

'Body Donation Awareness' - The only solution for the Scarcity of Cadavers in Medical Education in India

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Abstract

'Body donation' is the donation of the whole body after death for medical research and education. Medical institutes use cadavers to teach anatomy by corpse dissection but cadavers are now a scarcity with mushrooming of medical institutions in our country and it is also not deniable that opening new medical institutes is must to balance the doctor-population ratio. Presently it is a daunting task to make students well-versed with the anatomy due to lack of cadavers and so the students are being taught by software, charts and models. 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. Present work simply tried to assess the views, thoughts and awareness of the public of various field about the concept of body donation by a questionnaire; analysed and concluded with the ideas that (i) the books and computer cannot replicate the hands on method of teaching human anatomy and replace the human body dissection (ii) availability of cadavers is must for delivering excellence in teaching anatomy and conducting researches in the field of medical science (iii) 'Body Donation Awareness' by public campaigns, exhibitions etc. in large scale is the uttermost necessity for lacking cadavers and so the encouraging & motivating body donation by bringing 'body donation awareness' is the only solution for the scarcity of cadavers in Medical Education in India and (iv) in the spring of each year, the Institute should organize a memorial service to honor their donors from the previous year. Family members and friends of the donor should be invited.

Keywords: Body donation, Dissection, Anatomy Act, Campaign, Replicate

Introduction

Even in death do we serve life' Inscription on a communal grave is dedicated to body donors. Body donation is useful for medical education in understanding the human body and for advancing researches in medical science. Medical institutes use

embalmed bodies to teach anatomy to medical students by cadaveric dissection and the Anatomy is a branch of science which deals with the macroscopic and microscopic structures of the body. Human cadavers for the purpose of study are a scarcity with mushrooming of medical institutions in this country. Presently, it has become a daunting task for the medical institutes to make their students well-versed with the anatomy subjects and the reason is lack of donated bodies and cadavers and students are being taught on specially designed software and artificially prepared models. On one side the unclaimed bodies obtained from the police have some limitation and restriction and mostly they are not useful and on the other side the practice of burial or cremation of dead bodies as religious tradition in India and the lack of awareness regarding the gracious and ideal act of body donation.

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Material and Methods

We underwent an analysis by a questionnaire (Figure 1) designed to assess views and thoughts regarding body donation among the population of Raipur City including the lawyers, engineers, teachers, farmers and others. In total 2500 people of age group 18-65 years, age, sex, religion, awareness about body donation & its significance, their positive and negative attitudes towards 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 organized a symposium and an exhibition (Figure 2). General public from all fields, Police department and News-media were invited. The results of the questionnaire were analyzed and presented.

Results

After analysis of questionnaire among 2500 people we found that 18% 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. 82% people knew about body donation and 56% person did not believe in body donation and most of them have reason behind it their religious tradition. 22% thought that donated bodies are misused and teaching Anatomy and research in medical science can be done without cadavers. 15% expressed that they can think about 'Body Donation' in future and 52% 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 4% showed their willingness for body donation and 2% had already registered their names for body donation. Majority had opinion that body donation is a noble act. Some put suggestions like in the spring of each year, the Institute should organize a memorial service to honor their donors from the previous year and invite family members and friends of the donor. After this symposium, exhibition and questionnaire assessment, in next 3 months more than 80 people have pledged for body donation and we have received 4 death bodies on donation.

Discussion

We all are aware that for the last few years the human cadavers for the purpose of study are a

scarcity with mushrooming of medical institutions in this country. We know that opening new medical institutes is also must to balance the doctor population ratio. Medical ethics says during study a single body has to be shared among 10 students only but in present situation in most of the institutions there are 1 body for 25 students. Even only 1 body for the whole batch of 100 or 150 students are also not uncommon. Our Institute All India Institute of Medical Sciences Raipur is also facing this problem of scarcity of cadavers and last year we completed our dissection with only 2 cadavers for 50 students and this year also we have started dissection with only 2 cadavers for 100 students.

In India there are two sources to get cadavers in the medical institutes (i) unclaimed bodies by the police and (ii) body donation. There are 4 main reasons for the scarcity of cadavers (i) the unclaimed bodies provided by the police having some restriction & limitation and mostly they are not useful (ii) religious traditions of burial and cremation of dead bodies (iii) lack of awareness of body donation and (iv) increasing number of medical institutes. We experienced 2 things (i) the unclaimed bodies are mainly supplied to Govt. Medical Colleges by the police and (ii) there is a general unawareness and misconception among the people about the gracious, ideal and moral act of body donation.

Actually Police has to distribute the unclaimed bodies on priority based on request and requirement of bodies by institutes both government and non-government according to Anatomical Act. The 'Body Donation Awareness' is limited to some extent so bringing awareness for body donation in large scale amongst people is still uttermost necessity. Although some NGOs (Yug Dadhichi in Uttar Pradesh, Badhte Kadam and Manawta in Chhattisgarh and Mohan Foundation in AP etc.) have realised and come front to make solution but the awareness of voluntary body donation in large scale among people can only be brought and possible by medical professionals and media by different means like public campaigns, exhibitions etc.

In India, the Anatomy Act came into enactment in the year 1949 which has been adopted by all the states. It provides for the collection of dead bodies for teaching purpose, only if death occurs in state hospital or in a public place within the prescribed zone of medical institutions, provided the police have declared a lapse of 48 hours that there are no claimants for the body and it could be used for the medical purpose. Notably, the Anatomy Act enacted by various states provides for the supply of unclaimed bodies to medical and teaching institutions for the

purpose of anatomical examination & dissection, researches and other similar purposes.

The other countries have differing regulations surrounding the donation of the body or body parts. Body donation in the UK is governed by the Human Tissue Authority (HTA) under the auspices of the Human Tissue Act 2004. Under the Human Tissue Act, written consent must be given prior to death; consent cannot be given by anyone else after death. Only the legal next-of-kin of the deceased can provide the necessary consent for donation if the donor did not provide it to the specific accepting program prior to death. The American Association of Tissue Banks (AATB) and American Medical Education and Research Association (AMERA) provide accreditation to the whole body donor organizations and university anatomical programs etc.

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.

In India the trend of donating body became quite prevalent in the year 2005 in Agra city by an NGO with the start of 'Yug Dadhichi Program' where more than 500 people have registered themselves for donating their bodies. This organisation in Taj city is still active and last year on 12th May 2012 a Campaign for body donation was done to promote the donation of human bodies for educational research. In case of body donation program the relatives of the deceased donate body to the medical institute according to the dead person wishes. Nobody was forced to donate body. It was left to one's own decision which is voluntary. However, there is no age barrier for body donation but people above the age of 18 can enroll themselves. Any person wishing to donate their body may require but not always making prior arrangements with the institute or body donation program before death. Individuals may request a consent form and will be supplied information about policies and procedures that will take place after the potential donor is deceased.

On the eve of 'Organ Donation Day' 2011 in India, Dadhichi Mission in association with R. D. Gardi Medical College organized an event on November 28th at Ujjain to spread awareness of organ donation among the people of India. The event marked the first-time celebration of 'Organ Donation Day' in Central India. Eight members of a Bhatia family, all senior citizens, honored after pledging to donate their bodies for medical education and research at Government Medical College and Hospital, in Chandigarh. Freedom fighter Captain Lakshmi Sahgal's body was taken to the GSVM medical college in Kanpur for research who passed away at the age of 97. Her daughter said, "As per her last wish, we have donated her eyes and her body for medical research and handed over to the Ganesh Shankar Vidyarthi Memorial Medical College". Sons donated their Father Late Sangram Singh Hiran's Corpse to fulfill his will on January 22, 2013 to Medical College. Actor Parthiban Appreciated 'Voluntary Body Donation Program' in January 9, 2011 in Chennai by Mr. S. Ashok Kumar and Mrs. Chitra Ashok Kumar, Who are giving their service in creating awareness in voluntary body donation. They have jointly enrolled 150 persons for whole body donation after their demises in Anatomy Department, Government Hospital in last 2 years. They both are 1st and 2nd receivers of Identity card for this program respectively. Earlier body donation for medical science was a trickle but after communist leader Jyoti Basu's and Jana Sangh leader Nanaji Deshmukh bodies were donated to medical science, that trickle has turned into something of a tidal wave.

The decision to become a body donor is influenced by factors such as social awareness, cultural attitudes & perceptions of body donation, cultural attitudes and perceptions of death, religion, and perceptions of the body-mind relationship[1]. 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[2]. 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[3]. However, a US study showing a positive correlation between body donation numbers and funeral cover cost savings offered as compensation suggests that, in reality, the added incentive could be a persuasive factor for donors[4].

Anatomy teaching is undergoing major changes due to time constraints, scarcity of cadavers, rapid

advances in information technology and changes in the demands of the medical profession. In this changing scenario of medical education a continuous debate is on among the educators regarding usefulness and effectiveness of the conventional and newer teaching/learning methodologies. Analysis of literature available recommends that the superiority should not be to determine superiority of one methodology over another but to capitalise on the learning benefits offered by the different methods. The learner should be provided opportunity to use multiple resources[5].

Though in the era of this advanced technology and time of computer, LCD and availability of large number of books and teaching aids the teaching pattern has changed but the books and computer can't replicate the hands on method of teaching human anatomy and replace body dissection in anatomy. So availability of cadavers is must for delivering excellence in teaching and research in field of medicine. The medical professionals and media can play important role by public campaigns, exhibitions etc. Encouraging/motivating body donation and bringing awareness in people about it seem to be the only solution to fulfill scarcity of cadavers.

Fig 1: Showing the Questionnaire to assess views about Body Donation

Questionnaire to assess views about 'Body Donation'

☞	Age:	
☞	Sex:	
☞	Religion:	
☞	Profession:	
☞	Have you heard about 'Body Donation'?	Yes/No
☞	I know that "Body Donation is defined as the act of giving one's body after death for the medical research and education"	Yes/No
☞	Have you heard about Rishi Dadhichi an important character in Hindu mythology, who 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?	Yes/No
☞	Do you know the significance of 'Body donation'?	Yes/No
☞	Do you know the donated body is used for the medical education?	Yes/No
☞	Do you know the donated body can be used for the research and other purposes?	Yes/No
☞	Do you believe in 'Body Donation'?	Yes/No
☞	I do not believe in 'Body Donation' due to my religious tradition.	Yes/No
☞	I believe that donated bodies are misused.	Yes/No
☞	I will bring awareness about 'Body Donation' among people.	Yes/No
☞	I can think about 'Body Donation' for myself in future.	Yes/No
☞	I am willing for 'Body Donation'.	Yes/No
☞	Medical professionals should explain, aware and educate the general public about the importance of this gracious act of 'Body Donation'.	Yes/No
☞	Teaching Anatomy and research in medical science can be done without cadavers.	Yes/No
☞	Personal comments on the subject:	

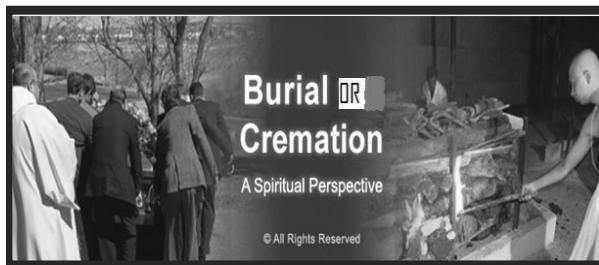
Anatomical donations are regarded as unselfish gifts to medical education and research. Donors and their families can be assured their contribution is appreciated and treated with the utmost respect. **It is strongly recommended that donor should discuss this decision with his/her family to better assist them with arrangements at the time of death.** Time is a factor and next of kin must be in a position to act immediately following death. It is also wise to inform physician, lawyer, and funeral director of your wishes. **At The Time of Death**, the Division of Anatomy should be contacted immediately. Although each **preregistered** donor is normally accepted, restrictions may include:

- Contagious disease (HIV, Hepatitis, TB, Creutzfeldt-Jakob disease, any hospital acquired disease including MRSA and Clostridium difficile, etc.)
- Extreme emaciation, obesity, or body contractures
- Severe trauma or open wounds (including certain recent surgeries)
- Ascites, edema, or septicemia
- Organs or parts removed at time of death, except eyes
- Current education or research programs are not in need of donors

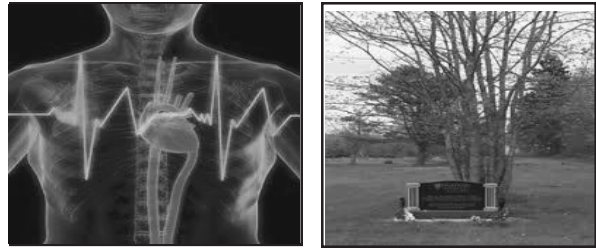
In the spring of each year, students of Institute should organize a memorial service to honor their donors from the previous year. Family members and friends of the donor should be invited.

Fig 2: Showing the Banners and Posters displayed by the Department

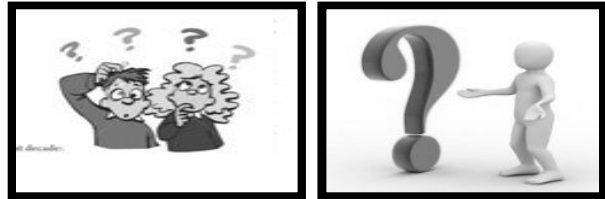
BODY DONATION AWARENESS



Why cremation or burial after death when we can donate or gift it in allegiance to God, Country and Medical Science?



Donating your body after death to the Science or a Body farm?



Donating your eyes after death, then why not whole body?



Shri Shankaracharya believed in the concept of 'body donation' and said 'Idam sharirum paropkarum' i.e. the body is for the use of others and the death is not an end, it is the beginning.

Appeal by the Department of Anatomy, All India Institute of Medical Sciences (AIIMS), Raipur, C.G. India

Cadaveric dissection is the integral part of the anatomy curriculum of Medical Science and there is a strong need to popularize the message to common masses to donate their bodies after death for the teaching and research purposes. A person in his life can express his will for body donation in writing (Will form can be obtained from the Department of Anatomy) and can convince his next kith and kin about his / her pledging. The donor will be provided a 'Certificate of Honour' by the Institute. The dead body along with the death certificate should be transported within 6 hrs to the Department of Anatomy AIIMS Raipur. In case of delay in transporting, the body should be kept in mortuary or on ice slabs and if needed the Department of Anatomy AIIMS Raipur can provide a vehicle to transport the body within Chhattisgarh state.

Conclusion

Present work simply tried to assess the views, thoughts and awareness of the public of various field about the concept of body donation by a questionnaire; analysed and concluded with the ideas that (i) the books and computer cannot replicate the hands on method of teaching human anatomy and replace the human body dissection (ii) availability of cadavers is must for delivering excellence in teaching anatomy and conducting researches in the field of medical science (iii) 'Body Donation Awareness' by public campaigns, exhibitions etc. in large scale is the uttermost necessity for lacking cadavers and so the encouraging & motivating body donation by bringing 'body donation awareness' is the only solution for the scarcity of cadavers in Medical Education in India and (iv) in the spring of each year, the Institute should organize a memorial service to honor their donors from the previous year. Family members and friends of the donor should be invited.

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