

Original Research Article

Awareness and attitude about organ and body donation among medical students and faculty members

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ABSTRACT

Background: Deh daan, body donation is an act of bestowing one's body after death to medical college for research and education. Importance of this is also written in our ancient literatures. Knowledge, attitude and behavior of healthcare professionals are important factors in fostering an environment that can encourage and promote organ donation among the entire population. Medical students are the future doctors of the country, and faculty members as a guide and knowledge providers, their positive attitude and high level of knowledge can create a positive environment and promote organ donation.

Methods: A descriptive cross-sectional type of study was carried out among 360 undergraduate medical students and faculty of Tertiary Care Teaching Hospital in South Delhi using self-administered, predesigned, pretested semi-structured questionnaire. Of these 360 undergraduate medical students and faculties, 60 faculty and equal number of students from each year (60/year) were randomly selected.

Results: Out of 360 study subjects 222 (63.7%) were male and 138 (36.3%) were female. Almost all respondents were aware of term body donation (88.1%) and organ donation (95.6%). Majority (82.2%) of respondents had correct knowledge regarding time duration for viability of organ donation though the knowledge regarding age limit in donating organ was poor. Majority (87.8%) respondents were willing to support organ donation, almost equal among male (87.4%) and female (88.4%) but only 13.6% were willing to take pledge for organ donation.

Conclusions: Through regular seminars on organ donation and body donation the medical fraternity can be kept updated on developments in the transplantation fields and research. This may help them counsel their patients and address their anxieties regarding organ and body donation in a better way.

Keywords: Awareness, Body donation, Organ donation

INTRODUCTION

Body donation is an act of bestowing one's body after death to medical college for research and education. In order to have a healthy and positive approach to the donation process, it is important to have a 'gift of life and sacrifice' viewpoint, as cadavers are very much essential for medical students to learn anatomy and also other uses in the form of workshops and training in the field of surgical sciences.^{1,2}

Organ donation has increased as the modality of treatment and is sometimes the only option of treatment in many end organ diseases. But this form of treatment needs consideration of many factors like ethical, medico legal to name a few. Knowledge, attitude and behaviour of healthcare professionals are important factors in fostering an environment that can encourage and promote organ donation among the entire population. Since medical students are the future doctors of the country, their positive attitude and high level of knowledge can

create a positive environment and promote organ donation. Hence, this study was carried out to ascertain the knowledge and ethical perception regarding organ and body donation amongst medical students and faculty.

METHODS

A descriptive cross-sectional type of study was carried out among undergraduate medical students and faculty of tertiary care teaching hospital in South Delhi.

Sample size of 365 was calculated assuming a prevalence of 50% for knowledge, attitudes and practices of organ donation from previous studies, a 95% confidence interval and a sample error of 5%.^{6,9,12,13} This was adjusted for 15% non-response rate; bringing the total sample size to 400. Of these 300 undergraduate medical students and 100 faculties from various departments formed the study subjects, however as response from faculty was poor so 60 faculty and equal number of students from each year (60/year) were randomly selected using random number table, for each year of students. A self-administered, predesigned, pretested semi-structured questionnaire was used for data collection, which was done in June-July 2016. Data was analyzed using Epi info and SPSS software.

Ethical approval

Participation was on voluntary basis. Written informed consent was obtained from all participants prior to their participation in this study. Anonymity and confidentiality of the study subjects was maintained. Ethical committee clearance from the institutional was obtained before starting of study.

RESULTS

Out of 360 study subjects 222 (63.7%) were male and 138 (36.3%) were female. Majority (82.2%) of respondents were part of nuclear family (Figure 1).

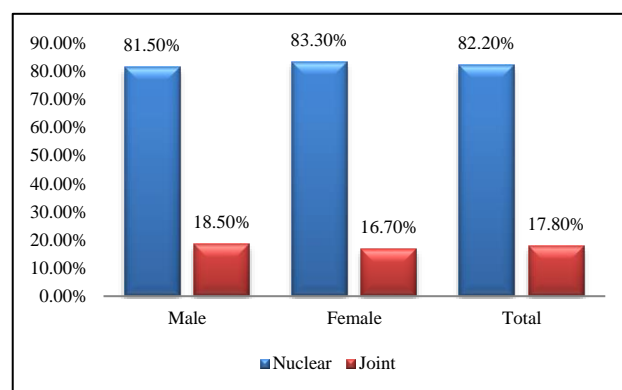


Figure 1: Gender and type of family wise distribution of study subjects.

Table 1: Respondents' knowledge regarding term body and organ donation.

Terms	Gender		Total (n=360)
	Male (n=222)	Female (n=138)	
Body donation	187 (84.2)	130 (94.2)	317 (88.1)
Organ donation	213 (95.9)	131 (94.9)	344 (95.6)

Virtually all respondents were aware of term body donation (88.1%) and organ donation (95.6%). Apart from significant better knowledge among female regarding body donation meaning ($\chi^2=8.0$, $df=1$, $p<0.05$).

Table 2: Respondents response to the query related to feeling on anatomy table dissection.

Characteristics		Importance of dissection in anatomy	Does being dissected on an anatomy table gives you jittery feeling?		
		Yes	Yes	No	Can't say
Gender	Male	222 (98.2)	44 (19.8)	141 (63.5)	37 (16.7)
	Female	138 (100.0)	24 (17.4)	96 (69.6)	18 (13.0)
Total		360 (100.0)	68 (18.8)	237 (65.8)	55 (15.2)

Table 3: Distribution of respondents with regards to correct knowledge regarding time duration for viability of organ donation.

Correct knowledge regarding time duration for viability of organ donation	Gender		Total (n=296)
	Male (n=181)	Female (n=115)	
As soon as possible	76 (42.0)	63 (54.8)	139 (46.9)
One day	40 (22.1)	20 (17.4)	60 (20.3)
Different in different cases	55 (30.4)	29 (25.2)	84 (28.4)
Others	10 (5.5)	3 (2.6)	13 (4.4)

Majority (98.9%) of respondents agree with importance of dissection in anatomy, but 68 (18.9%) respondents had jittery feeling while dissection is being done on anatomy table (Table 2).

Majority (82.2%) of respondents had correct knowledge regarding time duration for viability of organ donation, though no significant variation in response was observed in different study group (Table 3).

Table 4: Respondent's knowledge regarding various important aspects related to body/organ donation.

Knowledge regarding age limit in donating organs	Gender	
	Male (n=222)	Female (n=138)
Depend on cases	13 (5.9)	9 (6.5)
After puberty	20 (9.0)	13 (9.4)
Not in child and elderly	18 (8.1)	15 (10.9)
Not answered	171 (77.0)	101 (73.2)
Ideal person for organ donation		
Parents	24 (10.8)	13 (9.4)
Siblings	116 (52.3)	58 (42.0)
Children	6 (2.7)	9 (6.5)
Anybody	76 (34.2)	58 (42.0)
Ideal for organ donation		
Brain dead	118 (53.2)	65 (47.1)
Health living donor	51 (23.0)	29 (21.0)
Paralyzed person	5 (2.3)	2 (1.4)
Cadaver	35 (15.8)	31 (22.5)
Not answered	13 (5.9)	11 (8.0)
Who should be authority to give consent for body donation		
Donor only	147 (66.2)	90 (65.2)
Donor's family	66 (29.7)	46 (33.3)
Doctor	9 (4.1)	2 (1.4)
Have you heard or read Transplantation of Human Organ Act?		
Yes	67(30.2)	45(32.6)

(Figures in brackets are percentages)

It was observed that knowledge regarding age limit in donating organ was poor as 272 (75.6%) respondents did not answered this question and those who answered, it was either after puberty or children and elderly excluded (9.2% each). Only 22 (6.1%) respondents responded that it is different in different cases. For 174 (48.3%) respondents, ideal person for organ donation is sibling while 134 (37.2%) said that anybody can be donor. Brain dead (50.8%) was selected as ideal for organ donation, followed by healthy living donor (22.2%), and cadaver (18.3%) as best option. Donor only should be authority to give consent for body donation (65.8%), while 31.1% were in opinion that donor's family should be authority, uniformity was observed among different respondent groups. Only 112 (31.1%) respondents have heard or know transplantation of human organ bill, knowledge was significantly increasing in this regards as the qualification

seniority was increasing ($\chi^2=11.45$, $df=5$, $p<0.05$) (Table 4).

Table 5: Respondent's attitude regarding various issues related to body and organ donation according to gender.

Characteristics		Gender		
		Male (n=222)	Female (n=138)	Total (n=360)
Belief regarding religion and body donation	Religion is against body donation	45 (20.3)	27 (19.6)	72 (20.0)
	Religion is always for helping others	177 (79.7)	111 (80.4)	288 (80.0)
If you decide organ donation will be	Noble act	127 (57.2)	81 (58.7)	208 (57.8)
	Useful for others	68 (30.6)	43 (31.2)	111 (30.8)
	Don't care	27 (12.2)	14 (10.1)	41 (11.4)
How do you feel about organ/body donation	Strongly approve	118 (53.2)	76 (55.1)	194 (53.9)
	Somewhat approve	84 (37.8)	45 (32.6)	129 (35.8)
	Strongly disapprove	8 (3.6)	3 (2.2)	11 (3.1)
	Somewhat disapprove	12 (5.4)	14 (10.1)	26 (7.2)
Donated bodies/ dissected parts sold for monetary gain	Never	35 (15.8)	11 (8.0)	46 (12.8)
	Sometime	93 (41.9)	61 (44.2)	154 (42.8)
	Often	34 (15.3)	28 (20.3)	62 (17.2)
	Most of the time	2 (0.9)	5 (3.6)	7 (1.9)
	Don't know	58 (26.1)	33 (23.9)	91 (25.3)
Do you think donated bodies are misused/ disrespected during and after dissection	Never	56 (25.2)	37 (26.8)	93 (25.8)
	Sometimes	47 (21.2)	26 (18.8)	73 (20.3)
	Often	51 (23.0)	43 (31.2)	94 (26.1)
	Always	25 (11.3)	14 (10.1)	39 (10.8)
	Can't say	43 (19.4)	18 (13.0)	61 (16.9)

An almost equal proportion of male and female respondents (20%) believed that organ donation was against religion while their counterparts (80%) believed that religion is about helping others hence organ donation should be done. Over all 58% believed that organ donation is a noble act and 54% approved organ donation.

Majority (87.8%) respondents were willing to support organ donation, almost equal among male (87.4%) and female (88.4%) but only 13.6% were willing to take pledge for organ donation. Significantly more number of female respondents (21.7%) was willing to take pledge for organ donation as compared to male (8.6%) ($\chi^2=12.57$, $df=1$, $p<0.001$) (Table 6).

Table 6: Respondent attitude regarding organ donation.

Characteristics		Gender		Total
		Male	Female	
Support organ donation	Yes	194 (87.4)	122 (88.4)	316 (87.8)
	No	28 (12.6)	16 (11.6)	44 (12.2)
Will take pledge to donate	Yes	19 (8.6)	30 (21.7)	49 (13.6)
	No	203 (91.4)	108 (78.3)	311 (86.4)
Which organ will you pledge? (multiple response) (n=yes to take pledge)	Eyes	12 (63.1)	22 (73.3)	34 (69.4)
	Body	4 (21.1)	2 (6.7)	6 (12.2)
	Heart	3 (15.8)	4 (13.3)	7 (14.3)
	kidney	3 (15.8)	3 (10.0)	6 (12.2)
	Liver	2 (10.5)	1 (3.3)	3 (6.1)

DISCUSSION

In almost every country, the organ supply for transplantation does not match the increasing demand of organ or body; health professionals may play an important role in eliminating barriers and increasing organ donation. The paucity of knowledge and attitude on part of medical fraternity could constitute an impediment to national and institutional frameworks and policies targeted towards sensitization of the public about organ and body donation. Previous statistics have shown a discrepancy between the demand and supply of donor organs.¹⁸ The opinions of the medical community and perhaps most importantly, attitudes of the public, clearly affect the availability of such organs.⁹

In our study of 300 medical students (60 from each year) and 60 faculty members, mean age was 20.45 ± 2.1 and 36.97 ± 4.9 years respectively with 63.7% male respondents, findings similar to others while some observed a higher mean average of medical students only, which might be because these were the studies done abroad, might be having different admission age for medical students.^{20,21,24,25}

In our study we found that virtually all respondents were aware of term body donation (88.1%) and organ donation (95.6%), finding similar to other studies.^{20, 21,24,25}

Though not much significant gender wise knowledge difference, regarding medical scientific aspect related to body/organ donation was observed, which was assessed

by using ten questions and given marks but as the educational level was increasing their mean score was also significantly increasing. In our study we found that more than 85% of the respondents were willing to support organ donation. Medical students' attitudes toward organ donation have been assessed in many other studies and observed similar findings.^{18,20,22,24}

In present study, majority (87.8%) support organ donation, citing organ donation as "noble act" (57.8%), "useful for others" so why to waste (30.8%) and they either strongly (53.9%) or somewhat (35.8%) approve it while in a study conducted by Sucharitha 77% participants responded that they strongly approve while 22.1% mentioned that they somewhat approve organ donation.²⁴

As organ transplantation is firmly established in medicine as a procedure that saves or prolongs lives of patients with organ failure, health care professional play a critical role in educating and motivating the public to pledge their organ for donation, provided they have also pledged to donate their organ. This study found the discrepancy between higher rates of approval for supporting organ donation, but surprisingly only 13.6% were willing to take pledge for organ donation. This matches with the study findings reported by other authors in similar studies.^{9,21} Reasons for such type of finding also could be because of religious belief, though only 20% responded that religion is against body donation. Some of the respondents think that donated bodies are misused/ disrespected or dissected parts are sold for monetary gain.¹⁰ Major reasons for refusal to donate include a feeling of uneasiness, apprehension of disrespectful behaviour towards cadaver.¹⁰ Reasons mentioned for not pledging were perceived parental and family refusal, fear for personal safety, disapproval of mutilation of body and religion. Salmani observed that 78% agreed with organ donation after death.¹⁹ The most important reason providing for their agreement in this group was "to help others" whereas the most common reason for disagreement was "to honour the body." The most common reason for agreement and disagreement on living kidney donation was "to help others" and "probable damages to donors," respectively. He found that most of the specialists (78%) agreed with organ and tissue donation after death for the main reason of "helping others." Illango et al also observed that about 90% of medical, nursing and dental students were aware of the need of organ donation and they extended their support for the act but found that nearly 1/4th of the subjects thought that donated bodies are misused/disrespected during and after dissection.¹⁷ In Nigeria, 65.9% and 60.2% of the respondents also believed that there is a danger that donated organs could be misused or misappropriated.²¹

In our study we saw that respondents had the positive belief regarding religion and Body Donation, as nearly 80% of the subjects had the positive opinion regarding religion. Bapat et al also had the similar findings that 95%

of subjects did not believe that organ donation is against their religion, but on the contrary Trevor in their study in Kingston noted that half the medical students believed that people of certain religious groups should not be approached about organ donation.^{15,20}

In present study, though majority were having correct knowledge regarding time duration for viability of organ donation but having different knowledge regarding various issues related to organ donation like age limit in organ donation, ideal person for organ donation, characteristics of ideal organ donor etc. Organs can be taken from the body of deceased person if prior consent given by family member. Also a healthy individual can donate organ or a part of it, when the individually wilfully wishes to do that. There is no age limit for organ donation.

Another issue of vital importance is the medical history of the individual that is if the individual has any history of chronic infectious disease, also if the individual should not have any detrimental effect on his health.¹⁹ If a patient has a normal functioning organ and is in good health, then organ donation is certainly an option. Young people as well as elderly individuals have donated organs, and all the time they have a wilful consent for the action. Regarding knowledge of who could be a donor Bilgel et al observed that 1.0% answered all of the deceased, 5.4% chose only people who were brain dead, 16.4% chose all of the deceased who had given consent, and 68.9% answered people who were brain dead and had given consent.¹⁸ About 8.3% of the students did not know this.

In present study, only one third were aware of any law related to transplantation of human organ, finding similar to other study, which could have far reaching impact on the decision to donate.²¹ On the contrary Salmani in Iranian physicians observed that only 6% had no knowledge about transplantation rules.¹⁹

This study has some limitations. Knowledge, attitude and behaviour of healthcare professionals, especially younger medicos, are important factors in creating and promoting an environment that can encourage and promote organ donation among the entire population. But less participation of senior health care professionals, which should have been guiding force for others, somewhere affected our methodology. Many of the health care professionals were not aware on these important aspects, might be one of the reason for their nonparticipation.

CONCLUSION

So, to conclude, through regular seminars on organ donation and body donation the medical fraternity can be kept updated on developments in the transplantation fields and research. This may help them counsel their patients and address their anxieties regarding organ and body donation in a better way.

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Conflict of interest: None declared

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