

# Body donation – The life after death

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## Abstract

Death provides many of us with a one-time chance to make a valuable gift to humanity. 'Body donation' is defined as the act of giving one's body after death for medical education and research. The need for donations is great, and the gift is valued and honoured beyond measure. Despite the importance of body donation for medical education and the advancement of medical science, cadaveric donation remains suboptimal. Dissection classes and research are being aborted in many medical courses because of lack of availability of cadavers. Under Anatomy Act of India, the unclaimed bodies have limitations and mostly they are not useful; and the practice of burial or cremation of corpse is a trend in India. So the only source of cadavers is the donated bodies but there is paucity of awareness regarding the gracious and ideal act of body donation. The purpose of this study was to evaluate the willingness and assessment of awareness of the public about the concept of body donation by a questionnaire; analysed and concluded with the ideas that any other media cannot replace the human body dissection and Need of cadaver for anatomy teaching and for research.

**Keywords:** anatomy act, body donation, cadaveric dissection, death.

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## INTRODUCTION

Voluntary body donations are precious gift to the mankind. Body Donation is defined as act of giving one's body after death for medical research and education. Cadavers remain a principal teaching tool for medical educators and anatomists. The terms Anatomical Donation, Body Donation or Body Bequest are commonly used and synonymous. Anatomy is a unique subject dealing with the knowledge of study of the human body structures. A sound knowledge of the anatomy is very essential for medical students to begin their medical career and later become effective and competitive medical professionals. The anatomy dissection laboratory is a unique experience where medical students begin the

transition from layman to physician, and may be a student's first experience with death. Attitudes developed there may influence interactions with future patients and their families.<sup>1</sup> Thus the material mainly utilized for practical purposes are dead bodies. Voluntary body donation is regulated by various acts and specific laws lay down according to each county. In India, the Anatomy Act was enacted in 1948 to provide unclaimed bodies of deceased persons to hospitals and medical and teaching institutions for the purpose of anatomical examination and dissection. It has been uniformly adopted in all its states.<sup>2</sup> In Maharashtra (old Bombay State) the Anatomy Act was adopted as Bombay Anatomy Act<sup>3</sup> 1949. According to section 5 (1) and (2) of this act, 'Where a person under treatment in a hospital whether established by or vesting in, or maintained by the State Government or any local authority, dies in such hospital or a person in a prison and his body is unclaimed, the authorities in charge of such hospital or prison shall with the least practicable delay report the fact to the authorized officer and such officer shall then hand over the unclaimed body to the authorities in charge of an approved institution for any therapeutic purpose or for the purposes of medical education or research including anatomical examination and dissection'. The section 5(3) of the law states that 'Where a person having no permanent place of residence

in the area where his death has taken place dies in any public place in such area and his body is unclaimed, the authorized officer shall take possession of the body and shall hand it over to the authorities in charge of an approved institution for the purpose specified in subsection<sup>1</sup>. The act was further amended by the state legislative council in 2000 to permit donation before death of one's body or any part thereof, after death by a person, to a hospital, and medical and teaching institution for therapeutic purpose, medical education and research. According to Bombay anatomy act section 5 B (1) 'If any person either in writing at any time or orally in the presence of two or more witnesses during his last illness whereof he died has expressed a request that his body or any part of his body be given to authorities in charge of an approved institution for being used after his death for therapeutic purposes or for the purpose of medical education or research including anatomical examination and dissection, the person lawfully in possession of his body after his death may, unless he has reason to believe that the request was subsequently withdrawn, authorize the removal of the dead body or such part thereof to any approved institution for use in accordance with the request'. Section 5B(2) further states that ' Without prejudice to the provisions of sub-section<sup>1</sup>, the persons lawfully in possession of the body of a deceased person may authorize the removal of the whole body or any part from the body for use for the purposes specified in, sub-section<sup>1</sup> unless such person has reason to believe- (a) that the deceased had expressed an objection to his body or any part thereof being so dealt with after his death, and had not withdrawn such objection; or (b) that any near relative of the deceased objects to the body being so dealt with. Thus this act legitimizes Deh-daan and encourages individual towards body donation. Cadavers used by these institutions are usually unclaimed bodies obtained by police but there is a risk of infectious diseases, so we should initiate whole body donation program and encourage society to donate bodies for beneficiaries of human being. Sanner<sup>4</sup> (1997) concluded that if one is prepared to give from the body in life, one is also prepared to give after death. Pool of the source used to be unclaimed bodies mainly while the proportion of voluntary body donation is less. Now with the increasing number of medical colleges in past few years and moreover the increase in number of seats scenario is different. Now the need of cadavers has far exceeded; and this scarcity cannot be replenished with the unclaimed bodies alone. There came the ideology of "deh-daan" or voluntary body donation. Any hospital, medical or teaching institution which has been approved by the central/state government for medical education, research or treatment can accept the body of body donar after

death. There has been lots of resistance towards body donation. In a study, Golchet *et al*<sup>5</sup> (2000) reported that many factors such as age, religion, culture, personality characteristics, views on death and mortality, body image and humanitarian concerns influence people's opinion towards body donation. Society should accept that "using" body parts is moral and offers a source of health for everybody. Here comes the role of mass media and it has played an important role.<sup>6</sup> Donation of body to science was 1st heard in 1832, when British Utilitarian Philosopher, jurist, and social reformer Jeremy Bentham's body was donated in 1832; according to his will.<sup>7</sup> India first experienced of body donation in the year 1956, when the body of Pandurang Sridhar Apte was donated to B. J. Medical College Pune.<sup>8</sup>

### AIM AND OBJECTIVE

To evaluate the willingness and awareness of voluntary body donation among hospital visiting population at NDMVP'S Medical College, Nashik (Maharashtra)

#### Study design

Cross-sectional study with pre-prepared questionnaire Suggestion from existing body-donor. Whole body donation is the need of the hour. A survey was conducted among hospital visiting population at NDMVP'S Medical College, Nashik (Maharashtra) during the period 2008-2009.

### MATERIALS AND METHODS

Anatomy is first basic and very important subject studied by medical students, in which the study of the structure of the human body is done on body dissection. The study analysis of the medical students is at the ratio of 1:20 (cadaver: students). Normal being 1: 10 cadaver: student ratio. We underwent an analysis by a questionnaire designed to assess views and thoughts regarding body donation among the population. A analysis was conducted at NDMVP'S Medical College, Nashik (Maharashtra), India, during the period 2008-2009, among the 900 peoples visiting to hospital it includes farmers, teachers, drivers, shopkeepers, police, lawyers, engineers, and others members. Data was collected by giving a questionnaire to the consenting individuals in the age group 21 - 65 years. We recorded age, sex, religion, awareness of body donation and its significance, their positive and negative thoughts about body donation and its religious aspect, willingness to donate body, other concepts and suggestion were recorded. To bring awareness among people about the gracious act of 'body donation' we published articles in news paper. The results of the questionnaire were analyzed and presented.

### Questionnaire designed to assess views regarding voluntary body donation was provided to the study population:

1. Age, sex and religion, Education
2. Knowledge about body donation
3. Significance of body donation for research and other purpose.
4. Use of donated body for medical education
5. Believe in body donation
6. Religious reason regarding body donation.
7. Positive and negative attitudes towards body donation
8. Need of publicity of body donation about its importance
9. Suggestion regarding body donation.
10. Wiliness to donate their body after death to the medical institutions

### OBSERVATION

The results of the questionnaire were analyzed and presented. After analysis of questionnaire among 900 people we found that 32% people were unaware about the body donation and its significance. They did also not know that cadavers or donated bodies are used for the medical education and research in medical institute. 68% people knew about body donation and 41% person did not believe in body donation and most of them have reason behind it their religious tradition. 10% thought that donated bodies are misused and teaching Anatomy and research in medical science can be done without cadavers. Also their opinion was government medical colleges have plenty of unclaimed dead bodies for their study and Private institutions are commercial, so therefore no need of body donation. 16% expressed that they can think about 'Body Donation' in future and 58% said that medical professionals should explain, aware and educate the general public about the importance of this gracious and ideal act of 'Body Donation'. Only 6 % showed their willingness for body donation and 1% had already registered their names for body donation. Majority had opinion that body donation is a charitable and noble act. Some put suggestions like use of different sources of information such as television, the press and radio, hoarding and posters, campaign about donation information by health professionals towards body donation ;and institute should organize a memorial service to honor their donors from the previous year and invite family members and friends of the donor.

### DISCUSSION

Body donation is a voluntary act that a person can do to save lives or to give his body to science. Donations of the body are mainly to the medical colleges for teaching and

research purposes.—United States and other countries, which require cadavers, voice their fear of shortage of cadavers. (Agthong and Wiwanitkit 2002; Assemblee Nationale du Quebec 2004; U.K. Department of Health 2002).<sup>9</sup> Question of shortage of the cadavers often facing the taboo on trading Human anatomical goods. (Delmonica et.al.2002; Scheper-Hughes2000; Titmuss 1971).<sup>10</sup> Body donation and its relevance in anatomy learning was done by Rajkumari Ajita, Y.Ibochouba Singh (2007)<sup>11</sup>. The demand for cadavers remains strong and numerous ideas have been voiced to augment the supply. Body donation is a generous and unselfish act for those who wish to be useful to the living after death. The donor will help the medical students to further learning and research (Patnaik 2002)<sup>12</sup> Bodies not suitability for donation: 1. Postmortem body 2.Decomposed body. 3. Extreme Obesity 4. Extreme emaciation 5. Body of a medico legal case (e.g. Suicide, homicide. Accidental death etc). 6. Death due contagious diseases (e.g. HIV, AIDS, Hepatitis B and C, Gangrene etc) 7. Body with organs removed (except eyes) Most important reason for 'no body donation' in Indians is lack of awareness. In our study 68% people were aware about deh-daan. Another major hindrance in body donation is spirituality and religious beliefs. Majority of them want to get performed the last rituals on their body as per their religious belief. The fear that the body may not be treated with respect and dignity is also an important factor preventing one from body donation.<sup>13,14</sup> Medicos, in addition, cannot accept the concept of dissection of their own body.<sup>15,16</sup> The other reasons cited for reluctance are love for one's own body, fear that the organs/body may be sold and the fear that the body may not be used for the right cause. Alashek *et al*<sup>13</sup> (2009) noted that the barriers to cadaveric donations in Libyan population were lack of adequate knowledge, unease about body manipulation and concerns about religious implications. It has also been noted that although anatomists encourage cadaver donation, the attitude of anatomists towards donating their own bodies for dissection is not well known. Only 15.7% anatomists in Turkey are willing to donate their bodies. The main reasons cited by these anatomist in Turkey for unwillingness are - unacceptability for getting dissected by colleague, the unacceptability of donation by family, the anxiety of disrespectful behavior to cadavers and religious belief.<sup>15</sup> Organ donation is preferred over whole body donation not only by general population but also by medical fraternity.<sup>15-17</sup> The experience and education gained through the use of human cadaver through dissection is far superior and very different than the learning provided by artificial substitutes and textbooks. The attitudes of donors play an important crucial role in body donation. A survey was conducted by Richardson

and Hurwitz<sup>18</sup> (1995) to ascertain attitudes of 218 donors towards body donation and reported that the notion of money incentives to promote donation was overwhelmingly rejected. The anxiety of disrespectful behaviour toward cadavers was one of the reasons for not donating bodies. Sehirli *et al*<sup>15</sup> (2004) reported that although anatomists encourage cadaver donation, the attitudes of anatomists toward donating their own bodies for dissection is not well known. Body donation is a gracious and ideal act and it has been practicing since ancient time for the welfare of mankind and country. Shankaracharyas the Hindu Saints firmly believe in the concept of ‘body and organ donation’ and say ‘Idam sharirum paropkarum’ i.e. the body is for the use of others and the death is not the end, it is the beginning. Maharshi Dadhichi or Dadhinchha is an important character in Hindu mythology, revered amongst the greatest of sages and portrayed as an example that no sacrifice is too great when the result is good and beneficial for the world. His bones are used as a symbol on India’s highest award for gallantry “Param Vir Chakra” as “Vajra”. He is credited with giving up his life in order to allow the Devtas or Suras to use his bones to make weapons to defeat the Danvas or Asuras. The Hindus are not prohibited by religious law from donating their organs. Donation is an individual decision, but “dharma” (“good duty”) suggests that doing good for others is desirable. The Hindu religion is based on the “Law of Karma” and reincarnation. The soul lives forever and is immortal and gets reborn in a new physical form. There is nothing in the Hindu religion indicating that part of the dead human body cannot be used to alleviate the suffering of other humans. Most major religions support donation as an act of human kindness in keeping with religious teachings. People are often unaware of the attitudes of their faith toward donation; they may be misled by old superstitions or misreading of religious texts. Some people believe that donation conflicts with their faith. They hesitate to give consent for donation. Although specific teachings and requirements related to donation vary, there is general agreement that donating organs or tissues to benefit others demonstrates love for other people. For example, Buddhists believe organ donation is a personal decision and should be left to an individual’s conscience. Because donation is a noble act, Buddhism honours those people who donate their bodies and organs to advance medical science and to save lives. Gillman<sup>19</sup> (1999) reviewed the positions of the major faith groups about donation and concluded that the large majority of faiths take a positive stance towards donation. Arraez-Aybar *et al*<sup>17</sup> (2004) reported that Anatomy teachers are generally in favour of donation (86.5%), especially of organs alone (52.7%) and this aspect was

not affected by their religious beliefs. Factors affecting the willingness to donate the body are race, ethnicity, demographic factors, awareness about body donation, age, sex, education, occupation, income, attitude about religion, spirituality, marital status, number of dependents. Boulware *et al*<sup>20</sup> (2002) has observed that African -Americans, older age, lower education, lack of insurance, unemployment, co-morbid conditions and religion/spirituality were associated with less willingness to donate cadaveric organs. Age is associated with willingness to donate ones body. In present study old age individual and Educated class are more willing to donate ones body. Studies indicate most donors are primarily driven by altruism and their desire to aid the advancement of medical knowledge and to be useful after death. Other reasons include helping future generations, expressing gratitude for life and good health or for the medical field, to avoid a funeral or to avoid waste.<sup>[14]</sup> The offering of financial incentives as a way to increase donor numbers or as an acknowledgement for donors is generally considered to detract from the act of donation and serve as a deterrent.<sup>2</sup> Treat the body with utmost respected in front of the relatives by careful handling. Issue the body donation certificates to next of kin to express gratitude towards them for donating body. Provide assistance to relative in medical aid when they visit the hospital next time. Don’t delay them for completing the formalities. Don’t discourage them by saying there is no place to store body etc instead accept the body and keep it, the body may be transferred to any other college who needs. Provide proper and immediate storage facilities for preservation of the body some medical colleges tell the relatives to get body only during working hours and to preserve the body in private cold storages thereby causing financial burden to the relatives. We should give public recognition to the motivators who help in body donation. Society should accept that “using” body parts is moral and offers a source of health for everybody. Here comes the role of mass media and it has played an important role. Conesa *et al*<sup>21</sup> (2004) studied the influence of different sources of information such as television, the press and radio, magazines, hoardings and posters, campaign about donation, information given by health professionals etc. towards body donation. It was observed that the medium with the greatest impact on the population is television; the second factor is the press and radio; the third is magazines and talks with friends/family; the fourth is hoardings and posters, and campaigns about organ donation; and the last factor is information given by health professionals. Give body donation information through Ganseh mandals /Navrathri mandals. It was concluded that opinion on donation is more favorable among subjects who have received

information on an individual basis and at specialized meetings. For the creation of awareness we need help of NGOs to organize the body donation camps. These camps are interactive and peoples should be answered thoroughly till they satisfied. The 'holy' dimension of the word 'donation' may be stressed during these campaigns. Some authors like Alashek *et al*<sup>13</sup> (2009) suggested that the public educational campaigns should be coordinated with religious leadership. Handbills written with body donation information also distributed in these camps.

## CONCLUSIONS

Conclusion is made from present study is Body donation is charitable and altruistic for those who want to make use of their body even after death. These donors will help the medical students, teaching staff and practicing doctors for learning and research. Donation of the bodies after death should be encouraged and people should be motivated to make this a habit. Involvement of media, News paper, Lectures, felicitating relatives of body donors and it creates impact on the society. Patnaik<sup>12</sup> (2002) suggested that one should inculcate the habit of donation voluntarily the body after the death. Body donation unit should be formed in every medical institute.

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