

Renal Data from Asia-Africa

Organ Donation, Awareness, Attitudes and Beliefs among Post Graduate Medical Students

Usha Bapat, Prashanth G. Kedlaya, Gokulnath

Department of Nephrology, St. John's Medical College Hospital, Bangalore, India

ABSTRACT: Organ transplantation is the most preferred treatment modality for patients with end-stage organ disease. There is an inadequate supply of cadaver organs commensurate with need. Health-care professionals are the critical link in augmenting public awareness about organ donation. Their attitudes and beliefs can influence the public opinion. This study aims at understanding the awareness, attitudes, and beliefs among the medical postgraduate students. A total of 123 post-graduates of a medical college hospital in South India participated in the study. A specially de-signed questionnaire was used in assessment. Data were statistically analyzed using SPSS Windows version 10.0. The mean age of the postgraduate students was 28.32 ± 3.5 years, 54% were males, 62% belonged to Christian religion, 69% were single, 77% were from nuclear families, 87% had urban background, and 54% were from upper socio-economic strata. About 97% said they were aware of organ donation through media, 23 understood the concept of "cadaver" as "brain-death" and 93% were able to distinguish between brain-death and persistent vegetative state. Eighty-nine percent wished to donate their organs, 77% did not believe in body disfigurement and 87% did not believe in rebirth without the donated organs, if they pledged their organs. Sixty-nine percent were willing to donate the organs of their family members. Eighty percent were willing to receive organs from family and cadaver, 40% were willing to donate a child's organs, 95% did not believe that organ donation is against their religion, 87% disagreed with the notion that doctors would not impart adequate care if they were pledged organ donors and 79% agreed that doctors would not declare death prematurely, if they had pledged their organs during life. There was a statistically significant correlation between attitudes, beliefs and demographics. In conclusion, the concept of brain-death was clearly understood by only a small number of medical postgraduate students. They however, had positive attitudes and beliefs towards organ donation.

Correspondence to:

Mrs. Usha Bapat
Lecturer in Medical Social Work
Department of Nephrology
St. John's Medical College Hospital
Sarjapur Road, Bangalore 560034, India
E-mail: ushabapat@ymail.com

Introduction

Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failures.¹ It offers a better quality of life and also has better long-term survival benefits. Patients deemed fit for transplantation by the transplant team often wait expectantly for a

donor organ. The inadequate supply of cadaver organs is especially crucial for heart, lung and liver recipients, since these patients cannot be maintained for long on mechanical devices, unlike patients with end-stage renal disease (ESRD) who can be maintained on dialysis. 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. Data from the United Network for Organ Sharing indicated that in 2004, there were 95,000 patients wait listed for solid organs in the United States, but only 27,000 transplants were performed that year.² The statistics from the Indian subcontinent are dismal and only 499 cadaver transplants including heart, liver and kidney have been performed in India from the year 2000 till date.³ Each year thousands of individuals wait for organs to be donated for transplantation.⁴ There remains therefore, a great need for increasing organ donation and harnessing of donor organs.

The primary hindrance to a successful deceased donor organ transplantation program is the extreme shortage of donor organs. The cadaver organ donation program in India is still in its infancy and is hindered by the lack of adequate awareness about the criteria and guidelines for declaration of brain-death, among doctors. Although the public is accustomed to the idea of donating blood, donation of organs after death continues to be a problem.⁵ There is a great need for increasing awareness about organ transplantation and organ donation among the general public, beginning with the health-care professionals who in turn, can motivate the public. Educating health-care professionals about organ donation process appears to be an important factor in maximizing the benefits from the limited organ donor pool. Increasing the donor pool is an important public health issue. One factor that might contribute to this limited availability of donor organs is the lack of knowledge about the legal and procedural details of organ donation. Health-care professionals are the most critical links in the organ procurement process because they are the first individuals to establish relationship with the potential donors' family and

to have the opportunity to raise the option of donation.⁶

An assessment of knowledge, attitudes and beliefs of the postgraduate medical students' towards organ donation would help to plan sensitization, and increase awareness programs at the postgraduate levels and to propagate knowledge at the community level in addition.

This is a cross sectional study on organ donation with specific emphasis on the level of awareness, attitudes and beliefs among the postgraduate medical students of one of the largest teaching medical institutions in South India.

Objectives

The objectives of the present study included the following:

- a) To understand the awareness about organ donation among the postgraduate students.
- b) To study their attitudes and beliefs with regard to organ donation
- c) To assess the correlation between awareness, attitudes and beliefs towards organ donation.

Material and Methods

Postgraduate students in all medical specialties at a medical college hospital were listed and those consenting to participate were studied. Out of 143 students, 123 students participated in this cross sectional study. A specially designed self-administered questionnaire consisting of demographic profile and items covering awareness, attitudes, and beliefs towards organ donation was prepared and 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.

The schedule was pilot tested on a sample of medical postgraduate students for clarity of questions and the time taken to respond. The initial time requirement was 15 minutes. After suitable modification of the schedule, the ques-

Table 1. Demographic data of the respondents (n=123)

Variables	Number	Percent
Age-group		
25-28 years	48	39
29-32 years	43	34
33-36 years	12	11
> 37 years	5	4
No response	15	12
Gender		
Male	68	54
Female	55	46
Religion		
Hindu	45	36
Muslim	2	2
Christian	76	62
Domicile		
Urban	104	87
Rural	19	13
Marital Status		
Single	85	69
Married	19	31
Income		
< Rs 3,000	14	12
Rs 3,001-10,000	24	20
> Rs 10,001	66	54
No response	19	14
Family Type		
Nuclear	95	77
Joint	18	15
No response	20	16

tionnaire was distributed.

The study was approved by the college ethical committee. Permission was obtained from all the heads of the departments. The respondents were assured about the confidentiality and ethical principles that would be followed, and the background and purpose of the study were explained before the questionnaires were distributed.

The data collected were analyzed using descriptive statistics. Test of correlation among attitudes, beliefs and demographics was done using SPSS Windows version 10.

Results

The study population consisted of 143 respondents of whom, 123 participated in the study. As shown in Table 1, the mean age was 28.32 ± 3.50 years; maximum concentration was in the

Table 2. Sources through which knowledge of organ donation was first known (n=123)

Television	75	61
Newspaper	73	60
Radio	38	31
Magazines	52	51
Brochures	30	24
Others	32	26
No response	22	17

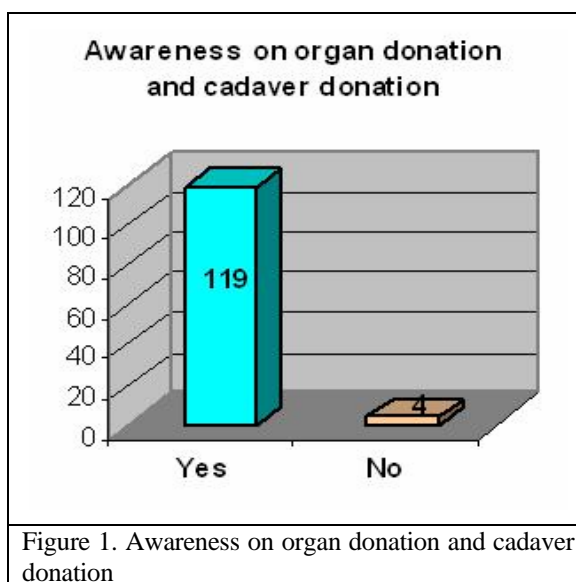


Figure 1. Awareness on organ donation and cadaver donation

age-group of 27-29 years. There was a near equal distribution between genders. Sixty-two percent belonged to Christian religion, 69% were single, 54% were from upper socio-economic background, 77% were from nuclear families and 87% came from urban background.

Table 2 and Figure 1 show that 97% were aware of organ donation and cadaver donation. The audiovisual media such as television (61%), radio (31%), newspaper (60%) and magazines (51%) were the major sources of information about organ donation. As shown in Figure 2, the concept of cadaver as brain-death was understood only by 23, whereas 53 thought it meant a "dead person" and 25% did not respond; the remaining subjects gave a mixed response. About 63% of students were not aware of any coordinating agency for organ donation.

As shown in Figures 3 and 4, 93% could differentiate between brain-death and persistent vegetative state. The majority of respondents

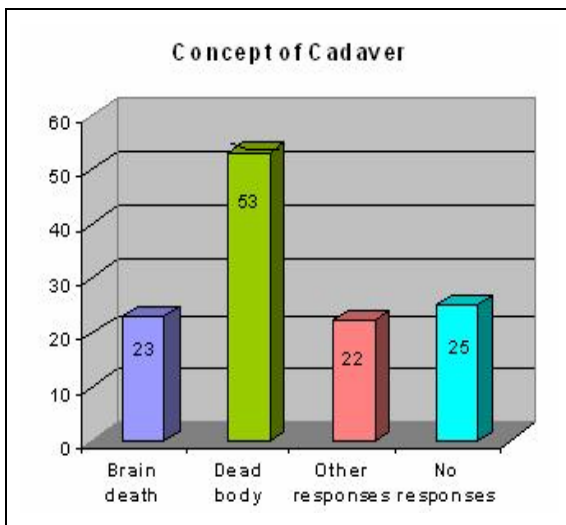


Figure 2. Awareness of the concept of “cadaver”

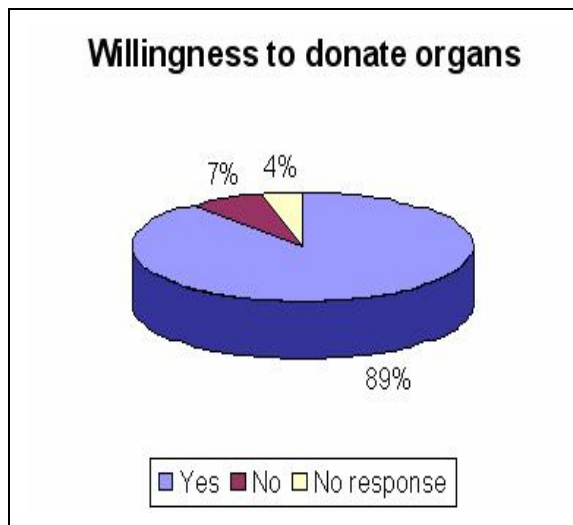


Figure 4. Data on willingness to donate organs

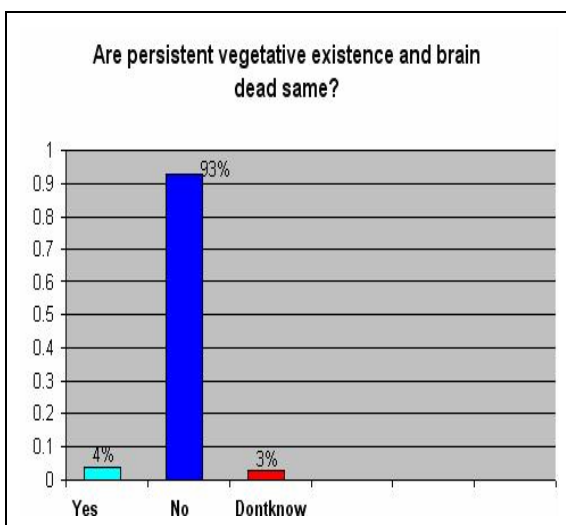


Figure 3. Awareness of difference between persistent vegetative state and brain-death

(89%) said they would like to donate their organs, while 6% said “no to organ donation” for reasons such as: donation has too many hassles, and that “they would decide when the time comes”.

More than 75% of the subjects disbelieved that the body should be cremated without disfigurement. Eighty-eight percent did not have the belief that the person would be reborn without those organs if they were donated after death and 86% felt organ donation did not cause disfigurement at funeral. Eighty-three percent did not feel that the organs should go to recipients

of their own religion, while 66% felt that the family can decide upon the death, to donate or otherwise.

Ninety-six percent did not believe it is against religion to donate and 97% did not believe that the body needs to be complete for resurrection after death. Sixty-nine percent were willing to donate the organs of their family member in the event of an unexpected death, while 16% said “no to organ donation” for various reasons. Eighty percent were willing to receive an organ from the family as well as from a cadaver donor. Seventy-five percent had not yet pledged their organs, although 61% of the respondents had heard of pledging organs while alive.

Eighty-one percent disagreed that organs could be taken even if they had not been pledged earlier while 87% did not believe that treating physicians would give less medical care if they had pledged their organs during life and were to be admitted in ICU. Seventy-nine percent said that doctors would not be biased and declare death prematurely, if they have organ donor cards while admitted in the ICU. As shown in tables 3 and 4, a statistically significant correlation was observed between family type ($P= 0.01$), income ($P= 0.00$), domicile ($P= 0.02$) and attitude. Similarly, beliefs and marital status ($P= 0.05$) and family type ($P= 0.03$) had a significantly high correlation.

Table 3. Correlation between attitudes and demographics ($P < 0.05$)

Gender	0.80
Religion	0.24
Marital status	0.06
Domicile	0.02*
Income	0.00*
Family type	0.01*

Values marked*are considered significant

Discussion

Transplant technology continues to improve and organ transplantation has become the treatment of choice for organ failure.⁹ Rapid advancement in research pertaining to transplantation of organs and tissues have however, failed to meet the increasing demand for donor organs resulting in severe shortage of donor organs. The magnitude of organ retrieval for the execution of a successful deceased donor program is heavily dependent upon the level of knowledge and attitudes of the medical professionals. The attitude of medical students can have far-reaching effects on increasing organ donation and transplantation, as they occupy a unique position between lay public and qualified professionals.¹⁰

This is a cross sectional study assessing the awareness, attitudes and beliefs on organ donation of 123 postgraduate medical students. There was no gender bias observed in this sample. The respondents belonged to upper socio-economic strata, were from urban background; majority were single and from nuclear families.

Awareness regarding organ donation

A large majority of subjects were aware of organ donation and cadaver donation. The major source of information was through media, mainly television, radio and newspaper. A similar pattern of frequently cited media sources of organ donation has been reported.⁴ In a study on university students in Brazil aiming to assess awareness and opinions about organ donation, it was concluded that there are different opinions and different levels of awareness among students considering age, religion, and religious practices and level at school.⁹

The concept of cadaver was understood as

Table 4. Correlation between beliefs and demographics ($P < 0.05$)

Gender	0.80
Religion	0.32
Marital status (Single)	0.05*
Domicile	0.15
Income	0.20
Nuclear Family	0.03*

Values marked*are considered significant

brain-death by only 25% of the study population. Majority of the respondents understood cadaver as dead body and 20% did not respond. These findings are similar 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.¹¹ The present study group comprised postgraduate medical students from one of the premier medical institutes of the country and it is obvious that education about organ donation is lacking in the medical curriculum at the undergraduate and the postgraduate levels. Incorporating this in the syllabus will help in improving awareness about organ donation as well as clarifying the various doubts among the students.

Sixty-one percent of the respondents had heard about pledging of organs after death. It was observed in this study that the majority of the respondents were not willing to pledge their organs. The reasons cited were "there had been no opportunity or chance as yet; a need for family consent; no information regarding the same; not considered about death, not thought about donation; not yet written a will; not given a commitment so far; some of the religious persons had willed for the community". Perhaps increased social and cultural awareness about organ donation in the community could ease the confusion, doubts, superstitions and misconceptions in the minds of the public.

The barriers for not donating organs could be due to a number of reasons. Religious beliefs like the body should be cremated without disfigurement, "a person could be born without those organs if it is donated after death", superstitions, influence of social and cultural factors, attitudes, educational status and the fear of being declared dead prematurely if a donor card

is signed.⁶⁻⁸

Responses related to attitudes towards organ donation

A large majority (89.0 %) were willing to donate their organs, a small percentage of the respondents were not willing. The most common reasons cited were: there were too many hassles with regard to the procedure; some of them felt they would decide when the appropriate time arose. Although the respondents were postgraduate medical students, they might not have felt comfortable discussing or even thinking about death and donation. 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, more than half the subjects were willing to donate. About 16.0% were not willing mainly because of reasons such as “they thought it could add on to the survivors’ sorrow; they also had to consider other family members’ wishes; they alone could not decide for other family members; the deceased persons should have expressed their intention of donating their organs after their death.” Community involvement and participation in organ donation campaigns can reduce the ambiguity among the family members taking the decision to donate their family members’ organs. Additionally they can also have the community sanction for donation.

In this study, majority were willing to accept an organ from the family and cadaver, while 13% were not willing. In a similar study, it was reported that most respondents would be willing to take some form of transplanted organ or tissue if it was needed to maintain life.¹²

Culture and religion play much less prohibitive part in determining the level of organ donation. There is a desire to be aware of the religious stances so that people can make a more informed decision. None of the religions object to organ donation in principle although in some, there is varying thought.¹³ Ninety-six percent of the respondents agreed that religion does permit donation.

There was a statistically significant correlation between attitudes, beliefs and demographics.

Subjects coming from nuclear families, high socio-economic strata and urban background had positive attitudes. Similarly, subjects who were unmarried and coming from nuclear families had positive beliefs.

In conclusion, our questionnaire study suggests that majority of the respondents were aware of organ donation mainly through the audiovisual media, although a small fraction were truly aware of the concept of “cadaver” as “brain-death”. They however had positive attitudes and beliefs towards organ donation. There was statistically significant correlation between attitudes and demographics, beliefs and demographics. This study emphasizes the need for incorporating the topic of deceased organ donation into the medical curriculum.

Acknowledgement

The authors would like to express their sincere appreciation and thanks to Dr. Shobhana G. Nayak for her suggestions and support in the writing of this article.

References

1. Filho MA, Ramalho H, Pires HS, Silveria JA. Attitudes and awareness regarding organ donation in the western region of Sao Paulo. *Transplant Proc* 1995;27:1835.
2. UNOS. Waiting list data: United Network for Organ Sharing 2001.
3. Cadaver Transplant Registry: From the Mohan Foundations in Hyderabad & Chennai, ZTCC – Mumbai and SORTE –Cochin .ZCCK Bangalore.
4. Rumsay S, Hurford DP, Cole AK. Influence of knowledge and religiousness on attitudes towards organ donation. *Transplant Proc* 2003;35(8): 2845-50.
5. Rene AA, Viera E, Jiles R, Daniels DE. Organ donation awareness: Knowledge, attitude and beliefs in Puerto Rican Population. *Transplant Proc* 1995;27:1893-96.
6. Schaeffner ES, Windisch W, Friedel K, Bruitenfeldt K, Wolfgang CW. Knowledge and attitude-organ donation among medical students and physicians. *Transplantation* 2004;77:1714-8.
7. Abuksis G, Orenstein S, Hershko A, et al.

8. Cornea recipients: Are their opinions and attitudes toward organ donation different from those of general population? *Transplant Proc* 2004;36:1249-52.
9. Ziaja J, Cierpka L, Krol R, Szczepanski MS, Tyryban M, Sketa S. Transplant procedures in social awareness opinion poll of Silesian province citizens on living donor organ transplantation. *Ann Transplant* 2003;8(4):43-5.
10. Wig N, Gupta P, Kailash S. Awareness of brain death and organ transplantation among selected Indian population. *J Assoc Physicians India* 2003;51:455-8.
11. Verma SK. Medical students-Their attitudes to organ donation and transplantation. *Nat Med J India* 2000;13:46-7.
12. Edwin AR, Raja D. Attitudes of health care professionals towards organ donation. *Indian J Urol* 2000;16:98-105.
13. Cantwell M, Clifford C. English nursing and medical students' attitudes towards organ donation. *J Adv Nursing* 2000;32:961.
14. Anonymous. An exploratory study examining the influence of religion on attitudes towards organ donation among the Asian Population in Luton, UK. *Nephrol Dial Transplant* 1998;3: 1949-54.