

Are Medical Students Having Enough Knowledge about Organ Donation

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Abstract: Objectives: Organ donation and transplantation is an important aspect of treatment of chronic condition in today's era of medicine. But still there is no formal education provided to the medical students on this topic. Through this study, we aim to determine the level of knowledge among medical students regarding organ donation and their overall attitude towards the concept of organ donation in a medical college in Southern part of India.

Methods: A cross sectional study was done at Mandya Institute of Medical Sciences, Mandya, Karnataka. Data was collected using a pretested anonymous questionnaire designed by the authors. Students were approached in their lecture halls and asked to participate after explaining the importance of study and obtaining oral consent. In a sample of 400 medical students, 393 valid questionnaires were considered for the study. Data was entered in MS Excel and analyzed by SPSS version 10.0. Chi Square test was used to compare categorical variables.

Results: 393 students participated in this study out of 400, response rate: 98.25% with 48.6% males and 51.4% females. This included students from all the four years of medical school. Mean age was found to be 20.15 years with SD 01.49 years. All the students knew the term organ donation. Majority (55.2%) answered media as their major source of information on this topic. 300 students (76.3%) answered that brain dead persons can be considered for organ donation. 302 (76.8%) students regarded infections as a contraindication to organ donation. Heart and kidney was majorly answered as the organs that can be donated. 355 students (90.4%) agreed that organ donation is a gift of life to another individual, though only 225 (57.3%) were willing to donate their organs. 56 (14.2%) respondents believed their religion doesn't allow them to donate organs, while 29 (7.4%) believed that organ donation may disfigure their body after death.

Conclusions: Overall medical students do know about the term organ donation, though there is significant lack of knowledge on the topic. The reasons for this are many, for instance, no formal education on this issue, lower rate of transplantations done in India compared to the developed countries and hence, students have less exposure to such scenarios. Introducing this topic as a part of the medical curriculum may have a significant impact on the improvement of medical students' knowledge. There is overall a positive attitude of medical students towards organ donation. There is a high level of motivation and desire among the students to learn more on this topic of organ donation which was clearly indicated by the high level of participation in this survey.

Key words: Organ donation, medical students, knowledge, ethical perceptions.

I. Introduction

During the past few decades, organ donation has increased widespread as the modality of treatment and in fact, is usually the only option of treatment in many end organ diseases. But this form of treatment needs consideration of many factors like ethical, medicolegal to name a few. Knowledge, attitude and behavior of healthcare professionals are important factors in fostering an environment that can encourage and promote organ donation among the entire population. Since medical students are the future doctors of the country, their positive attitude and high level of knowledge can create a positive environment and promote organ donation. Hence, this study was carried out to determine the present level of knowledge and attitude of medical students towards organ donation.

II. Methods

The study was conducted at a government medical college in the state of Karnataka in India. The curriculum consists of 4 years of medical school and 1 year of internship. Each batch consists of 100 medical students, which makes up a total of 400 medical students excluding the interns. Students were approached in their lecture halls and were asked to fill the questionnaire after explaining them the importance of this study. Oral consent was taken. Those unwilling to participate were asked to return the questionnaire. Out of 400 students, 393 students participated in the study. Questionnaire was considered valid if more than 80% questions were answered. All the 393 questionnaires were valid.

Each questionnaire had a total of 20 questions to determine the knowledge and attitude of medical students regarding organ donation. Knowledge questions were to be answered in the form of true or false.

Attitude based questions were to be answered on the Likert 5 scale in the form of strongly agree, agree, disagree, strongly disagree or don't know.

Out of the 393 filled valid questionnaires, 98 were filled by first year medical students, 96 by second year, 99 by third year and 100 by fourth year medical students. 202 were female respondents and 191 were male respondents.

Data was entered in MS Excel and analyzed on Statistical Packages for the Social Sciences SPSS version 10.0 by IBM Corporation, America. Categorical variables were compared using Chi Square test and p value of <0.05 was considered significant.

III. Results

A total of 393 questionnaires were filled and considered valid. 98, 96, 99 and 100 were the number of respondents from first, second, third and fourth year respectively who filled out the questionnaire. 48.6% were male and 51.4% were female respondents. Mean age of the students was 20.15 years with a standard deviation of 01.49 years.

Interestingly all the students (100%) were aware of the term organ donation.

Assessment of knowledge (Table 1 and Figure 1)

There were 8 questions to test the depth of knowledge on organ donation.

Regarding whether brain dead patients can be considered as potential donors for organ donation, 300(76.3%), stated it as true. It was answered correctly by 66 (67.3%) first year, 66(66.7%) second year, 82 (85.4%) third year and 86(86%) fourth year medical students. A high level of significance was found between year of medical school and knowledge on this question (p value= 0.003).

Virtually 76.8% were aware that infectious disease as a contraindication for organ donation. Segregating each year's data, 68 (69.4%) first year, 68 (68.7%) second year, 81 (84.4%) third year and 85 (85%) fourth year medical students gave the correct answer and the level of significance was high (p value=0.0063).

62.6% agreed that the wishes of the deceased should be honoured regarding organ donation. 62 (63.3%) first year, 56 (58.3%) second year, 65 (65.7%) third year and 63 (63%) fourth year students responded it as true and difference was not significant (p value=0.292).

Regarding payment for donating organs, 66.4% answered that there is no payment to be made to be made for donating organs. This included 68 (69.4%), 66 (68.8%), 68 (68.7%) and 59 (59%) first, second, third and fourth year medical students respectively and the difference was not significant (p value=0.127).

51.9% of the respondents felt that there is no particular age group for donating organs. This was answered by 52 (53.1%) first year, 53 (55.2%) second year, 56 (56.1%) third year and 43 (43%) fourth year medical students (p value=0.055, not significant).

Further it was observed that 14.5% identified parents as the ideal candidate, 34.6% considered siblings as the ideal candidate, 48.3% answered that anyone can be considered as the donor and 0.3%, 2%, 0.3% considered spouse, children and friends as the ideal candidate respectively. (Figure 2).

95.7% of the respondents stated that there is a requirement of the time period for which the organs are viable for donation.

Interestingly, 89.1% and 97.7% stated that heart and kidney can be donated respectively. 62.3% and 33.6% of the students answered that liver and lung can be donated respectively while 11.2% considered that all organs can be donated. (Figure 3)

Assessment of attitudes (TABLE 2)

Overall students had a positive attitude towards donating organs. Their individual answers are mentioned in Table 3. 90.4% respondents agreed that organ donation is a gift of life to another individual, though only 57.3% were willing for donating their organs. 14.2% students cited religious beliefs as the reason to refuse organ donation, while 20.3% stated that their family will not allow organ donation and 7.4% individuals feared body disfigurement after organ donation. The difference in the attitude of males and females was not significant (p value<0.05).

Sources of knowledge of organ donation(Figure 4)

From the assessment of the responses to this question, 55.2% mentioned media as their source of information, while 22.4% regarded health professionals as their source of information and 12.2% answered parents and friends as their source of information.

IV. Discussion

Organ donation and transplantation is the most important treatment modality of many end organ diseases. Even then, the gap between demand and supply is quite high. Many patients die while waiting for a transplant. This scenario is seen in most of the countries nowadays including India. One of the main reasons behind this is lack of knowledge among the entire population and many myths and beliefs accepted by people with respect to organ donation. Health professionals can play a major role of improving the attitude of general

public by creating awareness amongst them and improving their knowledge. It has been shown in previous studies as well that health professionals can positively influence the opinions and attitudes of patients and their relatives, leading to higher rates of organ procurement.(15,16) Since medical students serve as the future doctors, it is important to determine the level of knowledge among them and their attitude towards organ donation. Thus, through this study we aimed to determine the knowledge of medical students in a college in South India and their attitude.

A heartening observation was that the response rate was noted to be quite high, 98.25%. This shows the interest of the students towards the topic of organ donation and their desire to learn more on this issue. Similar response rate was also obtained in a study done in Hong Kong where the response rate was 94%.(11)

It was overwhelming that all the students (100%) knew the term organ donation. This was consistent with a study done in Mangalore (12). This can be related to higher level of exposure of medical students to conditions and patients requiring organ donation. But apart from knowing the term, the overall knowledge of medical students on this topic was not high enough. This can be attributed to many factors. One of them is the lack of inclusion of organ donation and transplantation as a part of the medical curriculum. Third and fourth year medical students had a greater knowledge about contraindications to organ donation and considering brain dead person as a potential organ donor, though there wasn't much difference in their level of knowledge compared to first and second year students on ethical issues concerning organ donation, like whether to consider the wishes of the deceased or the family regarding organ donation and whether any amount has to be paid for organ donation. Similar observation was made in a study done in Greece(3, 17,18).

Another aim of this study was to find out the overall attitude of medical students towards organ donation. Most of the students had a positive attitude towards organ donation. 90.4% agreed that organ donation is a gift of life to another individual, though only 57.3% were willing for organ donation. There could be several reasons for this: perceived difficulty in signing up the organ donor register, lack of knowledge of the procedure to sign up as organ donor or that signing up is not a priority(8). Similar results were seen in a Romanian study (3, 18) where 62% respondents were willing for organ donation and a study in Greece where more than half of all the medical students under the study were willing to register themselves as organ donor. These observations were different from the study done in Nigeria where only 30% were willing for organ donation(19) and Ohio, where more than 96% said that they were willing for organ donation. (20)

An interesting observation made was that only 14.2% considered their religious beliefs as a limiting factor for not allowing organ donation. This observation was similar to a study done in India but quite different from the one done in Pakistan (1). And only 7.4% believed that their body may be disfigured after organ donation.

Only 35.4% of the students knew about the Non Governmental Organisations (NGOs) working for the noble task of organ donation. This can to an extent be explained by the overall lack of knowledge about organ donation among medical students and this in turn, may explain their unwillingness to donate. Studies have shown if they know more about the organ donation process and agencies working towards it, they are more likely to be willing for donation.

It was disappointing to note that despite being medical students and in constant interaction with health professionals, more than half of them answered media as their major source of information regarding organ donation (55.2%), while only 22.4% regarded health professionals as their source of information. This highlights the point that medical curriculum is lacking on aspects related to organ donation and further studies maybe conducted to analyze the reason behind it. This observation was similar a study conducted in Pakistan(2).

Overall to conclude it can be said that students are quite keen on learning about organ donation and transplantation, but there is lack of sufficient knowledge on the topic. In general, there is a positive attitude of medical students towards organ donation. Creating a sufficient knowledge base by promoting organ donation and transplantation, through inclusion in medical curriculum or through social media and promotion of NGOs (12) working towards this noble task can increase the rate of organ donation and help to lessen the gap between demand and supply.

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Table 1
Table 1 showing Analysis of Knowledge of medical students on organ donation

Question	All n (%)	First year n (%)	Second year n (%)	Third year n (%)	Fourth year n (%)	P value
Brain dead person can be considered for organ donation	300 (76.3)	66 (67.3)	66 (66.7)	82 (85.4)	86 (86)	0.003*
Infectious disease is a contraindication for organ donation	302 (76.8)	68 (69.4)	68 (68.7)	81 (84.4)	85 (85)	0.0063*
We need to honour the wishes of the deceased regarding organ donation and not the family	246 (62.6)	62 (63.3)	56 (58.3)	65 (65.7)	63 (63)	0.292
Payment has to be made to donate organs	261 (66.4)	68 (69.4)	66 (68.8)	68 (68.7)	59 (59)	0.127
People of any group can be organ donor	189 (48.1)	46 (46.9)	43 (44.8)	43 (43.4)	57 (57)	0.055

*P value significant

n= Number of students who gave the correct answer

Figure 1

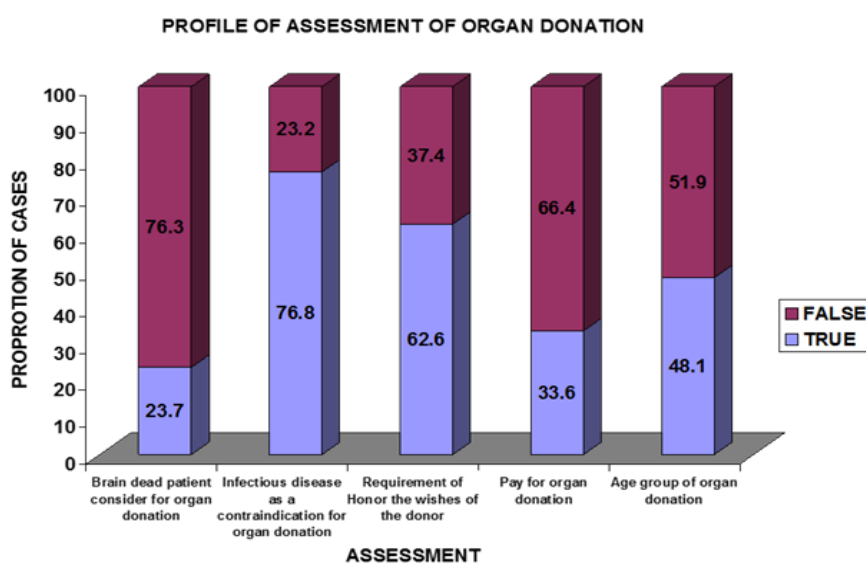
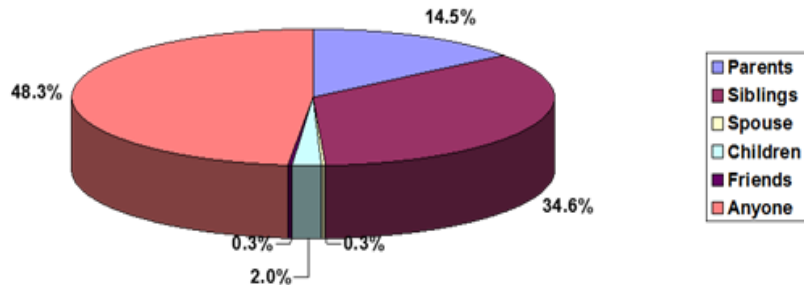


Figure 3

PROFILE FOR IDEAL CANDIDATE FOR ORGAN DONATION



ORGANS THAT CAN BE DONATED

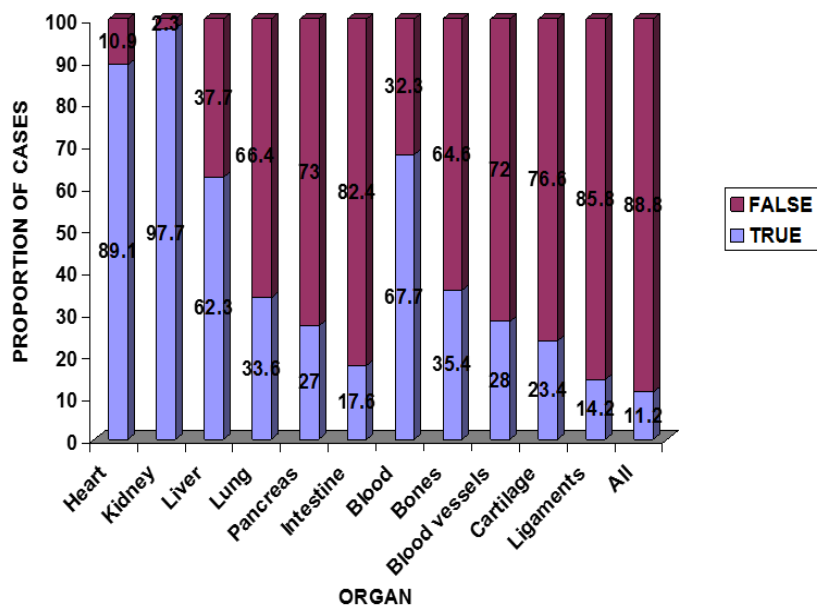


Figure 2

Table 2

Table showing the response of students to questions related to attitude towards organ donation.

Statement	Strongly agree n (%)	Agree n (%)	Disagree n (%)	Strongly disagree n (%)	Don't know n(%)
Organ donation is a gift of life to another person	214 (54.5)	141 (35.9)	006 (01.5)	008 (02.0)	024 (06.1)
I am willing to donate organ	108 (27.5)	117 (29.8)	020 (05.1)	026 (06.6)	122 (31.0)
My religious beliefs won't allow me to donate organs	024 (06.1)	032 (08.1)	156 (39.7)	079 (20.1)	102 (26.0)
Organ donation should be mandated by law	037 (09.4)	074 (18.8)	127 (32.3)	055 (14.0)	100 (25.5)
My family will not allow for organ donation	015 (03.8)	065 (16.5)	102 (26.0)	061 (15.5)	150 (38.2)
There is fear of disfigurement of body after organ donation	011 (02.8)	018 (04.6)	161 (41.0)	107 (27.2)	096 (24.4)

n=Number of students

Figure 4

PROFILE FOR SOURCE OF THE KNOWLEDGE ABOUT ORGAN DONATION

