Knowledge and Willingness Toward Organ Donation Among DPT Students at Isra University (Hyderabad)

Humaira Sikandar Ali Mugheri¹, Nasreen Rebecca Wilson², Zafarullah Junejo³, Shabana Liaquat Ali Mugheri⁴, Yasmeen Sikandar Ali Mugheri⁵ and Jana Naz Solangi⁶

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Abstract

Organ donation (OD) is a complex issue involving social, legal, ethical, and medical aspects. The need for organ transplants has increased due to a rise in disorders linked to poor lifestyle choices; however, awareness and knowledge of organ donation remain extremely low, particularly among medical students. This study aimed to assess the level of knowledge and willingness toward organ donation among Doctor of Physiotherapy (DPT) students at Isra University in Hyderabad. A cross sectional study was conducted from July to September 2024, using a validated questionnaire and a sample of 100 DPT students selected through stratified random sampling. Data were analyzed using IBM SPSS version 23. Findings revealed that 79% of DPT students were aware of organ donation. Only 12% recognized eyes and 34% identified kidneys for donation. Awareness of Pakistan's organ donation laws was noted in just 54%. Misconceptions were prevalent, with 51% believing that only living individuals could donate. While 38% expressed willingness to donate after death, only 16% would consent to the donation of a deceased family member's organs. The study concluded that significant gaps in knowledge and willingness exist among DPT students, highlighting the need for comprehensive education and awareness campaigns tailored to cultural and religious beliefs.

Keywords: Organ Donation, Doctor of Physical Therapy, Knowledge, Assessment, Willingness.

Introduction

Donating organs is a complex issue involving elements related in medicine, law, ethics, organizations, and society (Kalal et al., 2022). Organ donation involves the transfer of organs or tissues from living or deceased individuals to those in need of transplants (Alwahaibi et al., 2023). The significance of organ donation (OD) has surged in recent years due to the rising prevalence of lifestyle disorders that lead to organ failure, such as diabetes and hypertension, which are becoming increasingly common (John, 2023). The surgical transfer of organs represents one of the

⁶BSN Student, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan.



¹BSN Student, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan. Corresponding Author Email: <u>hmugheri051@gmail.com</u>

²Principal, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan.

³Nursing Lecturer, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan.

⁴BSN Student, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan.

⁵BSN Student, Isra School of Nursing, Isra University Hyderabad, Sindh, Pakistan.

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most remarkable advances in medical science. Organ transplantation, once considered experimental surgery, has now become a standard therapeutic option for patients with end-stage renal, hepatic, pancreatic, cardiac, and lung disorders (Joshi et al., 2021). Globally, the number of patients on transplant waiting lists is rising, primarily driven by lifestyle changes and non-communicable chronic illnesses (Souza et al., 2021). Turkey had the highest percentage of living organ donors in 2020 at 41.1%, while the United States had the highest percentage of deceased organ donors at 38.0%. Pakistan, on the other hand, had no deceased donors and only 0.86% of live donors (Jahangeer et al., 2023).

Despite legislative efforts, including a parliamentary order passed in 2007 to promote deceased organ donation, only 65.5% of the Pakistani population is aware of organ transplantation. The link between blood donation and organ donation is significant, with the World Health Organization (WHO) stating that a country meets its blood demand if 1% of its population donates. However, in Pakistan, only 0.46% to 0.78% of the populace are estimated to be blood donors (Arshad1 et al., 2024; Huma1 et al., 2023) . One major barrier to increasing organ donation rates is family refusal to consent, which was noted to be as high as 60% in Turkey. In comparison, the average rejection rates were 17% in the USA and 30% in Spain, indicating significant cultural and societal influences (Prajapati et al., 2024).

Physiotherapists play a critical role in the critical care setting, helping to prevent respiratory complications and delivering tailored treatments based on individual assessments. They are integral members of the interdisciplinary teams in emergency and intensive care settings, assisting in the identification of potential organ donors. However, a lack of training in organ donation limits physiotherapists' ability to engage effectively in this critical area (Tuncer & Gurses, 2024). Given the pressing need for organ donations and the gaps in knowledge and willingness among healthcare students, this research is vital.

By assessing the knowledge and willingness of Doctor of Physiotherapy (DPT) students regarding organ donation for themselves and their family members, this study aims to identify sociodemographic factors influencing these perceptions. Understanding these dynamics is crucial for developing targeted educational interventions that can enhance organ donation rates and improve health outcomes in Pakistan. By fostering a more informed future generation of healthcare professionals, we can contribute to a cultural shift that prioritizes organ donation as a vital component of healthcare.

Objective of the Study

• To assess the level of knowledge and Willingness toward organ donation among Doctor of Physical Therapy (DPT) students at ISRA University, in Hyderabad.

Review of Literature

Organ donation has a critical role in enhancing the quality of life for individuals suffering from organ dysfunction, as the literature highlights. Although there are many scholarly articles and clinical guidelines covering different facets of transplanting and donating organs, the researchers point at the fact that none give an comprehensive framework that presents the entire system picture of the essential elements required for a program to be successful. They require for their suggested framework is shown by the absence in the literature (Johnston-Webber et al., 2023). According to the results of the current survey, most of them of the respondents (74.61%) got their information on donation of organs from friends and relatives, whilst 46.68% cited media outlets. This highlights the significance of online platforms and networks in spreading awareness about giving

up organs (Saged et al., 2024). Respondents' concern about body deformity after donation was one of their main apprehensions (Gupta et al., 2021). Only a small percentage of healthcare students, especially those studying physical therapy showed sufficient comprehension of the giving of organs procedures, according to a survey (Almutairi, 2020). It is important to enhance information accessibility as another study revealed that misconceptions regarding organ donation significantly reduce an individual's willingness to donate (Jose et al., 2023). This supports research from other nations indicating that healthcare personnel frequently lack adequate knowledge about organ donation (Jose et al., 2023). This supports research from other nations that indicates healthcare personnel frequently lack sufficient understanding regarding organ donation (Akbulut et al., 2022). Although there were still certain unanswered questions, a sizable percentage among learners showed support for organ donation and were eager to take part in awareness initiatives (Halim et al., 2023). Students' understanding of and feelings toward organ donation are being shown to be improved by instructional strategies including video-assisted learning (Rose et al., 2023). Public initiatives that attempt to raise awareness and promote conversation on donating organs are critical, according to the analyzed findings. Education campaigns aimed at raising awareness of the value of organ donation among people in general and medical undergraduates are among them (Souza et al., 2021). Studies reveal a noteworthy correlation between an individual's opinions and their level of information regarding organ donation. Greater readiness to join in organ donation programs can result from greater information levels, which are frequently correlated to positive views on organ donation. According to the results, opinions were positively and directly impacted by knowledge ($\beta = 1.564$), while willingness was negatively influenced by attitude ($\beta = 0.035$) (Chen et al., 2024). The studies show that educational programs are desperately needed to change people's views and knowledge about organ donation. Many learners remain uninformed about the necessity of organ transplantation and the current shortage of organs, according to the study (Bayraktar & Bayraktar, 2024). The he public's willingness to donate organs was found to be 47.45%, which is less than that of students in medicine and medical workers abroad. In order to potentially enhance the willingness to donate, the study highlights the necessity for focused efforts to improve willingness and awareness on organ donation (Fan et al., 2022). There is conflicting evidence in the literature on the significance of the disparities between opt-out and opt-in countries' donor rates(Etheredge, 2021). Deficiency of knowledge is a major obstacle to providing organs in the Muslim community. Numerous researchers stated that they had not encountered any pertinent discussions or information regarding organ transplantation from medical professionals (Ali et al., 2020). The literature lists a number of obstacles to organ donation, such as moral, cultural in nature lawful and spiritual issues. Furthermore, the readiness of individuals to donate organs is greatly affected by criteria including gender, socioeconomic status, age, and education. The impact of religious convictions on perceptions of organ donation is covered in the article. Though a majority of the participants had good opinions about giving away organs (Bayraktar & Bayraktar, 2024; Ibeabuchi et al., 2024).

There is a widely held belief that Muslims, especially those living abroad, hold negative views on organ donation. Politicians that link lower contribution levels to Islamic beliefs have contributed to the perpetuation of this image (Padela et al., 2022). A growing body of research indicates that utilizing machine perfusion (MP) systems for organ preservation is an effective method for achieving better outcomes. A growing amount of codified artificial intelligence is currently applied in organ donation situations. The recognition of danger predictor and biomarker has greatly expanded with the advent of artificial intelligence, particularly with the use of deep learning techniques (Hirani & Chatterjee, 2024). In order to get a greater understanding of the factors

impacting donor aware and eagerness, the report highlights the need for deeper investigations, including qualitative research. In order to increase the clarity of views toward organ donation, it also recommends that subsequent studies focus on a variety of groups, including undergraduates and medical professionals (Abdullah et al., 2023; Kalal et al., 2022). The body of research emphasizes how important medical personnel are to the method of donor organs. A person's choice to donate can be greatly influenced by the ability to interact with families, which underlines the demand for additional instruction in this field (Karataş, 2024; Souza et al., 2021).

Methodology

A cross-sectional study was conducted from July to September 2024 at the Isra Institute of Rehabilitation Sciences, Isra University in Hyderabad. The target population included both male and female Doctor of Physiotherapy (DPT) students. The total number of DPT students at the institute was 300, and a sample of 100 students was selected using stratified random sampling to ensure representation across different years of study. A well-structured questionnaire, consisting of three sections, was employed to gather data. Section A collected socio-demographic information, including age, gender, marital status, year of study, place of residence, and sources of information. Section B contained 14 questions assessing knowledge about organ donation, while Section C comprised 5 questions evaluating students' willingness to participate in organ donation.

Ethical Considerations

- Written informed consent was obtained from each participant.
- Approval was granted by the Principal of the Isra Institute of Rehabilitation Sciences.
- Participants' confidentiality was maintained throughout the study.

Table 1: Classification Based	l on Age	
Categories	Frequency	Percentage
20-25 Years	97	97.0
26-30 Years	2	2.0
31-35 Years	1	1.0
Above 36 Years	0	0
Total	100	100.0

Results Demographic Analysis

Table 1 indicates that 97% (n=97) of participants are between the ages of 20 and 25 years. Only 2% (n=2) are between 26 and 30, and 1% (n=1) are between 31 and 35. No participants were older than 36 years.

Table 2: Classification Based on Gender				
Categories	Frequency	Percentage		
Male	17	17.0		
Female	83	83.0		
Total	100	100.0		

The gender distribution shows that 17% identified as male, while 83% (n=83) identified as female.

Table 3: Classification Based on Marital Status					
Categories	Frequency	Percentage			
Single	90	90.0			
Married	10	10.0			
Total	100	100.0			

Table 3 presents the marital status of the participants, indicating that 10% (n=10) are married, while 90% (n=90) are single.

Table 4: Classification Based on Year of Study					
Categories	Frequency	Percentage			
First Year	20	20.0			
Second Year	20	20.0			
Third Year	20	20.0			
Fourth Year	20	20.0			
Fifth/ Final Year	20	20.0			
Total	100	100.0			

Table 4 illustrates that participants are evenly distributed across all five years of study, with 20% (n=20) from each year.

Table 5: Classification Based on Place of Living				
Categories	Frequency	Percentage		
Rural	33	33.0		
Urban	67	67.0		
Total	100	100.0		

Table 5 shows that 67% (n=67) live in urban areas, while 33% (n=33) reside in rural areas.

Table 6: Classification Based on S	ource of Information	
Categories	Frequency	Percentage
Family & Friends	30	30.0
Mass Media	31	31.0
Health care provider	24	24.0
Other	15	15.0
Total	100	100.0

Table 6 indicates that 31% (n=31) of participants received information from mass media, while 30% (n=30) learned from family and friends.

Table 7: Knowledge On Organ Donation							
Statement			Yes	No	DK	Mean	St. Devi.
Have you anytime heard about organ don	ation?	Freq	79	21	-	1.21	.409
		%	79.0	21.0	-	_	
Have you anytime heard about organ donation?		Freq	20	80	-	1.80	.402
		%	20.0	80.0	-	_	
Have you ever donated blood in past?		Freq	19	81	-	1.81	.394
		%	19.0	81.0	-	_	
Organs can be donated?	Eye	Freq	12	88	-	3.47	2.307
		%	12.0	88.0	-		
	Kidneys	Freq	34	66	-	3.47	2.307
		%	34.0	66.0	-		
	Liver	Freq	19	81	-	3.47	2.307
		%	19.0	81.0	-		
	Heart	Freq	14	86	-	3.47	2.307
		%	14.0	86.0	-		
	Intestine	Freq	5	95	-	3.47	2.307
		%	5.0	95.0	-	_	
	Skin	Freq	3	97	-	3.47	2.307
		%	3.0	97.0	-		
	Brain	Freq	2	98	-	3.47	2.307
		%	2.0	98.0	-		
	Extremities	Freq	2	98	-	3.47	2.307
		%	2.0	98.0	-		
	Other	Freq	9	91	-	3.47	2.307
		%	9.0	91.0	-		
Organ can be donated by live person only	/	Freq	51	44	5	1.54	.593
		%	51.0	44.0	5.0		
Organ also can be retrieves from brain de	ad person	Freq	32	51	17	1.85	.687
		%	32.0	51.0	17.0		
There is legislation for organ donation an	d transplants	Freq	54	26	20	1.66	.794
in Pakistan		%	54.0	26.0	20.0		
Organs can be bought and sold in Pakista	n	Freq	52	29	19	1.67	.779
		%	52.0	29.0	19.0		,
One person can donate several organs		Freq	33	55	12	1.79	.640
		%	33.0	55.0	12.0		
Organ donation pledge can be taken rega	rdless of any	Freq	23	53	24	2.01	.688
age	j	%	23.0	53.0	24.0		
		,.					
Person who is HIV/HCV/HBV positive c	annot donate	Freq	62	28	10	1.48	.673
The organs.		%	62.0	28.0	10.0	_	
Organ can only be donated to close relati	ves.	Freq	38	52	10	1.72	.636
		%	38.0	52.0	10.0	_	
Organ donation can only be done by a pe	rson, who is	Freq	64	27	9	1.45	.657
More than 18 year of age	-	%	64.0	27.0	9.0	_	
Parents cannot make decisions for organ	donation of	Freq	46	33	21	1.75	.783
their mentally disabled children.	their mentally disabled children.		46.0	33.0	21.0	_	

Table 7 presents the participants' knowledge regarding organ donation, showcasing their responses to fourteen statements. The data reveals that, on average, 79% of participants reported being aware of organ donation, indicating a strong general awareness. However, only 19% had previously donated blood, highlighting a discrepancy between awareness and active participation. Participants displayed varying levels of understanding across specific statements, with mean scores ranging from 1.21 to 3.47. For instance, while 34% correctly identified kidneys as a viable organ for donation, only 12% recognized eyes as an option. Misconceptions were evident; 51% believed that only living individuals could donate organs, which corresponds to a mean score of 1.54, while 52% mistakenly thought organs could be bought and sold (mean = 1.67). The standard deviations, ranging from 0.409 to 2.307, indicate the variability in responses among participants. Lower mean scores suggest less consensus on specific knowledge items, whereas higher scores indicate stronger agreement.

Table 8: Willingness for Organ Donation						
Statement		Yes	No	Undecided	Mean	St.
						Devi.
Are you ready to sign a pledge card for	Freq	22	59	19	1.97	.642
organ donation?	%	22.0	59.0	19.0		
Are you ready to donate an organ after	Freq	38	49	13	1.75	.672
your death?	%	38.0	49.0	13.0	_	
Are you ready to authorized removal of	Freq	16	68	16	2.00	.568
organs from	%	16.0	68.0	16.0		
your family members after death?						
Are you willing to take part in public organ	Freq	39	50	11	1.72	.652
donation	%	39.0	50.0	11.0	_	
awareness campaign?						
Does your religion stops you from organ	Freq	18	74	8	1.90	.502
donation or	%	18.0	74.0	8.0		
organ receiving?						

Table 8 presents participants' willingness regarding organ donation, with mean scores ranging from 1.72 to 2.00. A mean of 1.97 reflects that 22% are willing to sign a pledge card, indicating moderate readiness. In contrast, a mean of 1.75 shows that only 38% are prepared to donate organs after death. The mean score of 2.00 reveals significant reluctance, with 16% willing to authorize organ removal from family members. A mean of 1.72 indicates that 39% are open to participating in public awareness campaigns, while a mean of 1.90 suggests that 18% feel their religion poses a barrier to organ donation.

Discussion

This study assessed the knowledge and willingness of DPT students at Isra University in Hyderabad regarding organ donation. The findings showed generally inadequate knowledge and willingness to donate organs, which aligns with patterns observed among similar groups worldwide. Although most participants (79%) reported awareness of organ donation, their understanding of specific organs that can be donated varied significantly. For example, only 12% believed that eyes could be donated, while 34% believed that kidneys could be donated. This is

consistent with research conducted in India, where only 30% of medical students were able to accurately identify organs that may be donated (Shrivastav et al., 2024). In contrast, research from Pakistan and Saudi Arabia has shown that while students are generally aware of organ donation, their understanding of specific aspects remains limited (Thangam et al., 2024). Just 54% of students understood about Pakistan's current rules regarding organ donation, which is similar to Malaysia's findings, where only 50% of students understood about the country's organ donation law (Naqvi, 2023). The need for better outreach efforts is highlighted by the fact that 51% of participants wrongly thought that only living people could donate organs, demonstrating the persistence of misconceptions about who can donate. Approximately 38% of individuals said they would donate an organ after death away, demonstrating their hesitant attitude toward the practice. This is somewhat higher than findings from a study conducted in Nigeria, where just 30% of participants said they would be willing to make a posthumous donation (Ibeabuchi et al., 2024). However, students' opinions on the donation of dead family members' organs were more conservative, with just 16% of them prepared to approve the removal of an organ. This is consistent with research from religious nations like Egypt, where obtaining family agreement is a major barrier (Saged et al., 2024). Furthermore, a mere 39% of respondents said that they would be open to participating in public education campaigns regarding organ donation a percentage that is less than the 60% reported in a study conducted out in Turkey. This implies that in order to increase the number of people who support organ donation, cultural and personal hesitations should be addressed (Karataş, 2024). Another significant finding was that 18% of participants believed that getting or donating organs was prohibited by their religion. This conclusion is consistent with research from other Muslim-majority nations where religious views have had an important effect on decisions about organ donation (Al-Abdulghani et al., 2024). But a larger percentage (74%) disagreed with the concept that religion prohibits organ donation, which reflects changing beliefs within Islamic communities as evidenced by recent studies from Malaysia and Jordan (Abdullah et al., 2023). Just 22% of participants were willing to sign a pledge card declaring to donate their organs, which is a lower number than students in advanced countries like the United States, where up to 50% of medical students have registered as organ donors (Al-Abdulghani et al., 2023; Rai & Kapoor, 2024). Similar to the findings from research in India, where about 35% of medical students indicated a readiness to donate, just 38% of respondents were prepared to provide an organ after death (Prajapati et al., 2024; Saged et al., 2024). The lack of comprehensive education regarding the safety and procedure of organ donation may be the reason why students are unwilling to donate their organs. This is consistent with research from Pakistan, where most participants mentioned ignorance and fear as barriers to committing to organ donation (Arshad et al., 2024). To address misconceptions and knowledge gaps about organ donation, future efforts should focus on extensive education and awareness campaigns. Aligning organ donation with religious and cultural beliefs and highlighting the possibility to save lives will be crucial. Donor registration rates can be raised by enhancing donor desire to contribute through the inclusion of organ donation education in curricula and general discussions on family authorization.

Conclusion

This study concluded that DPT students at Isra University, Hyderabad, have good awareness of organ donation, but their detailed knowledge and willingness to participate are lacking, likely due to misconceptions and cultural beliefs. Therefore, it is suggested that educational programs be integrated into the DPT curriculum to improve understanding and dispel misinformation. Additionally, awareness campaigns should engage both students and the wider community.

Collaborating with religious leaders can help tackle cultural concerns, while encouraging family discussions about organ donation can foster informed consent and enhance attitudes toward the practice.

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