

KNOWLEDGE AND ATTITUDE OF NURSING STUDENTS TOWARD ORGAN DONATION

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Abstract

Background and Objective: Organ donation is a tremendous achievement in modern medicine, providing a second chance for patients with end-stage organ failure. Nonetheless, misconceptions, cultural and religious views and lack of awareness continue to limit donor registration. The purpose of this study to evaluate the knowledge and attitude of nursing students regarding organ donation in selected colleges of Islamabad.

Materials and Methods: A descriptive cross-sectional study was conducted among 133 undergraduate nursing students from two nursing colleges in Islamabad was done between September and October 2025. Data were collected with a validated questionnaire and analyses were performed using IBM SPSS version 27, with a focus on descriptive statistics including frequency and percentage. Ethical approval and informed consent were obtained prior to data collection.

Results: Most participants (72.2%) were aged 21–23 years, and 77.4% were Muslims. A majority (84.2%) understood the concept of organ donation, and 78.2% recognized brain death, but only 21.8% were aware of Pakistan's organ donation law. Cultural beliefs were identified as a key barrier (69.9%). While 73.0% knew that organ donation saves lives, only 27.8% expressed a desire to donate organs after their death. Overall, students demonstrated good knowledge but possessed a negative attitude toward organ donation.

Conclusion: Despite having enough knowledge, nursing students possessed negative attitude about organ donation. Integrating structured education, awareness programs, and philosophical discussions into nursing curricula may improve perceptions and encourage donor engagements.

INTRODUCTION

Organ donation is one of modern medicine's most remarkable accomplishments, reflecting both scientific progress and humanity's compassion. It provides hope to patients struggling with end-stage organ failure by allowing them a second chance at life as a result of the generous act of living or deceased donors.

Currently significant advancements in the field of organ transplantation, the global gap between organ demand and availability residue, still millions of people wait for transplants each year accordingly Global Observatory on Donation and Transplantation (GODT) [1].

Public perceptions regarding organ donation are greatly influenced by their culture, religion,

education and society. According to research conducted among university students in Oman, students demonstrate high levels of knowledge and support for organ donation, illustrating that targeted educational initiatives might effectively change perceptions [2]. A study of Indian medical and nursing students found reluctance to donate organs due to deeply ingrained cultural norms and religious limitations about mortality and personal integrity [3,4]. More importantly people's attitude affected by the religion. Some Muslims, Hindus and orthodox Jews demoralize the practice of organ donation. Certain Muslim scholars believe that the human body is an "Amanah" from God and must not be desecrated [5]. Although most religions support organ donation as an empathetic act, many people are unaware of it due to a lack of religious education or misunderstandings regarding values [6].

In Pakistan situation is still concerning; it is estimated that 10-15 individuals die every day due to a lack of organ donors, emphasizing the importance of establishing systematic awareness and policy measures accordingly (First International Conference on Transplantation in Karachi) [7]. The Sindh Institute of Urology and Transplant (SIUT) report that annually, over 15,000 patients collapse to kidney failure, 10,000 to liver failure and 6,500 to heart failure [8]. Although adequate theoretical comprehension among medical students, applying this information to clinical and ethical practice is challenging due to a lack of structured education, training programs, and clear guidelines [9].

Nurses play a key role in bridging the knowledge-practice gap. Positioned at the intersection of patient care and community education, precisely prepared to clarify misconceptions, provide evidence-based medical information and guide individuals and their families in making informed decision toward organ donation. Therefore, incorporating organ donation education into nursing curricula is necessary for developing professional competency and

promoting a positive attitude among future healthcare workers [10].

This study assesses the knowledge and attitude of undergraduate nursing students in Pakistan regarding organ donation, identifying significant gaps and opportunities for targeted educational and advocacy initiatives to enhance organ donation practices nationwide.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted to assess the knowledge and attitude of 3rd and 4th year of nursing students from two institutions in Islamabad. Data were gathered using a validated questionnaire with a convenience sampling method. The 133 Undergraduate nursing students in their 3rd and 4th year were interviewed using a questionnaire containing three section: the first for demographic data, the second for knowledge and the third for attitude evaluation. The study was performed between July 2025 and October 2025.

Statistical analysis: Descriptive technique was used to calculate the frequency and percentage of the data using the IBM SPSS (Statistical Package for Social Sciences) version 27.

Ethical consideration: The study was carried out after ethical approval from the Rawal Institute of Health Science IRB. Participants were included into the study after giving informed consent. Participation was entirely voluntary and the confidentiality of all collected data were fully maintained.

RESULTS

Demographic data was collected from 133 participants only (1.5%) participants belong to the age group of 18- 20, almost three-fourths (72.2%) belong to the age group of 21-23 and (26.3 %) belong to the age group 24-27. As well as religion more than three quarter (77.4%) of the participants were Muslims. The remaining (22.6%) were Christians. The majority (66.2%) of the students were from 3rd year and the rest (33.8%) of the students were from 4th year.

Table 1: Demographic data

Statement	f	%
Age of the respondent		
18-20	2	1.5
21-23	96	72.2
24-27	35	26.3
Gender of the respondent		
Male	84	63.2
Female	48	36.1
Other	1	0.8
Year of study of the respondent		
3 rd Year	88	66.2
4 th Year	45	33.8
Religion of the respondent		
Muslim	103	77.4
Christian	30	22.8

Table 2 which evaluate the level of knowledge of nursing students and indicates that most of the students are familiar with the term “organ donation” and almost (84.2%) of nursing students understanding the concept of organ donation. More than half (54.9%) of students knew the legal age for organ donation and more than three-quarter (78.2%) of the respondents knew the meaning of brain death. Only (21.8%)

of the participants were aware of the law which governing organ donation in Pakistan. Majority of respondents (91.7%) were aware that brain cannot be donated and mostly respondents (83.5%) understood that the consent was obtained from donor for organ donation. About (69.9%) of the students believe that the cultural beliefs were significant barrier in organ donation

Table 2: Assess the level of knowledge of nursing students

Statement	f	%
What is organ donation?		
Donating blood	12	9.0
Donating tissues	9	6.8
Donating organ after death	112	84.2
Which of the following organ can be donated while alive?		
Heart	4	3.0
Kidney	122	91.7
Brain	5	3.8
Eye	2	1.5
At which age can a person legally donate organ in most countries?		
12 years	2	1.5
18 years	73	54.9
21 years	34	25.6
25 years	24	18.0
Brain death means		
Coma	24	18.0
Irreversible loss of Brain function	104	78.2
Temporary unconsciousness	5	3.8

The law governing organ donation in Pakistan is		
MTP Act	7	5.3
Human right Act	25	18.8
HOTA	29	21.8
Organ preservation Act	72	54.1
Organ donation after death is called		
Living donation	6	4.5
Cadaveric donation	52	39.1
Altruistic donation	68	51.1
Emergency donation	7	5.3
Which organ can't be transplanted		
Kidney	1	8.0
Liver	3	2.3
Brain	122	91.7
Heart	7	5.3
Consent for organ donation is taken from		
Donor	111	83.5
Family	19	14.3
Hospital	3	2.3
Can one donor save multiple lives		
Yes	96	72.2
No	37	27.8
Which one is a barrier to organ donation		
Awareness	26	19.5
Cultural beliefs	93	69.9
Medical needs	10	7.5
Law	4	3.0

Table 3: Assess the level of attitude of nursing students

	SD	D	N	A	SA
I support the concept of organ donation	3.8	3.0	20.3	42.9	30.1
I am willing to donate my organ after death	15.8	12.8	3.6	12.0	15.8
Organ donation helps save lives	1.5	3.0	9.0	34.6	51.9
Organ donation goes against my religious / cultural beliefs	23.3	21.1	38.3	11.3	6.0
I would encourage other to donate organs	3.0	11.3	30.1	39.1	16.5
I feel fear my organs might be misused	11.3	18.0	34.6	21.1	15.0
I would be comfortable discussing organ donation with my family	6.8	15.0	31.6	32.3	14.3
I believe registering as an organ donor should be made mandatory	5.3	16.5	24.1	39.8	14.3
Organ donation can improve the image of the healthcare system	4.5	6.8	18.8	46.6	23.3
Lack of knowledge prevent people from becoming	8.3	5.3	18.8	42.1	25.6

Table 3 data for the evaluation of nursing student's attitude. Data revealed that less than the half (42.9%) of respondents support the concept of organ donation and (43.6%) of

students were neutral to donate organ after death. Almost half (51.9%) participants agreed that organ donation helps save lives while (38.3%) of the respondents were neutral

regarding organ donation due to their religion/cultural beliefs. About (39.1%) of the students agree with the statement that they encourage others to donate organs and more than one-third (30.1%) of opinions of the students were neutral. Concerning the student's belief that donated organ might be misused, about (34.6%) were neutral. Far less than half (32.3%) of respondents expressed positive attitude discussing organ donation with their families and almost (39.8%) agree that registering an organ donation should be mandatory. Almost half (46.6%) believe that organ donation can improve the image of healthcare system while less than one-third (23.3%) of the students were strongly agree. Approximately (42.1%) of the participants agree that lack of knowledge prevents people from becoming a donor, (25.6%) were strongly agree and (18.8%) were neutral. Majority of the students exhibited a negative attitude toward organ donation.

DISCUSSION

Organ donation has become increasingly significant in recent times, as it is a procedure capable of saving millions of lives. This cross-sectional research aimed to evaluate the knowledge and attitude of students. The current study's findings suggest that undergraduate nursing students are aware of organ donation, but have a negative attitude regarding the practical realities of donation. Almost all respondents were aware of the term "organ donation" and the majority (76.7%) correctly identified that the process focused at saving lives (Table 2). These findings are similar to those of previous research conducted by Abbas et al. (2024) in Pakistan, which also revealed a high level of knowledge along with negative attitude among nursing students.

Khan et al. (2022) discovered that religious and cultural factors significantly influence healthcare student's attitude about organ donation in Pakistan. In the current study, more than half of the students (51.7%) revealed that their religious views influenced their opinions towards organ donation (Table 3). Similar findings were reported in India, where nursing and medical

students were concerned due to cultural and religious traditions [11].

Countries such as Spain have reached organ donation rates up to 46.3 per million people, thanks to extensive awareness programs and opt-out regulations (WHO, 2024) [12]. Pakistan faces a significant donor shortage, with only one donor for every million persons (Global Observatory on Donation and Transplantation GODT, 2024) [13]. According to the current study, most of respondents expressed anxiety that the donated organs might be misused, making them unwilling to participate. This finding is consistent with prior studies in the Iraq and Oman, which have also found that ignorance affects confidence [14,15].

Furthermore, while most students believe that organ donation saves lives, their refusal to donate their own or a loved one's organs demonstrates serious moral and spiritual concerns. These findings are consistent with study conducted in Syria, which shows that concerns about body integrity, religious aspects and familial obligations reduce genuine commitment to giving [16]. This suggests that raising awareness alone is insufficient to foster a positive attitude and that systematic education programs should be incorporated into the nursing curriculum.

The respondent's reservations regarding their high level of knowledge show that awareness does not necessarily lead to a positive attitude. In contrast, a study of knowledge and attitude of Iraqi students found high level of awareness and positive attitude among approximately (70%) of the students. The different outcomes in this case reflect variations in educational exposure, cultural influences and the availability of programs related to organ donation. Peer forums, hospital-based exposure, interactive learning modules and context-specific training can all help to reduce knowledge gaps and boost individual motivation [17]. Improving legislation, transparency in transplant systems, public recognition of donors, and incorporating organ

donation discussions into undergraduate curricula can increase social acceptance.

Overall, the current study's findings indicate that nursing students have a good awareness of organ donation but their attitudes are primarily negative due to cultural, religious, psychological and systemic limits. These findings underscore the importance of ongoing awareness campaigns, enhanced educational curricula and collaboration among multiple groups in making organ donation a socially acceptable humanitarian practice.

LIMITATIONS

The study was limited to two colleges. Therefore, its findings cannot be generalized to nursing students at other universities or in various fields. Response bias might be considered a designed by using a self-administered questionnaire, as participants may have given answers that were acceptable to society than ones that accurately reflected their knowledge or attitudes. Some student's answers were influenced by their limited prior exposure to clinical experiences or education on organ donation.

CONCLUSION

The research participants have sufficient information but exhibited an unfavorable attitude about organ donation. The college and clinical department must engage students in consistent education on organ donation and modify the curriculum to facilitate overcoming initial reluctance to the issue.

RECOMMENDATIONS

Currently there is need of various seminars to raise awareness among students and culturally/religiously sensitive campaigns on organ donation so that their attitude regarding volunteer donor can be improved.

CREDIT AUTHOR STATEMENT

Saifullah: Conceptualization, Data curation, Formal analysis, Methodology, Writing - original draft, review & editing.

Naureen Fazal: Supervision, Validation, Writing - review & editing in final draft.

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The author declared that the work reported in this paper was not influenced by any known competing financial interests or personal relationships.

REFERENCES

- Global Observatory on Donation and Transplantation. Data report. Geneva: World Health Organization; 2024.
- Joseph S, Batra SS, Selvan A, Dubey N. Awareness and attitudes toward organ donation among university students in India. *Am J Psychiatr Rehabil*. 2023;28(1):191-8.
- Patil VC, Jadhav N, Reddy R. Knowledge and attitudes regarding organ donation among Indian medical and nursing students. *Indian J Transplant*. 2021;15(2):98-104.
- Sharma M, Saini P. Cultural and religious influences on organ donation attitudes among healthcare students in India. *Asian J Transplant*. 2020;9(4):233-41.

- Abbas M, Rafique A, Dawood HM, Mirza MJ, Anwar MB, Anwar M. Knowledge and attitude regarding organ donation among nursing students in Lahore: A cross-sectional descriptive study. *Asian J Biol Sci.* 2024;17(2):179-84.
- Khan A, Rehman S, Ali Z. Knowledge, attitudes, and practices of organ donation among Pakistani healthcare students. *J Transplant Health.* 2022;12(4):45-53.
- Blue News Network. Organ shortage: Around 10 to 15 lives daily lost in Pakistan [Internet]. Karachi: Blue News Network; 2025 Apr 14 [cited 2025 Nov 1]. Available from: <https://www.bnn.pk>
- Ashfaq A, Tariq S, Awan SJ, Sarafranz R, Sultana A, Meraj L. Knowledge, attitude and practices of medical undergraduates of Rawalpindi Medical University regarding potential organ donation. *J Pak Med Assoc.* 2020;70(10):1784-8.
- Rehman S, Iqbal Z, Saeed A. Educational exposure and clinical readiness toward organ donation among Pakistani medical students. *J Pak Med Assoc.* 2022;72(8):1547-53.
- Ali F, Hashmi S. Educational interventions to enhance nursing students' attitudes toward organ donation. *Int J Nurs Educ.* 2024;16(2):102-10.
- Patil VC, Jadhav N, Reddy R. Knowledge and attitudes regarding organ donation among Indian medical and nursing students. *Indian J Transplant.* 2021;15(2):98-104.
- World Health Organization. Global data on donation and transplantation: Statistics report. Geneva: WHO; 2024.
- Global Observatory on Donation and Transplantation. Global data report. Madrid: WHO-GODT Collaboration; 2024.
- Al-Mansoori A, Al-Saleh L. Attitudes and barriers toward organ donation among university students in Oman. *Middle East J Public Health Res.* 2021;7(3):132-40.
- Joseph R, Ahmed A, Khan S. Students' knowledge and attitude concerning organ donation at Iraqi medical colleges. *J Educ Health Promot.* 2023;18(2):201-9.
- Alamri AM, Al-Qahtani HA, Bin Saleh F. Cultural and religious determinants of organ donation attitudes among medical students in the Middle East. *BMC Med Ethics.* 2023;24(1):112-9.
- Majeed M, Hassan AF, Muneer AM. Mathematical model for predicting organ donation among South Asian populations. *J Bioeth Inq.* 2024;21(3):229-40.
- Alwahaibi N, Al Wahaibi A, Al Abri M. Knowledge and attitude about organ donation and transplantation among Omani university students. *Front Public Health.* 2023;11:1115531.
- Darlington D, Anitha FS, Joseph C. Study of knowledge, attitude, and practice of organ donation among medical students in a tertiary care center in South India. *Cureus.* 2019;11(6):e4896.
- Ghose TK, Deo J, Dutt V, Agarwal R, Patel BB, Ganesh M, et al. Knowledge and attitude towards organ donation: A study among medical and nursing students of a medical college. *Int J Community Med Public Health.* 2021;8(11):5398-403.
- Khan M, Aliya B, Abdullah KN, Mustafa A, Tariq B, Tahir S. Knowledge and attitude regarding organ donation in undergraduate medical students of District Peshawar, Khyber-Pakhtunkhwa. *J Saidu Med Coll Swat.* 2023;13(3):80-5.
- Muthusamy A, Rithvik P. Barriers to organ donation in India: A qualitative study among healthcare professionals and the general population. *Indian J Transplant.* 2022;16(2):160-5.
- Shaikh F, Shaikh S, Zehra N, Ali F. Knowledge, attitude and practices regarding organ donation among medical and dental students at Dow University of Health Sciences, Karachi. *J Pak Med Assoc.* 2019;69(8):1125-9.