

ORIGINAL RESEARCH ARTICLE

# Whole Body Donation after Death: A Survey of Awareness, Perception and Attitude in Engineering Students of Jawaharlal Nehru Engineering College Aurangabad, (MS), India.

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## Abstract:

Body donation is a gracious act. Even in mythology it has been mentioned that death is not the end of life. "Idam shariram Paropkarartham" has been stated in Puran. The dead body can be used for the purpose of dissection by the medical students is a well established fact. The no. of medical colleges are increasing for health care of the society. So there is scarcity of the dead bodies for dissection and research by medical students. It is very difficult to emphasis and promote the common man for body donation. The awareness of the shortage of the cadavers is to be brought to the notice of everybody particularly educated persons so that they can have more propaganda about it in the society. It is the main purpose of this study.

**Aim:** - Aim of the study was to evaluate the awareness, perception and attitude regarding body donation after death in engineering students.

**Material & Methods:** - A cross sectional study was conducted among engineering students of JNEC Aurangabad. Total 500 participants had answered the questionnaire providing information about the knowledge and attitude towards body donation after death for medical education & research.

**Results:** - 92.2 % (461) students were knowing about the body donation, 55.6 % students were willing to donate the bodies. 123(24.6 %) of students feel that they will be living after death in other person's body. There is an apprehension in the minds of students that the bodies will not be handled properly, therefore they are not willing to donate the body.

**Conclusion:** From present study it has been concluded that, it is clear from the study that there is awareness of high level. If there is a proper motivation & guidance to the public about body donation, whatever scarcity of the bodies is existing for medical students can be overcome. Media, voluntary organization and medical faculties can play an important role for motivation to the society. Mass education is necessary for convincing the importance of body donation for medical education & research.

**Key Words:** Body Donation, Medical Education, Research etc.

## Introduction:

Dead body donation is useful for medical education and research and also beneficial for needs of (injured / diseased) living persons. Body donation will help the medical community to create a new world where people live longer, healthier lives, lives filled with memories, independence and opportunities. Body donation supports

research on diseases such as cancer, Alzheimer's, dementia, diabetes Parkinson's etc. It also furthers the development of life saving drugs creations, new surgical implant devices and education of the next generation of health care professionals.

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Cadavers remain principal tool for medical education and anatomists, without the dissection of human body, learning of anatomy is incomplete. For the in-depth knowledge of human body organs, tissue and cells, cadaveric dissection is required. With the increasing number of medical colleges. There is a great demand of cadavers for dissection by medical, dental & para medical students. For the collection of dead bodies for teaching purpose there is Bombay Anatomy act [1]. An act to provide for the supply of unclaimed dead bodies of deceased persons and for donation before death by a person of his body or any part thereof after his death to hospitals and medical and teaching institutions for therapeutic purposes or for the purpose of medical education and research, including anatomical examination and dissections. This act is adopted uniformly in all states of India [2].

United States and other countries have found shortage of cadavers [3]. Question of Shortage of the cadavers often facing the taboo on trading human anatomical goods [4,5].

Knowledge obtained through dissection of human body is an indispensable part of education for medical professionals. The demand for cadavers is increasing and the body donation is an unselfish act for those who wish to be useful to the living after death. The donor is

helping to the medical students and research workers [6].

It has been observed that there is high level of awareness about the body donation in the educated people [7]. The time is yet to come to motivate minds for body donation for the sake of medical science or to save one's life.

So the present study has been conducted to see the awareness towards the body donation, who is in a professional college. It is thought that the study may help to sensitize and bring awareness about the body donation after death.

**Material and Methods:**

A cross sectional study was conducted in students of Jawaharlal Nehru Engineering College, Aurangabad MS India. 500 engineering students 323 males and 177 females participated in the present study from January 2016 – March 2016. Primary data containing sample size of 500 participants was collected through convenience sampling. A predesigned close ended questionnaire was prepared. The questionnaire included demographic features, knowledge of body & organ donation, attitude towards body donation, causes of unwillingness and reasons behind being unwilling to donate the body.

**Observations & Results:**

Questionnaires were answered by all 500 students from Jawaharlal Nehru Engineering College, Aurangabad.

**Table 1: Demographic Profile of Students:**

		No. of students	Percentage
<b>Gender</b>	<b>Male</b>	<b>323</b>	<b>64.6</b>
	<b>Female</b>	<b>177</b>	<b>35.4</b>
<b>Religion</b>	<b>Hindu</b>	<b>412</b>	<b>82.4</b>
	<b>Muslim</b>	<b>39</b>	<b>7.8</b>
	<b>other</b>	<b>49</b>	<b>9.8</b>

Out of 500 engineering students 323 (64.6%) were male & 177(35.4%) were female. In this present study maximum students from Hindu religion i.e. 412(82.4%), 39 (7.8%) were Muslim and 49(9.8%) were of other religion.

**Table 2: Awareness of Body Donation in Students:**

		No. of students	Percentage
<b>Do you know about body donation</b>	<b>Yes</b>	<b>461</b>	<b>92.2</b>
	<b>No</b>	<b>39</b>	<b>7.8</b>
<b>Do you know that whole body donation and organ donation are different?</b>	<b>Yes</b>	<b>404</b>	<b>80.8</b>
	<b>No</b>	<b>96</b>	<b>19.2</b>
<b>How you have come to know about body donation?</b>	<b>Television</b>	<b>179</b>	<b>35.8</b>
	<b>Radio</b>	<b>59</b>	<b>11.8</b>
	<b>News papers and magazine</b>	<b>189</b>	<b>37.8</b>
	<b>by doctor</b>	<b>23</b>	<b>4.6</b>
	<b>Seminar</b>	<b>37</b>	<b>7.4</b>
	<b>Friend &amp; Relative</b>	<b>104</b>	<b>20.8</b>
<b>Do you feel that the society is aware of body donation?</b>	<b>Yes</b>	<b>182</b>	<b>36.4</b>
	<b>NO</b>	<b>318</b>	<b>63.6</b>
<b>Does your religion allow body donation?</b>	<b>YES</b>	<b>364</b>	<b>72.8</b>
	<b>NO</b>	<b>136</b>	<b>27.2</b>

Out of 500 engineering students, 461(92.2%) students were aware about body donation & 39(7.8%) students were not aware about body donation.

404(80.8) students know that whole body donation and organ donation are different & 96 (19.2%) feel that whole body donation and organ donation are same.

Maximum students 189(37.8%) have come to know about body donation by News papers and magazine and also 179 (35.8%) students were knowing about body donation by electronic media.

318(63.6%) students feel that society is not aware of body donation. Maximum students 364 (72.8%) feel that religion allows body donation.

**Table 3: Opinion of Willingness of Body Donation in Students:**

		No. of students	Percentage
Are you willing to donate your body after death to medical institute?	Yes	278	55.6
	No	222	44.4
If no, reason behind unwillingness regarding body organ donation.	Organ could be wasted	57	11.4
	Don't want to cut body into pieces.	68	13.6
	Organ body could be misused abused.	86	17.2
	Religious barrier.	39	7.8
	Prevented by family members.	71	14.2
	Psychological anxiety.	89	17.8
If yes, reason behind willingness regarding body donation / organ donation	To live after death in other person's body	123	24.6
	To avoid unnecessary wastage of body by cremation	56	11.2
	To save other needy people's life	103	20.6
	To facilitate medical teaching	31	6.2
	To save economy by avoiding cremation in poor socioeconomic people	48	9.6
	To avoid environmental pollution	36	7.2
	All of the above	67	13.4
Would you like to promote your family members for body donation?	Yes	211	42.2
	NO	289	57.8

Out of 500 students, 278 (55.6%) students were willing to donate your body after death to medical institute and 222 (44.4%) students were not willing to donate the body after death to medical institute. 89(17.8%) students having Psychological anxiety as a reason behind unwillingness regarding body donation. Out of 278 students, 123(24.6%) feel that they will be living after death in other person's body so they are willing to the body donation. 211(42.2%) students are in fever to promote family members for the body donation.

**Table 4: Opinion of students regarding usefulness of Body Donation for medical Education & Research**

		No. of Patients	Percentage
According to your opinion, who should bear the expenses of conveyance of donated body to bring it to the medical institution?	Family members	95	19.0
	Government.	185	37.0
	By institution	220	44.0
Do you think that dead bodies are not handled properly by medical students?	YES	266	53.2
	No	234	46.8
Do you know where from the bodies are procured for dissection by medical students?	Unclaimed dead bodies from hospitals.	37	7.4
	Body donation.	42	8.4
	Both.	188	37.6
	Don't know	233	46.6
Do you think that Govt. should take initiative for awareness to get more no. of donated bodies?	YES	420	84.0
	NO	80	16.0
Do you think that there is a need of educating people about benefits of body donation for improving medical education and research?	YES	442	88.4
	NO	58	11.6

220(44.0%) students feel that institution should bear the expenses of conveyance of donated body to bring it to the medical institution.

After the body donation the expenses of conveyance for bringing the body from residence to the medical institute is also a problem faced. The family members should be exempted from this, is the consensus and govt. / institution should bear the expenditure is the opinion of 405 students.

Handling of the donated bodies is not done properly is the opinion of 266 (53.2 %) students. Source for procuring the bodies for dissection purpose is not known by majority of the students 233 (46.6 %). 420 (84 %) students opined that govt. should take the initiative to supply the bodies. 442 (88.4%) think that there is a need of educating people about benefits of body donation for improving medical education and research.

**Discussion:**

Body donation is governed by the code of public health. It is a voluntary act that a person can give his body after death to save the lives for scientific study and research by medical students. As per the Anatomy act (1949) [1] unclaimed dead bodies can be collected for teaching purpose only if death occurs in a state hospital or in

public place within the presented zone of medical institution and within 48 hours of death no claimant has been declared by police [2]. With the mushrooming of medical institutions, the demand for the cadavers is ever increasing for the dissection by medical professionals. Unclaimed dead bodies received are not sufficient for medical education. So the body donation movement needs to be geared up.

In present study 500 students of engineering background were selected. Out of these 500 student majority students were male i.e. 323 (64.6 %) and most of them were belonging to Hindu religion. Anubha Shah in 2015 [7] has also noted similar findings in her study. About 92.2 % students were aware about body donation and 80.8 % students also know that whole body donation & organ donation are different.

Most of the students were aware from news paper & magazine (37.8%) and electronic media (35.8%). In present study 55.6% of students were willing to donate the body after death to medical institution. Whereas study conducted by Saima Mushtaq et al [8] in 2011 found that only 29% of the participants would like to donate the body. Also in different parts of the world the studies have been carried out on body donation.

**Table 5: shows the willingness of participants about body donation.**

Author name & year	Country	Participants	Willingness of body donation.
Conesa C. et al (2004) [9]	Turkey	General population	69.9 %
Bogh I. et al (2005) [10]	China	University student	61.3 %
Chen JX et al (2006) [11]	Turkey	Medical student	58.4 %
Bilgel H. et al (2009) [12]	France	1 <sup>st</sup> MBBS student	81.1 %
Anubha shah et al (2014)[7]	India	Doctor, medical student, Eng. student	67.33 %
Present study	India	Engineering student	55.6 %

Rokade et al has pointed out that the common reason for “no body donation” is lack of awareness [13].

In present study 72.87 % students feels that their religion allows body donation. As a religious part of the world, India’s religions show support for body donations. Hindu, Buddhist, Muslims and Christian religions all support the idea of body donation and organ donation for the betterment of the world. The support of the different religions is critical in India because of how many people are active in practicing their religion is not known [14].

There are different reasons behind unwillingness towards body donation. Maximum unwilling participants feel that, donated body could be misused or abused. There is psychological anxiety and family permission was the reasons of unwillingness.

In present study 211 (42.2 %) students were willing to promote family members for body donation. So there is a need of proper counseling & guidance for turning the potential donor to actual donor (7).

**Conclusion:**

Present study has been carried out to know the awareness, perception and attitude amongst the engineering students regarding body donation after death. It is clear from the study that awareness is of high level. So from present study it has been concluded that,

1. There is awareness of high level.
2. If there is a proper motivation & guidance to the public about body donation, whatever scarcity of the bodies is existing for medical students can be overcome.
3. Media, voluntary organization and medical faculties can play an important role for motivation to the society.
4. Mass education is necessary for convincing the importance of body donation for medical education & research. This article may sensitize for the generous act of body donation “Gift that live on forever”.

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