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Knowledge and Attitude Practices Regarding Eye Donation among University Students of Lahore: A Cross-Sectional Institution-Based Study

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ABSTRACT

This is a cross-sectional study that evaluated the awareness, knowledge, and attitudes towards eye donation among 1,200 health faculty students in Lahore, Pakistan. A self-administered structured questionnaire was used to collect data related to demographic data, academic background, and questions that assessed knowledge and perceptions on eye donation. The responses were interpreted using descriptive statistical analysis. According to the results, 68% of respondents were aware of eye donation, with 29.5% and 26.8% of participants having friends or family and social media as the main sources of information, respectively. But there were only 37.7% of respondents who were willing to donate their eyes after death. The majority of students revealed poor knowledge in the technical side of the eye donor practice, about 54.45% of the students portrayed positive views, whereas 45.6% portrayed negative views. These results demonstrate the existence of a significant disconnection between positive perception and sufficient knowledge among health faculty students. It was found that despite the awareness, the lack of technical knowledge is a potential problem that may impede the advocacy of eye donation. Limitations are due to the cross-sectional nature and the use of self-reported responses that can impact the generalizability. The results highlight the importance of specific educational interventions, curriculum consolidation, and sensitization in the health institutions to improve the knowledge and promote the practice of eye donation. Future studies need to be conducted with bigger and multi-institutional samples to assess the impact of educational interventions on enhancing awareness and intentions to donate their corneas.

Keywords: Eye Donation, Corneal Donation, KAP Study, Cross-Sectional Study, Health Faculty Students.

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INTRODUCTION

The aspect of vision is important in the completion of daily tasks, and its loss influences various aspects of daily living (Thakur & Kumari, 2024). One of the primary causes of blindness in the world is corneal opacities, which are a serious but potentially treatable source of visual impairment (Mohan *et al*., 2022). Corneal diseases cause blindness or partial blindness to about 5.5-8 million individuals worldwide, with the highest rate in South Asia, the Middle East, and Sub-Saharan Africa (Ghufran & Saleem, 2023). Pakistan has approximately 1.12 million blind people, and almost 250,000 cases of blindness are explained by preventable corneal conditions (Hassan *et al*., 2019). These figures indicate that there is a significant health issue for the population at risk of avoidable visual impairment. Keratoplasty or corneal transplantation is the sole treatment for incurable corneal opacification. This is a surgical process that restores sight using the new healthy donor tissue to substitute the damaged tissue in the eye (Showail *et al*., 2024). To date, donor corneas are more likely to be available due to voluntary eye donation because artificial or bioengineered corneas are not commonly used in clinical practice (Ghufran & Saleem, 2023).Thus, the quality of awareness and donation to the corneal transplantation initiatives after death is one of the primary conditions of success of such programs. Although the role of eye donation has been acknowledged, there are still several challenges that reduce the rates of eye donations. Past research shows that despite the overall awareness on the topic, there is a critical lack of knowledge related to the eligibility of the donor, their procedures, and the time (after death) within which it is possible to donate corneas (Mohan *et al*., 2022; Saquib *et al*., 2023). Also, sociocultural attitudes, emotional issues, religious attitudes, and the fear of their bodies being disfigured may have a significant impact on the choices of individuals to donate an eye (Lal *et al*., 2018; Parija, Chakraborty, & Sahu, 2023). Therefore, the good attitudes towards eye donation do not necessarily result in the actual donation (Ghufran & Saleem, 2023). Knowledge, Attitude, and Practice (KAP) research designs are helpful in learning more about the gap between knowledge and behavior on health-related practices. Medical students are a rather significant group of people since they are prospective healthcare workers who can significantly help popularize eye donation and provide patients and their families with information on corneal transplantation. Even though there are studies that provide sufficient awareness of medical students, there is a lack of practical knowledge and confidence concerning the donation process. Moreover, there is no research study conducted to investigate the knowledge, attitudes, and practices of health faculty students regarding eye donation in Pakistan (especially in big metropolitan cities, like Lahore) (Chowdhury, Dora, & Das, 2021; Larieb & Inayat n.d.). This gap of local evidence is a significant gap in research.

MATERIALS AND METHODS

Study Design and Setting

The study was a descriptive cross-sectional study survey of the undergraduate students in the health-related faculties of Lahore, Pakistan. Students of Medicine, Dentistry, Pharmacy, and Nursing were involved in the study. We used a self-administered questionnaire to collect data after a thorough clarification of the aims of the study and obtaining written informed consent from the participants.

Study Population and Eligibility Criteria

The research sample was a group of undergraduate students aged 18 years and older, studying health-related faculties. Students who agreed to take part were also included as inclusion criteria. The exclusion criteria were students who were not in non-health faculties and those who declined to participate.

Sampling Technique and Sample Size

We used a stratified random sampling technique to ensure proportional representation of each health faculty. We included 1200 students in the study, which was sufficient to determine knowledge and attitudes towards eye donation.

Questionnaire and Data Collection

We collected the data with the help of a self-completion questionnaire (a structured questionnaire), which was based on the previously published and validated research on eye donation (Alzuhairy *et al*., 2020; Showail *et al*., 2024). The questionnaire included various sections, including Socio-demographic characteristics, which included age, gender, faculty, and academic year. The

knowledge assessment section included several items that measured awareness of eye donation, awareness of the existence of eye banks, suitability of donors, the appropriate time to get the eye after death, and utilization of donated eye tissue. The attitude section included questions that measured willingness to pledge eyes, agreeableness towards eye-giving of relatives, and understanding that eye donation is a noble cause.

Scoring System

The scoring was used in reference to the past research (Alzuhairy *et al*., 2020; Showail *et al*., 2024). We gave one point for each correct answer and zero points to incorrect or 'don't know' responses. Then we calculated knowledge scores as percentages and classified them as follows: Poor knowledge: <50%; Fair knowledge: 50–75%; Good knowledge: >75%. The same criteria for scoring were used for the attitude section, with higher scores indicating a more positive attitude towards eye donation and vice versa.

Validity and Reliability

Considering that the tool had been validated in previous studies, we did not conduct additional validation. However, we tested the questionnaire on a small sample of students not taking part in the actual analysis to make sure that it was clear and easily understood. We only did some minor changes, in nationality, to make it well-suited for the Pakistani population and the health faculties to be included in our study.

Data Analysis

We used the Statistical Package of Social Sciences (SPSS) to enter and analyze data. Frequencies and percentages were used to represent categorical variables, whereas the mean and standard deviation were used to represent continuous variables. We used the chi-square test to determine the relationship between socio-demographic variables and knowledge or attitude levels, where p- values of below 0.05 were considered statistically significant.

RESULTS

Demographic Characteristics

About 1,200 students in the health faculty participated in the study. The average age of the respondents was 22.31 years (SD = 9.703). Females comprised 54.2%, out of which there were 651 women and 45.8% men, who were 549. Most of the respondents were Pakistani nationals (89% n= 1076), with others (10.3% n=123) being other nationalities. About academic disciplines, Pharmacy students were the most numerous (33.8%), then Nursing (26.4%), Dentistry (19.0%), and Medicine (18.6%). The majority of the participants were in the fourth year (39.8%), next year was third (38.7%), and the fifth year (21.5%) (Table 1).

Table 1

Demographic characteristics of the participants

Variables	M	SD	f	%
Age	22.31	9.703	-	-
Gender	-	-	-	-
Male	-	-	549	45.8
Female	-	-	651	54.2
Nationality	-	-	-	-
Pakistan	-	-	1076	89
Non-Pakistan	-	-	123	10.3
Faculty	-	-	-	-
Medicine	-	-	223	18.6
Dentistry	-	-	228	19.0
Pharmacy	-	-	405	33.8
Nursing	-	-	317	26.4
Academic Year	-	-	-	-
Third	-	-	464	38.7
Fourth	-	-	477	39.8
Fifth	-	-	258	21.5

Note. f = Frequency, M = Mean, SD = Standard Deviation

Knowledge Regarding Eye Donation

By and large, 68.7 percent of the respondents responded that they have heard about eye donation, and 31% did not know (Table 2).

Table 2

Students' Knowledge

Variables	f (%)
1. Have you heard about eye donation?	
Yes (correct answer)	824(68.7)
No	372 (31)
2. Which eye parts are concerned with donation?	
All eye parts	348 (29.0)
Cornea and sclera (correct answer)	338 (28.2)
Optic nerve	170 (14.2)
Retina	64 (5.3)
I don't know	279 (23.3)
3. Can eye donation be done by a live donor?	
Yes	461 (38.4)
No (correct answer)	443 (36.9)
I don't know	292 (24.4)
4. Ideal time for donating eyes after death	
0–12 hours (correct answer)	314 (26.2)
13–24 hours	401 (33.4)
25–48 hours	228 (19.0)
I don't know	245 (20.4)

5. Is there any age limit for eye donation?	
Yes	418 (34.9)
No (correct answer)	452 (37.7)
I don't know	327 (27.3)
6. Which of the following is a contraindication for eye donation?	
Retinal diseases	296 (24.7)
Cataract	339 (28.2)
Glaucoma	124 (10.3)
Contagious diseases (correct answer)	129 (10.8)
I don't know	309 (25.8)
7. Is blood group matching necessary between donor and recipient?	
Yes	533 (44.4)
No (correct answer)	431 (35.9)
I don't know	231 (19.3)
8. How long can the donor eye be preserved before transplantation?	
Less than 6 hours	237 (19.8)
Less than 24 hours	363 (30.3)
7 days	234 (19.5)
12 days (correct answer)	111 (9.3)
1 month	46 (3.8)
I don't know	209 (17.4)
9. Who gives consent for eye donation?	
Donor while alive	429 (35.8)
Donor's relatives	339 (28.2)
Friends	75(6.3)
Both Donors & relatives (correct answer)	184 (15.3)
I don't know	173 (14.4)
10. Are you aware of any eye bank in Pakistan?	
Yes (correct answer)	514 (42.8)
No	685 (57.1)
11. Do you know how and where to apply for eye donation?	
Yes (correct answer)	470 (39.2)
No	721 (60.1)
12. Do you think you have enough information regarding eye donation?	
Yes	625 (52.1)
No	564 (47.0)

On knowledge of ocular structures utilized in donation, 28.2% identified the cornea and the sclera correctly, where 29% of them thought all components of the eye could be donated. Around 36.9% answered correctly that eye donation was impossible on the part of a living donor, whereas 38.4% erred in the belief that the same could be done by living individuals. Only a quarter of them (26.2) identified the most appropriate time to donate eyes after they die (0-12 hours). On the same note, 37.7% responded correctly about the absence of age restriction on donating eyes, where 27.3% were undecided. The information regarding contraindications was low, with a correct identification of contagious diseases as a contraindication being 10.8%. Moreover, 35.9% of them correctly answered that blood group compatibility between the donor and recipient is not important, and 9.3% of them also answered the time of the preservation of the donor eyes correctly until the moment of transplantation. Institutional support was also not well known, as 57.1% of the students were in the dark about any eye bank in Pakistan, and 60.1% of the students did not know how and where to donate their eyes.

Sources of Information

Friends or relatives (29.5%) were the most popular source of information about eye donation, then social media (26.8%) and health workers (23.0%) (Table 3). Health workers became the most preferred source when respondents were asked about their preferred sources of obtaining more information (32.4%), then friends/relatives (23.3%), and social media (21.6%) (Table 4).

Table 2

Source of Information

Variable	n (%)
What are the sources from which you obtained the information?	
Health workers	276(23.0)
Friends/relatives	354(29.5)
Social media	321(26.8)
Television	71 (5.9)
Eye donation campaign	101(8.4)
Posters	77(6.4)

Table 3

Preferred Sources of Information.

Variable	n (%)
How do you prefer to receive more information regarding this topic?	
Health workers	389 (32.4)
Friends/relatives	279 (23.3)
Social media	259 (21.6)
Television	74 (6.2)
Eye donation campaign	124 (10.3)
Posters	75 (6.3)

Perceptions Regarding Eye Donation

When it comes to willingness to donate eyes upon death, 37.7% of the respondents indicated their willingness, 44.1% indicated their unwillingness, and 18.2% indicated their uncertainty (Table 5). On the same note, 35.3 percent of them were prepared to give out the eyes of a family member, whereas 37 percent opposed it. Over 54.3% of the respondents said that they would educate others on eye donation if they were to be given more information.

Table 4

Students Attitude

Variables	n (%)
Are you willing to donate your eyes after death?	
Yes	452(37.7)
No	529(44.1)
I don't know	218(18.2)
Are you willing to donate your family member's eyes after death?	
Yes	424(35.3)
No	444(37)
I don't know	332(27.6)
If you get more information, would you educate others about eye donation?	
Yes	651(54.3)

No	229(19.1)
I don't know	319(26.6)
(For those who chose I don't know or No) Regarding the last question, would you change your decision if you were given the option to donate your corneas only (leaving your eyes behind)?	
Yes	354(29.5)
No	525(43.8)
I don't know	319(26.6)

Reasons for Donating or Not Donating Eyes

Many incentives and discouraging elements were determined (Table 6). Religious reward and altruistic behavior were among the possible motivating factors, which were frequently ranked among the reasons to think about the possibility to be an eye donor. The other reasons were the financial assistance to scientific research and personal understanding of eye donation. On the other hand, the constraints were religious issues, cultural orientations, fear of disfigurement of the face, family influences, ignorance, and the lack of knowledge of knowing how to give donations.

Table 5

Reasons for Donating and Not Donating Eyes

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Possible reasons for donating eyes					
To do a good act and get a religious reward	425(35.4)	384(32)	270(22.5)	76(6.3)	44(3.7)
To serve scientific research and the development of science	260(21.6)	437(36.4)	313(26.1)	125(10.4)	64(5.3)
Know someone who is blind	279(23.3)	313(26.1)	369(30.8)	162(13.5)	77(6.4)
Know more information about eye donation	242(20.2)	336(28)	336(28)	176(14.7)	110(9.2)
Possible reasons for not donating eyes					
You believe it is forbidden in your religion	271(22.6)	262(21.8)	338(28.2)	210(17.5)	119(9.9)
You believe it is culturally unacceptable	172(14.3)	379(31.6)	336(28.0)	228(19.0)	85(7.1)
You think it might disfigure the donor's face	231(19.3)	291(24.3)	358(29.8)	217(18.1)	103(8.6)
Family objection	217(18.1)	296(24.7)	359(29.9)	233(19.4)	94(7.8)
Fear of the unknown	216(18)	307(25.6)	334(27.8)	228(19)	115(9.6)
Lack of knowledge about eye donation	231(19.3)	315(26.3)	335(27.9)	213(17.8)	106(8.8)
I don't know how or where to apply for a donation	252(21.0)	297(24.8)	301(25.1)	220(18.3)	130(10.8

Association Between Knowledge and Demographic Factors

The statistically significant correlation was between the faculty and knowledge level ($p = 0.001$) and between the awareness of eye donation and knowledge level ($p = 0.001$). Information sources also showed a high level of connection with the knowledge levels ($p = 0.003$) (Table 7). Nonetheless, gender, nationality, and academic year were not statistically significantly correlated with knowledge levels.

Table 6

Correlation Between Knowledge Levels, Demographic Characteristics, and the Sources of the Information

Variable	Knowledge level, n (%)			p-value
	Poor	Fair	Good	
Gender				
Male	483(45.8)	51(49.5)	1(10.0)	0.057
Female	571(54.2)	52(50.5)	9(90.0)	
Nationality				
Pakistani	948(89.9)	91(88.3)	10(100.0)	0.497
Other country	106(10.1)	12(11.7)	0 (0.0)	
Faculty				
Medicine	195(18.5)	24(23.3)	0(0.0)	0.001
Dentistry	206(19.5)	19(18.4)	0(0.0)	
Pharmacy	340(32.3)	41(39.8)	0(0.0)	
Nursing	286(27.1)	19(18.4)	0(0.0)	
Academic year				
Third	405(38.5)	38(36.9)	9(90.0)	0.075
Fourth	418(39.7)	42(40.8)	1(10.0)	
Fifth	230(21.8)	23(22.3)	0(0.0)	
Have you heard about eye donation?				
Yes	701(66.5)	93(90.3)	10(100.0)	0.001
No	353(33.5)	10(9.7)	0(0.0)	
Do you think you have enough information regarding eye donation?				
Yes	547(51.9)	64(62.1)	2(20.0)	0.187
No	501(47.5)	39(37.9)	8(80.0)	
What are the sources from which you obtained the information?				
Health workers	236(22.4)	28(27.2)	0(0.0)	0.003
Friends/relatives	319(30.3)	29(28.2)	1(10.0)	
Social media	273(25.9)	32(31.1)	9(90.0)	
Television	64(6.1)	5(4.9)	0(0.0)	
Eye donation campaign	91(8.6)	7(6.8)	0(0.0)	
Posters	71(6.7)	2(1.9)	0(0.0)	

Association Between Attitude and Demographic Factors

Gender ($p = 0.004$), faculty ($p < 0.001$), academic year ($p < 0.001$), awareness of eye donation ($p = 0.007$), and perceived sufficiency of information ($p = 0.006$) had significant effects on attitudes toward eye donation (Table 8).

Table 7

Correlation Between Attitudes, Demographic Characteristics, and the Sources of the Information.

Variable	Attitude level, n (%)		p- value
	Negative	Positive	
Gender			
Male	450(47.8%)	96(37.6%)	0.004
Female	941(52.2%)	159(62.4%)	
Nationality			
Pakistani	839(89.2)	234(91.8)	0.438
Other country	101(10.7)	21(8.2)	
Faculty			
Medicine	176(18.7)	46(18.0)	< 0.001
Dentistry	153(16.3)	73(28.6)	
Pharmacy	331(35.2)	74(29.0)	
Nursing	261(27.7)	55(21.6)	
Academic year			
Third	335(35.6)	127(49.8)	< 0.001
Fourth	388(41.2)	88(34.5)	
Fifth	217(23.1)	40(15.7)	
Have you heard about eye donation?			
Yes	624(66.4)	198(77.6)	0.007
No	313(33.3)	57(22.4)	
Do you think you have enough information regarding eye donation?			
Yes	465(49.4)	158(62.0)	0.006
No	465(49.4)	97(38.0)	
What are the sources from which you obtained the information?			
Health workers	180(19.1)	94(36.9)	0.001
Friends/relatives	292(31.0)	62(24.3)	
Social media	269(28.6)	51(20.0)	
Television	58(6.2(	13(5.1)	
Eye donation campaign	79(8.4)	21(8.2)	
Posters	63(6.7)	14(5.5)	

The distribution of knowledge and attitude levels and the correlation between knowledge levels and attitudes among participants are shown in Figures 1 and 2, respectively.

Figure 1

Percentage Distribution of Participants by Knowledge and Attitude Level

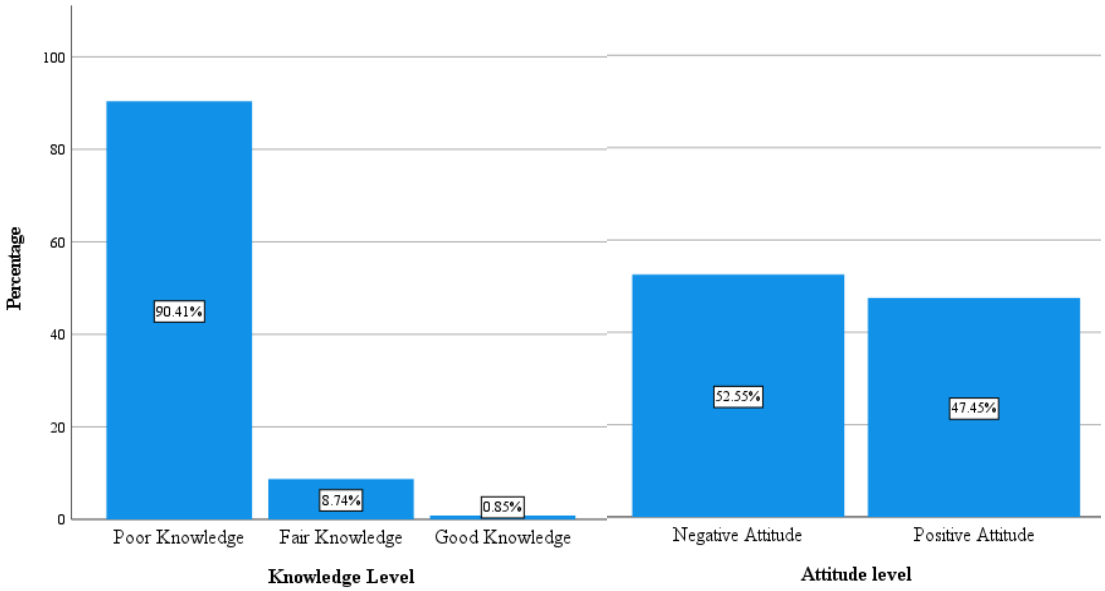
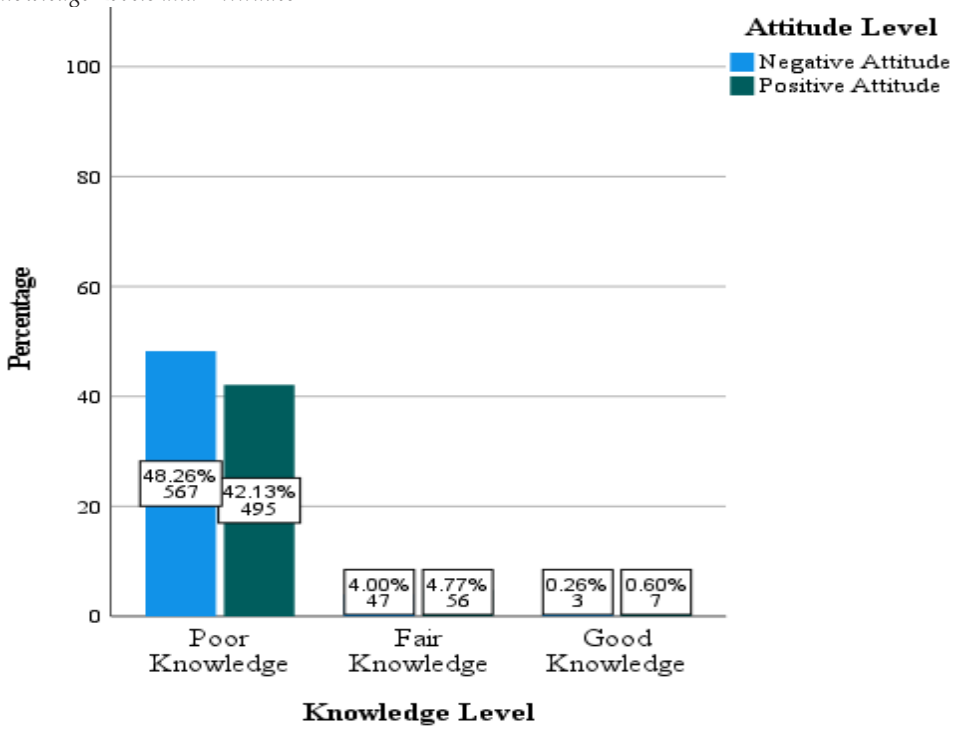


Figure 2

Correlation Between Knowledge Levels and Attitudes



DISCUSSION

Placing the results of the Lahore study in a broader regional and international context reveals a common trend that starts to take shape, one in which knowledge of eye donation is present yet not necessarily accompanied by good technical expertise, as well as well-informed decision-making. Researchers in Saudi Arabia identified poor knowledge and misunderstanding as the leading barriers to the issue of organ donation (Showail *et al*., 2024). The Lahore data indicated a similar discrepancy between the general knowledge (68.7%) and the actual desire to donate 37.7%. This reflects the larger discourse that awareness is not always the beginning of individual engagement and informed action, particularly in situations where cultural, religious, and informational obstacles are still not overcome.

Even in Pakistan alone, the same trends reinforce the interpretation of the Lahore findings. In the case of Islamabad, 94.7% of participants had a higher level of awareness, although willingness to donate was even less about 27.1% (Manal, Strang, Hafeez, Shabbir, Iftikhar, & Jonuscheit, 2025). These findings confirm that formal medical training does not necessarily increase willingness to donate. An awareness rate of 70.2% found in community-based research in Islamabad (Ghufran & Saleem, 2023) It is similar to that of the awareness of Lahore students, and the study revealed a serious information gap, as only 10.5% of participants knew about the existence of eye banks. Similarly, only 42.8% knew about an eye bank, and 39.2% knew how or where to apply for donation. This indicates that knowledge of infrastructure is still a major constraint amongst the students and the general population as well. Comparatively, community surveys in environments like Trinidad indicate a moderate degree of awareness but a low understanding of the proper window of post-mortem retrieval. This indicates that people do not fully understand the technical aspects of organ donation.

Comparable socio-cultural settings in South Asia explain further the issues that are represented in Lahore. In Aligarh, India (Saquib *et al*., 2023) The major cause of unwillingness was family objection, 57%, as in Lahore, where the cultural concerns, 26.1%, religious concerns, 27.4%, and fear of disfigurement, 26.7%, are of interest in influencing hesitation (Lawlor *et al*., 2010). Although in Aligarh, 72.9% of healthcare workers were willing to participate, only 7.5% of their families reported actual participation in donation, which is also an indication of a longstanding intention gap, as described by Lahore as moderate willingness levels. Similarly, the family opposition was the major cause of unwillingness to pledge among South Indian paramedical and allied health students, though the level of awareness was high (Bilal, Ahmed, Li, Noor, & Hassan, 2019) and a Goa study (Lal *et al*., 2018) reported very high levels of awareness 97.9%, but showed relatively low willingness 42.6%, and students had have misconceptions about the technical aspects of the problem, which at the same time was found in Lahore, where only 26.2% of students knew the correct 0-12 hour retrieval window, and only 9.3% remembered that the preservation was suitable for 12 days. Another study indicated that willingness to donate was 69.8%, but family objections 58.6% was the largest barrier for donation, indicating the cultural and social issue among Lahore students, which is discussed (Mohan *et al*., 2022). The research in the areas where the religious background is similar offers an additional insight into the Lahore results. This was demonstrated in Jeddah, Saudi Arabia (Showail *et al*., 2024), where 61% of health students were ready to donate, but around 93% possessed low technical knowledge, which is almost coincidental with the Lahore observation that most students were grouped as having poor knowledge but felt informed, 52.1%. Likewise, a study in Qassim found that among medical students, only 19.2% were well informed, with 37.6% facing the major obstacle of inadequate information (Alzuhairy *et al*., 2020), and this is similar to Lahore students, in which 32.4% preferred a credible source of information.

In Syria, for 10.8% participants, religious beliefs were a major barrier to donation (Soqia *et al*., 2023); the same theme was also highly pronounced in Lahore, where 27.4% of participants were convinced that eye donation was a religious prohibition. The gaps in technical knowledge also demonstrate a steady pattern in the region (Vincent *et al*., 2024). Although only 26.2% of the Lahore students were able to identify the optimal 0-12-hour retrieval time, the Aligarh study showed that people in the area were better aware of technical knowledge, with 57.7% being aware of a 6-hour retrieval interval, indicating that educational exposure differs across locations (Saquib *et al*., 2023). The false beliefs regarding the eligibility of donors are found in Lahore; approximately half of the participants did not know that spectacle users could donate, which was also reported in research in Kerala and Goa (Lal *et al*., 2018; Mohan *et al*., 2022). Collectively, the Lahore results can be easily incorporated into a larger global story like the Saudi Arabia reporting system, where the awareness level is high in a superficial way, but cultural or religious interests still tend to influence the attitudes. In Pakistan, India, Saudi Arabia, and Syria, the same messages are repeated: students and communities have the initial awareness but can hardly find specific knowledge, family acceptance, and trust in the process. In this perspective, the students of the health faculty at Lahore are the future healthcare providers who are at a crucial crossroad with fundamental understanding of awareness, but lacking precise technical training, culturally competent communication, and reliable organizational support to turn the understanding of awareness into actual involvement in eye donation programs (Malik *et al*., 2025).

CONCLUSION

According to the results of the research, despite the fact that most students in the faculty of health showed a simple understanding of eye donation, the general level of technical knowledge was low, and the desire to donate was average, with the cultural, religious, and informational factors affecting attitudes. Such findings indicate the necessity to enhance the knowledge of students by means of systematic incorporation of the curriculum, specially designed educational lessons, and culturally oriented awareness campaigns. The gap between awareness and actual commitment might be filled by encouraging active participation of students in advocacy and supplying them with the correct information through the help of healthcare professionals. Academic-level education can be enhanced in the long run to ensure an increase in localized corneal donation programs and the role of future healthcare professionals in increasing the role of eye donation in society.

FUTURE RESEARCH DIRECTIONS

Future research should incorporate longitudinal designs in order to determine the knowledge and attitude change after the specific educational measures. The current sampling across various institutions and cities needs to be expanded to come up with nationally representative data on awareness of eye donation in Pakistan. The incorporation of qualitative elements in mixed methods designs, including focus group discussions and in-depth interviews, would enable a more in-depth discussion of the cultural and religious factors that predetermine the reluctance to donate. The independent role played by health education in influencing attitudes regarding donation would be further explained by comparative studies done on health and non-health groups of students. Moreover, intervention-based research appraising the effectiveness of given curricular modules or community-based awareness campaigns on willingness to donate would be a useful piece of evidence that would be used in the development of policy and the design of the program in the sphere of corneal transplantation.

LIMITATIONS

Regardless of the usefulness of the information involved in this study, the cross-sectional design makes it impossible to establish causal relationships between demographic variables and knowledge or the level of attitude. The use of self-reported data can result in social desirability and recall bias. Also, it did not examine how the participants had been exposed to the issues of organ donation in their curricula before, and this could have led to the inconsistency in the differences observed in the different faculties. The lack of qualitative data restricts further discussion of the cultural and religious factors of hesitancy to donate. Longitudinal designs, use of mixed methods, and/or measuring the effect of intervention-based education should be used and applied in future research to assess the effect of a specific educational intervention on enhancing donation awareness and intention among health students in Pakistan.

DECLARATION

Ethical Consideration: This study strictly adhered to the Declaration of Helsinki and relevant national and institutional ethical guidelines. Informed consent was obtained. All procedures performed in this study were consistent with the ethical standards of the Helsinki Declaration. Before data collection, ethical approval was obtained from the Institutional Review Board of the University of Central Punjab, Lahore. Individuals participated voluntarily, and written informed consent was obtained before administration of the questionnaire. The participation was confidential, ensuring data collection was anonymous without the use of personal identifiers throughout the study.

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