

## RESEARCH ARTICLE



## Awareness, attitude and beliefs about organ donation among medical students of Karnataka

### OPEN ACCESS

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## Abstract

The opinions of the medical community and perhaps most importantly, the attitudes of the public, clearly affect the availability of organs for transplantation. A cross-sectional study was conducted among 181 medical students in a medical college of Karnataka in the month of August 2015. "Direct interview method" of primary source of information technique was used for data collection. A pre-tested semi-structured questionnaire was used to meet the objectives. The data was analysed and presented in simple proportions. A convenience sample of 181 medical students studying in 2nd and 3rd year MBBS in Medical College were surveyed. Out of 181 study subjects, 93 were females and 88 were males. Mean age of the study subject was 20.23 years. Majority (n= 150, 82.9%) opined that the ideal candidate for organ donation is the brain-dead followed by healthy living donors (n=23, 12.7 %) and cadaver (n=07, 3.9%). Students had good knowledge about organ donation. 61.9% students had willingness to donate their own organs. The attitude scores, on the individual items, showed a mean of 2.17 to 3.87 (agree) when asked about approving of cadaver organ donation, willingness to donate one's own or a child/family members organs, and willingness to discuss organ donation with one's family. Majority of the students had correct perceptions about organ donation. The students have good knowledge about the brain death and positive attitude towards organ donation. However, there is need for further research on attitude of medical students and other professionals on larger sample and also better education programs regarding the organ donation process.

**Keywords:** Organ donation; Medical students; Brain dead; Organ Transplantation

## Introduction

Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failure<sup>(1)</sup>. Organ transplantation saves thousands of lives worldwide. It is a boon to the medical profession, as it helps in saving the lives of many diseased people<sup>(2)</sup>. Organ donation is the process of giving an organ or a part of an organ for the purpose of its transplantation into another person.

It offers a better quality of life and also has better long-term survival benefits. There is an increasing discrepancy between the number of patients on the waiting list for organ transplantation and the available number of deceased donor organs. Health-care professionals are the critical link in augmenting public awareness about organ donation. It has been legalized in India, under the “Transplantation of Organ Act, 1994”. Globally, the prevalence of knowledge on organ donation was found to range from 60% to 85%, on using different knowledge variables<sup>(3)</sup>.

Although scientific progress has made the possibility of successful organ transplantation more common, the shortage of organs for transplant has become more pronounced. The opinions of the medical community and perhaps most importantly, the attitudes of the public, clearly affect the availability of such organs<sup>(4–6)</sup>. Any measures to deal with these problems must include educating and attracting the doctors of Medical students have different opinions which are governed by socio cultural factors such as traditional customs, the practice of preservation of intact body after death, uneasiness in discussing death related issues and family objections.

As future doctors, medical students have to take up the role of promoting organ donations. However, many lack relevant basic knowledge and are influenced by personal attitudes and biases which are held by the general public, which impinge on health care professionalism. There is also a discrepancy between their attitudes and actions. While a majority of healthcare professionals support organ donations, only a small proportion make actual commitments through signing of organ donor cards or registering to become organ donors<sup>(7)</sup>.

In almost every country, the organ supply for transplantation does not match the increasing demand; health professionals may play an important role in eliminating barriers and increasing organ donation. Therefore, assessing medical students’ knowledge and attitudes regarding organ donation is important for the future organ supply. This study aims at understanding the awareness, attitudes, and beliefs among the medical students.

## Methods

Observational cross-sectional study was carried out among medical students in a medical college of Karnataka. After

obtaining the informed written consent from each study subject, the data was collected. For that a specially designed self-administered questionnaire consisting of demographic profile and items covering awareness, attitudes, and beliefs towards organ donation was distributed. The respondents had to indicate their responses as either yes/no/don’t know, or agree/ disagree/don’t know. Topics related to personal willingness to donate or receive an organ for transplantation, and objections to donation, religious and other beliefs towards donation were studied. Total of 181 medical students who were present during the study were included.

## Results

A total of 181 participants from a Medical College in Karnataka filled out the questionnaire, out of which 110 (60.8%) were second year and 71 (39.2%) were third year medical students.

The mean age of the students was 20.23 years. The sample included 88 (48.6%) males and 93 (51.4%) females, and majority of the participants 164 (90.6%) were Hindus. Virtually all participants were aware about the term organ donation.

**Table 1.** Demographic profile of study subjects

Variables	No	%	
Gender	Male	93	51.4
	Female	88	48.6
Religion	Hindu	164	90.6
	Muslim	11	6.1
	Christian	6	3.3
Education	2 <sup>nd</sup> yr MBBS	110	60.8
	3 <sup>rd</sup> yr MBBS	71	39.2

### Assessment of knowledge

The knowledge items listed in Table 2 described the frequency and percentages of each item answered correctly. Questions were asked to determine the depth of knowledge of medical students regarding issues essential for organ procurement. All values stated for in the subsequent tables are “participants who gave correct answers”. Determinants of recipients of organ donation yielded a variety of results. Different scenarios were stated and student responses are recorded.

### Assessment of attitude

The attitudes held by the medicos in this study are summarized in Table 3. Attitudes were rated using a scale of 1 to 5. The higher is the score, the more positive the attitude of a

**Table 2.** Assessment of knowledge regarding organ donation among medical students

Variables	Correct answer	%
Brain death defined	154	85.1
Relative can give permission to donate	57	31.5
Physician can give permission to donate	130	71.8
EEG required to verify brain death	132	72.9
Is there time duration for which organs remain viable for transplant	178	98.3
Age limit in donating organs	106	58.6
Can organs be donated after any cause of death	137	75.7
<b>Candidacy for organ donation is diagnosed without brain activity by physician</b>		
60 yr. malignant cancer/hypertension	135	74.6
39 yr. SAH	130	71.8
20 yr. fell from roof + barbiturates	60	33.1
18 yr. motorcycle accident	148	81.8
20 yr. head trauma, BP= 90/60	45	24.9
30 yr. required 2 min. CPR to get pulse	56	30.9
74 yr. motor vehicle accident	84	46.4

medico towards organ donation. The attitude scores, on the individual items, showed a mean of 2.17 to 3.87 (agree) when asked about approving of cadaver organ donation, willingness to donate one’s own or a child/family members organs, and willingness to discuss organ donation with one’s family. The subjects’ attitude concerning organ donation were influenced most by medical school education (mean=4.31, SD=0.74) and least by religious beliefs (mean 2.64, SD=1.23). 139 (76.8%) medicos said that they would be willing to sit down and discuss organ donation with their family.

*Willingness to donate*

According to their own response, 143 (79%) individuals of the sample population demonstrated willingness to donate their or relatives organs. Among them 112 (61.9%) told they would donate their own organs. 67(37%) told they would donate organs of their children or family member.

**Table 3.** Assessment of attitude regarding organ donation among medical students

Variables	Mean	SD
Would donate own organs	3.87	0.951
Would donate organs of child/ family	3.38	0.902
Do not feel its right to prolong life through human organ transplant	3.82	1.226
Removal of organs before heart stops violates persons rights	2.79	1.145
Organ donation is more trouble than it’s worth	3.52	0.992
Cut into pieces if I permit to donate	2.17	1.059
<b>Attitude concerning organ donation influenced by my</b>		
Family attitudes	3.34	1.122
Friends attitudes	3.04	1.095
Work experience with organ donation	3.43	1.028
Medical school education	4.31	0.740
Increased knowledge of subject	4.15	0.815
Religious beliefs	2.64	1.23

*Ethics and perceptions regarding donation*

Majority of the study subjects told that the ideal candidate for organ donation is brain-dead individual (82.9%) (Table 4). 23 (12.7%) students selected a living healthy donor as the best option while 7 (3.9%) students regarded cadavers as the best option (Table 4) 81 (44.7%) medicos felt that the removal of a person’s organs before the heart stops is a violation of a person’s rights. 32 (17.7%) individuals felt that organ donation is more trouble than it’s worth. 27(15%) medicos felt that they would be cut into pieces if they permit for organ donation. Preference for the recipients of organ donation yielded a variety of results. Different scenarios were stated and student response recorded. Majority (39.2%) told that young person is preferred over elderly person for organ recipient (Table 5).

**Table 4.** Characteristics of ideal candidate for organ donation

	No	%
Brain dead	150	82.9
Healthy living donor	23	12.7
Paralysed person	1	0.6
Cadaver	7	3.9

**Table 5.** Preference for the recipient of an organ

	No	%
People who never had transplant	53	29.3
Those who damaged organ due to ill habits	21	11.6
Young person over elderly	71	39.2
Non affording patients	9	5
Incentive given to doctor	8	4.4

## Discussion

India may be considered in its infancy in the field of transplantation surgery. As the proportion of population faced with chronic diseases leading to end organ failure increases, so does the demand for organ transplantation.

There are many people at the far end of their life and counting their days because of organ failure. Their only ray of hope is in the hands of willing donors. The tremendous technological improvement in organ transplant helps to make this hope a reality<sup>(8)</sup>. Yet the gap between the needy ones and the willing donors is still very wide.

Health care professionals play a vital role in imparting positive knowledge towards organ donation among the people. Therefore, the present study was carried out on one such group of health care professionals to assess and compare the knowledge, attitude and practice regarding organ donation among medical students.

The outcome of the study is very fruitful because it revealed the status of the students in the medical field regarding organ donation. In some fields they were good and in other fields they needed to be educated. 31.5 percentage of participants responded that they 'strongly approve' organ donation, whereas 30.4% mentioned they 'somewhat approve' organ donation. Similar findings regarding positive attitudes represented by undergraduates were mentioned in studies<sup>(9-12)</sup>. About 5.5% students mentioned they would never consider

donating organs whereas 32.6% had not decided about organ donation. This is similar to a study conducted in Turkey<sup>(13)</sup>, where 9% were unwilling and 25.5% were hesitant.

Knowledge regarding organ donation and transplantation among medical students, signifying that though there may be paucity of teaching on the subject, medical curricula, clinical exposure and foreign electives may help in understanding the various aspects of transplantation<sup>(7,14)</sup>.

85.1% of the study subjects knew about brain dead patients. This finding is contrary to a study, which concluded that there is a poor understanding of the concept of brain-death and organ donation even among the medical students<sup>(10)</sup>. The present study group comprised medical students from one of the premier medical institutes of Karnataka state and it is obvious that education about organ donation is lacking in the medical curriculum at the undergraduate level. Incorporating this in the syllabus will help in improving awareness about organ donation as well as clarifying the various doubts among the students.

### *Responses related to attitudes towards organ donation*

A large majority (79%) were willing to donate their organs, a small percentage of the respondents were not willing.

With regard to the willingness to donate the organs of their family members in the event of an unexpected death and, if they could decide about organ donation, 37% of the subjects were willing to donate.

## Conclusion

The students have good knowledge about the brain death and positive attitude towards organ donation. However, there is need for further research on attitude of medical students and other professionals on larger sample and also better education programs regarding the organ donation process.

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