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We burn or bury....! why not donate? A comparative study on barriers of organ donation among medical and non-medical students in Puducherry

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ABSTRACT

Background: Organ transplantation is an effective medical care for end- stage organ failure. Health professionals play an important role in raising awareness, motivating, and subsequently increasing the organ donation rates In India, "The Transplantation of Human Organs Act" was legalized in 1994. Yet, organ donation rate in India is very poor (0.34 per million) compared to developed countries. This study was done with the aim to identify the barriers of the organ donation among Medical and Non-Medical students and to compare the Knowledge, awareness and attitude towards donation among Medical and Non-Medical students.

Methods: This is a cross sectional study carried out in two months duration, by the Department of Community Medicine, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry.

Results: Among the 400 participants, 76 percent of students were aware of organ donation, out of which highest awareness (100%) among medical students and lowest (54%) were among arts and science students. Among the four streams, nursing and allied health science students reported better knowledge score of (11.09 \pm 2.18), whereas arts and science students reported a lower score of (8.94 \pm 2.73), p- value <0.05.

Conclusions: The attitude and practice towards organ donation were similar among all streams of students. But the students related to medical field had a better awareness and knowledge compared to non-medical students.

Keywords: Barriers, Medical, Non-medical, Organ donation

INTRODUCTION

Organ transplantation is one of the greatest medical marvels of the twentieth century, which has prolonged and improved the lives of many patients, worldwide. The major problem limiting the development and expansion of transplantation programs is "demand exceeds the supply", and the discrepancy is widening. India has advanced in all fields of transplantation and recently with a baby born from a transplant uterus. The Transplantation of human

organ Act (1994) and the subsequent amendments in 2011 and rules in 2014 form the legislative foundation for brain death, makes "donation friendly".

India needs 260,000 organs every year, i.e., 180,000 kidneys; 30,000 livers and 50,000 hearts, whereas only 6000 kidneys, 1200 livers and 15 hearts are transplanted annually. In 2017, total number of brain stem death is around 1.5 lakhs and number of deceased donors is only 905, this is due to lack of awareness and knowledge,

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negative attitude, myths and misconceptions, religious and cultural barriers, the reluctance of family members, nuclear families with unmatchable donors etc.² The performance of Tamil Nadu, deceased organ donation rate (1.3 per million population) was relatively better than the national performance (0.05-0.08 per million population). Although, India falls second in the number of live donor transplants but stands nowhere in the list of deceased donor transplantation.3 There are around 1,40,000 road fatalities every year, of which some may progress to become brain dead despite maximal efforts and there is a lot of potential for deceased organ donations if utilized legitimately. Only few hospitals and committed NGOs have shown that deceased donation as a feasible option in a way that meets the families' informational and emotional needs.4-6 The country is certainly progressing in brain death declarations, organ donation and transplantation, it is important to remember that organ donation is a by-product of good trauma care and good ICUs and above all, the attitude of public which matters and should be moulded in a positive way. This study was done with the objective to identify the barriers of the organ donation among Medical and Non-Medical students and to compare the factors influencing organ donation among Medical and Non-Medical students.

METHODS

Study area

This is a cross sectional study carried out in two months duration, by the Department of Community Medicine, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry. Clearance from the Institutional ethical committee was obtained. Different colleges in Puducherry were approached; whichever college of different streams responded immediately and allotted time and space were included in the study. Medical, Nursing, Arts and Science, Engineering college 3rd year students belonging to age group of 18 to 24 years from selected colleges in Puducherry.

This is a cross sectional study among undergraduate medical, nursing (allied), arts and science and engineering students from different colleges in Puducherry. The study was conducted for a period of 8 months from December 2019 to July 2020. This is to compare the barriers and factors influencing the organ donation among different streams of college students.

The questionnaire was pilot-tested on a random sample of 30 among medical and non-medical students in order to modify the research tool. All participants who filled in the questionnaire for the pilot testing were excluded from the study. The minimum sample size required for the study was calculated to be 400, considering about 50 percent knowledge score reported in a study done at Karnataka.8 Convenient sampling was employed to recruit the participants, as all of them were from different streams of education. Permission from the respective heads of institution from the colleges where participants are selected was obtained before the study. Background information and reasons for the survey was explained and the possible voluntary participants were encouraged to participate without any undue pressure. Written consent was obtained before the distribution of questionnaire.

The questionnaire focused on types of organ donation, organs that can be donated while alive and deceased, criteria for deceased donation, organ procurement and allocation procedures, legislations regulating organ donation practices in India, and the organ donor card registration procedures. Data was collected from the participants and analysed using Epi info. Each questionnaire consists of 30 items with two sections: Section A: This section covered the demographic information of the participant. Section B: To assess the level of knowledge, attitude, and behaviour towards organ donation. The section consists of 27 items: of which 7 measuring attitudes, 5 measuring behaviour, 3 measuring awareness and 12 measuring knowledge. Questionnaire was available in both English and Tamil languages and was given according to the preference of the participants.

RESULTS

Among the 400 participants, 76 percent of students were aware of organ donation, out of which highest awareness (100%) among medical students and lowest (54%) were among arts and science students. Among the four streams, nursing and allied health science students reported better knowledge score of (11.09 \pm 2.18), whereas arts and science students reported a lower score of (8.94 \pm 2.73), p-value <0.05. Surprisingly the engineering students had a better attitude (5.67 \pm 1.49) whereas medical students had an attitude score of (4.78 \pm 1.29) only, p – value <0.05. The practice of organ donation among the participants was only 9.5% and results proved insignificant difference among the four different streams.

Table 1: Comparison of knowledge and attitude among different streams of college students (n=400).

Domains	Medical	Allied	Engineering	Arts and science	p value *
Attitude	4.78±1.29	5.22±1.12	5.67±1.49	5.37±1.477	0.000
Basic knowledge	5.81±1.1468	6.04±1.294	5.72±1.181	5.75±1.388	0.319
Survival time	2.40±1.287	2.72±1.264	2.82±1.473	1.58±1.471	0.000
Legal views	2.43±1.217	2.33±1.138	2.36±1.481	1.61±1.197	0.000
Overall knowledge	10.64±2.611	11.09±2.184	10.90±2.627	8.94 ± 2.733	0.000

Table 2: Comparison of knowledge domains among medical and non-medical students (n=400).

Domains	Medical students	Non-medical students	P value*
Basic knowledge	5.93±1.385	5.74±1.286	0.156
Survival time	2.56±1.282	2.20±1.595	0.013
Legal views	2.38±1.176	1.99 ± 1.394	0.002
Overall knowledge	10.87±2.412	9.92±2.849	0.000

^{*}Unpaired 't' test

Table 3: Comparison of awareness and practice towards organ donation among different streams of college students (n=400).

Domains	Arts & Sciences	Engineering	Medical	Nursing	P value*			
Awareness	Awareness of organ	Awareness of organ donation						
Aware	54	62	100	88	0.00			
Unaware	46	38	0	12	0			
Practice	Do you know anyone pledged /donated organs?							
Pledged/donated	11	9	11	7	0.73			
No	89	91	89	93	4			

^{*}Chi square test

DISCUSSION

This comparative study on organ donation was conducted among the college students from different streams in Puducherry reported that 94 percent of the medical stream were aware of organ donation in contrast to 55.7 percent among undergraduate medical students in Karnataka whereas 95 percent awareness was recorded in a study performed among dental students in Hyderabad.^{8,9}

Among the total participants only 76% were aware of organ donation which is less when compared with Balajee et al with an awareness level of 98.8%.¹⁰ The present study findings on knowledge domain (47%) was similar to those by Taimur et al in Pakistan who also recorded 47.4% of adequate knowledge, whereas Sarveswaran et al recorded 28%.^{11,12}

The current study recorded majority of the participants (75.8%) had positive attitude towards organ donation in contrast with the study done by Sarveswaran et al with 56.7%, Dasgupta A et al with 42%, Manojan KK et al with 26%. ¹²⁻¹⁴

From our study, 9.5% recorded desirable practice towards organ donation which is relatively better than studies done by Sarveswaranet al (2.3%), Taimur et al (3.5%) & Chakradhar et al (4.02%). 9.11.12 49% of the participants presume that their family members would not allow them to go for organ donation. Before discussing with their family members, they have the fear that their parents would not agree for it and this itself a major barrier to open their wish of going for it. 15 14% of the participants doesn't want to talk about death and information about their organ donation because of fear. 17% of the participants were frightened about the disfigurement and disabilities after the organ retrieval process. 12.5% of the participants stated that the treating physician would not

save me during emergency if they know that I am a donor. 1615% of the participants had fear of them being mishandled by the hospital staff as like in a mortuary. 12% of the participants were worried about their donated organ may misused or organ trade. 17 The common doubts, fear and myths were addressed in the educational session following data collection.

This study has collected information on organ donation from varied fields of education but it could not collect information from other health related fields like veterinary health, dentistry etc. Hence generalizability cannot be ensured, which could be a limitation.

CONCLUSION

The attitude and practice towards organ donation were similar among all streams of students. But the students related to medical field had a better awareness and knowledge compared to non-medical students. Inadequate knowledge is one of the major barrier fruitful practice. Though the knowledge on organ donation was significantly more among medical students, the attitude and practice had no difference among medical and non-medical students.

Recommendations

Organ donation remains a sensitive issue among the public and medical community. It is ambiguous how much; the present and future generation are aware about organ donation and their attitude towards this. An education program regarding organ donation and transplantation is essential especially for youth who will be the future to this country and the person to build relationship with the potential donor's family. Medical professionals whose opinion makes a significant impact on the prospective belief of public has a major role in

increasing the donor pool. The study explored the barriers and compared the factors influencing organ donation among medical and non-medical students. Findings of the study will help in formulating policies regarding organ donation in our society.

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Institutional Ethics Committee

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