

Research article

Attitude and awareness regarding organ donation among medical students and patients in Lahore, Pakistan

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Abstract: A cross-sectional study was conducted to investigate the awareness, attitudes, and willingness regarding organ donation among medical students and hospital patients in Lahore, Pakistan, and to identify key socio-demographic factors influencing these perspectives. Data were collected from 200 participants, selected via analytical sampling, using a structured interview protocol (proforma). The findings indicate that 65.5% of the local sample were aware of organ donation, versus a global benchmark of 72.8%. Willingness to donate was higher among medical students (25%) than patients (15%). Knowledge of organ donation was significantly associated with educational attainment and socioeconomic status. Willingness to donate was significantly linked to gender and the extent of prior organ donation education. While a baseline awareness of organ donation exists in Lahore, there is a significant gap in willingness to donate, particularly among patients. Educational interventions, tailored to address socio-economic and gender-specific factors, are crucial to improving organ donation rates.

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Introduction

Organ donation is one of the most significant achievements in modern science. In 1954, the world's first organ transplant took place (Arshad et al., 2018). The procedure of physically taking an organ or tissue from the donor and transplanting it into the recipient is known as organ donation. When the recipient's organ is compromised by disease or accident, there is no other option but organ transplantation (Organization, 2004). Organ donation and transplantation remain the last hope for prolonging life (Domínguez-Gil et al., 2022). The kidney was the first human organ to be successfully transplanted in 1954. Every year, organ transplantation gives countless children and adults a new chance to live a full and active life. Being an organ donor is a good deed that can save the lives of up to eight people, and even more if the donor can donate their cornea and tissue. Organ and postmortem organ donors can be almost anyone, regardless of color, age, or gender (Ali et al., 2013).

Organ transplantation must also be considered in the context of a country's religious, cultural, and socioeconomic conditions. In comparison to other countries such as China and Japan, Pakistan had little information and much less practice when it came to organ donation (Anwar and Lee, 2020). Organ transplantation demand in Pakistan continues to outstrip availability on a daily basis. In Pakistan, kidney transplantation is the most prevalent organ transplant procedure. In Pakistan, however, the rate of liver

transplantation is extremely low. According to the Sindh Institute of Urology and Transplantation (SIUT), almost 10,000 people die each year from liver failure (Bharambe et al., 2016).

The SIUT is the country's oldest organ donation organization, but there are a number of others, including Cardiology, the Pakistan Transplantation Society, Shifa International Hospital, the Armed and Human Organs Transplant Authority Forces Institute of Pakistan Association of Urological Surgeons, Rabwah-blood and eye donation center, and the Pakistan Eye Bank Society. Education, religion, social and cultural attitudes, lack of understanding about different organ donation organizations, and several other myths and superstitions about the potential hazards of organ donation are only a few of the various causes. In light of these many considerations, the purpose of this study is to assess the attitudes and awareness of medical students and patients in various Lahore hospitals concerning organ donation and its importance (Rudge et al., 2012).

The majority of donations in Pakistan are made by friends or family members who give their living organs. Nevertheless, Pakistan has one of the lowest rates of post-mortem organ donation anywhere in the world. Promoting organ donation after death is the biggest difficulty in Pakistan (Hamed et al., 2016). It has been presumption that the majority of people believe they are kind and helpful to other people. The majority of people are hesitant to donate their organs after passing away, according to the prior research, in the situation of posthumous organ donation. It is essential to strengthen actual behavior related to donating (Nathan et al., 2003).

Despite the fact that people have positive opinions toward the donation behaviors, according to other studies on donation after death, these high rates of positive attitudes have not been translated into real practice. The qualitative methods (Ahmed et al., 2020; Rizvi et al., 2020; Zeb et al., 2022) must be used in order to better comprehend someone's desire to donate their organs because it can shed light on their worries and ideas about posthumous organ donation. This study sought to evaluate the knowledge, attitudes, and perceptions of organ donation among medical students and hospital patients, and to determine their readiness to consent to donation for themselves or a deceased relative.

Materials and Methods

Study Design

The research employed an observational cross-sectional study design. This approach was selected to collect data from the participant population at a single, specific point in time, providing a snapshot of the variables of interest. This design was appropriate for assessing the prevalence of outcomes and identifying associations between variables without the intention of establishing causality or tracking changes over a long period.

Settings

The study was conducted across three distinct institutional settings in Lahore: Lahore General Hospital (LGH), Superior University, and Chaudhary Muhammad Akram Teaching and Research Hospital. This multi-site approach was implemented to ensure a diverse and representative sample of the target population was captured, encompassing both academic and clinical training environments, including indoor and outdoor patient departments.

Duration of Study

The total duration for the data collection phase of the study was four months. This period commenced immediately after the formal approval of the research synopsis was granted. The defined timeline ensured a focused and efficient data collection process, which was completed within the planned schedule.

Sample Size

The study successfully recruited a total of 200 participants. This sample size was determined to be sufficient to provide the necessary statistical power for the planned analyses. The target of 200 participants was achieved, allowing for a robust examination of the data collected from the medical student population.

Sampling Technique

A performa-based sampling technique was utilized for data collection. In this method, a structured questionnaire or data collection form (the performa) was distributed to eligible individuals who were readily available within the predefined settings. This technique continued until the target sample size was met.

Sample Selection

The selection of participants was governed by specific inclusion and exclusion criteria. The inclusion criteria stipulated that participants must be students studying in various medical fields, recruited from either the indoor or outdoor departments of the participating hospitals. The exclusion criteria were applied to ensure that any student not enrolled in a medically related field was not included in the final sample, thereby maintaining the study's focus.

Methodology Design

To learn more about medical students' opinions toward organ donation and posthumous organ donation, as well as the variables that influenced their decisions, a 200-participant observational cross-sectional study was carried out among hospital patients and medical students. Cross-sectional observational sampling was the method utilized in this investigation. The Performa base interview question was principally used in this study to gauge participants' awareness of, familiarity with, motivation for, and general attitude regarding organ donation and posthumous organ donation. The characteristics that can affect one's willingness to give organs after death were discovered using a qualitative method. The researcher employed purposive sampling for this project by recruiting college students. Students are thought to be the best candidates for postmortem organ donation since they are healthy people who are expected to keep their decision to be an organ donor for the rest of their lives. The attitudes and knowledge of university students are also crucial to raising the rate of organ donation since these people can influence their families' attitudes toward organ donation and transplantation.

Table 1. Key Questions of the Interview.

Sr. no	Questions
1	Do you know about brain death and posthumous organ donation?
2	Do you know about posthumous organ donation and law working in Pakistan? What are the laws available in Pakistan?
3	Have you ever considered to be an organ donor? Why? Why not?
4	If you want to be an organ donor, what would be the reaction of the persons who are dear/near to you?
5	Do you feel being an organ donor is morally right? What makes you think so?
6	If ever get a chance, would you like to be an organ donor?

Results

The study surveyed two distinct groups—100 medical students and 100 hospital patients—revealing significant demographic and attitudinal differences. The medical student cohort was predominantly young, with 56% aged 21–30 years, and was overwhelmingly male (85%) and single (48%). In contrast, the patient group was older, with 42% aged 41–50 years, and largely married (86%). Education levels also varied considerably: while 62% of medical students held a graduation or post-graduation degree, only 33% of patients had attained this level, with 28% having no formal education beyond matriculation. The vast majority of respondents in both groups identified as Muslim. There are 200 participants in total, with 100 being medical students and 100 being hospital patients. Participants aged 21 to 30, 31 to 40, 41 to 50, and 50+ were represented by 31%, 28%, 26%, and 15%, respectively. About 25.5% of the population was between the ages of 21 and 30.



Figure 1. Participants Gender and age group.

Notable disparities emerged in knowledge and personal engagement with organ donation. Half of the medical students reported having no knowledge of organ donation, but this figure was dramatically higher among patients, at 87%. Similarly, 63% of students and 86% of patients had no knowledge of brain death or posthumous organ donation. Very few participants in either group had a relative who had received an organ (6% each). When asked about the source of organs, 44% of students cited organizations, whereas 87% of patients did so. A quarter of students had considered being a donor, compared to only 15% of patients. Willingness to donate was highly dependent on the recipient: 43% of students and 32% of patients were willing to donate to a relative, but these figures dropped to 36% and 24%, respectively, when the recipient was a stranger. Monetary factors were not a primary influence for either group, with 88% of students and 92% of patients stating it would not affect their decision.

Table 2. Religion's decision on organ donation.

	Medical student	Hospital patient
Promoted	16%	3%
Allowed	23%	12%
Not allowed	36%	36%
don't know	25%	49%

Perceptions of social, religious, and ethical acceptance revealed further contrasts and uncertainties. While 56% of patients believed their family would react positively to them being an organ donor, a larger proportion of students (56%) anticipated a negative family reaction to posthumous donation, a sentiment shared by 78% of patients. A significant knowledge gap regarding religious rulings was apparent: 36% of both groups believed organ donation was "not allowed" by their religion, but a large portion—25% of students and 49% of patients—did not know the religious ruling. Furthermore, 49% of students and 76% of patients did not believe posthumous organ donation was morally right. Awareness of relevant laws and organizations was low overall but higher among students (41% and 42%, respectively) than patients (16% and 15%). Finally, students perceived society as more neutral (36%) or against (32%) donation, while patients predominantly felt society would be against (69%) their decision to be an organ donor.

According to our findings, 43% of medical students and 32% of hospital patients were willing to donate organs to a relative or family member. A total of 36% of medical students and 24% of hospital patients were willing to donate an organ to a stranger. 9% of medical students and 2% of hospital patients have monetary influence over organ donation.

The data reveals a very high level of declarative support for organ donation in both groups when asked directly. An overwhelming majority of medical students (88%) and patients (86%) stated they would consider being an organ donor. This willingness became even more pronounced when the need was specified for a relative or family member, with 91% of students and 93% of patients agreeing. Support remained high for donating to a stranger, though it was lower, with 79% of students and 68% of patients in favor. A strong ethical stance was evident, as 88% of students and a striking 94% of patients expressed willingness to donate for free, while an equally strong 92% in both groups were unwilling to donate for money. Furthermore, a large proportion of participants—68% of students and 88% of patients—expressed an interest in reaching out to an

organization to enhance their awareness or become members. Crucially, posthumous organ donation was widely accepted, with 93% of students and 96% of patients indicating they would consider it. Finally, there was near-unanimous optimism about the potential for change, as 98% of respondents in both cohorts believed the attitude of the general population could change if awareness is promoted.

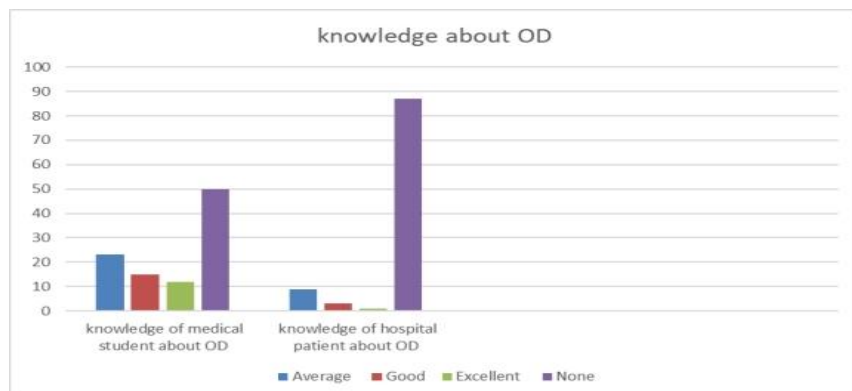


Figure 2. Knowledge about organ donation.

Table 3. Perceptions of Organ Donation among Medical and Hospital Patients

Variables	Medical student		Patient in hospital	
	Yes %	No %	Yes %	No %
Family agrees with organ donation	46	13	56	2
Sale your organs	9	88	2	92
Average Knowledge about posthumous organ donation	18	63	6	86
Religion promotes agree with organ donation	16	36	3	36

Discussion

This study sought to evaluate the baseline awareness and attitudes toward organ donation among two critical groups in Lahore, Pakistan—future healthcare providers and current hospital patients. The findings paint a concerning picture of the current landscape, revealing significant knowledge gaps and cultural hurdles that must be overcome to address the nation's critical organ shortage. Against a backdrop where Pakistan, like many developing nations, faces a stark disparity between the demand for life-saving transplants and the availability of donor organs, understanding these barriers is the first step toward crafting effective public health interventions (Sayedalamin et al., 2017; Schaeffner et al., 2004).

The goal of this study was to assess the attitudes, understanding, and knowledge of medical students and patients in a Lahore hospital on organ and posthumous organ donation. The primary objective of our efforts was to raise participant awareness of the term organ donation. A total of 200 people were approached as potential participants, resulting in a total of 200 people who agreed to participate in the study. Between the ages of 21 and 30, roughly 25.5% of the population. Males make up 81.5% of the population, while females make up 18.5% of the population. A total of 100 people are medical students, and another 100 are hospital patients. Our findings show that medical students and patients in a Lahore hospital had insufficient knowledge and attitudes (50%) and (13%), respectively. After providing information, knowledge, and the basic need for organ donation, medical students and patients in a Lahore hospital had a positive attitude toward organ donation (76.75% and 78.87%, respectively). 41% of medical students and 16% of hospital patients are aware of any organ donation institute or organization. However, the percentage of medical students and hospital patients who believe organ donation is not permitted is the same in both groups (36%). The percentage is 36%.

Only 23% of medical students and 9% of hospital patients had average knowledge of organ donation in this study. Before providing information about general knowledge of organ donation, 50% of medical students and 87% of hospital patients had no knowledge of organ donation. In this study, 20% of participants expressed a desire to become an organ donor, while 50% did not consider themselves to be an organ donor. Before

providing general information about organ donation, 30% of participants were in another category. About 41% of medical students and 16% of hospital patients were aware of organ donation organization, while 38% of medical students and 36% of hospital patients were unaware of any organ donation organization.

A total of 46% and 56% of participants' families agreed to donate an organ to a medical student or a hospital patient, respectively. 13% and 2% of people did not agree to donate their organs. 9 percent of medical students and 2% of hospital patients believe that money can influence their decision to donate organs. 18% of medical students and 6% of hospital patients had a basic understanding of posthumous organ donation. Organ donation was promoted by religion to 16% of medical students and 3% of hospital patients. Our study participants had a low level of awareness and attitude toward human organ donation, with only 50% of medical students and 13% of hospital patients being aware. Organ donation is unknown to 50% of medical students and 87 percent of hospital patients.

About 16% of medical students and 3% of hospital patients were aware that their religion encouraged organ donation, and 23% of medical students and 12% of hospital patients believe their religion allows them to donate organs. The rest, on the other hand, had no idea about religious views on organ donation. Pakistan is the most well-known Muslim country in the world, with a Muslim population of nearly 96.47%. Religious beliefs have a significant influence on people's attitudes, awareness, and behavior. There is no religion that prohibits organ donation. In order to promote a positive attitude toward organ and posthumous organ donation, religious and political leaders must lead this effort. All of the people who took part in this study agreed that organ donation and posthumous organ donation should be promoted. In our research, after provided basic information to the participant about organ donation and the need for it. The organ donation system, on the other hand, is groping for money and socioeconomic status. Other relevant factors such as gender, education, attitude, and awareness are never taken into account when deciding on organ recipients.

The path forward must be multi-faceted. The organ donation system must be perceived as transparent and equitable, moving beyond perceptions of being influenced by wealth or socioeconomic status to ensure trust (Anwar and Lee, 2020). To effect lasting change, a collaborative national effort is imperative. This will require the active partnership of the medical community, religious leaders, political figures, and the media to launch sustained educational campaigns (Ali et al., 2013). Changing deeply ingrained attitudes and awareness is a monumental task that demands time and consistent effort, but our results confirm that with targeted information, a positive shift is not only possible but achievable (Hamed et al., 2016).

Conclusion

In conclusion, this study identifies a significant gap between the awareness and willingness to donate organs among key demographics in Lahore, Pakistan, with willingness being notably higher in medically trained students. The strong correlation between knowledge, socioeconomic status, gender, and donation intent provides a clear strategic focus for public health initiatives. These findings directly address the critical need to augment the national organ supply and demonstrate that targeted educational campaigns, designed to elevate public understanding and address specific demographic barriers, are essential to transform awareness into actionable commitment and ultimately save lives.

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