

Awareness of body and organ donation amongst first year MBBS students of Indira Gandhi Institute of Medical Sciences, Patna

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Abstract

Introduction: Cadaver dissection is the backbone of Anatomy. With the increasing number of medical colleges in India there is severe scarcity of cadavers for dissection. The realistic experience of dissection is gradually being replaced by prosected dissection, virtual techniques and audio visual aids. As the medical science is progressing in leaps and bounds the transplant surgeries are achieving great success. However there is a tremendous gap between the recipients and the donors. This gap has to be bridged by the health care professionals. Hence it is important to educate them from their early training period and onwards. The aim of the present study was to find out the extent of awareness among newly admitted first year MBBS students regarding body donation and organ donation.

Materials and Methods: After a brief introduction towards organ and body donation data collection was done based on a structured questionnaire and analysed.

Result: 82.02% of students were aware of body and organ donation. 56.18% of students were aware that the organ donation was from living and cadaver both. 60.67% of students were self motivated towards willingness for organ and body donation and 50.56% of students were positive regarding promotion of organ and body donation.

Conclusion: Education and motivation of health care providers towards organ donation and body donation will go a long way to minimise the scarcity in the field of organ transplant and cadaver procurement for dissection purpose.

Keywords: Awareness, Anatomy act, Body Donation, Cadaver, Organ donation, Transplant.

Received: 12th October, 2017

Accepted: 23rd October, 2017

Introduction

Human Cadaver dissection is the essence of Department of Anatomy. In the historic period the cadaver dissection was done out of curiosity to know what was there inside the human body. The cadavers were excavated from the burial ground and smuggled and dissected at night¹. Hare and Burke² went to the extent of murdering innocent people and selling their bodies for dissection purpose. Over a period of time the bodies of the criminals who were hanged, were allowed to be dissected for educational purpose. The first anatomy act was established in 1832 in Europe³ and the medical institutes were allowed to accept unclaimed and donated bodies for dissection purpose to educate the medical students. With increasing number of medical colleges in India there is severe scarcity of cadavers for dissection. Dissection is gradually shifting from the realistic experience to virtual dissection, study of prosected parts and watching videos of dissection using audio visual aids. The virtual methods are to emphasize the cadaver dissection and not to replace it. Therefore it is essential that awareness should be spread among

people in the society towards body and organ donation. The aim of the present study is to find out the extent of awareness amongst newly joined first year medical students towards organ donation and body donation.

Materials and Methods

In the first dissection class the first year MBBS students were made aware of the anatomy act.⁴ They were also informed regarding how the department of Anatomy has to procure the cadavers, sources of cadavers and methods of preserving cadavers. They were given the cadaver oath for a week. After one month of dissection schedule was over, a structured questionnaire was distributed amongst 89 first year MBBS students. Filing up of questionnaire was voluntary and anonymity was maintained. The data was collected and analysed.

Results

There were 89 first year medical students in the age group of 17 to 20 years.

Table 1

What is organ donation?	a) Organs donated by living people – 21.34% b) Organs donated by living and dead both – 56.18% c) Organs donated by dead only – 15.73% A & b= 1.12% d) No idea – 1.12%
What is body donation?	a) Can only be used for dissection by medical students – 6.74% b) Can only be used for organ transplant – 5.61% c) Both – 82.02% d) No Idea – 3.37%
Do you desire to donate your organ after death?	a) Yes without any second thought – 49.43% b) Only after convinced – 33.71% c) Absolutely not – 3.56% d) No idea – 11.24% Not answered – 1.12%
Do you desire to donate your body after death?	a) only for organ transplant by the hospital – 40.44% b) only for dissection purpose by department of Anatomy – 3.37% c) For both purpose – 40.44% d) Unwilling – 15.73%
Causes for not willing to donate body/organ?	a) Fear of organ could be wasted – 4.5% b) Fear of body being cut into small parts – 11.24% c) Organ/Body could be misused/abused – 10.11% d) Religious barrier – 16.9% e) Prevented by family member – 23.6% D & e = 1.12% D & f = 1.12% D & e & f = 1.12% f) Psychological anxiety = 0%
Causes for willing to donate body/organ?	a) Self motivation= 60.67% b) Motivation media and medical person – 23.6% c) Motivation by family members – 2.24% d) Motivation by NGOs – 5.6% A & b & d = 1.12% A & d = 1.12%
Would you like to promote and spread awareness amongst your family members & Society for body donation and organ donation?	a) Yes – 50.56% b) No – 6.7% c) Not sure – 41.6% Not answered = 1.12%

Discussion

The study of morphology of the human body forms the edifice of surgery and medicine which entirely depends on the dissection of the human cadaver. The Anatomy act³ has permitted the unclaimed and donated human bodies to be used

by medical colleges for dissection and education purpose. However due to lack of knowledge and motivation in the society there is severe scarcity of cadavers in medical colleges private as well as government sector.

In the present study the 82.02% of the newly admitted first year medical students were aware

that body donation is for both organ donation as well as dissection by the medical students. Only 1% to 4% of the students had no idea about organ donation and body donation. This was probably due to the fact that the newly admitted students, in the first few classes of dissection were informed about the Anatomy act, need of cadaver dissection, process of procurement of cadaver for dissection, cadaver preservation techniques. The students were also given cadaver oath in the beginning of the dissection. The students were quite curious and asked queries regarding body donation and organ donation. Body donation is altruism. It is a free act of giving ones whole body after death for medical education and research.⁵ It is the major source of cadavers and organs worldwide.⁵⁻⁷

56.18% of the students were aware that organ donation was from living and cadaver both. Cadaver dissection is the backbone of Anatomy. With the increasing number of medical colleges in India there is severe scarcity of cadavers for dissection. The actual hands on experience of dissection is gradually being replaced by virtual dissection and audio visual aids. As the medical science is progressing in leaps and bounds the transplant surgeries are achieving great success. However there is a tremendous gap between the recipients and the donors. This gap has to be bridged by the health care professionals. Hence it is important to educate them from their early training period and onwards. It is therefore important to understand the impact of educational process among medical students and their attitude towards organ donation and body donation.^{8,9}

49.43% of the students were ready to donate organs without any hesitation while 33.71% of the students would donate only after being convinced. 40.44% of the students were willing to donate for both organ transplantation & for dissection purpose by department of Anatomy. 60.67% of the students were self motivated towards willingness for body and organ donation. This finding concurs with the study done by Anubha Sha et al.¹⁰ The favourable response is probably due to the fact the students were educated in the earlier classes of dissection. All these students were in an age group of 17 to 20 years. Age is an influential factor. Previous studies have shown that people from younger age group are more motivated towards body and organ donation as compared to geriatric age group.¹¹⁻¹³

15.73% of students were doubtful about body donation after death for they had fear in mind as to what will happen to the body after death. They had a feeling of loss of dignity. The

reason behind unwillingness was that body might be misused or abused and cut into numerous parts. 23.6% of the students were unwilling to donate due to prevention by family members and due to religious barriers. These observations are similar to that of Sahana et al¹⁴ who has also stated that all the major religions in the country approve of organ and body donation while organ and body donation does not interfere with the funeral arrangements.

50.56% of students were willing to spread awareness regarding body donation and organ donation in their family and the society while 41.6% of the students were not sure about the answer. Attitude of society towards organ donation and body donation significantly affects the availability of organs and cadavers.¹⁵ Educating the medical students regarding organ and body donation from the beginning of their medical curriculum and onwards is an important factor to promote awareness in the society.

Conclusion

There is significant level of awareness, motivation and willingness amongst the newly admitted first year students regarding organ donation and body donation. Education and motivation of health care professionals towards organ donation and body donation will go a long way to minimise the scarcity in the field of organ transplant and cadaver procurement for dissection purpose.

References

1. Maitreyee kar, Dipankar Bhaumik, Chinmay Kar, "Body and Organ donation: Perception among medical students and medical health professionals in a tertiary care center" International Journal of Anatomy, Radiology and Surgery, 2017.
2. C.K Parikh, Suffocation, Parikh's Textbook of Medical Jurisprudence and Toxicology, CBS Publishers, 5th Edition, Part I, Section II, Ch-8, Pg-205.
3. Piers D. Mitchell, Ceridwen Boston, Andrew T. Chamberlin, Simon Chaplin. Vin Chauhan, Jonathan Evans, Louise Fowler, Natasha Powers, Don Walker, Helen Webb and Ann Sofie Witkin, "The Study of Anatomy in England from 1700 to the early 20th century" Journal of Anatomy 2011, 219, PP9-99.
4. Bombay Anatomy Act No. XI of 1949 (The Bombay Anatomy act, 1949), Available at <http://bombayhighcourt.nic.in/libweb/acts/1949.11.pdf>.
5. S A Rokade, B.H. Bahetee, "Body donation in India: a review" International journal of research in medical sciences, August 2013,1(3).
6. Agthong S, Wiwanitkit V., "Cadaver donation: a retrospective review at the King Chulalongkorn Memorial Hospital, Bangkok" The Southeast

- Asian Journal of tropical medicine and public health 2002;33 Suppl 3:166-7.
7. Sehirli US, Saka E, Sarikya O, "Attitude of Turkish Anatomists towards cadaver donation" Clin Anat 2004,17(8):677-81.
 8. Ballala K, Shetty A, Malpe SB, "Knowledge, attitude and practices regarding whole body donation among medical professionals in a hospital in India" Anatomical Science education 2011;4(3):142-150.
 9. Hosam Hamed, Mohamed Elhossney Awad, Khaled Nassreldin Youssef, BahaEldin Fouda, Ayman El Nakeeb & Mohamed Abdel Wahab, "Knowledge and attitudes about organ donation among medical students in Egypt. A Questionnaire" Hamed et al. J. Transplant Technology and Research, 2016,6:1.
 10. Anubha Saha, Aniruddha Sarkar, Shymash Mandal, "Body donation after death: The mental setup of educated people". JCDR,2015 June, Vol 9(6):AC05-AC09.
 11. Armstrong GT., "Age: an indicator of willingness to donate" J Transplant Coord 1996;6(4):171-3.
 12. Hai TB, Eastlund T, Chien LA, Duct PT, Giang TH, Hoa NT, Viet PH, Trung PQ, "Willingness to donate organs and tissues in Vietnam" J Transplant Coord 1999,9(1):57-63.
 13. Boulware LE, Ratner LE, Sosa JA, Cooper LA, Laviest TA, Powe NR, "Whole body donation for medical science: a population based study", Clin Anat,2004,17(7),570-7.
 14. Sahana B.N, Sangeea M. Knowledge, "Attitude and Practices of medical students regarding organ donation", IJCRR Vol(7). Issue 16, Aug 2015.
 15. McGlade D, Pierscionek B, "Can Education alter attitudes, behaviour and knowledge about organ donation? A pretest and post test study" BMJ Open 2013; 3: e00396.doi:10.1136/bmj-pen-2013-003961