<i>Cate- gory</i>	<i>Yes n (%)</i>	<i>No n (%)</i>	<i>Partially n (%)</i>	<i>Perhaps n (%)</i>	<i>No idea n (%)</i>	<i>Missing n (%)</i>
Do you have a chronic illness?	SD	479 (28.41)	1203 (71.35)	N/A	N/A	N/A	4 (0.24)
Do your first-degree relatives have a chronic disease?	SD	1300 (77.11)	385 (22.84)	N/A	N/A	N/A	1 (0.06)
Have you ever donated blood?	A	1012 (60.02)	672 (39.86)	N/A	N/A	N/A	2 (0.12)
Do you find your knowledge about organ donation sufficient?	PO	1119 (66.37)	565 (33.51)	N/A	N/A	N/A	2 (0.12)
Have you ever received specific training / course on organ donation?	SD	545 (32.33)	1137 (67.44)	N/A	N/A	N/A	4 (0.24)
Do you think there should be training / course programs about organ donation?	PO	1526 (90.51)	158 (9.37)	N/A	N/A	N/A	2 (0.12)
Do you have information about the laws and regulations on organ donation?	PO	155 (9.19)	610 (36.18)	920 (54.57)	N/A	N/A	1 (0.06)
Can people under 18 years old donate organs/tissue?	K	289 (17.14)	963 (57.12)	N/A	N/A	432 (25.62)	2 (0.12)
Is there a necessity of getting consent for obtaining cornea from cadavers?	K	674 (39.98)	752 (44.60)	N/A	N/A	260 (15.42)	0 (0.00)

Do people have the right to draw back their consent for organ donation?	K	1634 (96.92)	51 (3.02)	N/A	N/A	N/A	1 (0.06)
Do you know about the financial aspects of transplantation?	PO	137 (8.13)	892 (52.91)	656 (38.91)	N/A	N/A	1 (0.06)
Do you think organ transplantation may be religiously inconvenient?	PO	42 (2.49)	1335 (79.18)	N/A	135 (8.01)	170 (10.08)	0 (0.00)
Do you think that the society is sufficiently informed about organ donation in Turkey?	PO	5 (0.30)	1428 (84.70)	207 (12.28)	N/A	45 (2.67)	1 (0.06)
Do you think that rich and poor patients have equal opportunities in organ transplantation?	PO	449 (26.63)	948 (56.23)	N/A	N/A	287 (17.02)	2 (0.12)
Do you know how to guide your patients who want to donate organs?	PO	496 (29.42)	379 (22.48)	809 (47.98)	N/A	N/A	2 (0.12)
Have you given consent for organ donation?	A	448 (26.57)	1234 (73.19)	N/A	N/A	N/A	4 (0.24)
Would you consider donating organs if you have not donated before? (n=1234)	A	449 (36.39)	224 (18.15)	N/A	542 (43.92)	N/A	19 (1.54)
If a relative wants to donate his/her organs in case of his/her death, would you be positive about this?	A	1396 (82.80)	26 (1.54)	N/A	261 (15.48)	N/A	3 (0.18)
Do you want your relatives to donate your organs after you die?	A	1106 (65.60)	161 (9.55)	N/A	418 (24.79)	N/A	1 (0.06)
Are there any organ donors in your family?	SD	351 (20.82)	1332 (79.00)	N/A	N/A	N/A	3 (0.18)

Are any of your family members waiting for an organ transplant?	SD	37 (2.19)	1647 (97.69)	N/A	N/A	N/A	2 (0.12)
If someone in your family needs an organ transplant, would you consider donating your organ?	A	1387 (82.27)	50 (2.97)	N/A	247 (14.65)	N/A	2 (0.12)
Do you worry about the organ mafia or organ trafficking in your country?	PO	1069 (63.40)	139 (8.24)	476 (28.23)	N/A	N/A	2 (0.12)
Do you have any doubts about the reliability of brain death diagnoses in your country?	PO	158 (9.37)	1055 (62.57)	471 (27.94)	N/A	N/A	2 (0.12)
Do you think that a patient diagnosed with brain death under appropriate conditions is likely to return to life?	K	74 (4.39)	1375 (81.55)	N/A	236 (14.00)	N/A	1 (0.06)
Did you know that people can donate organs through the internet (e-nabiz system)?	K	690 (40.93)	995 (59.02)	N/A	N/A	N/A	1 (0.06)

N/A: Not available

A: approach

SD: socio-demographic

K: knowledge

PO: personal opinion

The main information sources of the physicians about organ donation were university (62.28%, n=1050), in-service trainings (35.82%, n=604), internet (34.22%, n=577) and the media (32.44%, n=547).

The most common frequency of giving information to patients/clients were found to be occasionally (56.17%, n=947), whereas an important part of them stated that they had never raised this subject with patients (40.81%, n=688). Only 51(3.02%) of them were frequently mentioning about this subject.

Among the participants, 49.23% (n=830) of them thought that, in order to donate an organ, both the donor and his/her family should give permission for donation. However, 35.17% (n=593) of them thought that only the permission of the donor is enough for the process.

For the question about donatable organs, the most common answers were the kidney (99.64%, n=1680), the liver (98.28%, n=1657), and the cornea (98.16%, n=1655); whereas the least common ones were the upper digestive system organs (pharynx, esophagus, stomach, etc.) (0.14%,

n=252) and the upper respiratory system organs (larynx, trachea, etc.) (0.15%, n=261).

The majority of the physicians thought that the most common source of the donations were deceased donors (55.75%, n=940). The physicians who had a chronic illness were less motivated to donate an organ if a family member needs it ($P<0.001$, $X^2=15.317$).

The most common reasons for those who had not or would not donate organs (n=1241) were the fear of commercial abuse (19.66%, n=244), unsuitable medical condition (12.25%, n=152), familial and social excuses (12.01%, n=149), religious reasons (11.20%, n=139) and lack of trust on the doctors (2.34%, n=29).

About the effect of the media on the physicians' approaches, 52.61% (n=887) of them mentioned a positive impact, and 42.05% (n=709) of them stated that they had not been affected at all. In contrast, the ratio of negatively affected participants was only 5.22% (n=88).

Discussion

This study, which aimed to investigate the family physicians' knowledge about organ donation and their approaches towards that subject, has revealed some interesting results.

Like some other research results, more than half of the family physicians had positive thoughts about organ donation (17, 18). But this did not reflect the actual organ donation attitudes of the physicians. Similarly, in a survey carried out in the UK, it was shown that, although over 80% of the general population supported organ donation, about 45% of them refused consent in case of a real opportunity (17). In our study, the main reasons for refusing organ donation consent were firstly the fear of being exposed to commercial abuse and secondly the unsuitable medical conditions like having chronic illnesses. While the medical condition can be justified as a reasonable excuse, the concerns about commercial abuse are noteworthy for indicating that organ trafficking rumors and related agendas influence even the

physicians. Although only a minor group mentioned the negative effect of the media, it was remarkable that more than 63% of the participants were afraid of organ mafia and organ trafficking. As stated in the declaration of Istanbul in 2008, organ trafficking is a global problem - reaches up to 10% of the overall transplants according to WHO- and governments are warned to take precautions like banning all kinds of advertisements and provision of care for living donors without any cost (19-21). Besides, considering the strict regulations about the transplantation process in Turkey, the legitimacy of this concern remains unclear (9-11).

The literature shows that only a minority of the family physicians carry information about organ donation to their clients (22, 23). A study from Ireland reported that about one-third of GP's carried information about organ donation, and less than 1 in 20 ever mentioned the subject to families (24). Another study suggested that family physicians may increase consent rates for organ donation up to 34% by just a brief verbal discussion (25). In our study, more than half of the participants declared that they gave information at least occasionally. This high rate may be an advantage for organ donation in Turkey. However, further efforts are needed to fill the huge gap, considering the result that approximately 40% of the participants still never talk about that subject (7, 13).

Most of the doctors stated that they had sufficient knowledge about organ donation. Nevertheless, the positive answers to the question about the need for education programs were considerably high as well. This result suggested that the physicians feel the necessity of further education on that subject, especially about the legal aspects. Besides, the studies suggested that the physicians' attitude supports organ donation rates rather than their knowledge (23).

Associatively, there was a significant lack of knowledge on participants about how to guide their patients correctly. Only 26% of them were feeling confident about how to guide probable donors. More than half of the participants had no idea about the official online organ donation service through the e-nabiz system, which makes it

possible to give consent for organ donation just in a few minutes (26). As shown in many studies, special educational programs about organ donation may be helpful to physicians and medical students to increase donation consent rates (27, 28).

One of the significant results of the study was that many doctors did not have accurate information on some details like the need for consent on cornea transplantation or organ donation under 18 yr old. According to national regulations, unless a testament is otherwise presented, tissues that do not cause a significant change on the body, such as the cornea, may be removed from a deceased person without permission (10). Likewise, it is illegal to obtain organs or tissues from a person under 18 yr old (10, 11). One exception for this regulation is that regenerative tissues like blood or bone marrow, which may be obtained from a child, only under certain conditions; like the receiver must be the sibling of the donor, the donor must have no objection for the procedure, and there must be no other option (9).

Another interesting result was about the religious aspect of organ donation. Unlike the common belief in the Turkish community, only a minor group of the participants found organ donation religiously inappropriate (29). According to a fatwa of the High Council of Religious Affairs of Turkey, it is permissible in Islam to make organ transplantation from deceased ones, when there is no other option (30). In this context, it can be inferred that religious considerations do not play a significant role in the participants' decisions. Yet, there are still some problems with organ transplantation in Islamic communities, like obtaining organs from living donors and etc. (1, 30). Thus, family physicians' efforts to discuss the religious aspects of organ donation may help increase the donation rates in the perspective of patient-centered and bio-psycho-social approaches of family medicine discipline.

According to official national statistics, between Jan 2011 and Jul 2019, the ratio of brain death diagnosed people who had given consent for organ donation is 26.66% for men and 23.14% for women, although there was an increase in the last year, which was + 3% for men and + 1% for

women (7). In our research, we found that most family physicians think organ transplantations are usually obtained from deceased donors. This showed that the physicians lacked information on this subject. Accordingly, more than 18% of the physicians (pooling "yes" and "not sure" answers in Table 1) thought that a person could return to life after a brain death diagnosis, which is interestingly high in such a group. There is no doubt that returning to life after a brain death diagnosis under proper conditions is as impossible as rising of the deaths in the graveyard. Therefore the mechanical life support is no longer helpful (31, 32). Having accurate knowledge of family physicians on this subject may play an essential role in convincing doubtful donor candidates.

Limitations

In our study, the knowledge levels and general approaches of physicians about organ donation were questioned through a structured questionnaire. However, qualitative studies, including in-depth interviews with physicians, will provide more precise information about the reasons for the attitudes.

Conclusion

The organ donation rate of family physicians in Turkey is still low, and they need further training programs about legal and medical aspects of the organ donation process. In contrast, religious concerns play just a minor role in their decisions. In order to increase organ donation rates in Turkey, focusing on these needs of primary healthcare providers may be an effective initiative.

Ethical considerations

The authors have completely observed ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.).

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Conflict of interest

The authors declare that there is no conflict of interest.

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