

# Perception and Willingness regarding Organ Donation among Undergraduate Students of Liaquat Institute of Medical and Health Sciences, Thatta

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## ABSTRACT

**OBJECTIVE:** To determine the perception and willingness regarding organ donation among undergraduate medical students of LIMHS Thatta.

**METHODOLOGY:** A cross-sectional study was conducted at Liaquat Institute of Medical Health Sciences (LIMHS), Thatta. All the undergraduate students who were enrolled in bachelor programs session 2025-26, willing to participate were included in the study, while those students whose family member was suffering from end-stage organ disease were excluded. The data were collected online on the Google Forms application using a pre-tested questionnaire, adopted from the previous similar studies, and analyzed via SPSS 26.

**RESULTS:** The majority of the students in the research were female (53.1%), Muslim (87.3%), single (99.0%), and from joint families (59.7%) with mean age of  $20 \pm 1.517$  years. The most of respondents had a moderate perception (71.0%) of donating organs, believing it to be secure, efficient, and culturally fruitful. There was a moderate level of willingness (52.3%) to donate, with greater numbers of individuals wanting to give after passing away (29.0%) compared to while they were alive (13.7%). Willingness and perception were seen to be significantly correlated ( $p = 0.011$ ).

**CONCLUSION:** The findings suggest that although respondents typically possess favorable views on donating organs, their genuine readiness to donate is still moderate. Persistent incorrect assumptions regarding convictions in religion and the trafficking of organs may affect decisions.

**KEYWORDS:** Perception, Willingness, Awareness, Attitude, Organ donation, Medical students

## INTRODUCTION

Organ donation is one of the important social services that could save the lives of people nearing the end of their life<sup>1</sup>. However, the rate of rise in supply is outpacing the increasing need for organs, leading to a significant disparity between the two<sup>2</sup>. The greatest advancement in contemporary medicine is transplanting organs, which provides patients with end-stage organ failure with a vital lifesaving. As these conditions become more common, the necessity of organ donation is underscored<sup>3,4</sup>. Despite its importance, donations of organs frequencies are lower in numerous regions globally; intention to donate is affected by various socio-demographic factors, cultural influences, mental factors, views on religion, societal standards, faith in medical institutions, and awareness about the donation of organs<sup>5</sup>.

The matter of organ donation is intricate and multifaceted, encompassing ethical, legal, medical, organizational, and societal elements, as well as a deficiency of awareness regarding the legal and procedural aspects of organ donation within the general populace, including healthcare professionals.

The predominant cause for the poor organ donation rate is a lack of awareness<sup>6,7</sup>. In Pakistan, there is no clear system in place, and the idea of organ donation is layered on top of monetary theft, illegal trafficking in organs, and strange beliefs, customs, and illusions. Thus, even individuals who are willing to donate are haunted by the stipulations of organ donation<sup>8</sup>.

The Global Observatory on Donation and Transplantation says that in 2022, there were roughly 157,494 solid organ transplants done around the globe. This only met just under 10 percent of the globe's requirement. In an hour, 18 transplants are done on average. Sadly, 17 individuals pass away per day as they await an organ transplant, and every 8 minutes, another individual is added to the pool of patients who await transplantation<sup>9</sup>. There aren't enough organs to donate around the world; less than 10% of the required transplantations are done each year. In Asia, the general percentage of organ donation is relatively inadequate<sup>10</sup>. Because of this dearth, almost 6000 people die annually as they seek for an organ<sup>11</sup>.

Organ shortages are a global issue, as the need for transplants continues to rise, despite the potential of saving the lives of numbers of individuals through worldwide transplants. More than 108,000 patients were awaiting transplants in January 2021<sup>12</sup>. A disparity in organ availability and demand contributes to over 20% of global fatalities. This disparity is even

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doi: 10.22442/jlumhs.2026.01593



more pronounced in developing nations like India and Pakistan. The disposition of healthcare providers is essential to enhance the involvement of prospective donors<sup>13</sup>.

In Pakistan, over 130,000 individuals succumb annually to kidney and liver disease; many of these cases may have been mitigated through organ transplantation. As of 2018, merely eight individuals in Pakistan donated their organs posthumously<sup>14</sup>. Pakistan had only 1284 organ transplants in 2017, in contrast to 25.06 globally, according to the Global Observatory on Donation and Transplant. Continuous shortage of donor organs by increasing public donation may minimize organ failure fatality<sup>15</sup>. As a result, improving the impression of healthcare providers is essential to increasing the involvement of possible donors<sup>13</sup>.

Several studies had been conducted on perception and willingness of organ donation among general population as well as students, but no such study had been conducted in the rural areas of southern part of Sindh where rate of organ donation is poor due to lack of awareness, multiples myths and fear. This study was conducted to determine the perception and willingness among undergraduate medical students of LIMHS Thatta, which can be positive impact on organ donation rates by enhancing the awareness and building positive attitude among general population.

## METHODOLOGY

A cross-sectional study was conducted at Liaquat Institute of Medical and Health Sciences (LIMHS), Thatta, from August to October 2025. The study included all undergraduate students of the session 2025-26, enrolled through purposive sampling. The students were representing MBBS, BS Nursing, DPT, MLT, and BS Radiology, irrespective of their age, gender, religion, and caste, while those participants whose family member was suffering from end-stage organ disease were excluded from the study.

The data were collected from all respondents who met the inclusion criteria after taking written consent. The data were collected on a Google Form of a structured pretested questionnaire taken from relevant studies<sup>4,6,12</sup>. The questionnaire comprises of three sections. The first section acquired information regarding socio demographic variables such as age, gender, educational discipline, religion, marital status and family structure (nuclear or joint). The second section comprised of 12-items questions for understanding the perception of undergraduate students regarding organ donation. The perception was assessed using likert scale, ranged from 1 (strongly disagree) to 5 (strongly agree). The total scores were summed up and categorized as low perception (9-21), moderate perception (22-33) and high perception (34-45). The third section contained 6-items questions to know the willingness of organ donation. The assessment was based on Likert scale

with 3 options, ranged from 1 (No) to 3 (Yes) and categorized as low willingness (5-8), moderate willingness (9-12) and high willingness (13-15).

The data were analyzed in the Statistical Package for the Social Sciences for Windows (SPSS) version 26. The categorical data were analyzed and expressed in frequency and percentage while continuous variables were expressed in the mean and standard deviation. The associations between variables were assessed using the Chi-squared test at 95% CI, with a p-value of  $\leq 0.05$  considered statistically significant.

## RESULTS

The major portion of the participants were female (53.1%), Muslims (87.3%), single (99.0%), lived in joint family structure (59%) and from MBBS discipline (33.2%). The mean age of participants was 20 years  $\pm 1.517$  of standard deviation as shown in **Table I**.

The table-II depicted that the most participants (40.3%) agreed to support organ donation, 42.7% agreed to an organ transplant if their life were in danger, 50.7% agreed if needed, they would receive an organ from a person of a different race than themselves. The 44.3% participants disagreed that they have been taught that organ donation is against their religion, 53% agreed that organ donation is a safe and effective practice, 60.7% agreed that organ donation is a good thing, 44% agreed that organs for transplant can be bought and sold in Pakistan. The major portion of respondents (54%) agreed that most people who receive transplants gain additional years of healthy life, 41.6% agreed that a poor person has as good a chance as a rich person of getting an organ transplantation.

**Table-I: Socio-demographic features of participants (N=300)**

| Groups                                     | Frequency | Percentage % |
|--------------------------------------------|-----------|--------------|
| <b>Age</b> Mean $\pm$ SD<br>20 $\pm$ 1.517 |           |              |
| <b>Gender</b>                              |           |              |
| Males                                      | 141       | 46.9         |
| Females                                    | 159       | 53.1         |
| <b>Religion</b>                            |           |              |
| Muslims                                    | 262       | 87.3         |
| Non-Muslims                                | 38        | 12.7         |
| <b>Marital Status</b>                      |           |              |
| Single                                     | 297       | 99.0         |
| Married                                    | 3         | 1.0          |
| <b>Family Structure</b>                    |           |              |
| Joint                                      | 179       | 59.7         |
| Nuclear                                    | 121       | 40.3         |
| <b>Educational Discipline</b>              |           |              |
| MBBS                                       | 100       | 33.2         |
| Nursing                                    | 50        | 16.7         |
| MLT                                        | 50        | 16.7         |
| DPT                                        | 50        | 16.7         |
| BS Radiology                               | 50        | 16.7         |

**Table II: Perception regarding organ donation of study participants (N=300)**

| Perception                                                                                                 | Strongly Disagree | Disagree    | Neutral    | Agree       | Strongly Agree |
|------------------------------------------------------------------------------------------------------------|-------------------|-------------|------------|-------------|----------------|
| I support organ donation.                                                                                  | 18 (6.0%)         | 33 (11.0%)  | 78 (26.0%) | 121 (40.3%) | 50 (16.7%)     |
| I would agree to an organ transplant if my life were in danger without one.                                | 27 (9.0%)         | 30 (10.0%)  | 74 (24.6%) | 128 (42.7%) | 41 (13.7%)     |
| If needed, I would receive an organ from a person of a different race than myself.                         | 20 (6.7%)         | 21 (7.0%)   | 67 (22.3%) | 152 (50.7%) | 40 (13.3%)     |
| I have been taught that organ donation is against my religion.                                             | 49 (16.3%)        | 133 (44.3%) | 57 (19.0%) | 47 (15.7%)  | 14 (4.7%)      |
| I think that organ donation is a safe and effective practice.                                              | 7 (2.3%)          | 29 (9.7%)   | 82 (27.3%) | 159 (53.0%) | 23 (7.7%)      |
| In general, I think that organ donation is a good thing.                                                   | 3 (1.0%)          | 13 (4.3%)   | 60 (20.0%) | 182 (60.7%) | 42 (14.0%)     |
| Organs for transplant can be bought and sold in Pakistan.                                                  | 17 (5.7%)         | 44 (14.7%)  | 83 (27.7%) | 132 (44.0%) | 24 (8.0%)      |
| Most people who receive transplants gain additional years of healthy life.                                 | 7 (2.3%)          | 38 (12.7%)  | 75 (25.0%) | 162 (54.0%) | 18 (6.0%)      |
| Given equal need, a poor person has as good a chance as a rich person of getting an organ transplantation. | 23 (7.7%)         | 51 (17.0%)  | 71 (23.7%) | 125 (41.6%) | 30 (10.0%)     |

**Table III: Willingness regarding organ donation of participants (N=300)**

| Willingness                                                        | No          | May Be     | Yes         |
|--------------------------------------------------------------------|-------------|------------|-------------|
| 1. Do you want to donate your organs after death?                  | 122 (40.7%) | 91 (30.3%) | 87 (29.0%)  |
| 2. Do you want to donate your organs during lifetime?              | 164 (54.7%) | 95 (31.6%) | 41 (13.7%)  |
| 3. Do you want to convince people for organ donation?              | 101 (33.7%) | 88 (29.3%) | 111 (37.0%) |
| 4. Are you willing to consent for donating family members' organs? | 169 (56.3%) | 54 (18.0%) | 77 (25.7%)  |
| 5. Are you willing to register as organ donor?                     | 161 (53.7%) | 81 (27.0%) | 58 (19.3%)  |

**Table IV: Association of willingness and perception regarding organ donation of participants (N=300)**

|             |          | Perception |              |            | Total        | p-Value |
|-------------|----------|------------|--------------|------------|--------------|---------|
|             |          | Low        | Moderate     | High       |              |         |
| Willingness | Low      | 7 (2.3%)   | 98 (32.67%)  | 27 (9.0%)  | 132 (44.0%)  | 0.011   |
|             | Moderate | 2 (0.7%)   | 112 (37.33%) | 43 (14.3%) | 157 (52.3%)  |         |
|             | High     | 1 (0.4%)   | 3 (1.0%)     | 7 (2.3%)   | 11 (3.7%)    |         |
| Total       |          | 10 (3.4%)  | 213 (71.0%)  | 77 (25.6%) | 300 (100.0%) |         |

The majority of the respondents (40.7%, 54.7%) was not willing to donate organs after death or during lifetime. The most participants (37%) wanted to convince people for organ donation but not willing to consent for donating family members' organs (56.3%) and 53.7% was not willing to register as organ donor.

**Table IV** depicts that the majority of the participants had moderate level of perception (71.0%) and willingness (52.3%). There was significant association in between the perception and willingness among participants regarding organ donation.

## DISCUSSION

The current study described that the most of the respondents were female (53.1%) with mean age of  $20 \pm 1.517$  years. A KAP study on organ donation in Lahore was conducted by Shehbaz T et al. (2021) which showed near similar demographic features as more female involvement (59.7%) than male (40.3%) with mean age of  $19.8 \pm 1.65$  years<sup>16</sup>.

This study presented that majority of participants (40.3%) agreed to support organ donation, 44.3% participants disagreed that they have been taught that organ donation is against their religion, 44% agreed that organs for transplant can be bought and sold in

Pakistan. A greater portion of the respondents was not willing to donate organs after death (40.7%) or during lifetime (54.7%) and willing to donate after death (29.0%) or during lifetime (13.7%). The most participants wanted to convince people for organ donation (37.0%) but not willing to consent for donating family members' organs (56.3%), while 19.3% willing to register and 53.7% was not willing to register as organ donor. The results of this study coincides with a research by Alghalyini B et al. (2024) on knowledge, attitude and willingness regarding organ donation among students in India that described as 36.5% have agreed for donating organs over the course of their lives<sup>3</sup>. Another study of United Arab Emirates among students (2025), showed that 33.6% assented to organ donation by family members<sup>4</sup>. Multiple other studies have been done whom results showed the similarity with present study's finding, as over 35.1% of the individuals said they would be willing to donate their organs if they died<sup>9</sup>. The 40% desire to persuade others about donating their organs, however they themselves do not wish to do so during own lifespan (45%) or after passing away (38%)<sup>12</sup>, 38% were willing to donate organs posthumously, 18% believe their religion

inhibits organ donation, and 52% consider that organs can be commercially traded in Pakistan<sup>17</sup>. An investigation indicated that 51% said their religion endorses organ donation and 42% were unwilling to register. Additionally, 32% were amenable to donating their organs while living<sup>18</sup>. The 30.9% acknowledged their readiness to contribute under specified circumstances. A significant percentage (44.1%) of individuals believe that donated organs may be susceptible to exploitation or fraud, while 10.5% reference religious prohibitions<sup>19</sup>. The dissimilarity of findings with current results have also been seen as 36.5% participants were willing to donate following dying<sup>3</sup> and 80.6% of the pupils were ready to donate organs while living, compared to 68.7% when die. Furthermore, 50.9% are interested to be registered as organ donors<sup>4</sup>. The 63.5% were consented organ for donation after they die, but only 32.9% indicated willingness to authorise the donation of a household person's organs<sup>13</sup>, while 42% expressed a willingness to register for organ donation<sup>18</sup>.

The current study found that the majority of the participants had moderate level of perception (71.0%) and willingness (52.3%). There was significant association in between the perception and willingness among participants regarding organ donation. These results somewhat match with a KAP study conducted by Shahbaz T et al. (2021) regarding organ donation in a Muslim Country which manifested that 62.1 % of respondents positively agreed and 37.9% negatively gave perspectives towards organ donation<sup>16</sup>. Other studies also concluded that 55.6% exhibited the favorable perception and 44.4% demonstrated the opposite perception regarding organ donation<sup>20</sup>. The 26.7% positively showed willingness and 22.5% disagreed towards organ donation<sup>21</sup>. The willingness and perception is found to be statistically associated in a research done on Saudi university students by Al Moweshy AA et al. (2022)<sup>22</sup>.

Strength of this research is, the perception and willingness were examined among undergraduate medical students to donate their organs in the rural area of Thatta, where misconceptions are very common and public understanding is especially lacking. The students were enrolled in diverse programs and from all over the rural areas of Sindh allowed for a more comprehensive grasp of viewpoints from various healthcare specialties and areas. The results were limited to LIMHS Thatta, might not accurately represent the willingness and perception of students at other medical colleges or in cities with distinct social and academic backgrounds. The study reflects outcomes at a specific moment and cannot determine causality or account for temporal changes. Further study is required to explore the aetiological factors and cultural barriers qualitatively.

## CONCLUSION

The findings suggest that although respondents typically possess favorable views on donating organs,

their genuine readiness to donate (particularly throughout their whole lives or via proper registration) is still moderate. Persistent incorrect assumptions regarding convictions in religion and the trafficking of organs may affect decisions. The statistically significant association was seen in between the perception and willingness among students of donating organs.

**Acknowledgement:** Authors thank Professor Jamil Ahmed Soomro (Head of Department\_ Community Medicine) for his guidance. Authors also thank Ms. Victoria Samar (Principal\_ College of Nursing) and Mr. Shams Uddin Mangrio (Lecturer\_ College of Nursing) for helping in the data collection.

**Ethical permission:** Liaquat University of Medical and Health Sciences, Jamshoro, ERC approval letter No. LUMHS/REC/-951.

**Conflict of Interest:** There is no conflict of interest.

**Financial Disclosure / Grant Approval:** There is no any funding agency was involved in provision of any specific grants or assistance for the study.

**Data sharing statement:** The corresponding author may share the data substantiating the outcomes of this study upon request. Privacy and ethical constraints prevent us from disclosing the data publicly.

## AUTHOR CONTRIBUTION

Chand R: Final approval  
 Shaikh L: Acquisition of data  
 Fatima K: Data analysis  
 Riaz Z: Drafting  
 Kaniyalal A: Concept of study

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