

## Original Article

## Level of Ethical Considerations and Perception Regarding Organ Donation in General Public of Lahore

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### Abstract

**Objective:** this study was done to assess the level of perception regarding donation of organs in general public of Lahore and to evaluate their ethical considerations related to it.

**Methods:** For information gathering from the general public, a cross sectional study was conducted at few readily accessible urban and sub-urban areas of Lahore. A sample of 120, from the targeted population, was generated by using the technique of convenience sampling. A structured, pre-tested questionnaire was used to gather data through one-on-one approach and analysis of the results was done by using one way ANOVA and t-test.

**Results:** Results suggested an overall low level of awareness among general public (i.e. Mean SD as  $1.426 \pm 0.16957$ ) with males having slightly lesser level of awareness than female respondents. Media was found as the major source of information for the general population to primarily learn about organ transplantation. Kidney was found to be the most frequently donated organ in the view of general public. Moreover, the participants showed a low prevalence (i.e. Mean SD  $1.542 \pm 0.20068$ ) of standard ethical considerations regarding organ donation. However, majority showed a positive attitude toward promotion of organ donation within the country. Qualification/educational level were found directly associated with improved level of awareness and high ethical perceptions regarding organ donation. Assessing the ethical consideration and level of understanding regarding donation of organs in general population will be helpful in devising ways for the improvement of positive attitude toward transplantation and to meet highest medical and ethical standards regarding it.

**Conclusion:** A significant proportion of general public is not well-aware of the medical and legal aspects donating an organ.

**Keywords:** Awareness, Ethical Consideration, Donation of organs, General Public

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### Introduction

Donation of organs signify that a person gives permission for removing and donation his organ legally while he is alive or with the permission of next of kin of deceased.<sup>1</sup> Donation may be for research, or, more commonly healthy transplantable organs and tissues may be donated to another person in need. Most developed countries have accepted the need and importance of organ donation, both living and deceased, since long. Awareness means an ability to understand and comprehend the things. It is a state or quality of being conscious of something.<sup>2</sup>. In this study, the level of awareness depicts the information about donation of organs in general public. General public means the ordinary people from all the groups of a population who do not hold any specific form of

knowledge (Oxford Dictionary). In this study general public refers to as the general population having age between 18-60 years and living in different urban and sub-urban areas of Lahore, Pakistan. In Pakistan, end stage organ failure is responsible for approximately more than 50,000 deaths every year. This further divides into 15000 deaths due to end stage renal disease, 10000 deaths due to hepatic failure and 6500 death due to decompensated heart failure. A large number of lives could have been saved if organ transplantation could be done and these deaths can be prevented in future by working seriously.<sup>3</sup> According to a study conducted by the students of a medical college to analyse the awareness amongst undergraduate medical students, more than half of the students had little knowledge about the prog-

ress made in deceased organ donation in Pakistan and other developed countries.<sup>4</sup> It is right that an organ donation is a personal issue but this process does involve multiple technicalities like medical condition, legal implications and social norms. "Ethics" has been defined as the complex of values which differentiate between right and wrong by the Australian Health Ethics Committee and Australian Law Reform commission in 2001. In this study, ethical considerations denote the discrimination of the morally salient attributes in particular to organ donation.<sup>5</sup> Ethical issues are found to be of prime importance in considering the use of any organ transplant technology<sup>4</sup>. In Pakistan, the percentage of population having positive perception about organ donation and will to donate organ(s) is still not very high and varies a lot depending upon various social factors and ethical perceptions of the general population, which is affecting the population in need of an organ transplant.

A study conducted by Taimur Saleem and his fellows, in 2008,<sup>6</sup> throw a light on the information possess by adult population in the selected public areas of Karachi, Pakistan, regarding the donation of organs and general perception about that. Their study showed that the knowledge of organ donation was directly proportional to the level of education. Furthermore, it was depicted that knowledge, socioeconomic status and religious belief were significant independent predictors. It was also showed that the main source of information and knowledge was electronic media.<sup>7</sup> evaluated the factors that influenced the consent of families regarding donation of organs. They interviewed family members of 420 donor-eligible patients from Pennsylvania and north-eastern Ohio. It was shown that socio-demographics and information about the wishes of patients were strongly associated with the consent for organ donation. Some intervening variables were Socio-emotional and communication. It was shown that people having less formal education and low socio-economic status were unlikely to go for organ donation.<sup>8</sup> carried out a research to understand the knowledge and ethical dilemmas related to organ donation in general population. They concluded that educational status was an important determinant for awareness about organ donation. A statistically significant relation was found between age and willingness to donate. Most people considered it ethically incorrect to sell organs under any circumstances. However, organ donation and its allowance in Islam was another ethical issue; more than half of the people considered that it was allowed in Islam,<sup>9</sup> carried out a research to analyze the aptitude and comprehension about organ donation. Educational and socioeconomic status were found to be the major determinants for awareness about organ donation. People seemed reluctant to donate owing to fear of organ misuse. However, it was concluded that adequate knowledge could change people's attitude

towards organ donation. They suggested that electronic media, print media, doctors and religious scholars could be utilized to promote awareness and urge to donate organs.<sup>10</sup> carried out a cross-sectional study to explore the factors limiting deceased organ donation in a culturally diverse community. Study concluded that there were some religious and ethnic regarding organ donation. Additionally, groups with lesser education and rural background appeared to have more misconception as compared to the people belonging to urban areas and having good education. According to a research carried out by students of UMDC Faisalabad on a sample of 200 people, 67.4% people considered organ donation was allowed in their religion, and only 27% knew about the laws regarding organ donation<sup>8</sup>. Insufficient knowledge and religious concerns were major determinants.<sup>11</sup> did a cross sectional descriptive study on 200 nursing undergraduate and postgraduate students to check their perception and understanding of organ donation. Their study concluded that 74.5% had some understanding, 22 % had poor understanding and just 3.5% had sound basic knowledge of organ donation. Regarding attitude, most people were neutral, few had positive attitude and just 1% had negative perception.<sup>12</sup> underwent cross-sectional study on Medical students to understand their knowledge and their point of view regarding organ donation. About 85% students showed positive thinking, but only 23% students showed commitment to organ donation by signing the card for organ donation. Insufficient knowledge and hassled related to the process of registration as organ donor and apprehension regarding incomplete medical treatment were the major limiting factors. Traditional believes of Chinese about preservation of decease's body and uneasiness related to talking about death were major contributors towards negative attitude.<sup>13</sup> conducted study to see their grasp on idea of organ donation and their frame of mind regarding organ donation. It was concluded that a large percentage of students were in favor of organ donation. However, there were fewer students who had sufficient knowledge of brain-death Micheal<sup>14</sup> did a case study on the relation of religion with organ donation and transplantation. The case was of a Muslim female suffering from IgA nephropathy and needing transplant. They concluded that concerns related to religious belief are the major barriers regarding organ donation.<sup>15</sup> explored the level of education about organ donation in undergraduate Medical Students. They determined that there is a significant lack of knowledge in the undergraduate medical students and only a minor percentage was registered with some organ donation programs. Dr. Saraswathi Ilango<sup>16</sup> did a study to check the knowledge about organ donation in new medical students. This study showed that around 60% of students belonging to medical profession had sound knowledge of how to store donated

organs and how to check the compatibility between donor and receiver. A significant number of students exhibited their support for organ donation but only a small percentage of students were among the registered donors. Seo Yiie Huern et al (2016) 3 conducted a study to see the level of education and the view point of Malaysian medical students regarding donation of different organs. The study concluded that 71% students were enthusiastic to become registered organ donors and 14.5% students were already registered as organ donors. This study also showed that among all the registered donors more of the donors were belonged to different medical fields.

Although, previously few researches have been conducted on organ donation but still many people have not heard about organ donation and a significant portion of population still have a negative attitude towards organ donation in Pakistan, lack of awareness being a major reason behind it<sup>4</sup>. Therefore, this research will help evaluate the level of awareness among general public of Lahore, Pakistan and will explore their ethical considerations related to donation of organs. Assessing the level of understanding and ethical consideration regarding organ donation in general population would be helpful in grooming Pakistan health care system as the results would help to map a path accordingly to devise ways in decreasing the percentage of individuals that await life-saving organ transplants.

## Methods

This cross-sectional study was conducted at few easily accessible urban and sub-urban areas of Lahore, a cosmopolitan city of Pakistan for three months i.e. June to August, 2017. In this research, quantitative survey method was used to gathered data from general public of Lahore. In this survey design, a structured questionnaire was used to collect the data. It was developed to obtain information from the selected population. The population selected for this study was general public of Lahore belonging to all types of socio-economic backgrounds both literate and illiterate with age ranging from 18 to 60 years, living in different areas of Lahore, Pakistan. A sample of 120 was collected from the selected population of urban and sub-urban areas of Lahore through Convenience sampling technique. People of general public both literate and illiterate and belonging to any field of profession and any type of socio-economic background living in urban or suburban areas of Lahore. People belonging to medical profession are excluded from this study, which includes Doctors, para-medical staff, medical students, medical researchers or any personnel belonging to the field of medicine. The sample was gathered from different towns of Lahore, Pakistan. Simple random sampling technique was used to select

certain urban and sub-urban areas. From targeted population, a sample of 120 was obtained through convenience sampling. The survey was being conducted in weekdays during daytime. A structured, pre-tested questionnaire was used to gather data through one-on-one approach. To screen for any problem in questionnaire, pre-testing was conducted in the almost identical setting among the adults falling in same age group. Before interviews, detailed instructions and purpose of the present research was conveyed to all respondents. After taking an informed consent successful interactive sessions with participants were conducted about the contents of questionnaire. It was instructed to the participants to listen to the questions with full attention, to fathom the true meaning of content, and then respond by selecting one of the options given below for each question. Careful and vigilant monitoring was carried out throughout the survey and researcher conveyed humble thanks after the interview.

A Questionnaire, in the first place developed by Taimur Salim and his teammates to study knowledge, attitudes and perceptions regarding organ donation, was used after minor modifications<sup>8</sup>. The Questionnaire was consisted of close ended questions with multiple options. However, there were some open ended questions as well like name, age, occupation and educational status etc. The Questionnaire was consisted of two main portions. One portion was for demographic data, in which all questions were formed to collect data about the characteristics of the participants. The other portion was consisted of close-ended questions related to organ donation and its ethical perspectives.

Through questions were used to determine the level of awareness of the participant about donation of organs by living people as well as by deceased and to discover their main source of information regarding donation of organs. Moreover, interviewees were interrogated about their awareness regarding health risks involved in organ donation, most frequently donated organs and factors impacting the recipient's choice for receiving an organ. Detailed questions were asked about their opinions on issues such as significance of consent of family, their willingness to be an organ donor in future, impact of religion on their attitude towards organ donation and receiving monetary benefits in this regard to determine their ethical perceptions

SPSSv.23. was used to analyze the data. Evaluation of frequency, percentage, means (SD) etc. was done and presented in a tabular form for viewing the results. Score for level of awareness was calculated by adding responses of eight relevant questions and dividing them by 8. Crude associations were analyzed using one-way ANOVA and t-test. Variables with a significant frequencies and associations were specified in charts and graphs.

## Results

120 people who answered were between 18 to 60 years of age. Among 120 respondents, there were 64 males and 56 females. On the basis of religion most of the participants were Muslims (97.5%).

Of all the respondents approached for the survey, 25 of them were completely illiterate, 22 had primary education (till 5th grade), 25 had passed matriculation, 11 had qualification till Inter-mediate (i.e. till 12th grade), 23 were graduates and 14 had done post-graduation.

Majority (30.8%) of the female respondents were housewives. Out of all the sample population (both male and female), 20% respondents were students. 17.5% of the respondents had private jobs whereas 11.7% were working in government sector. Of the rest population, 10% were businessman and 10% were laborers by profession. According to the results, Media is the main source for awareness about organ donation in majority (73%) of the participants, while others (19.2%) discover about the organ donation through other sources like a doctor or medical personnel, and only 7.5% of the respondents learnt about donating an organ directly from a donor. A larger proportion of the respondents (61%) thought that organs could be harvested from both alive individuals as well as cadavers (figure 1). A majority of participants (85%) were unaware of the time limit after death till which the organs are viable to be donated. Majority of the respondents (75%) had an opinion that kidney was the most frequently donated organ, while others (15%) thought eyes to be the most frequently donated organ as shown in figure 2. Majority (52.5%) were not aware of the factors about recipient before donation like age, physical ability, drinking status etc., whereas 47.5% claimed to be aware about them.

A larger proportion of the participants (65%) never discussed their perception about organ donation with their family members, while 24.2% respondents said they discussed it once/twice in life, and the rest 10.8% participants claimed they discussed it many a times with their families. Only 15% of respondents have met someone who has ever been an organ donor or a recipient, while majority 85% of them have never encountered any organ donor. Most of the participants (90.8%) are unaware of any international or local societies for registration of organ donors. When questioned about willingness to donate organ, 26.7% responded in positive and 22.5% did not agree to donate and 50.8% were of view that they would decide on the circumstances present at that time. Majority of the people (45.8%) were in favor of donation of an organ to a family member, 36.7% responded they would donate organ to anyone who is in dire need of it, whereas 16% responded that they would not donate their organ on any condition. 31.7% respondents thought that organ donation impose no

health risks, whereas majority (41.7%) considered body weakness as a major health risk in donation of organ, while 22.5% answered that organ donation could result in occurrence of infections in the body (figure 3).

Majority (74.2%) of the population considered organ donation allowed in religion, while 25.8% had a negative answer. A large percentage of respondents i.e. 82.5% were not in favor of receiving monetary benefits in return of donated organ while only a small number of people (17.5%) were in favor of this. Majority 49.2% of the study population were of the view that family relatives of the donor should give the consent for organ donation while 25% believed that only the donor's consent was sufficient, 22.5% answered that doctor's consent should be decisive in this matter (figure 4). The majority of population 76.6% would seek family permission for this purpose, whereas 23.2% of respondents negated the need of permission from family. A large percentage of population (76.7%) considered that an organ donation by an alive person is superior to using the organs of a cadaver, while 23.3% participants had a negative response.

Majority (54.2%) of population were of the view that it is legitimate to give someone's organs after death to another person, while 45.8% disagreed with this. Most of the participants (55%) had a fear that their body would be disfigured if they donated organs, whereas 45% did not possess any such fear. Majority (59.2%) of the respondents didn't trust health workers (medical personnel) about appropriate handling of organ donation, whereas 40.8% showed their complete trust in health workers. Most of the participated individuals (78.3%) agreed to the fact that organ donation must be promoted in the country while (21.7%) disagreed for the idea of promotion of organ donation (figure 5). Only a small number of population (9.2%) thought that proper laws were observed in their country for organ donation, whereas majority (90.8%) population showed a positive response. Majority of the respondents (71.7%) did not agree to the fact that there was a fair approach towards organ

**Table 1:** Demographic Characteristics

Variables	Categories	Frequency(n=120)	%
<b>Age (in years)</b>	Below 20	11	9.2
	21-30	47	39.2
	31-40	21	17.5
	41-50	21	17.5
	Above 50	20	16.7
<b>Gender</b>	Male	64	53.3
	Female	56	46.7
<b>Religion</b>	Islam	117	97.5
	Christianity	2	1.7
	Others	1	0.8

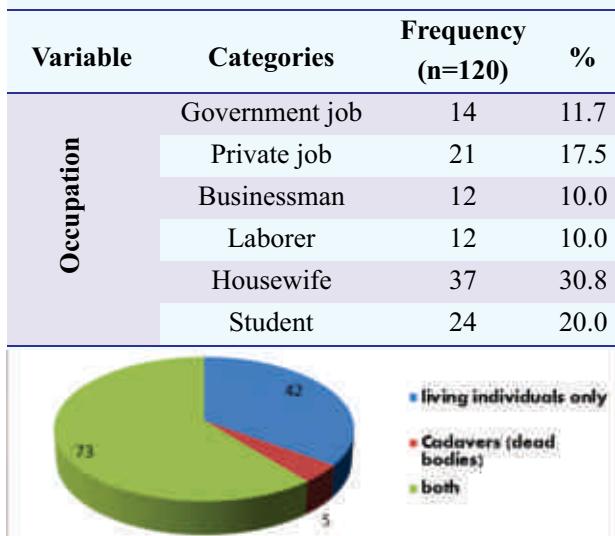
donation in their country, whereas 28.3% had a positive response. Mean ( $\pm$ SD) was  $1.4260 \pm 0.16957$  and  $1.5424 \pm 0.20068$  of level of awareness and ethical perception respectively. Figure 6 shows a difference between mean level of awareness in males (1.42) and females (1.43). Figure 7 shows increasing level of awareness with increase in educational status of the respondents. Figure 8 shows rising level of ethical perceptions with increase in qualification of the respondents.

**Table 2:** Educational Status

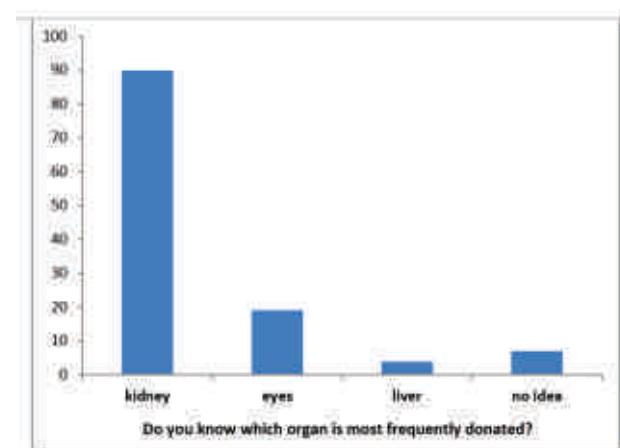
Variable	Categories	Frequency (n=120)	%
<b>Qualification</b>	Illiterate	25	20.8
	Primary	22	18.3
	Secondary/matric	25	20.8
	Intermediate	11	9.2
	Graduation	23	19.2
	Post-graduation	14	11.7

**Table 4:** Awareness and Attitude Regarding Organ Donation:

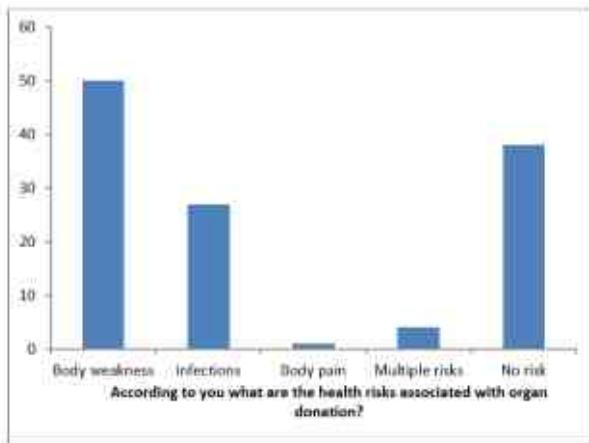
Variables		Frequency (n=120)	%
<b>Which one was the source for you to learn about organ donation for the first time?</b>	Through Media	88	73.3
	From donor himself	9	7.5
	Doctor/any medical personnel	23	19.2
<b>According to you, organs for donation can be from?</b>	living individuals only	42	35
	Cadavers (dead bodies)	5	4.2
	both	73	60.8
<b>Do you know about the time limit after death till which the organs can be donated?</b>	yes	18	15.0
	no	102	85.0
<b>Do you know which organ is most frequently donated?</b>	kidney	90	75.0
	eyes	19	15.8
	liver	4	3.3
	no idea	7	5.8
<b>Are you aware of the factors about recipient before donation like age, physical ability, drinking status etc?</b>	yes	57	47.5
	no	63	52.5
<b>Have you and your family members ever discussed each other's perception about organ donation?</b>	never	78	65.0
	once/twice in life	29	24.2
	yes, many times	13	10.8
<b>Has any person around you ever been a donor or a recipient?</b>	yes	18	15.0
	no	102	85.0
<b>Do you know about any local or international society for registrations of organ donation?</b>	yes	11	9.2
	no	109	90.8
<b>Would you like to donate your organs in future if required?</b>	no	27	22.5
	it depends on the situation	61	50.8
	yes	32	26.7
<b>Whom would you like to donate organs to?</b>	no one	20	16.7
	friends	1	.8
	family members	55	45.8
	anyone in need	44	36.7
<b>What health risks do you think donation of organs can cause?</b>	Body weakness	50	41.7
	infections	27	22.5
	Body pain	1	0.8
	Multiple risks	4	3.3
	No risk	38	31.7

**Table 3:** Professional Status

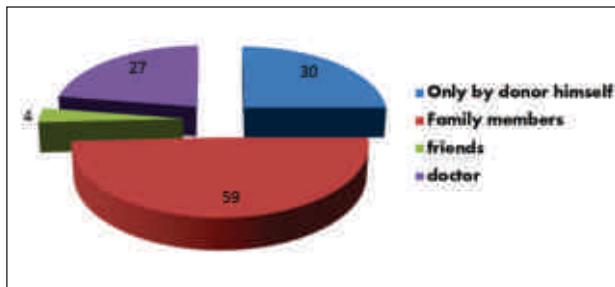
for donation According to general public

**Table 5:** Ethical Perceptions Regarding Organ Donation

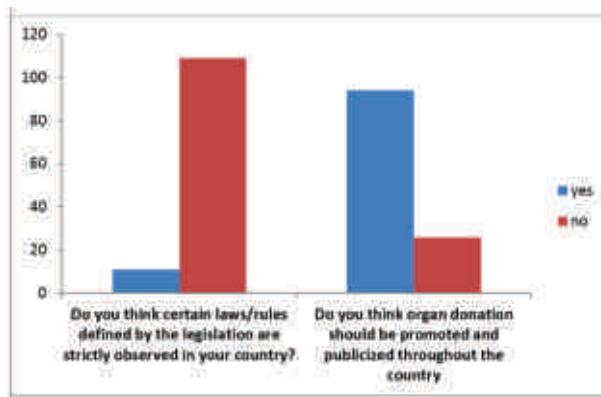
Variables		Frequency (n=120)	%
<b>Do you think donation of organ is allowed in religion?</b>	yes	89	74.2
	no	31	25.8
<b>Do you think it is ethically correct to receive monetary benefits in return of the organ being donated?</b>	yes	21	17.5
	no	99	82.5
<b>According to you, who should give consent for donating organs?</b>	Only by donor himself	30	25.0
	Family members	59	49.2
	friends	4	3.3
	doctor	27	22.5
<b>Would you need to ask your family's permission/consent if you wanted to donate or wanted to register as organ donor?</b>	yes	92	76.7
	no	28	23.3
<b>Do you think live organ donation is legally right/better than cadaveric organ donation?</b>	yes	92	76.7
	no	28	23.3
<b>Do you think it is ethically right to donate the organ of a person after his death?</b>	yes	65	54.2
	no	55	45.8
<b>Do you have a fear that your body would be disfigured if you donate organs?</b>	yes	66	55.0
	no	54	45.0
<b>Do you trust health workers (medical personnel) to handle appropriately the donated organs and not be misused by them?</b>	yes	49	40.8
	no	71	59.2
<b>Do you think organ donation should be promoted and publicized throughout the country?</b>	yes	94	78.3
	no	26	21.7
<b>Do you think certain laws/rules defined by the legislation are strictly observed in your country?</b>	yes	11	9.2
	no	109	90.8
<b>Do you think your country has a fair and just approach of organ distribution towards needy?</b>	yes	34	28.3
	no	86	71.7



**Figure 3:** Showing probable health risks associated with organ donation according to general public



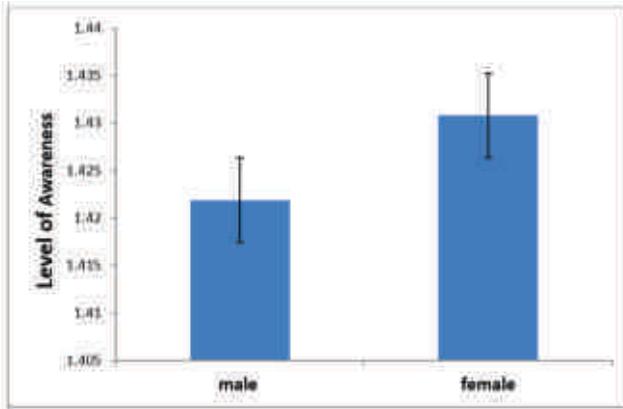
**Figure 4:** Showing opinion of general public that who should give the consent for organ donation



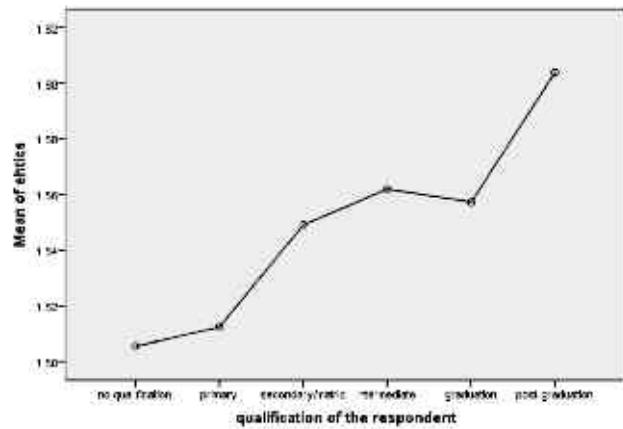
**Figure 5:** showing ethical considerations of general public regarding legislation and promotion of organ donation.

**Table 6:** Descriptive Statistics of Level of Awareness and Ethical Perception

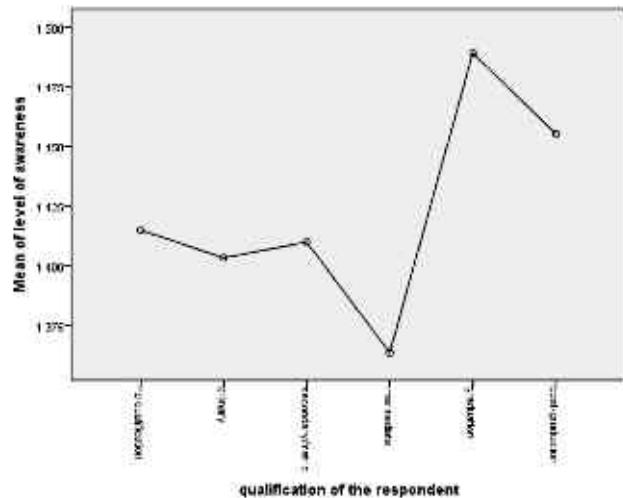
Variables	Level of Awareness	Ethical Perception
<b>Mean</b>	1.4260	1.5424
<b>Std. Deviation</b>	.16957	.20068
<b>Minimum</b>	1.13	1.00
<b>Maximum</b>	2.00	2.00



**Figure 6:** Showing the level of awareness in male and female respondents



**Figure 7:** Showing an association between qualification of the respondents and their ethical considerations.



**Figure 8:** Showing an association between qualification of the respondents and their level of awareness.

## Discussion

The focus of this research is to estimate the level of awareness regarding organ donation on the basis of

relatable questions and evaluates their ethical perceptions in this matter.

Demographic characteristics of respondent population showed age of the respondents ranging from 18 to 60 years. Out of 120 respondents, there were 64 males and 56 females. On the basis of religion most of the participants were Muslims (97.5%). Of all the respondents approached for the survey, 25 of them were completely illiterate, 22 had primary education (till 5th grade), 25 had passed matriculation, 11 had qualification till Intermediate (i.e. till 12th grade), 23 were graduates and 14 had done post-graduation. On the basis of occupation majority of the female respondents were housewives. Out of all the sample population (both male and female), 20% respondents were students. 17.5% of the respondents had private jobs whereas 11.7% were working in government sector. Of the rest population, 10% were businessman and 10% were laborers by profession.

WHO Global Consultation on Organ Donation and Transplantation is advocating sufficiently about the organ donation around the globe but it is still suffering hindrances when we move toward the developing or under developed world, where literacy rate is far less than developed world. Besides that there are many factors involved in this loophole, the two of the main factors are lack of awareness and education. Al-Harthi, Hanan Ali and Alzahrany conducted research in Saudi Arab and found out that the awareness level and attitudes toward organ donation increased gradually with the increasing qualification level of the participants.<sup>16</sup> Similarly, this research involved many people from various educational levels and results showed majority of population have heard about donating organs but graduate people have higher percentage of having awareness regarding organ donation than the illiterate ones. And similarly educated ones have higher percentage of having ethical concerns regarding organ transplantation than illiterate ones.

According to this research, Media is the main source for awareness about organ donation with 73% of the participants having awareness through this source. This is quite comparable to the research conducted in Rawalpindi, Pakistan<sup>17</sup>. This can be attributed to greater exposure of population to electronic media like television and internet. While rest population get to know about organ donation through other sources like including doctors or medical personnel, and other few of the respondents got information about organs donation directly from a donor. A larger proportion of the respondents thought that organs could be harvested from both alive individuals as well as cadavers. This is quite low when compared to an earlier research conducted in India, where 95 % participants were of view that organs can be donated from both living and the dead donors<sup>18</sup>.

This difference can be explained considering the fact that their research was oriented around individuals visiting tertiary care hospitals and they had a much higher exposure to the medical personnel being the source of higher knowledge about organ donation, while this research was totally based on the general population.

A majority of participants were unaware of the time limit after death till which the organs are viable to be donated. This can be elaborated on the grounds that general population has less knowledge due to their minor exposure to any organ donor or having an experience of donating an organ themselves. 75% of the participants had an opinion that kidney was the most frequently donated organ, while others thought eyes to be the most frequently donated organ. This can be ascribed to the fact that kidney transplant is the most common transplant in the country. This finding is quite consistent with the research carried out in Saudi Arabia, where an appreciable number of participants were familiar with kidney transplant.<sup>19</sup>

According to this research only 15% of respondents have met someone who has participated in organ donation, whereas most people have never encountered any organ donor. Majority of the public is unaware of the presence and contribution of international and local societies for registration as organ donor. A similar research by Redhwan et al demonstrated that in Malaysia 66% of respondents are officially registered as organ donor.<sup>20</sup> Pham and Springer reported 29.7% of respondents were already registered as organ donor.<sup>21</sup>

Willingness to donate organ was found negative in 22% of the respondents, while 26.7% agreed to donate and 50.8% were of views that they would decide to donate on the basis of circumstances present at that time. This shows that majority would donate only if any beloved one's life is in danger or the situation is severe. According to the study by Bilgel et al the rate of willingness towards organ donation in the respondents was 57% in 2002 in Turkey.<sup>22</sup> When asked about who they would like to donate an organ to, the respondents favored donating to some family members which was predictable considering the strong root of family system in our society. 36.7% responded they would donate organ to anyone who is in dire need of it which shows that people still have empathy for those who are not related to them by blood. 16% responded that they would not donate their organs at any cost no matter who is in danger or how severe the condition is. A survey done by Saleem and his teammates depicted that 51.1% people would be willing to donate an organ to their own family members.<sup>6</sup>

K L Balajee et al in India in 2016 which showed that 48% participants responded that organ donation involve health risk.<sup>23</sup> Similarly, this research shows that most of the respondents had an opinion that organ donation might

be hazardous for their health. Among the health risks the most commonly occurring perception was body weakness (41.7%) followed by infection (22.5%) about (31.7%) thought that organ donation impose no health risks.

Ethical perception is a notable factor in identifying the views of people while conducting research regarding the organ transplantation. The concept of organ donation and willingness of population to donate organs is greatly associated with their religious perspective regarding this deed and increasing awareness through different sources. Most of the respondents consider organ donation to be allowed in religion. This increased percentage of positive response as compared to 32.8% in a previous study carried out in Karachi, Pakistan<sup>6</sup> might be due to increasing level of awareness in population and also the issuance of fatwas in favour of organ donation by various Islamic organizations.<sup>24</sup> O. E et.al have also explained in their research paper that religion plays a pivotal role particularly in Asia and highly influence the views of people regarding organ donation.<sup>25</sup> As similar study that was conducted internationally among five countries showed that out of 2321 people participated 45.2% of people who belong to catholic religion, 15.2% of Judaism, 17.3% Buddhists and just 4.4% of Islamic people believe that organ donation is allowed in religion.<sup>26</sup>

This concept of organ donation could become more life-saving and beneficial if it caters to patients' interests and is at par with ethical, moral as well as religious standards. It also should not be maligned with intentions of financial rewards. This research shows that only 17.5 % people think that it is ethically correct to receive monetary benefits for this whereas a large percentage of respondents i.e. 82.5% were not in favor of this incentive-based organ donation

Believing that any sort of trade should not be involved in such a case.

Most people think that it is an ethical responsibility to seek permission from the family members of donor and also 76% says that they would take the consent of their family before donating the organ, reflecting the dependence on family and their involvement in our social setup. 23.2% of respondents negated the need of permission from family, considering organ donation a personal and independent decision.

'Organ Donation; Opportunities for Action' a book that analyzes the rate of deceased organ donation owing to ethical perception, discuss that not only does this exist, but also, is found in countries like United states.<sup>28</sup> Similarly in the part of Pakistan where we conducted our research 54.2% of people were of the view that the donation of organs of deceased is legally permitted to

another person, which slightly higher as compared to a studies carried out in Karachi, Pakistan as per which, 44.1% of population said that it's correct to donate the organs of their relatives' after death.<sup>6</sup> When asked whether live organ donation more suitable than cadaveric organ donation, 76.7% had a positive response while 23.3% had negative. The increased positive response reflects their lack of knowledge about the time period within which organs can be donated after death.

40.8% people trust health workers about handling of organ donation but majority 59.2% didn't agree to show their trust in health workers. Similar studies national organ donation shows that 5.1% of participated individuals are not willing to sign for organ donations because they do not trust in medical health workers<sup>28</sup>. Only a small number of population i.e. 9.2% said that proper laws are observed in country for organ donation and only 28.3% were of the view that there is a fair approach towards organ donation in the country. These figures reflect the reservations of people in this aspect due to certain past and recent events involved in illegal trade of organs in the name of organ donation. In comparison to a previous study carried out in Karachi; where 56.8% of population supported the promotion of organ donation, our study shows the increase in population in favor of the promotion of organ donation i.e. 78.3% while only 21.7% against it.<sup>6</sup> Only a small number of population i.e. 9.2% said that proper laws are observed in country for organ donation and only 28.3% were of the view that there is a fair approach towards organ donation in the country. These figures reflect the reservations of people in this aspect due to certain past and recent events involved in illegal trade of organs in the name of organ donation.

## Conclusion

The research shows that a significant proportion of general public is not well-aware of the medical and legal aspects of organ donation. Results predicted a sheer amount of lack of awareness among respondents. However, descriptively, females exhibit a slight higher level of awareness than male population, with media being the major source of information. Ethical considerations of the general public are not much strong and almost half population possess a negative attitude towards organ donation. Public is found generally supportive to promotion of organ donation with country, however, they consider that country lacks a fair approach toward provision of facilities regarding organ transplantation. Both public and the state should approach organ donation positively to overcome ethical and social barriers to organ transplant.

## Recommendations

- This research was just based on calculated frequencies of questions asked in the survey, further researches can compare the variables to show the associations or link between certain factors associated with organ donation.
- Future researchers can widen the horizon of research by involving more number of people and by involving other cities on a larger scale.
- Future research can help compare the level of awareness of people belonging to different socio-economic backgrounds.
- Future researches can study the religious perceptions of people (regarding organ donation) belonging to all kinds of race and religions.
- Future studies can explore the factors why general public do not trust the local health workers in the matter donating organs.
- Future researches can involve legal aspects of organ donation by studying present legislation and laws regarding organ donation within the country.

## Conflict of Interest

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