

Willingness for Organ Donation among MBBS Students in Maharashtra

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ABSTRACT

Background: Merely 2-3 per cent of the demand for organs for transplant is fulfilled, resulting in the unfortunate loss of numerous lives to organ failure each year in India. Presently, the deceased organ donation rate in India stands at 0.52 donors per million population. As future healthcare professionals, MBBS students have the potential to become advocates, educators, and facilitators of organ donation. The study aimed to assess willingness for organ donation among MBBS students in Maharashtra.

Materials and Methods: A cross-sectional study was conducted by distributing an anonymous voluntary self-administered questionnaire among MBBS students after obtaining institutional ethical clearance. Data collected from 604 students was analysed. **Results and Discussion:** More than half of the students (382, 63.2%) were willing for organ donation out of which, 17 were registered organ donors. When it comes to live kidney donation for an unknown recipient, only 33.6% (203) of students showed willingness. A significant association was found between the year of study and willingness and organ donation ($p < 0.001$) and between knowledge level and willingness for organ donation ($p < 0.001$).

Conclusion: Efforts to bolster knowledge, address cultural considerations, and integrate organ donation education into medical curricula can contribute to a more compassionate and informed generation of healthcare professionals, equipping them to engage in informed conversations with patients and their families regarding organ donation.

KEYWORDS

Organ Donation; Organ Transplantation; Organ Donors; Tissue Donors; Brain Death

INTRODUCTION

Organ donation is the process of donating organs or biological tissue to a person with end stage organ disease, who is in need of a transplant. Primarily due to lack of awareness and prejudices, there exists a significant scarcity of organs required for transplants. A

brain death results from a severe irreversible injury to the brain or haemorrhage due to which a person cannot sustain his/her own life. In most medical jurisdictions, brain death is legally recognised as the equivalent of death.(1).

Approximately 1.5 lakh brain deaths occur in India each year due to accidents, with only a small fraction of the demand for organs being fulfilled, resulting in numerous deaths from organ failure annually throughout the country. However, our organ donation rate is 0.4 per million population. In 2021, in total 1619 organs were donated by 552 deceased donors after brain death. 830 kidneys were donated by deceased donors making it the most commonly donated organ in India(2).

The Transplantation of Human Organs & Tissues Act, 1994 regulates the removal, storage and transplantation of human organs and prevents its commercial trade (3).

As future healthcare professionals, MBBS students can ensure that their peers are knowledgeable about organ donation. Ultimately, MBBS students have the potential to become advocates, educators, and facilitators of organ donation. By actively engaging in these roles, they can contribute to increasing the availability of organs for transplantation and saving lives.

Aim: To assess the willingness for organ donation among MBBS students in Maharashtra.

Objective: To assess willingness for organ donation among MBBS students. To assess the knowledge and attitude regarding organ donation among MBBS students

MATERIAL & METHODS

Study Type & Study Design: Cross sectional study

Study setting: Medical College

Study Population: MBBS Students

Study Duration: 3 months (July 2023 – Sept 2023)

Sampling Method: Convenience Sampling

Sample size: 700

Inclusion Criteria: MBBS students of SRTR GMC Ambajogai & Age > 18 years

Exclusion criteria: Students whose relatives/friends are in need of organs for transplantation & Not willing to participate in the study.

Strategy for data collection: An anonymous voluntary self-administered questionnaire was distributed among MBBS students. The Questionnaire was divided into four sections to gather information about the demographic profile of the students, knowledge, attitude and willingness for organ donation.

Ethical issues: The study was conducted after obtaining institutional ethical clearance in Swami Ramanand Teerth Rural Government Medical College Ambajogai. Informed consent was obtained from all study participants prior to data collection.

Data Analysis Software: Jamovi (Version 2.3) After applying the exclusion criteria, data from 604 students was ready for analysis.

RESULTS

Mean age of the students was found to be 21.4 ± 1.46 years. Every single one of them was familiar with the concept of organ donation. However, only 554(91.7%) of them were aware of brain death. The sources of information regarding organ donations were class room teaching (for 343 students (56.8%)), family or friends (for 192 students (31.8%)) and media (for 69 students (11.4%)). Every respondent was able to identify, on an average, 6 organs eligible for donation. 500(82.8%) study subjects were aware of the crisis due to non-availability of organs and only 181(30.0%) had knowledge that there is no age limit for organ donation. Only 338(56.0%) of the study subjects knew that their religions tend support to organ donation and organ transplantation. Only 359(59.5%) had heard about donor card of which 271(44.9%) respondents knew that a person can specify on a donor card what organs they want to donate. Regarding the consent, 254(42.1%) were aware that a person's next to the kin's consent is needed for cadaveric organ donation. Majority (460,76.2%) approved that it is an offense to accept money or any other benefits for organ donation. However, only 299(49.5%) were aware of the legislation with regard to organ donation. Only 230(38.1%) approved that an open casket funeral is possible after organ extraction. In the cumulative knowledge-level

analysis, 523(86.6%) respondents came in the “above-average knowledge level” category, and the rest 81(13.4%) of them in the “below-average knowledge level” category. Mean score on knowledge scale was found to be 12.8 ± 3.43 .

It was reported that 95.2% (575) feel comfortable to think or talk about organ donation and 93.2% (563) of the students are willing to motivate others to donate organs. 590(97.7%) believed that incorporating education about organ donation into school curricula is essential. 49.0% (296) of the respondents were ready to accept an organ from family members, if they ever suffer from a disease requiring organ transplant, and 16.6% (100) would like to wait for a deceased donor. However, the prevailing sentiment among most medical students (82.1%, 496) is that, all else being equal, a financially disadvantaged individual in India has a lower likelihood of receiving an organ transplantation compared to a wealthy counterpart. Moreover, when asked about the impact of caste discrimination on access to transplants for minority patients, 54.1% (327) expressed agreement with this assertion, while 22.8% (138) chose the "don't know" option. A substantial majority (79.0%, 477) voiced concerns about the potential misuse, abuse, or misappropriation of donated organs. Additionally, 25.3% (153) believed that those who opt to donate a family member's organs end up facing additional medical expenses, and 22.8% (138) held the belief that registered organ donors are more likely to be declared deceased prematurely.

More than half of the students (382, 63.2%) were willing for organ donation out of which, 17 were registered organ donors. Among these 382 students, 88.2% were not concerned about the religious background of the organ recipient, while 6% preferred to donate organs within the same religion and 42.1% didn't have any age preference for organ recipients. Among the 222 unwilling students, 118(53.1%) were concerned about mutilation of body after extraction of organs. When it comes to live kidney donation for an unknown recipient,

only 33.6% (203) of students showed willingness. 246(40.7%) of the students were willing for live kidney donation if it is for friends or family, while 33(5.5%) reported unwillingness.

A significant association was found between the year of study and willingness and organ donation ($p < 0.001$) and between knowledge level and willingness for organ donation ($p = 0.0008$). A significant association was found to exist between year of study and knowledge regarding organ donation ($p < 0.001$).

Table1: Characteristics of Participants

Gender	Frequency	Percentage
Male	330	54.60%
Female	274	45.40%
Religion		
Hinduism	479	79.30%
Buddhism	68	11.30%
Muslim	48	7.90%
Christianity	8	1.30%
Jainism	1	0.20%
Year of Study		
First Year	133	22.00%
Second Year	132	21.80%
Third Year	124	20.50%
Fourth Year	128	21.20%
Internship	87	14.40%

Figure 1: Willingness for Organ Donation

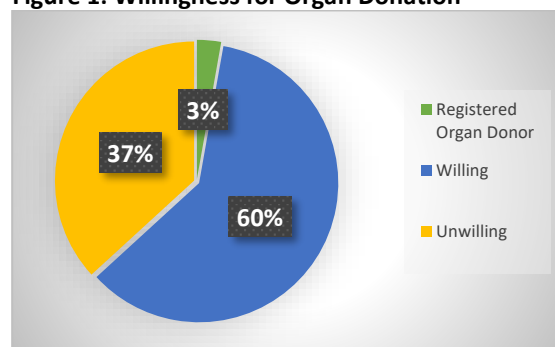


Table 2: Year of Study and Willingness for Organ donation

	Registered organ donor	Willing	Not willing
First Year	1	65	67
Second Year	1	100	31
Third Year	1	82	41
Fourth Year	13	69	46
Internship	1	49	37

$\chi^2 = 55.3334, df = 8, p < .001$

Table 3: Knowledge Level and Willingness for Organ donation

	Registered organ donor	Willing	Not willing
Above average	15	331	177
Below average	2	34	45

$\chi^2 = 14.3079, df = 2, p = 0.0008$

Table 4: Knowledge Level and Year of Study

	Above Average	Below Average
First Year	94	39
Second Year	114	18
Third Year	103	21
Fourth Year	126	2
Internship	86	1

$\chi^2 = 57.0717, df = 4, p < .001$

DISCUSSION

The objective of the study was to assess the willingness for organ donation among MBBS students and to assess their knowledge and attitude regarding organ donation.

It was overwhelming that all the students (100%) knew the term organ donation which is similar to the study done by Agarwal (100%) and Jothula et al (100%) (4,5). Only 14.56% of students were able to name all organs eligible for organ donation, whereas it was 35% according to Jothula et al (4). 299(49.5%) were aware about the existence of laws related to organ donation and its process, which is more compared to 25.2% among interns and residents found by Tanna et al (6).

The present study found that the prime source of information regarding organ donation to them was class room teaching. The majority of students also emphasized the importance of revising the school curriculum to include more information about organ donation. Many superstitions regarding organ donation are prevalent in India such as being reborn with a missing organ or being tangled in the life-death-rebirth cycle. To tackle this, the topic should be taught in a holistic manner cutting through various disciplines. Recognizing these diverse perspectives is vital in crafting tailored strategies to promote organ donation among MBBS students from various cultural

backgrounds. Many other researchers also pointed out that the limited knowledge of medical students on organ donation was a result of paucity in teaching on the subject of organ donation in the school curriculum (7,8). An intervention study in Bagalkot, Karnataka showed that there is substantial change in the knowledge of students toward organ donation after an interactive session on organ donation (9,10). Effective educational campaigns and interventions are imperative to bridge the gap in awareness and understanding about organ donation. The present study highlights the association between the knowledge level of students and the willingness for organ donation which further emphasises the same.

A comparable finding to the study conducted by Karini et al (2015) is that 79% of respondents believed in the potential for organ misuse (11). Majority (477,82.1%) of medical students believed that, given equal need, a poor person has a less chance than a rich person of getting an organ transplantation in India. The study by Adithyan G et al (2017) on medical students also reported similar findings (9). Addressing these disparities necessitates heightened investments in both medical infrastructure and expertise for performing organ transplants in underserved regions. Furthermore, implementing policies that guarantee fair and equal access to transplantation is imperative.

CONCLUSION

This study sheds light on the perspectives and willingness of MBBS students towards organ donation, an area of vital importance in the field of medicine and healthcare. It is evident that they possess a favourable disposition towards organ donation, with a significant proportion expressing their willingness to become donors. This inclination highlights the compassionate and altruistic nature of future healthcare professionals who understand the immense value of organ transplantation in saving lives.

However, the study also highlights the existence of misconceptions, concerns, and barriers that hinder some students from fully

embracing organ donation. These barriers may include cultural and religious beliefs, fears about organ transplantation procedures, and a lack of awareness regarding the organ donation process.

In the context of medical education, the findings of the present study emphasize the need for curriculum enhancements that include comprehensive discussions on organ donation, transplantation, and ethical considerations. Such educational initiatives can foster a sense of responsibility among future healthcare practitioners, equipping them to engage in informed conversations with patients and their families regarding organ donation.

AUTHORS CONTRIBUTION

AV: Collected the data, performed analysis, Wrote the paper; DSD: Conception/ design of research, Intellectual contributions, RCS: Conception of research, Final approval of the manuscript.

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Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

Author declare that during the preparation of this work, have not used any AI tools or services during the writing process of this article. Author solemnly take full responsibility for the content of the publication.

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