A Retrospective Evaluation of 728 Kidney Donors Who Applied for Organ Donation

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ABSTRACT

Objective. The aim of this study was to determine the sociodemographic characteristics of people who applied to be kidney donors at an organ transplantation center.

Material and Methods. A total of 728 participants in the kidney donor program were included in the study between 2015 and 2018 at Istanbul Yeniyüzyıl University Gaziosmanpaşa Hospital. The sociodemographic data of the participants were retrospectively analyzed through computer records, and data were analyzed.

Results. Two hundred thirty-nine men and 489 women were included into the study. Six hundred ten were live donors, and 118 were cadaveric donors. Of the donors included in the study, 24.9% were illiterate, 52.1% were primary school graduates, 17.3% were high school graduates, and 5.7% were university graduates. Of the living donors, 156 (25.5%) were spouses, 91 (14.9%) were mothers, 72 (11.9%) were siblings, 65 (10.5%) were fathers, 64 (10.7%) were children, 46 were (7.5%) were other relatives, and 116 (19.0%) were nonrelatives.

Conclusions. In recent years, the number of live kidney transplantations has increased. Therefore, it is necessary to protect their well-being by using evidence-based donor evaluation and treatment strategies to prevent and treat negative consequences of donations.

THE DEVELOPMENT of chronic kidney disease and its progression to end-stage renal disease (ESRD), a debilitating condition that is associated with decreased quality of life and premature death. In patients with ESRD, early referral to experts is required for close medical care, dialysis, or possible kidney transplantation [1]. The incidence of ESRD is increasing worldwide, and kidney transplantation remains the best treatment option [2,3]. It is known that a successful transplantation increases the quality of life and decreases mortality compared to continuous dialysis [4,5]. For patients with ESRD, live donor kidney transplantation is advantageous, both in terms of clinical outcomes and timing of transplantation. The shortage of organ donors from a cadaver, long waiting lists, deaths during the process, and successful results with live donor transplantation rapidly increased the number of live donor transplantations [6].

In Turkey, the use of renal replacement therapy has shown an increase with the increasing prevalence of ESRD. Of the 76% of patients who underwent renal replacement therapy had hemodialysis, 19% had renal transplantation (RTx), and 4.7% had peritoneal dialysis. In 2016, a total of 3416 renal transplants were performed in Turkey, indicating an increase of 6.6% in the total number of transplants. When we look at the donor sources of functional graft transplant patients in Turkey, 70% were found to receive organs from live donors, while 30% received cadaveric

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transplants. Among the live donations, 37.5% were from nonrelative donors. Cross-transplantation was performed in 4.7% [7].

It is important that both the patient and donor's biopsychosocial characteristics should be recognized well and followed closely after transplantation to ensure success of transplantation and to prevent and treat adverse outcomes [8]. Although there are several studies in the literature regarding transplantation, there are few studies investigating the various factors affecting the decision to become a donor, such as social, financial, personality-related, and sociodemographic characteristics [9–11].

The aim of this study was to determine the sociodemographic characteristics of the individuals who applied to a transplant center in Turkey for the purpose of kidney donation.

MATERIALS AND METHODS

Study Group

This is a retrospective study, reviewing the sociodemographic data of people who were kidney donors and were admitted to Istanbul Yeniyüzyıl University Gaziosmanpaşa Hospital between 2015 and 2018. Inclusion criteria for the study were being a kidney donor, agreeing to participate in the study, attending regular follow-up after transplantation, and having a complete patient report. In this period, we reached the records of 782 kidney donors.

The criteria for nonparticipation are defined as follows (see Table 1): 1. Being a donor outside 2015 to 2018; 2. Donors with missing information; 3. Age <18 or >75.

Ethical Issues

During the conduct of the study, the Good Clinical Practices Guidelines and the Declaration of Helsinki were followed. Istanbul Yeniyüzyıl University Ethics Committee approved the current study.

Data

Age, sex, marital status, working status, educational status, and degree of kinship with the patient were recorded and evaluated. Data was transferred to Microsoft Office 2016 Excel (Microsoft, Redmond, Wash, United States). For statistical analysis, continuous data were expressed as mean ± standard deviation and categorical data as frequency and percentage.

RESULTS

The study included 728 people, of which 239 (30.5%) were male and 489 (69.5%) were female. Of the donors, 610 were live donors, and 118 were cadaveric transplants.

Three hundred seventy-nine of the donors were primary school graduates (52.1%), 126 (17.3%) were high school graduates, 42 (5.7%) were university graduates, and 181 (24.9%) were illiterate. In terms of occupation, 200 (27.5%) were employed, 400 (55.0%) were unemployed, and 128 (17.5%) were retired. In terms of marital status, 176 (24.2%) were single, and 552 (75.8%) were married (Table 2).

Of the live donors, 156 (25.5%) were the spouse, 91 (14.9%) were the mother, 72 (11.9%) were the sibling, 65 (10.5%) were the father, 64 (10.7%) were the children, 46 (7.5%) were other relatives, and 116 (19.0%) were nonrelatives (Table 2).

Table 1. Exclusion Criteria

Being a donor outside 2015 to 2018
Donors with missing information
Age <18 or >75

DISCUSSION

In this study, we aimed to determine the sociodemographic characteristics of kidney donors who participated in a kidney donation program at an organ donation center. In the study, the number of female donors was higher than that of male donors, and there was a lower level of education among donors.

In this study, there were more female donors (67.2%) than male donors (32.8%). This result is similar to the studies in the literature. In a study conducted with 614 people in Korea, it was reported that women (58%) were more likely to donate kidneys than men (42%) [12]. Studies in Canada and the United States also show that women are more likely to donate kidneys compared to men [13]. These common results have been previously explained by perceptual differences in social roles; men occupy the role of the breadwinner and therefore have an economic role, while women have been historically given social responsibilities, which may have increased self-sacrificing attitudes. However, the fact that chronic diseases such as hypertension and

Table 2. Sociodemographic Characteristics of Donors and Degree of Relationship

	n	%
Sex		
Female	489	67.2
Male	239	32.8
Marital status		
Married	552	75.8
Single	176	24.2
Education level		
Illiterate	181	24.9
Primary school	379	52.1
High school	126	17.3
University	42	5.7
Employment status		
Employed	200	27.5
Retired	128	17.5
Unemployed	400	55.0
Degree of relationship		
Spouse	156	25.5
Mother	91	14.9
Father	65	10.7
Sibling	72	11.9
Children	64	10.5
Other relative	46	7.5
Nonrelative	116	19.0

ischemic heart diseases are more common in men may result in higher proportions of men being refused as organ donors [14–17]. In addition, it has been shown that women are more competent than men in terms of utilizing health care services, they follow recent health-related developments, they have higher compliance to treatment regimens, and they tend to monitor the health and safety of others as well as their own health, which are characteristics that would increase their factual awareness in health-related decisions such as organ donation [18].

Of the donors included in the study, 24.9% were illiterate, 52.1% were primary school graduates, 17.3% were high school graduates, and 5.7% were university graduates. As the education level of the individuals increased, there was a decrease in the rate of being a donor. This finding differs from the literature. It is emphasized in many studies that a higher level of education—which leads to superior ability to investigating health problems after transplantation—may be an important parameter to overcome the fear of being a donor [9,10].Various studies show that people who are live donors have time to do research in the donation process, investigate organ donation, and can communicate with experts. The high level of education of donors and therefore high health literacy is crucial in providing a successful transplantation process [9,10]. However, we found that the majority of our donors had lower education levels. We believe this difference may be explained by the fact that the majority of donations in the current study were from first-degree relationships or were close relatives of the recipients.

When we look at the degree of kinship between the donors and recipients included in the current study of the live donors, 156 (25.5%) were spouses, 91 (14.9%) were mothers, 72 (11.9%) were siblings, 65 (10.5%) were the father, 64 (10.7%) were the children, 46 were (7.5%) were other relatives, and only 116 (19.0%) were nonrelatives These results are similar to nationwide data obtained in transplantations performed in Turkey. In 2016, of the living donor kidney transplantations, 20.7% gave to their first-degree relatives and 22.5% to their spouses [7]. In 2016, in a study that investigated the volunteering rates for organ donation in Nigeria, 75.2% of the participants were willing to donate their organs to their children, 67.1% to their siblings, 63.4% to their mother, 55.9% to their spouses, 54.7% to their father, and 24.8% to their nonrelatives [2]. Similar results were obtained in a United States study performed in 2002 [19].

Research on increasing the quality of care provided to kidney donors has intensified in recent years due to the increase in the number of live kidney transplants. Therefore, protecting the well-being of live organ donors have become 1 the most important factors in organ donation. It is of utmost important to use evidence-based donor evaluation and treatment strategies to prevent negative consequences of donations and also to identify and treat them as soon as possible [8]. Although there are several studies about the opinions of people concerning organ donation in the literature, there are few studies on the general health and psychosocial risks of donors [20]. We believe future studies should emphasize assessing and providing solutions for these issues.

The current study is important because it reflects the sociodemographic characteristics of a high number of donors. However, there are also limitations that should be stated. The major limitation of the study is that the study sample group was taken from a single center. Secondly, donor data was limited to the medical files of patients and their records. Therefore, other possible factors that could affect the decisions of donors were not evaluated.

In the current study, women, those with lower education levels, and first-degree relatives were found to have a higher frequency of organ donation. Our findings are in agreement with the majority of studies in this field; however, a major contrast with the literature was the fact that the majority of donors had lower education levels, signifying that familial relationships may be much more important to donors than the actual evaluation of the risks and results of organ donation.

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