

# Attitude toward body donation among the non-medical support staffs in a tertiary care center of Eastern India



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## ABSTRACT

**Background:** Anatomy is a basic fundamental subject of medical science. Cadaveric dissection is an essential part of the anatomy teaching-learning process to provide detailed in-depth knowledge about the structural organization of organs in human the body to medical students. Human cadavers are mainly obtained by the body donation program, but the rate of body donation is not adequate in various parts of the country. **Aims and Objectives:** This study was conducted to assess the attitude toward body donation among the non-medical support staffs in a tertiary health care setup in Eastern India. **Materials and Methods:** After ethical approval was obtained, a face-to-face interview was conducted among 151 non-medical support staffs using a structured questionnaire. The data were analyzed using Microsoft Excel and Epicollect5 software. **Results:** This study revealed that 44.37% of the participants were willing to donate their bodies for medical science after their death. The willingness was relatively higher among the male population, with urban residence, higher education level, and higher income group. The main motivation toward body donation was to help society by helping medical science. The main reason behind unwillingness was being uncomfortable about donating own body. **Conclusion:** Target-oriented awareness program could be conducted to increase motivation toward body donation. Publicly acknowledging the body donors and showing respect to the cadaver and donor family might increase willingness toward body donation.

**Key words:** Body donation; Willingness; Healthcare-support staff; Anatomy teaching; Cadaveric dissection

## INTRODUCTION

An informed and voluntary act of donating one's entire body for medical education and research is known as body donation. Anatomy, the study of the human body's structure, is one of the most fundamental and most important subjects studied by medical students. Cadaveric dissection is the primary method used in anatomy teaching and research because it helps students learn topographic localization of the body's organs and develop a tactile and spatial appreciation for the body's architecture that cannot be achieved through computerized learning aids alone. The attitude formed

during dissection may have an impact on examining the patients, interactions with patients, and doing surgeries in the future.

Therefore, using cadavers for dissection is a significant step in helping students identify emotional problems they may face and guiding them toward being compassionate doctors.<sup>1</sup> Cadavers are used for training surgical skills and creating novel surgical procedures, in addition to being dissected in anatomy practical for in-depth learning of the human body structures.<sup>2,3</sup> A proficient understanding of anatomy is necessary for a general practitioner to be effective. In addition, it is necessary for the technical and supportive personnel to be competent while providing care

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for patients. Worldwide, the primary and preferred supply of cadavers is body donation.<sup>3-5</sup>

Despite the fact that whole-body donation is crucial for medical education, very few people really donate their bodies. Therefore, scarcity of bodies is felt all over the world.<sup>4,6,7</sup> India is also impacted in the same way. In a survey conducted by Rokade and Bahetee, in medical colleges of Maharashtra, India, it was discovered that 90.90% of medical colleges had an extreme shortage of cadavers. These comprise state and government-run colleges in addition to those managed by private organizations. Between 2006 and 2010, the number of cadavers accessible was less than half of the required quantity at 63.63% of these institutions. These institutions are forced to rely on unclaimed remains, which have shown to be a meager supply of cadavers.<sup>8</sup>

**Aims and objectives**

The present study’s objective is to assess the attitude toward body donation among non-medical support employees in a tertiary healthcare facility. The study focuses on the perspectives or reasoning behind willingness or unwillingness toward whole-body donation among the healthcare-support staffs who are essential in bridging the gaps in patient-doctor interactions.

**MATERIALS AND METHODS**

The present study is an epidemiological investigation and cross-sectional study based on face-to-face interview on pre-structured and pre-validated questionnaire. The study was conducted among the various support staffs at a newly established tertiary care medical college and hospital during August 2022–December 2023. The study population was mainly working as security personnel, mess worker, hostel staff, housekeeping staff, and office attendants in the Institute. The questionnaire was framed by an extensive literature search and it was sent to two external experts for their input. A brief pilot study was conducted on a similar population to assess validity and finalize the question. The target population was approached for the face-to-face interview. Initially, 180 people were approached for the interview and 151 people finally gave consent for the interview and participated in the study.

The data were analyzed using Microsoft Excel and Epicollect5 software.

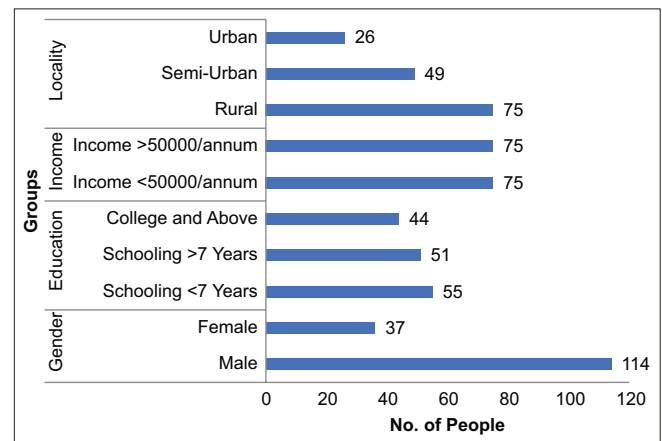
**RESULTS**

The study population consisted of 151 participants, among whom 114 were male and 37 were female. Depending on educational status, the participants were divided into three

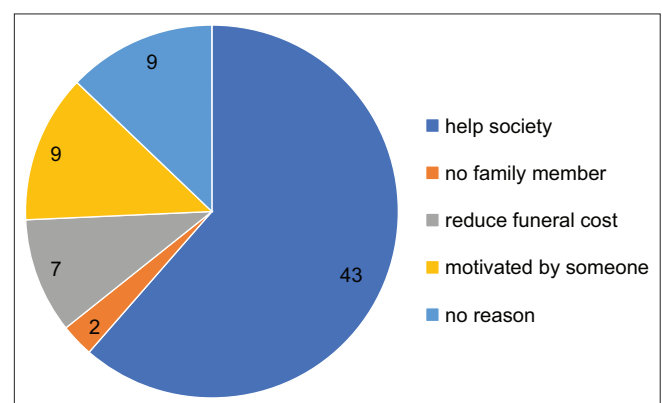
groups. Based on their home address, they were divided into urban, semi-urban, and rural groups and based on yearly income; they were divided into two groups. The demographic data reveals that the study population consisted more of rural participants (74.98%), <7 years of schooling (36.66%), and male population (76.00%) (Graph 1).

52 males and 15 females were willing to donate their bodies after death. Though the willingness was higher among the males in compared to females but the difference was not statistically significant (Table 1).

A total of 44.37% of people were willing to donate bodies after death. The relationship between the willingness toward body donation and the level of education among participants has been depicted. The willingness increased with a higher level of education (Table 2).



**Graph 1:** Demographic pattern of the study population



**Graph 2:** Reasoning of body donation

Table 1: Willingness toward body donation across gender			
Attitude toward full-body donation	Male (n=114) (%)	Female (n=37) (%)	P-value
Willing	52 (45.61)	15 (40.5)	0.587

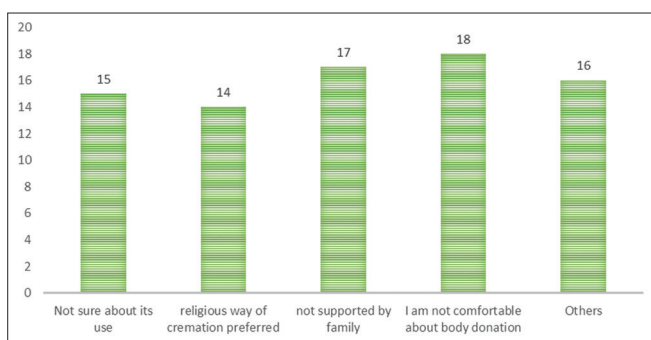
**Table 2: Willingness toward body donation according to level of education**

Attitude toward full-body donation	Schooling <7 years (n=55) (%)	Schooling >7 years (n=51) (%)	College and above (n=44) (%)	Pearson's correlation coefficient (r)
Willing	36.36	37.25	59.09	0.8828*

\*Very strong positive linear correlation

**Table 3: Willingness toward body donation according to place of residence and income**

Factor	Subheads	Percentage
Residence	Urban	42.31
	Semi-urban	38.78
	Rural	33.33
Income	>50,000/annum	49.33
	<50,000/annum	39.47



**Graph 3: Reasons for unwillingness toward body donation**

On the basis of family income, the motivation of body donation has been represented. The result showed that the participants with relatively higher family income were more interested in body donation than the lower family income group. The higher motivation toward body donation was seen in the urban population followed by semi-urban and rural (Table 3).

The perspectives or reasoning behind willingness or unwillingness toward body donation was analyzed in (Graph 2).

The different causes of unwillingness for body donation had been analyzed and represented in (Graph 3).

## DISCUSSION

In the present study, it was observed that the willingness toward body donation was limited among the healthcare-support staffs. 44.37% of people were willing to donate the body after death. The willingness was higher in the population with male gender, higher level of education, higher income, and urban residency. The most prevalent reason for donating body was to help society by helping medical science. Various reasons including personal

discomfort in donating body after death, no support from family, no transparency about the way of handling and future use of donated bodies, preference for religious cremation, etc. were mentioned.

The various studies conducted at various parts of India showed limited willingness for body donation among the doctors, nurses, and medical students instead of awareness about body donation and knowing its importance. In a study conducted among doctors at Kasturba Hospital, Manipal, only 22% were willing to donate their bodies.<sup>5</sup>

In another survey at Maharashtra, only 19.5% of the general population and 44.9% of healthcare professionals were willing to donate their bodies for anatomical education.<sup>8</sup>

In a study conducted among medical students of Bhubaneswar showed that the undergraduate students had a positive attitude toward Voluntary body donation, but the outcome in the form of rate of pledging was low. The most prominent barrier to this attitude was their experience with cadavers in the dissection hall.<sup>9</sup>

In a study among medical students of all semesters including interns at the Northeastern part of India, inadequate knowledge and attitude regarding various facets of voluntary whole-body donation was observed with only 7.5% registration for body donation among the participants.<sup>10</sup>

A survey at Turkey revealed that 83% of anatomists were ready to do a body donation campaign whereas only 15.7% were ready to donate their bodies.<sup>4</sup> A study was conducted to evaluate the perspective of body donation among the registered body donors of an American university, the recommendations from the participants were to make the body donation programs more transparent, names of the registered personnel to be included in newsletters or create resources for the family of the body donors, etc.<sup>11</sup> It indicated that the body donors could be more encouraged if transparency was present regarding the mode of utilization of the donated bodies and if they were honored publicly or received any other forms of recognition. The present study also found that one reason for unwillingness toward body donation was inadequate knowledge regarding the exact mode of use of the donated bodies.

In a study at Poland, nursing and allied medical students were more interested to donate organs for transplantation than donating whole bodies for educational and scientific purposes.<sup>12</sup>

In a study conducted at Maryland, USA among the general population, 49% of people expressed willingness toward body donation, which is very close to the present study findings. The willingness differed across ethnicity/race and educational status. The people with less education and African-American background had less trust on medical facilities and expressed less willingness toward body donation. A similar finding regarding educational status was observed in the present study. Although people's motivations for donation were complex, their desire to support medical science was the most prevalent motivation in the study conducted at Maryland- this finding supports the present study as well.<sup>7</sup>

Another study at the USA suggested to improve the process of informed consent through collaboration between anatomical societies and their members and mentioning the usage of the cadaver in a more detailed and transparent way to obtain better body donation responses from people.<sup>13</sup>

In a study conducted at Korea, it was observed that the memorial ceremonies conducted to honor the body donors and their families encouraged the people and improved the rate of body donation.<sup>14</sup> A display board showing information about donors including their photos and their message to the medical students dissecting their cadavers encouraged the students to show due respect to the cadavers during the dissection course and thereafter.<sup>15</sup>

In a survey conducted at the UK among potential body donors for dissection, 44% stated they understood their body will be used as teaching material while 42% thought it might be used for the experiment. 69% of participants requested cremation and 2% wanted to be buried after the dissection was over.<sup>16</sup> It indicated that after pledging for donating bodies for dissection, people wished some form of last rights of their cadaveric remains.

Body donation rates are lower than the requirement for medical training in various parts of India especially after the establishment of lots of newer medical colleges every year. Even among medical students, who get direct benefits by cadaveric dissection, are less motivated to pledge for body donation or donate the body of their family members. The same is applicable for doctors including anatomists who know the importance of donated bodies for medical training and research. They believe that people should

donate their bodies after death and are ready to organize body donation campaigns; however, the pledge for body donation is not very high among themselves.

In the present study, the willingness of body donation among the healthcare-support staffs is comparable to other studies conducted on medical students, doctors, and the general population. The healthcare-support staffs can bridge the gap between the patient, the patient party representing the general population and doctors or medical students. If they are aware and motivated about the facts by target-oriented special awareness program, the right information and motivation can spread among the society in a better way. Moreover, some measures can be taken to honor the body donors or their families publicly to encourage the potential donors.

Medical educators, doctors, and scientists might have a conversation with the potential donors to find out how the present procedures could be made better, and what donors and families think they should know ahead of time to gain more confidence for body donation. Some annual memorial ceremonies could be arranged in all medical institutions to show respect and honor to the body donors as well as to increase motivation. Strict adherence to proper handling of dissected cadavers with due respect and dignity and if possible, cremation of the cadaveric remains is recommended.

#### Limitations of the study

The present study has the following limitation – it was conducted on a small population specified as “non-medical healthcare-support staffs” of a single medical institution. The data gathered may not be actual representative of the community. Future studies should be performed on a larger population from various health care setups preferably from various parts of the country.

## CONCLUSION

Body donation awareness campaigns at frequent intervals with a target-oriented approach involving the healthcare-support staffs could be helpful as they often bridge the communication gap between the medical professionals and the general people. People should be convinced that the donated bodies are invaluable gifts to medical science and they will be handled with proper respect and dignity.

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**AG-** Concept, definition of intellectual content, literature survey, implementation of study protocol, data analysis and Interpretation, manuscript preparation and submission of article; **RB-** Clinical protocol, data collection, manuscript preparation and manuscript revision; **AM-** Literature survey, statistical analysis; manuscript preparation.

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