

Original Research Article

Organ donation and transplantation: knowledge and attitude amongst Indian undergraduate medical students

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Received: 08 September 2017

Accepted: 03 October 2017

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ABSTRACT

Background: Organ donation not only saves the lives of dying people but also improves the quality of life of many patients. A huge demand supply gap exists between patients requiring transplantation and organ donors. Organ transplantation has become the only hope for some patients with damaged or failing organs to extend their life. This study was carried out to assess the knowledge and attitude towards organ donation and transplantation amongst the undergraduate medical students.

Methods: A cross-sectional study was carried out amongst 98 undergraduate students of IIMSR Medical College, Badnapur, Jalna during the period of January to August 2016. Knowledge and attitude regarding organ donation were assessed using a pre-designed, pre-tested and validated questionnaire. Results were analyzed in the form of percentage and proportions whenever necessary.

Results: In present study, only 35.71% students knew the definition of organ donation, whereas 46.94% and 51.02% students knew that what organs can be donated and who could be an organ donor respectively. Majority 71.43% students believed that who should make decision about organ donation in case of unclaimed dead body. Majority 82.65% students reported that live organ donation is better than cadaveric organ donation in solving shortage, 67.34% thought that donating one's organ adds meaning to one's life.

Conclusions: Undergraduate students have inadequate knowledge, but have positive attitudes towards organ donation. There is a need to increase knowledge regarding organ donation among this essential group.

Keywords: Knowledge, Attitude, Organ donation, Undergraduate medical students

INTRODUCTION

Organ donation is the donation of biological tissue or an organ of the human body from a living or dead person to a living recipient in need of a transplantation.¹ Organ transplantation is one of the most brilliant developments in the field of medicine during twentieth century. The global observatory on donation and transplantation (GODT) in collaboration with the WHO compiles data on

organ donation and transplantation. According to GODT, in 2013 around 1,17,333 solid organs were reported to be transplanted, this is almost $\leq 10\%$ of the global needs. Majority of these transplantations occur in developed regions, mainly America and Europe. The organ donation rate in India is approximately 1 per million populations, as compared to Spain where 35 donations take place per million populations and the deceased donation rate is almost insignificant. Therefore, efforts are needed to

motivate the general public to pledge and donate organs, especially in conditions of brain death.² In India, well documented organ transplantations started with kidneys in early 1970s at CMC Vellore. Liver and cornea transplant began slowly in the 1990s & is now being done at many hospitals in various metropolitan cities of India. At any point of time, 8-10 brain-dead patients have been recorded in various ICUs in our country.³

The issue of organ donation is complex and multifactorial involving ethical, legal, medical, organizational, and societal factors.⁴ Countries around the world have reported that people's attitudes toward organ donation are influenced by factors such as knowledge, education, and religion.⁵ Today, in India the demand for organs for transplantation far exceeds the supply. Transplant technology and surgical methods continue to improve enhancing chances of survival and improved quality of life for the recipient. To save and extend lives, organ donation and organ transplantation have become the only hope. Health care professionals play a vital role in imparting positive knowledge towards organ donation among the people. Medical students as future physicians will take up the role of promoting organ donation. Hence, the present study was carried out to assess the organ donation related knowledge and attitude amongst undergraduate medical students of a medical college affiliated to Maharashtra University of Health Sciences, Nashik, Maharashtra, India.

METHODS

A cross-sectional questionnaire based study was carried out from January 2016 and August 2016 amongst second year undergraduate medical students of IIMSR Medical College, Badnapur, Jalna, Maharashtra which is, affiliated to the Maharashtra University of Health

Sciences (MUHS), Nashik, Maharashtra. The IIMSR Medical College, Badnapur has been offering the MBBS course since 2013, with a maximum annual intake of 100 students, majority were minorities. The students joining this course come from all over India. All 107 second year students of this institution were included in the study. On the day of the study, out of total 107 students, 102 students were present and filled the questionnaires, out of which 2 were returned unfilled and 2 were incomplete, that's why they were excluded from the final analysis; at final 98 questionnaires were filled complete and included in the study and data were analyzed.

A pre-designed and pre-tested questionnaire was used in this study, based on the previous literature.^{6,7} The questionnaire was divided in two parts. The first part pertained to the demographic information of the undergraduate students like age, gender and marital status. The second part had questions related to knowledge and attitude regarding organ donation and it contained total 16 multiple choice and descriptive questions; eight questions each on knowledge and attitude component. The ethics committee of the institute had approved the study. Informed verbal consent was obtained from each participant following a detailed explanation of the objectives and protocol of the study. All recorded data were entered in MS Excel and analyzed in the form of percentage and proportions whenever necessary.

RESULTS

It was observed from Table 1 that among the study population, 60.20% respondents were males and 39.80% were females; and 48.98% were in the age group 18–20 years and 10.20% in the age group >22 years. Majority 71.43% were Muslims followed by 28.57% were Hindus.

Table 1: Demographic characteristics of the study population.

Demographic characteristics	Number (n = 98)	Percentage (%)
Age (in years)		
18–20	48	48.98
20–22	40	40.82
>22	10	10.20
Gender		
Male	59	60.20
Female	39	39.80
Marital status		
Married	00	0.00
Unmarried	98	100
Religion		
Hindu	28	28.57
Muslim	70	71.43

Table 2: Assessment of knowledge and attitude regarding organ donation amongst study population (n=98).

Questions on knowledge and attitude	Correct No. (%)	Not correct No. (%)
Questions on knowledge		
1. What is definition of organ donation?	35 (35.71)	63 (64.29)
2. What organs can be donated?	46 (46.94)	52 (53.06)
3. Who could be an organ donar?	50 (51.02)	48 (48.98)
4. Who should give consent for living donation?	61 (62.24)	37 (37.76)
5. Who should give consent for donation after death?	68 (69.38)	30 (29.62)
6. Who should make decision about organ donation in case of unclaimed dead body?	70 (71.43)	30 (28.57)
7. Can a brain-dead patient's organs be donated?	39 (39.80)	59 (60.20)
8. Donor's and recipient's blood group MUST be matched?	74 (75.51)	24 (24.49)
Questions on attitude		
	Yes No. (%)	No No. (%)
1. Do you support organ donation?	81 (82.65)	17 (17.35)
2. Do you feel comfortable to think or talk about organ donation?	44 (44.89)	54 (55.11)
3. Do you think live organ donation is better than cadaveric organ donation in solving shortage?	81 (82.65)	17 (17.35)
4. Believe one's body should remain intact after death	61 (62.24)	37 (37.76)
5. Can parents/guardians take substitute decision for persons who are mentally disabled in the case of organ donation?	70 (71.43)	30 (28.57)
6. Does your religion agree with organ donation or transplantation?	45 (45.91)	53 (54.09)
7. Do you willing to donate organs when you die?	27 (27.55)	71 (72.45)
8. Do you think donating one's organ adds meaning to one's life?	66 (67.34)	32 (32.66)

Proportion of subjects with correct answer for each question on knowledge and attitude questionnaire was shown in Table 2. Only 35.71% students knew the definition of organ donation, whereas 46.94% and 51.02% students knew that what organs can be donated and who could be an organ donar respectively. Majority 71.43% students believed that who should make decision about organ donation in case of unclaimed dead body and 69.38% knew that who should give consent for donation after death. Majority 82.65% students reported that live organ donation is better than cadaveric organ donation in solving shortage, 67.34% thought that donating one's organ adds meaning to one's life. Less than half of the respondents 44.89% agreed to feel comfortable to think or talk about organ donation. Only 27.55% of the participants definitely wanted to donate organs when they die.

DISCUSSION

Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failure. It offers a better quality of life with a better survival benefits. In the present study, only 35.71% students knew the proper definition of organ donation, whereas 46.94% and 51.02% students knew that what organs can be donated and who could be an organ donor respectively. Similarly study done by Abdullah et al revealed that only 29.8% knew the proper definition of organ donation.⁷ This limited knowledge of medical students about organ donation is most likely a result of a deficient teaching on

the subject of organ donation in the undergraduate medical curriculum. But now due to the recent introduction of the topic on organ donation was done in Maharashtra University of Health Sciences, Nashik. This offers a hope of an increase in the level of knowledge in future.

In our study, only 27.55% of the participants definitely wanted to donate organs when they die. Reason might be a lot of social and cultural factors are involved along with imprudent religious beliefs which prevent people from donating their organs. Another reason might be the emotional association families have with the dead bodies of their loved ones as well as the sanctity of the dead body. Similarly, study done by Abdullah et al revealed that only 26% of participants definitely want to donate organs irrespective of circumstances.⁷ Other studies done by Ali et al, Bapat et al, Shah et al and Bharambe et al also revealed that 44.9%, 89.1%, 62.5% and 43.9% participants were willing to donate their organs irrespective of circumstances respectively.⁸⁻¹¹

One of the key issues regarding organ donation is its allowance in religion. From this point of view 45.91% of the medical students were of the opinion that religion allows organ donation. Similar findings by Ali et al in his study also revealed that 48.7% of the medical students were of the opinion that religion allows organ donation.⁸ Another study done by Abdullah et al also mentioned that more than half (58.5%) of the participants reported that their religion allows organ donation.⁷ Organ donation is a

community service, which saves lives, improves quality of life and has cost benefits for society. In recent years, the cost of transplantation has become significantly lower, and organ transplantation is one of the most effective lifesaving procedures.¹²

In present study, participants asked about the question, can parents/guardians take substitute decision for persons who are mentally disabled in the case of organ donation. Majority 71.43% participants agreed the same. Similar finding by Abdullah et al found that 40.5% participants agreed that parents/ guardians can make substitute decision making for mentally disabled persons in the regard of organ donation.⁷

Limitations

Limitations of this cross-sectional study is that the findings are from a single private medical college and had a small sample size; therefore, the results cannot be generalized to other medical colleges in India.

CONCLUSION

Present study concluded that there exists a knowledge gap among undergraduate medical students about organ donation, but they had positive attitude towards organ donation. Medical students as future physicians will take up the role of promoting organ donation. Hence there is a need to increase the knowledge gap regarding organ donation amongst undergraduate medical students. However, more comprehensive awareness programs are required to increase awareness about organ donation and brain death. Media, religious leaders and medical fraternity should be involved. There should be comprehensive training programs for doctors and transplant coordinators on organ donation so that they can recognize potential donors and assist the process of organ retrieval, allocation and transplant.

ACKNOWLEDGEMENTS

We deeply acknowledge the help and support of Mr. Pankaj R. Gangwal, Statistician, Dept. of Community Medicine of IIMSR Medical College, Badnapur, Jalna during data collection. Last but not the least; we are indebted to our second year medical students of 2016 batch for their assistance during data collection of the study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Giri PA, Yuvaraj BY, Kamble MG, Solepure AB. Organ donation and transplantation: knowledge and attitude amongst Indian undergraduate medical students. Int J Community Med Public Health 2017;4:4303-6.