

## Original Research Article

## A Cross Sectional Study on Knowledge and Attitude towards Organ Donation among Medical Students

Dr. Baby Sarvani Otturu<sup>1\*</sup>, Dr. Arepalli Sreedevi<sup>2</sup>, Dr. M.S. Aruna<sup>3</sup>, Dr. Mandava Harshitha<sup>1</sup><sup>1</sup>Post Graduate Department of Community Medicine, Government Medical College, Ananthapuramu, Andhra Pradesh, India<sup>2</sup>Professor & HOD of Department of Community Medicine, Government Medical College, Ananthapuramu, Andhra Pradesh, India<sup>3</sup>Associate Professor Department of Community Medicine, Government Medical College, Ananthapuramu, Andhra Pradesh, India**Article History**

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**Abstract: Background:** The organ donation in India was very low when compared to other countries. As the medical students were future health care professionals who were the first contact of potential donors family, the knowledge and attitude of medical students towards organ donation is of utmost important for the success of the organ donation program in a country. **Objectives:** This study aimed to assess the knowledge and attitude of medical students regarding organ donation at Government Medical College, Ananthapuramu, Andhra Pradesh, India. **Methodology:** This is a descriptive cross-sectional study, conducted among third year medical under graduate students of a Government Medical College between January to March 2023. Data was collected by structured, self-administered questionnaire from 141 third year MBBS students who were selected by convenient sampling. A structured, self-administered questionnaire consisting of 25 questions was used, which includes details on socio demographic characteristics, knowledge, attitude and practice towards organ donation. **Results:** The findings showed that a majority (90%) of the students had satisfactory knowledge regarding organ donation, 80% of the medical students expressed their willingness to donate their organs. Which implies there was a gap between knowledge and attitude. **Conclusion:** The study indicates that there is a need to introduce this topic into the curriculum, and by conducting frequent Continuing Medical Education (CME), they can become future donors and they motivate their patients, which can lead to an increase in organ donation rate.

**Keywords:** Attitude, Health care professionals, Knowledge, Medical students, Organ donation.

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### INTRODUCTION

In the field of medicine organ transplantation is a procedure which saves enormous lives throughout the world. If a person donates all of his organs he can save upto 8 lives, if he donate both tissues and organs he can save 75 more lives [1]. In India organ donation rate is only 0.86 per million populations which is low when compared to other developed countries [2]. That implies there is a large gap between demand and supply of organs. This gap in our country is mainly due to lack of awareness and various myths and misconceptions surrounding organ donation. Religious and cultural beliefs also serve as barriers for organ donation. Hence, improving knowledge and creating awareness regarding the organ donation is of utmost importance for the success of organ donation program in India.

Health care professionals are the first contacts of potential donor's family; they can improve the rate of organ donation by creating awareness and eliminating the barriers through counseling [3]. Since the medical students are future health care professionals they play an important role in the process of organ donation. Knowledge and attitude of health care professionals can play a crucial role in the improvement of organ donation rates.

### OBJECTIVES

To assess the knowledge and attitude towards organ donation among medical students.

\*Corresponding Author: Dr. Baby Sarvani Otturu

Post Graduate Department of Community Medicine, Government Medical College, Ananthapuramu, Andhra Pradesh, India

## METHODOLOGY

This is a descriptive cross-sectional study, conducted among third year medical under graduate students of a Government Medical College between January to March 2023. All the students who were present on the day were included in the study. Those who were absent on that day were excluded. Convenient Sampling technique was used. A structured, self-administered questionnaire consisting of 25 questions was used, which includes details on socio demographic characteristics, knowledge, attitude and practice towards organ donation. The questionnaire was distributed to undergraduate medical students during college hours in the classroom after taking informed consent. The study subjects were assured of anonymity and confidentiality. The participants were monitored so as not to discuss the answers among themselves. Only completed questionnaires were utilized for the study. The responses about the knowledge were analyzed on a

dichotomous scale (correct/wrong). For each “correct” response, it was scored ‘1’ and for each “wrong” response ‘0’ was given. The total scores obtained were summed up. The scores 12-14 were taken as good knowledge, 9- 11 as average, 6-8 as poor regarding organ donation. For the attitude and practice their responses were recorded. The collected data was entered into MS Excel 2007 and was analyzed using percentages and proportions. Institutional ethical committee approval was taken prior to commencement of study.

## RESULTS

Out of 141 study subjects to whom the questionnaire was administered, all of them have given complete responses. Out of 141 students 55%(63) were males and 45%(78) were females. The mean age of the students was 22.23 with a standard deviation of 0.986.

**Table 1: Distribution of study subjects according to knowledge score:**

Knowledge level	Number	Percentage
Poor(6-8)	14	10%
Average(9-11)	90	64%
Good(12-14)	37	26%

Table 1 shows 26% of the students had good knowledge regarding organ donation and transplantation, 64% had average and 10% had poor

knowledge. It could be considered as 90% of the students had satisfactory knowledge about organ donation.

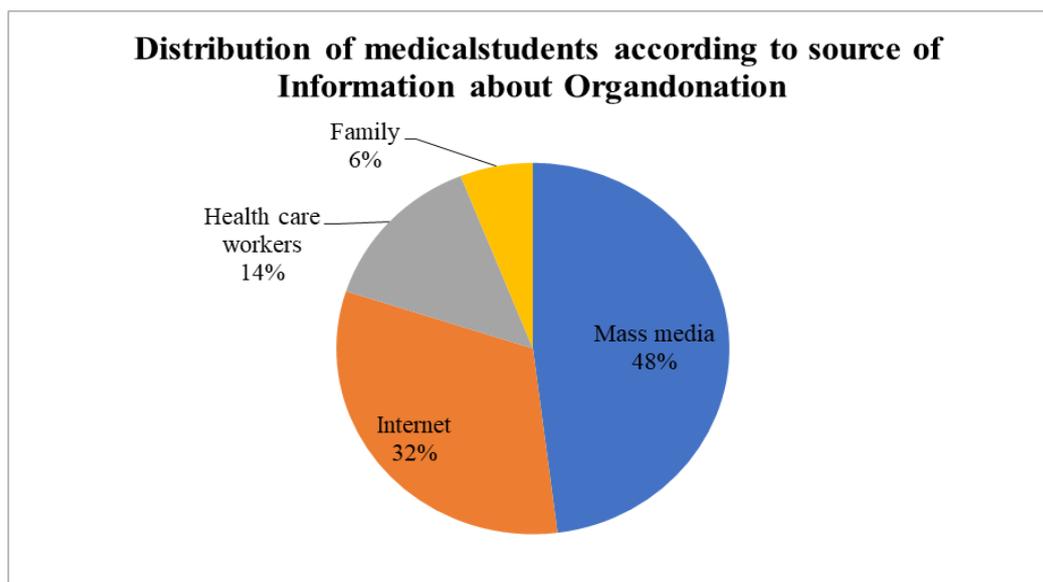
**Table 2: Distribution of study subjects according to knowledge (n=141)**

Sl.no.	Questions	Correct, n(%)	Wrong, n(%)
1	What is Brain death?	117(83%)	24(17%)
2	Is brain death reversible?	103(73%)	38(27%)
3	When can organ donation be done?	124(88%)	17(12%)
4	What are the organs that can be donated when alive?	127(90%)	14(10%)
5	What are the organs that can be donated after dead?	134(95%)	7(5%)
6	What is the age limit for organ donation?	102(72%)	39(28%)
7	What is the minimum age limit to give consent for live organ donation?	80(57%)	61(43%)
8	Which are the organs that have to be recovered and transplanted within 4-6 hours of death?	72(51%)	69(49%)
9	What is the maximum time limit to donate eyes after death?	75(53%)	66(47%)
10	Can we retrieve organs from a person who committed suicide	89(63%)	52(37%)

All the under graduate medical students in the study have heard about both organ donation and brain death.

Table 2 shows, more than half of students responded correctly to each question. Among these highest knowledge was present about the organs to be

donated after death (95%), followed by organs to be donated alive (90%), Around 83% were aware about brain death, knowledge regarding age limit for organ donation was 72%. Among all these lowest knowledge was present about the organs to be donated within 4-6 hours of death that is only 51%.



**Fig. 1: Distribution of medical students according to source of Information about Organ donation**

The study found that major source of information about Organ donation was mass media (48%), followed by internet (32%), health care workers (14%), and then family (6%) (Figure 1).

**Table 3: Distribution of study subjects according to their attitude towards organ donation:**

S.no.	Questions	Responses	No. of subjects (%)
1	Are you willing to donate organs?	Yes	113(80%)
		No	28(20%)
2	If yes to whom you would like to donate?	Any one in need	102(90%)
		To relatives	11(10%)
3	What are the reasons of organ donation?	To save lives	76(67%)
		It is a social responsibility	4(3%)
		My relatives may need	9(8%)
		My organs will alive	24(22%)
4	Reasons for unwillingness to organ donation	Organs may be taken before brain death	0
		Used for commercial purpose	15(53%)
		Against my religious beliefs	3(11%)
		Results in disfigurement	10(36%)

Table 3 revealed that around 80% of the medical students expressed their willingness to donate their organs, of them 67% reported the reason for their willingness was to save lives, 3% of them felt it as their social responsibility while 8% of them reported that their relatives might be needing, 22% of them were under the impression that their organs will be alive through donation.

Majority of them (90%) were willing to donate their organs to anyone in need while 10% were willing to donate to their close relatives.

Out of 141 medical students, 28 (20%) were not willing to donate their organs, of them majority of the students (53%) believed that their organs could be used for commercial purpose, while 36% them felt that

it results in disfigurement, 11% of them reported that it was against their religious beliefs.

Among 141 medical students only 8 members (6%) were registered for organ donation.

## DISCUSSION

### Knowledge:

In this study all medical students heard of organ donation and brain death which is similar to the study, Vijay kumar Mane *et al.*, [4] at Tamilnadu.

Mass media is the main source of information on organ donation which is similar to the studies conducted by Kumar G *et al.*, [5] in Haryana, Alex P *et al.*, [6] in Karnataka, Vijay kumar Mane *et al.*, [4] at Tamilnadu and Parida *et al.*, [8] In Bhubaneswar.

Contrary to this, internet was the major source of information in a study conducted by Jothula KY *et al.*, [7] in Telangana. It was electronic media in the study conducted by Adithyan, *et al.*, [3] in Kerala.

In this study 26% of the students had good knowledge, 64% of them had average knowledge and 10% of them had poor knowledge. From the findings of this study it can be said that around 90 %of them had satisfactory knowledge. It is similar to a study conducted by Alex P *et al.*, [6] at Karnataka. In the study conducted by Adithyan, *et al.*, [3] at kerala, 73% of them had above average knowledge which is low when compared to the present study. In contrast to the present study, unsatisfactory level of knowledge was observed in the study conducted by Vijay kumar Mane *et al.*, [4] at Tamilnadu.79.4% of the students had adequate knowledge in the study conducted by Jothula KY *et al.*, [7] at Telangana.

#### Attitude:

In this study 80% of the students gave willingness to the organ donation, which is similar to a study conducted by Vijay kumar Mane *et al.*, [4] in Tamilnadu. It was 71% in the study conducted by Parida, *et al.*, [8] at Bhubaneswar. It was 77.5% in the study conducted by Jothula KY *et al.*, [7] at Telangana and 70% in the study conducted by Kumar G *et al.*, [5] at Haryana.

In this study majority of them reported that the reason for the willingness was to save lives, which is similar to the study conducted by Adithyan, *et al.*, [3] at kerala.

Majority of them (90%) were willing to donate their organs to anyone in need, while 10% were willing to donate to their close relatives. In contrary to that it was only15% in the study conducted by Kumar G *et al.*, [5] at Haryana where majority of the students are willing to donate their organs to their relatives.

In this study 20% of the students were not willing to donate their organs, main reason being the thought that their organs could be used for commercial purpose which is similar to a study conducted by Vijay Kumar Mane *et al.*, [4] in Tamilnadu.

In the present study only 6% of the students registered for organ donation.

There is a gap between knowledge and willingness for organ donation, which is similar to a study conducted by Adithyan, *et al.*, [3] at Kerala.

#### Limitations

The study population represents only a small fraction of the medical community. So, the results

obtained from this cannot be generalized to the whole community. Inclusion of other students from different courses like dental, nursing, physiotherapy will increase impact of the study in the future.

## CONCLUSIONS

In the present study, although the knowledge was satisfactory, a gap was found between the knowledge and attitude. To overcome this there is a need to introduce this topic into the curriculum, and by conducting frequent Continuing Medical Education (CME), they can become future donors and they motivate their patients, which can lead to an increase in organ donation rate. By conducting awareness camps on organ donation we can raise the awareness among the public.

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