

ORIGINAL RESEARCH

Voluntary body donation after death: Awareness and attitude of first year MBBS students

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ABSTRACT

Background: Due to paucity of voluntary body donation practice in our society, the Indian medical institutes have inadequate cadavers for dissection. This research aimed to assess the knowledge and attitude of medical students towards body donation after death and to understand various factors which significantly hinders voluntary body donation. In depth knowledge of medical students with a positive mindset can play a significant role in motivation of general public towards body donation after death. **Methods:** A cross sectional study was conducted among 200 first year MBBS students of Chirayu Medical College and Hospital, Bhopal, (M.P). A paper based validated questionnaire was used to assess knowledge and attitude of medical students. The data were analyzed statistically and expressed as percent of total study population. **Results:** 90.5% of medical students were aware about voluntary body donation. None of the participants were sure about documents and legal aspects. 89% students were unwilling to pledge their body for donation. Females were not willing to donate due to fear of disfigurement (19.7%). Dissection hall experience was noted to be main reason for unwillingness (40.5%). Body donation programme was believed to be important facilitator by 49.5% of participants. **Conclusions:** This Study revealed that medical students were unwilling to pledge for body donation and experience of dissection hall was significant to affect student's attitude. Also students need more detailed knowledge on all the fundamental and legal aspects of voluntary body donation through awareness sessions so that they can provide correct information to others.

Keywords: Voluntary body donation, Medical students, Knowledge, Attitude.

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INTRODUCTION

Voluntary body donation is willful choice to donate one's own whole body after death to medical institute for medical education and research purpose.¹ For proper knowledge of human anatomy, for research purposes and learning the surgical skills as well as observing variations, dissection of cadaver is essential and cannot be replaced with other medical education techniques.^{2,3} Pandurang Sridhar Apte was first in India to donate his body to B. J. Medical College Pune in 1956.⁴

Most of the medical institutes in India depend on either unclaimed or donated bodies to teach anatomy.⁵ Unclaimed bodies carries the risk of infectious diseases and therefore voluntary body donation practice should be promoted to meet the requirement of cadavers ethically in medical institutes.⁶ There is very rapid increase in number of medical colleges across the country due to which most of the medical institutes are having insufficient number of cadavers

for hands on dissection.⁵ In India there is low level of awareness and motivation towards voluntary body donation.⁷ Public opinion for body donation can be changed positively only when medical students themselves are aware and have positive mindset towards body donation. In this research, the aim was to assess the knowledge and the attitude of first year medical students towards body donation. Secondly to evaluate various factors that affects the same along with the influence of dissection hall experience on their mind and to understand how voluntary body donation can be facilitated.

MATERIAL AND METHODS

This cross sectional study was conducted on first year MBBS students of Chirayu Medical College and Hospital, Bhopal (M.P) after receiving approval from Institutional Ethical Committee. The study involved a sample size of 200 students of 2023-24 batch between 18-25 years of age that were randomly selected. A

paper based validated questionnaire having close ended questions covering demographic data of the participants, basic awareness and attitude towards body donation and causes for unwillingness towards body donation was prepared. Students were made to understand the objective of this study and were assured that their anonymity and the confidentiality of data collected shall be maintained. After explaining the students that this participation is voluntary, the written informed consent was obtained from all the participants and then the questionnaires were distributed. They were asked to mark the responses in 20 minutes time without discussion. The descriptive data collected were analyzed and expressed as percentage of the total study population.

RESULTS

Questionnaires were completely answered by all 200 students and analysis was done. Out of 200 participants of age between 18-25 years (median=21.5year), 102 (51%) were males and 98 (49%) were females. Also majority of participants belongs to Hindu religion.

***Analysis of basic awareness about voluntary body donation:** 90.5% of Participants were aware of body donation. Most of them knew the purpose of body donation and though proportion of awareness among female participants (93.8%) was more but there is no statistically significant difference in awareness on the basis of gender ($p=0.1752$). Regarding the source of procurement of cadavers in any medical institute, only 45% of participants had knowledge that cadavers used in dissection can be acquired through both voluntary body donation and unclaimed bodies. 48.5% had no idea regarding unclaimed bodies and believed that only donated bodies are used. While 6.5% don't know about the source of cadaver. Their source of information about voluntary body donation was diverse (Table1). 38.5% respondents got

knowledge from newspaper, followed by TV (21%) while students were least familiar with body donation programme.

It was observed that none of the participants were sure about the documents required for body donation. 24.6 % had no knowledge regarding who can give consent for body donation after the death of donor.

***Analysis of attitude towards voluntary body donation:** None of the participants had so far pledged for body donation. 89 % of the students were not willing to pledge their bodies for donation in future despite being aware of the need. 87% of the participants would like to have more detailed information about body donation among which 53.5% were females, before they could decide for donating their own bodies. Different reasons of unwillingness found in present study have been tabulated (Table 2). Most of the participants (40.5%) had deep impact of dissection hall experience on their mind which has contributed as main reason for their unwillingness; this was further confirmed in this study that 29.5% had opinion in favor of donating body before performing dissection. 42.5% students believed that proper handling of body with respect in dissection hall or cremation (5.5%) after dissection can help facilitate body donation. Unacceptability of body donation by family is another major cause of unwillingness among 32.5% students. While 19.7% of unwilling female participants had feeling that body gets disfigured and only 4.5% want cremation after death and 2.8% had religious beliefs. Surprisingly, 45.5% wish to participate in body donation program for awareness and motivation of general public towards body donation after death for anatomy teaching.

49.5% participants believed that body donation awareness programmes should be conducted to motivate public towards body donation while only 2.5% believed that incentive should be paid.

Table 1: Source of knowledge of participants regarding body donation

	Source of information	Frequency (n) (Total=200)	Percent (%)
1	Newspaper	77	38.5
2	TV	42	21
3	Friends/colleagues	31	15.5
4	Relatives	29	14.5
5	Doctor	15	7.5
6	Body donation camp	0	0
7	Others	6	3

Table 2: Causes of unwillingness among participants towards body donation

	Frequency (n) Total unwilling participants n=178	Percent (%)
Dissection hall experience	2	40.5
Family will not allow	58	32.5
Body gets disfigured	35	19.7
Want cremation	8	4.5
Religion	5	2.8

DISCUSSION

Since voluntary body donation practice in India is very low; many medical institutes rely on unclaimed corpse for dissection but that has always been associated with ethical issues. Therefore to resolve the issue of scarcity of cadavers for purpose of dissection and also for its ethical procurement, voluntary body donation needs to be promoted.^{8,9} Studies have shown that the paucity in body donation is due to lack of general information, legal knowledge,¹ awareness of its need and importance of body donation for research and learning anatomy. So body donation programmes should be conducted in order to educate both the medical students as well as general public to create positive mindset and facilitate body donation.¹⁰

As a future medical practitioner, the medical students are best suited in creating general public awareness towards body donation.¹¹ Most of the students in current study belong to Hindu religion and their age group was 18-25 years and the sample size (N= 200) which is similar to study done by Cahil et al.¹² Since voluntary body donation is an individual's own decision, Hindu religion does not prohibit body donation because it is a noble act of kindness to serve mankind.⁴

In the present study, 90.5% of medical students were aware of voluntary body donation which is close to findings of Gosh SK et al (89.8%) among medical student; while Priyadarshini AN et al reported 96.7% of healthcare professionals were aware of body donation.^{1,7} In current study, there was no significant difference in awareness on the basis of gender which is in contrast to study by Prasann R et al who mentioned better awareness in females(94.2%).¹³ Further it was found that 38.5% of respondents got knowledge about body donation from newspaper (Refer table1) similar to that mentioned by Kharkar A et al (37.8%) among engineering students.¹⁴

Moreover, the majority of students knew the purpose of body donation similar to the recent study by Jakka LD et al.¹⁵ It was further noted that 48.5% of students had no idea that unclaimed bodies can also be used for dissection and believed that only donated bodies are used which is significantly lower than the findings of Gosh SK et al (79.6%).⁷

In present study, students were least familiar with body donation programme and 24.6% of students had no knowledge regarding who can give consent for body donation; while none of the participants were sure about the documents required for body donation which is in congruence with observations of Anisa B et al who reported lack of knowledge among students about body donation programme and legal aspects of donation,¹⁶ and in contrast to study of Gosh SK et al where 67.5% of medical students had no idea about documents needed.⁷

In current study despite being aware 89% of the respondents were not willing to pledge their bodies for donation in future and 87% feel that they would like to obtain more detailed information about body

donation due to lack of knowledge regarding procedure, documents and consent for body donation which is higher than findings of Ballala et al on medical professionals where 85% were not willing to donate,¹⁷ while results were significantly different from study by Karkera S among medical students and doctors who mentioned that 92.6% were willing for body donation and only 3.7% needed detailed information about it.¹⁸ Moreover 45.5% wish to participate in body donation program for awareness and motivation of general public towards body donation after death which is much higher than reported by Gosh SK et al (23.5%).⁷

Female respondents in this study were least interested in body donation and had feeling that body get disfigured. This was also observed by other researchers in their studies that most of the body donations were done by males and so there is scarcity of female cadavers in many medical institutes in India.²

It was observed that 40.5% students had impact of dissection hall on their mind after performing dissection for one year and contributing as one of the main reason for unwillingness for body donation. Like other researchers it was noted that fear of cutting body and disrespect to cadaver due to improper handling affects their attitude.^{2,16} In this study 29.5% had opinion in favour of donating body before performing dissection close to findings observed in a study on Irish students who supported body donation before performing dissection (31.5%).¹⁹

Though voluntary body donation is giving one's own body after death is an independent choice but still it was noted that 32.5 % students feel that they can't give consent unless their family agree for it, so the decision of family was major factor responsible to hinder this noble act similar to that mentioned by Nattalam PA et al.¹

In order to facilitate body donation, it was observed that multidimensional approach should be taken; firstly with utmost emphasis on educating medical students and public to provide them detailed information on various legal aspects of body donation, documents and its procedure through body donation programmes to avoid confusion along with involvement of mass media. Secondly, to inculcate positivity among students and donors, the cadavers should be carefully handled with respect in dissection hall by workers and students. Few believed that after dissection bodies should be cremated (5.5%), while only 2.5% feel that incentives to be paid to donors. Dope SA et al mentioned other important measures like providing some health care benefits to relatives of donor in hospital can be beneficial.⁴

CONCLUSION

After conducting this research, it was concluded that medical students still need to know the detailed information regarding body donation and their sensitization regarding cadaveric dissection,

respecting the cadavers, their proper handling, and other aspects should be the part their first year curriculum. Students with proper knowledge about body donation can become the important part of body bequest awareness programme to spread the awareness in general public to motivate them about body donation and can clarify the doubts related to it by giving correct information to every individual so as to promote body donation. There was unwillingness towards body donation due to fear of dissection, social and religious factors which needs to be dealt by organizing awareness campaigns on large scale by medical colleges reaching all the sections of society using social media and involvement of religious leaders, political parties, NGOs to change the rigid mindset.

To further facilitate body donation, every medical institute must have a unit for body donation with banners, provide online protocol concerning documents required, registration forms for pledging and important contact numbers of authorities to simplify the procedure and all the official formalities should be done without delay. Family of donor should be given honour as a part of respect. This study helps to provide insight to the situation and can help in formulating strategies in Indian medical institutes to enhance body donation and overcome its scarcity for dissection.

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