

Organ Donation: Awareness, Attitudes and Beliefs among Undergraduate Medical Students

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Abstract

Background: To save and extend lives, Organ Donation (OD) and Organ Transplantation (OT) have become the only hope. Knowledge and attitude of health care providers towards OD plays a major role in promoting this concept among population. Objectives: To understand the awareness about OD among medical students and to assess their attitudes & beliefs towards it. Material & Methods: A cross-sectional study was conducted among 494 medical students of Dr. Pinnamaneni Siddhartha Institute of Medical Science and Research foundation. Data was collected by using predesigned pilot tested self administered questionnaire. Results: 74.2 % students could give the correct definition of OD. Internet was a source of information for 25.7 %. 94.7 % of the students felt that OD is necessary to save lives. 75.1 % students responded that OD involves risk. 97.2 % students approve OD. Fear of surgery is the main (42.9%) cause of refusal among 56 students. Religious beliefs of 56.7 % students are for OD and 24.4 % believed that OD advances premature termination of treatment. 17.6 % believed OD encourages euthanasia. Discussion: Although it was found that majority of the medical students were aware of certain aspects of OD, there exists significant gaps like knowledge about organ registry and OD card. Still there are beliefs in the budding doctors that OD encourages premature termination of treatment. Conclusion: These gaps are to be met by introducing OD topics in various levels of their curriculum along with social and ethical aspects. The outcome of this appraisal shows the necessity for more debate on OD to prepare future healthcare professionals.

Keywords: Organ Donation, Awareness, Attitude, Beliefs

Introduction

In India, 500,000 people die every year because of non-availability of organs; 200,000 due to liver disease, 50,000 due to heart disease. 150,000 people await a kidney transplant but only 5,000 get one. 1,000,000 people suffer from corneal blindness and await transplant. Around 9.5 million deaths occur annually of which nearly 0.1 million deaths are due to organ failure. Though India has a population of 1.2 billion, organ donation rate is only 0.08 persons per million which is very insignificant when compared to the rest of the world.⁽¹⁾

To save and extend lives, OD and OT became the only hope ^(2, 3). OT is the most preferred treatment modality for end-stage organ disease and organ failures ⁽¹⁾. Many organs such as cornea, kidney, and liver are commonly transplanted to human recipients. However,

the need for the transplants is high and the gap between organs available for transplantation and the number of patients waiting for a transplant is widening globally⁽²⁾. There is a worldwide shortage of donor organs in comparison to the need for transplantation ⁽⁴⁾.

The shortage in organ supply is due to lack of awareness ⁽⁵⁾ among public, myths and misconceptions surrounding OD due to religious and cultural barriers leading to hesitancy in donation of human organs. There is a significant relation between public attitude towards OD and availability of such organs ^(6,7). It is identified that there is reluctance of family members to donate organs due to fear of surgery leading to loss to health ⁽⁸⁾. The prerequisites for the success of a transplantation program include awareness, positive attitude of the public toward OD and consent by relatives for OD in the event of brain death⁽⁴⁾.

In India, Transplantation of Human Organs Act, was passed in 1994 in order to regulate the removal, storage, and transplantation of human organs for therapeutic purposes. It also aimed at prevention of commercial dealings in human organs. The amendment to the act was passed by the parliament in 2011, and the rules were notified in 2014⁽¹⁾. As per the Transplantation of Human Organs (Amendment) Act 2011, the National Organ and Tissue Transplant Organization (NOTTO), a national level organization was set up under Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. The Standard Operative Guidelines, IEC Materials and Operational guidelines are available in the website (<https://notto.gov.in/awareness.htm>).

Knowledge and attitude of health care providers towards OD plays a major role in promoting the concept among population⁽⁹⁾. Studies have shown that health care providers including medical students lack adequate knowledge about OD⁽¹⁰⁾. The “Jeevandaan” programme (deceased donor program) of the Government of Andhra Pradesh has been facilitating organ distribution. By 2013 however, only 246 organs could be retrieved. The shortage of OD is the major limiting factor in the transplant program, in spite of improvement in graft and patient survival rate⁽⁶⁾.

The present study helps to identify the awareness, attitude and beliefs of medical students regarding OD.

Materials and Method

This is a cross sectional descriptive study, conducted from June 2017 to September 2017 at the Dr. Pinnamaneni Siddhartha institute of Medical Sciences & Research Foundation, Chinnoutapalli, Krishna district of Andhra Pradesh. Ethical approval was obtained from the Institution Ethical Committee (IEC) of the institution and 521 medical students from 1st year to final year were given the pre designed, pilot tested, self-administered questionnaire consisting of questions regarding socio demographic data, awareness, attitudes and beliefs on OD. Informed consent was taken from each participant. The questionnaire was distributed to the students in the lecture galleries and they were instructed not to

discuss the questions among themselves. Anonymity and confidentiality of respondents were maintained and participation was voluntary. 494 students completed the questionnaire with a response rate of 94.8 %. Only completed questionnaires were utilized for the study. The data obtained was entered in MS excel and analyzed. The results are presented as proportions and as tables.

Results

Majority (83 %) of the students were in the age group of 18 to 21 years. 67.2 % were females. The majority (87.9%) are Hindus. Nearly 66 % belong to OC category. 31.4 % students were from first year. 78.8 % participants came from urban areas and 82.6 % from nuclear families.

Regarding awareness, all students heard about OD and 99.2 % were aware of OT. 74.2 % were able to give correct definition of OD. The major (25.7 %) source of information is internet. 84.2 % responded that organs can be donated from live, dead & brain dead persons. 94.7 % participants felt that OD saves life. 75.1 % responded that OD involves risk. Major risks stated were organ rejection, infection, weakness, bleeding and pain. (Table 1)

Concerning attitude, 65.6 % did not know about OD register, and most of them (80.3 %) had no idea where to obtain the OD Card. Many students are comfortable in talking & thinking about OD and many approve it. 88.7 % agree to donate organs. However 8.7% were willing to donate when they are alive. 23 students said that they would donate in special circumstances. Causes of refusal of OD were fear of surgery, no belief in health system, religious beliefs and concern for commercialism. (Table 2)

Regarding beliefs, 56.7 % responded that their religious beliefs allowed for OD. However 91.3% believed that there would be misuse of OD. 24.4 % students believed that due to OD there would be premature termination of treatment in a dying person in order to facilitate OD. 17.6 % believed that OD encourages euthanasia. (Table 3)

Table 2: Attitude regarding OD

Attitude	Response	Frequency	Percentage
Heard about OD register	Yes	170	34.4
	No	324	65.6
Source of obtaining OD card	Yes	97	19.7
	No	397	80.3
Comfortable while talking or thinking	Yes	451	91.3
	No	43	8.7
Approve OD & OT	Ye	480	97.2
	No	14	2.8
Agree to donate organs	Yes	438	88.7
	No	56	11.3
If yes, willing to donate as live donor (n=438)	Yes	38	8.7
	No	400	91.3
As a live donor, will you donate irrespective of situation (n=38)	Yes	15	39.5
	No	23	60.5
If no, causes of refusal (n=56)	Religious	10	17.9
	Commercialism	9	16.1
	Surgery fear	24	42.9
	No belief in health system	13	23.2
Family's consent	Yes	313	63.4
	No	181	36.6
If your loved one needs transplant	Check for donor	109	22
	Donate mine	385	78
Acceptance, if hospital approached for OD of deceased family member	Yes	321	65.1
	No	173	34.9

Table 3: Beliefs regarding OD

Beliefs	Response	Frequency	Percentage
Religion agrees OD	Yes	280	56.7
	No	40	8.1
	Don't Know	174	35.2
Misuse of organs	Yes	451	91.3
	No	20	4
	Don't know	23	4.7
OD encourages premature termination of treatment	Yes	120	24.4
	No	55	11.2
	Don't Know	317	64.4
OD encourages Euthanasia	Yes	87	17.6
	No	195	39.5
	Don't Know	212	42.9
Need effective laws	Yes	407	82.4
	No	87	17.6

Discussion

OD and transplantation are the most important treatment modalities of many end organ diseases. Medical students should have sufficient knowledge regarding OD so that they can bring awareness and behavior change in the community. Studies show that health professionals can positively influence the opinions and attitudes of patients and their relatives, leading to higher rates of organ procurement^(11, 12). It is therefore important to determine the level of knowledge among medical students and their attitude towards OD.

The important questions to be answered in this appraisal are; Do medical students have enough knowledge about OD? What is their attitude towards OD? And what are their beliefs regarding OD?

Regarding the sample of students in the current study, the demographic details of age and sex are similar to studies by Prince Alex et al⁽¹²⁾, Karini D et al⁽¹³⁾ and

Shreya Agarwal⁽¹⁴⁾. A study by Sindhu et al in the AFMC had a higher male population. Hamed Het al⁽¹⁶⁾ in their study had 60 % participants from urban background. The study by Karini D et al⁽¹³⁾ had almost the same percentage of first year medical students (27.8%).

In our study, 100 % participants heard about OD as seen in other studies⁽¹⁴⁾. Like in other studies done in India⁽¹³⁾, a majority of medical students in the current study defined OD correctly. The source of information for majority of them was internet while elsewhere it was television⁽¹⁵⁾. Most of the students responded that organs can be donated from live, dead & brain dead persons but in Shreya Agarwal's study only brain dead patients were considered as potential donors for OD by the majority⁽¹⁴⁾. Awareness about the OD register was seen in only a small number of the students, but when compared to a study in Malaysia 77.7% were aware of the OD registry⁽¹⁷⁾.

All students approved the concept of OD as seen in another study from South India ⁽¹⁸⁾. A study from UK showed that attitude to OD was overwhelmingly positive in nearly two thirds of the students. A good number of students in this study agreed to donate their organs. However, only a small number are willing to donate when they are alive. Most of the students are agreed to OD after their demise as was also seen in a study by Vinay KV et al ⁽²⁰⁾. Not all are willing to donate organs irrespective of the situation. Some students specified that they would donate only in special situations. Similar result from Egypt study showed that a good number of students were willing to donate to any recipient while some were selective ⁽¹⁶⁾. Three fourths of the participants said that they would donate organs of their own when their loved needed them while one fourth of them look for donor. However in a study by Vinay KV et al ⁽²⁰⁾ almost half the number of students in each year of MBBS were ready to donate their organs to their family members.

Causes of refusal of OD in this study were fear of surgery, no belief in health system, religious beliefs and commercialization of transplantation procedures. The causes of refusal seen in an Egyptian study by Hamed H et al ⁽¹⁶⁾ were familial refusal (13%) religious prohibition (19%) fear of commercialism (27%), fear of surgery (10%) and lack of confidence in the health care system (31%).

Regarding donating an organ from their own deceased family member, in this study, 65.1 % of subjects are willing which is similar to the study by Karini Det al ⁽¹³⁾. Concerning beliefs of students, a good number of subjects said that their religious beliefs are in agreement with OD as seen in a similar study ⁽¹⁸⁾. However in agreement to the above study, a third of the students were ignorant of any religious connotations regarding OD. A study by Shreya Agarwal et al ⁽¹⁴⁾ states that only 14.2% students cited religious beliefs as the reason to refuse OD.

The current study showed that a majority of students believed that there would be a misuse of organs as seen in a study by Karini D et al ⁽¹³⁾ study. Most students maintained that there should be effective laws and a regulatory body to govern OD and the similar finding was seen in a study by Sucharita ST et al ⁽¹⁸⁾.

Conclusion

Majority of undergraduate students were aware of OD in a broad manner. However awareness on issues like Organ registry and OD card was lacking. There is a need for lectures, seminars and workshops to be included in the MBBS curriculum regarding the physiology of OD and transplantation, related pathology, immunology, pharmacology and the relevant medical and surgical details. There is also a need to include student centered group discussions on the social and ethical aspects of OD. The misconceptions about OD in these budding doctors need to be addressed. The results of this study show the necessity of more debate and knowledge to prepare the next generation of healthcare professionals about transplants and OD.

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Conflict of Interest: Nil

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