



# Knowledge and Attitude about Organ Donation and Transplantation among Students of a Medical College in Kalaburagi

Nimra Shireen<sup>1</sup>, Mohammad Waseem Ansari<sup>1</sup>, Amruta S Indupalli<sup>2</sup>, Shibi Selladurai<sup>3</sup>,  
Shri Srinivas Reddy<sup>4</sup>

**Financial Support:** None declared

**Conflict of Interest:** None declared

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## How to cite this article:

Shireen N, Ansari MW, Indupalli AS, Selladurai S, Reddy SS. Knowledge and Attitude about Organ Donation and Transplantation among Students of a Medical College in Kalaburagi. *Natl J Community Med* 2018; 9(4): 278-282

## Author's Affiliation:

<sup>1</sup>Asst Prof; <sup>2</sup>Prof & Head, Dept of Community Medicine, ESIC Medical College Gulbarga; <sup>3</sup>Asst Prof, Dept of Community Medicine, Vanayaka Mission's Kirupananda Variyar Medical College, Salem; <sup>4</sup>Asst Prof in Biostatistics, Dept of Community Medicine, ESIC Medical College Gulbarga

## Correspondence

Dr. Mohammad Waseem Faraz Ansari  
waseem\_ansari@rediffmail.com

**Date of Submission:** 17-03-18

**Date of Acceptance:** 06-04-18

**Date of Publication:** 30-04-18

## ABSTRACT

**Introduction:** Organ donation is a community service, which not only saves lives but also improves the quality of life as well. Although awareness regarding voluntary blood donation is satisfactory among our people, pledging for donation of organs after death lacks prominence in our country. Health care professionals play a vital role in imparting positive knowledge towards organ donation. The study was conducted to assess the knowledge about organ donation and transplantation among medical students and to study their attitudes towards organ donation.

**Methodology:** An Institution based cross sectional study was conducted at ESIC Medical College, Kalaburagi for a period of two months. A pre-tested, semi-structured and self-administered questionnaire was used to collect the data. Data was analyzed by using SPSS version 23.

**Results:** The mean + SD of knowledge score was 11.54 + 2.54 and only 4.5% of the students had good knowledge about organ donation and transplantation. Majority (79%) of them had positive attitude towards organ donation.

**Conclusion:** There exists a wide knowledge gap among the students about organ donation and transplantation, but they have a positive attitude towards organ donation. Therefore, awareness programmes about organ donation and transplantation needs to be organized in the medical colleges across the country.

**Key words:** Organ donation, Organ transplantation, Knowledge, Attitude, 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.<sup>1</sup> In case of end-stage organ disease and organ failures, the best treatment option is Organ transplantation wherein the organ is replaced by a healthy one from a donor, either living or dead. For organ recipients, a transplant often means a second chance at life. Vital organs such as the heart, pancreas, liver, kidneys and lungs can be transplanted to those whose organs are failing. It allows many recipients to return to a normal lifestyle. For others, a cornea or tissue transplant

means the ability to see again or the recovery of mobility and freedom from pain. Organ transplant technology and surgical methods offers better long-term survival benefits and improved quality of life for the recipient. To save and extend lives, organ donation and organ transplantation have become the only hope.<sup>2</sup>

At least seven lives can be saved if one person donates all his organs after death but unfortunately, lakhs of people die waiting for an organ in our country. According to a research done by a Non-Governmental Organization (NGO) it was found that in India nearly 1.5 lakh people are in need of a kidney transplant for their survival but only 3000

of them receive one and the rest of them lose their life waiting for their turn. The liver transplant requirement is around 25000 but we manage to achieve only about 800. Hence, the waiting list for organ transplantation is exponentially increasing day by day.<sup>3</sup> This gap of demand and supply is the primary hindrance to a successful deceased donor organ transplantation program.

Although awareness regarding voluntary blood donation is satisfactory among our people, pledging for donation of organs after death lacks prominence in our country. The organ donation rate of 0.26 per million in India is poor compared with America's 26, Sweden's 35.3 and Croatia's 36.5 per million.<sup>4</sup> The main concern of most transplant surgeons is to increase the donor pool and spread the willingness of donation among healthy individuals. Lack of awareness and correct knowledge along with myths and misconceptions regarding organ donation due to religious and cultural barriers add to the low percentage of organ donation.<sup>5,6</sup>

Thus there is an urgent need for increasing awareness about organ donation and transplantation among the general public, beginning with the health-care professionals. Knowledge and attitude of health-care professionals towards Organ donation play a major role in promoting the concept among general population and as future doctors, medical students should have adequate awareness regarding this important issue in our society that affects millions of lives. With this background, the current study was conducted to assess the knowledge and attitude about organ donation and transplantation among the medical students.

## OBJECTIVES

The study was conducted to assess the knowledge about organ donation and transplantation among the medical students and to study their attitudes with regard to organ donation.

## METHODOLOGY

An Institution based cross sectional study was conducted at ESIC Medical College, Kalaburgi for a period of two months from 1<sup>st</sup> December 2017 to 31<sup>st</sup> January 2018. All the undergraduate students studying in the medical college were listed and those consenting to participate were included in the study. Informed verbal consent was obtained from each subject following a detailed explanation of the objectives and protocol of the study. The respondents were assured that anonymity and confidentiality will be maintained.

Out of 237 students, 200 students participated in this study. A pre-tested, semi-structured and self-administered questionnaire was used to collect the data. The questionnaire was divided in **two** parts. The **first part** pertained to the demographic information of the undergraduate students like age, gender, religion and phase. The **second part** had questions related to knowledge and attitude regarding organ donation and it contained total 18 multiple choice questions; 12 questions each on knowledge and 6 on attitude component. Each question was given a weighed score and the total score was 24 and 12 for knowledge and attitude component respectively. The scores below 15 were considered as poor knowledge and 15 or above as good knowledge and the scores below 8 were considered as negative attitude and 9 or above as positive attitude towards organ donation. The questionnaire was distributed to undergraduate medical students during lecture hours in the classroom. Strict instructions were given and it was ensured that there was no discussion was done among the participants. Data was entered in an MS Excel sheet and analyzed by SPSS version 23. Descriptive statistical analysis, which included frequency, mean, standard deviation and percentages, was used to characterize the data.

## RESULTS:

The study population consisted of 200 respondents of whom 93% were in the age group of 19-22 years. Equal participation was observed from both males and females in the study. Majority (85.5%) belonged to Hindu religion followed by Muslims (10.5%) and Christians (4%). (Table 1)

**Table 1: Distribution of study subjects according to socio-demographic factors (N=200)**

Socio-demographic factors	Frequency (%)
Age (years)	
< 18	10 (5)
19-22	186 (93)
> 23	4 (2)
Sex	
Male	99 (49.5)
Female	101 (50.5)
Religion:	
Hindu	171 (85.5)
Muslim	21 (10.5)
Christian	8 (4)
Phase:	
First	23 (11.5)
Second	114 (57)
Third - Part I	15 (7.5)
Third - Part II	48 (24)

In our study it was found that the mean + SD of knowledge score of the study subjects was 11.54 + 2.54 and only 4.5% of the students had good knowledge about organ donation and transplantation.

It is observed from the Table 2 that only 11.5% of the respondents knew the correct definition of organ donation. When asked about organs which a living person can donate, 62.5% were partially right, while regarding what organs can be retrieved after natural death and brain death, majority of them i.e, 89% and 92.5% were partially right respectively. It was also found that most of the students (92%) had no adequate knowledge about what has to be done after the death of a person who has pledged his/her organs and the importance of family's consent with respect to this. About necessity to match donor's and recipient's blood group in skin transplantation and duration within which the skin should be harvested, 77.5% and 75% of the participants did not answer cor-

rectly respectively. Majority of the students (86%) had poor knowledge about the time interval within which the organs from a brain dead person should be retrieved. (Table 2)

Although the medical students had poor knowledge about organ donation and transplantation, but it was found that most of them (79%) had positive attitude towards organ donation. The mean + SD of attitude score of the respondents was 10.14 + 2.24.

Table 3 represents the attitude of the students towards organ donation. Around 98% of the study subjects support organ donation and majority (95.5%) said they feel comfortable to think or talk about donation of organs. While a significant number of students (87.5%) were willing to donate their organs after they die and around 3/4<sup>th</sup> of them were willing to motivate their family members as well, only 57.5% of them think that cadaveric organ donation helps in reducing the shortage of organs for transplantation.

**Table 2: Assessment of knowledge about Organ donation (N=200)**

Knowledge about Organ donation	Right (%)	Partially right (%)	Wrong (%)
What is organ donation?	23 (11.5)	155 (77.5)	26 (13)
What can a living person donate?	75 (37.5)	125 (62.5)	0
What can be retrieved in case of natural death?	11 (5.5)	178 (89)	11 (5.5)
What can be retrieved in case of brain death?	4 (2)	185 (92.5)	11 (5.5)
What happens after the death of a person who has pledged his/her organs?	16 (8)	175 (87.5)	9 (4.5)
What are the contraindications to organ donation?	48 (24)	89 (44.5)	63 (31.5)
Is it necessary to match donor's and recipient's blood group in skin transplantation?*	45 (22.5)	-	155 (77.5)
Skin has to be harvested within how many hours?*	50 (25)	-	150 (75)
A retrieved heart should be transplanted within: *	105 (52.5)	-	95 (47.5)
In case of a brain death person, organs can be retrieved upto a maximum of: *	28 (14)	-	172 (86)
How pledging for Organ donation can be done?	93 (46.5)	77 (38.5)	30 (15)
In a living person the portion of what organ(s) can be donated?	93 (46.5)	97 (48.5)	10 (5)

\* These questions of knowledge component did not have the option of partially right

**Table 3: Assessment of Attitude towards Organ donation (N=200)**

Attitude towards Organ donation	Yes (%)	No (%)
Do you support organ donation?	196 (98)	4 (2)
Do you feel comfortable to think or talk about organ donation?	191 (95.5)	9 (4.5)
Do you think cadaveric organ donation helps in reducing shortage of organs for Transplantation?	115 (57.5)	85 (42.5)
Do you will to donate organs when you die?	175 (87.5)	25 (12.5)
Will you motivate your family to donate organs?	152 (76)	48 (24)
Do you think pledging organs for donation will add more meaning to one's life?	186 (93)	14 (7)

**DISCUSSION**

In the present study it was found that majority of the study subjects (93%) belonged to the 19-22 years age group and there was equal participation from both males and females. Whereas in a study done by Shah R, et.al<sup>7</sup> among commerce college students, 73.5% were males and in another study among dental students by Chakradhar K, et.al<sup>8</sup>,

79.9% of the respondents were females. In this study it was revealed that very few medical students (4.5%) had good knowledge about organ donation and transplantation. Similar results (3%) were found in a study done in Chandigarh by Kaur S, et.al<sup>6</sup> and in contrast good knowledge about organ donation (53%) was observed in another study conducted by Manojan KK, et.al in rural Kerala<sup>9</sup>. A

questionnaire based study conducted by Hamed H, et.al.<sup>10</sup>, found that 64% of the responders had poor knowledge while 36% had good knowledge about Organ donation. Another study done by Alex P, et.al., among students of a medical college in South India<sup>11</sup>, 22.4% of the students had good knowledge, 65.4% had average knowledge and 11.74% had poor knowledge. The proper definition of organ donation was known to only a few of the students (11.5%) in this present study, which is quite lower when compared with the findings (35.7%) of a study done among undergraduate medical students of a college in Jalna, Maharashtra by Giri PA, et.al.<sup>2</sup>

Students had less knowledge regarding the organs that can be donated by a living person and organs that can be retrieved from brain dead and natural dead persons. These findings were found to be in contrast with the results of a study conducted by Kaur S, et.al.<sup>6</sup> among nursing students where 89.5% and 69.5% of the participants had good knowledge about the organs donated by a living person and cadaver respectively. Another study done in Pune by Bharambe VK<sup>12</sup> revealed that 24.4% of the study subjects were aware of live organ donation and 14.6% were aware of organ donation following brain-death. A survey done among medical students of Bristol by Edwards AG, et.al., found that 66% were aware that in addition to the use of organs from brain stem dead donors, kidneys could also be transplanted from living donors<sup>13</sup>. In this study we also found that the participants had poor knowledge as to what has to be done after the death of a person who has pledged his/her organs and the importance of family's consent with respect to this (8%). Whereas when compared with a study by Kaur S, et.al.<sup>6</sup>, it was found that, 99% of subjects agreed that for donation of organs after death, family's decision has to be considered. This limited knowledge about organ donation among medical students can be related to deficient teaching about organ donation and transplantation in the undergraduate medical curriculum.

Even though very few (4.5 %) of respondents had good knowledge about organ donation, we found that a significant number of participants (79%) had positive attitude towards organ donation. This finding was more appreciable and was much higher than the findings from the studies done by Kaur S, et.al.<sup>6</sup> (43.5%) and Manojan KK, et.al.<sup>9</sup> (26%). A large number of respondents (87.5%) were willing to donate their organs after their death and nearly two-third of them (76%) said that they will motivate their family members for organ donation. A study done by Arunachalam D, et.al.<sup>14</sup>, revealed the same findings that 80.6% of subjects had the intention to donate their organs. In another study among postgraduate students by Bapat U, et.al.<sup>15</sup>,

89% said they would like to donate their organs, while remaining said "no to organ donation" for various reasons. Majority of the students (98%) agreed that they support organ donation and feel comfortable to think or talk about it (95.5%). More than half of them (57.5%) reported that live organ donation is better than cadaveric organ donation in solving shortage and most of them thought that donating one's organ adds meaning to one's life. These findings were concurrent with the results of a study conducted by Giri PA, et.al.<sup>2</sup>

## CONCLUSION

Our study concluded that there exists a wide knowledge gap among undergraduate medical students about organ donation and transplantation, but they have a positive attitude towards organ donation. Since medical students are the future doctors, if they realize the gravity of the situation in our country and have adequate knowledge, they in turn will play an important role in creating awareness and motivation of the general public towards organ donation. Therefore, to enhance their knowledge, awareness programmes about organ donation and transplantation needs to be organized in the medical colleges across the country. Also we would like to emphasize that organ donation and transplantation lectures should be included in the undergraduate medical curriculum.

## ACKNOWLEDGEMENT

We would like to thank all the medical students who have participated and enabled the study to be conducted successfully. We would also like to thank Dr. I Amruta Swati for her guidance and support.

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