

Body and Organ Donation: Perception among Medical Students and Medical Health Professionals in a Tertiary Care Centre

MAITREYEE KAR, DIPANKAR BHAUMIK, CHINMAYA KAR

ABSTRACT

Introduction: Cadaver is very important in teaching tool in anatomy not only for development of basic knowledge but also for development of psychomotor skill by dissection and voluntary body donation is the major source of cadaver in India now. Organ donation is the last avenue for end stage of organ failure. Therefore, body and organ donation is not only the gracious act but the need of hour. As the medical students and medical health professionals are intimately related to the destiny of organ and body donation they should play vital role in the body and organ donation.

Aim: This study aimed to explore the knowledge and attitude of medical students and medical health professionals regarding body and organ donation in a tertiary care centre in India.

Materials and Methods: After obtaining permission from institutional ethics committee 1st year MBBS students and

various groups of health professionals (junior doctors, senior doctors, nursing staff and medical technicians) were approached. The questionnaires were analysed qualitatively.

Results: Among 227 participants 181 (79.73%) were willing to donate their organ and /or body. All nursing staff (100%), 86.74% senior doctors, 82.66% junior doctors, 70% medical technicians and 63.76% 1st year MBBS students expressed positivity towards the practice. But none filled up pledge form.

Conclusion: The medical students and medical health professionals are potential donors. So, they must be approached for pledge form (for voluntary organ and body donation) submission. The medical students should be motivated for body and organ donation from the very beginning.

Keywords: Attitude, Body bequest program, Cadaver, Co-donation, Willingness

INTRODUCTION

Study of anatomy is very important in medical profession and availability of cadaver plays very crucial role in Anatomy teaching to develop basic knowledge and perception of anatomy. Though living anatomy, imaging techniques and simulations including computerised simulations of the body are also available but they have their own advantages and disadvantages [1]. So, cadaver study is playing its pivotal role in Anatomy teaching despite of existence of many alternatives [2]. There is shortage of cadaver supply in different Medical institutes of India. Moreover, the condition is becoming worse with gradually increasing number of medical colleges [3]. "Historically, there were five ways of acquiring cadavers to enrich the learning of anatomy: illegal grave digging, unwilling claimed cadavers, purchased cadavers, unclaimed cadavers

and donated cadavers (other synonyms are anatomical donation, body donation and body bequest)"[4]. At present the medical colleges rely on last four means. Among them for dissection purpose voluntary donation of cadaver is a valuable source of cadaver procurement. Not only that donation of various organs for transplantation purpose is also another noble step which is directly related to patients' benefit. Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failures. Each year large number of patients wait for organs to be donated for transplantation [5]. So, it is the need of the hour that more and more number of people should be motivated to donate bodies and organs through various approaches. In this context the present study was done to explore the knowledge, attitude and practice of the medical students and medical health

professionals regarding body and organ donation in a tertiary care centre of India.

Objectives

To determine knowledge and attitude of the medical students and medical health professionals for body and organ donation. To determine the facilitating or inhibitory factors for body and organ donation among them.

METHODS AND MATERIALS

This cross-sectional study was conducted at a tertiary health care centre of North Bengal between January to May 2017. After attaining permission from IEC, the questionnaire was self-prepared. There were two open ended questions and six close ended questions [Table/Fig-1]. Seven experts participated to validate the questionnaire. A pilot study was also conducted to pre-test it. 1st year MBBS students, junior doctors, senior doctors, nursing staff and technicians were approached.

Inclusion Criteria

1. Those who filled up the questionnaire completely
2. Those who gave informed consent
3. Medical health professionals and 1st year MBBS students of both genders
4. Subjects irrespective of their geographical, social, economic and religious status.

Questionnaire

Institute Name-North Bengal Medical College
Students' Feedback Questionnaire to evaluate your opinion regarding body donation

- Please don't write your name
- Please Tick the appropriate option (✓).
- For Q. No. 1, 7, 8, and 12 write the answer in your own words.
- It will take about 10 minutes to fill up the form.
- The data collected may be used for publication maintaining anonymity.

Part-I

1. Age:
2. Sex: Male Female
3. Religion: Hindu Islam Christianity
Others
4. Educational Qualification: Inter/Higher secondary
Graduate Post graduate
Others

Part-II

Opinion regarding body donation

5. What is your idea regarding body donation?
 - a) For dissection purpose of medical students only.
 - b) For purpose of organ transplantation only.
 - c) Both
 - d) No idea

6. Are you willing to donate body after death?

- a) Only for organ transplantation purpose
- b) Only for dissection purpose
- c) Both
- d) Not willing

7. If you are unwilling, kindly state reason behind it.

If you are willing please go through the following questions.

8. If you are willing, what is the reason behind your positive attitude?

9. What is the source of your motivation?

- a) Medical person.
- b) Media (print/ electronic)
- c) Voluntary organisation
- d) Family member

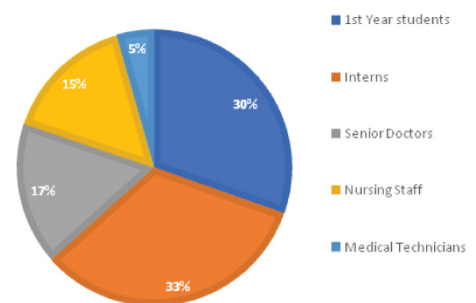
10. Have you already filled up pledge form? Yes/No

11. If no, reasons behind your willingness but till not filled up pledge form

- a) Not decided b) Will do it later c) Want to know much more
 - e) No idea of the procedure e) Religious barrier
 - f) Family barrier g) No benefit
12. If yes, what is the reason behind it?

[Table/Fig-1]: Questionnaire.

PERCENTAGE DISTRIBUTION OF PARTICIPANTS ACCORDING TO PROFESSION

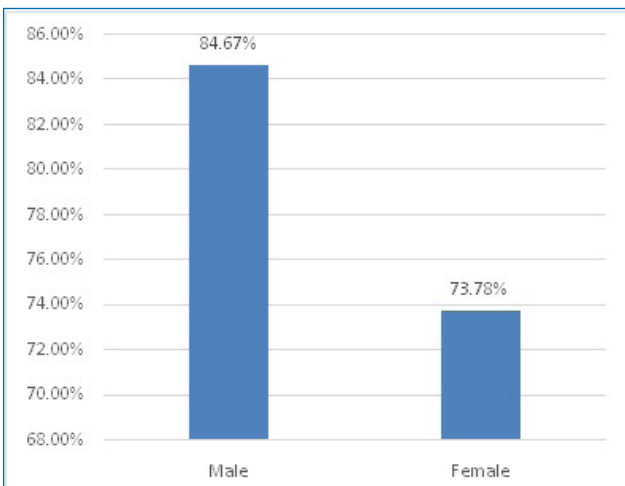


[Table/Fig-2]: Percentage distribution of the participants according to profession.

Exclusion Criteria

1. Those who did not fill up the questionnaire.
2. Those who did not give informed consent.

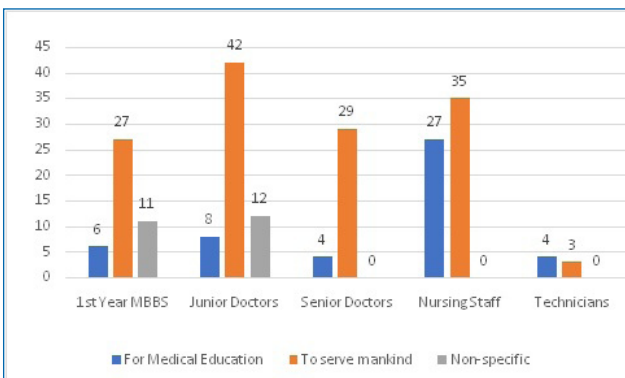
In all 238 people gave informed consent to participate in this study. Among them 11 questionnaires were incomplete. By method of complete enumeration and after discarding the persons who fulfilled exclusion criteria 227 participants were finally included as study sample. The filled-up questionnaires were analysed qualitatively and calculation was done accordingly.



[Table/Fig-3]: Percentage distribution of willing participants among male and female.



[Table/Fig-4]: Comparison of percentage of willing participants among various groups.

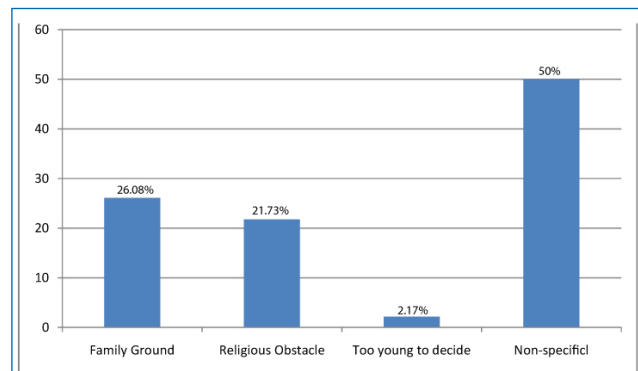


[Table/Fig-5]: Distribution of causes of willingness among various groups of participants.

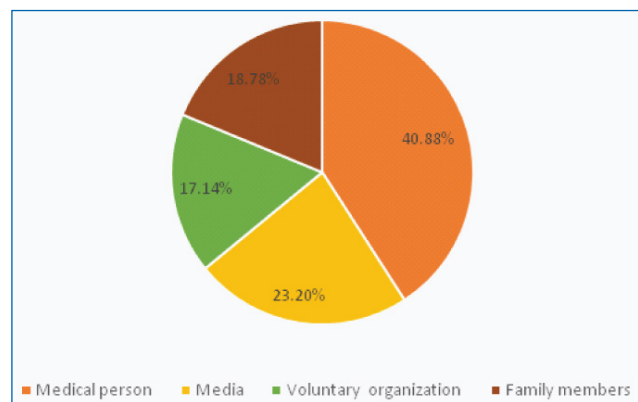
RESULTS

Among 227 participants 69 were 1st year MBBS students, 75 were interns just after passing final year MBBS Examination, 38 were senior doctors, 35 were nursing staff and 10 were medical technicians [Table/Fig-2].

Among 227 participants 124 were male and 103 were female.



[Table/Fig-6]: Distribution of causes of non-willingness.



[Table/Fig-7]: Distribution of various sources of motivation among various groups of participants.

105 (84.67%) males and 76 (73.78%) females were willing to donate organ and/or body [Table/Fig-3].

Out of 227 participants 181 (79.73%) were willing to donate organ and/or body. 100% nursing staff, 86.84% senior doctors, 82.66% interns, 70% technicians and 63.76% 1st year students were willing to donate organ and/or body. [Table/Fig-4].

To analyse the reason of willingness it was reflected that 27.02% wanted to do it for the sake of medical education purely. Total 75.13% participants wanted to serve the mankind by helping others. The reason of willingness was not specific in 12.7% participants [Table/Fig-5].

Among 46 participants who were non-willing for organ and/or body donation only 12 (26.08%) expressed that obstacle was at family level. Ten (21.73%) informed that unwillingness was due to religious ground. One 1st year student informed that the age was too early to decide about donation of cadaver and/or organ [Table/Fig-6].

Among the willing participants while analysing the source of motivation it was revealed that medical persons inspired them for voluntary donation of organ and/or cadaver in 74(40.88%). In 42(23.20%) willing participants media played very important role to motivate them and sufferings of family members was

Year	Country	Participants	% of willing participants
2004	Spain [6]	General population	60%
2004	Turkey [7]	Anatomists	69.9%
2005	Denmark [5]	ICU Staffs	49%
2006	China [8]	University students	61.3%
2006	Turkey [9]	Medical students	58.4%
2009	France [10]	1 st year MBBS students	81.1%
2012	India [11]	General population	19.5%
		Health professionals	44.9%
2010	Malaysia [12]	General population	43.6%
2014	India [13]	Doctor, MBBS and Engineering students	67.33%
2016	Kenya [2]	1 st year Medical students and Surgery residents	21.2%
2017	India (present study)	1 st year MBBS students	63.76%
		Interns	82.66%
		Senior doctors	86.84%
		Nursing staff	100%
		Medical Technicians	70%

[Table/Fig-8]: Comparison of willing participants' percentage with that of present study.

the sole reason for willingness among 34(18.78%) cases [Table/Fig-7].

No participants filled up the pledge form for voluntary body or organ donation.

DISCUSSION

The importance of organ or body donation is the need of time. For anatomy teaching the availability of cadavers cannot be denied despite different modern tools [1]. The condition is getting worse in India with gradual increase of number of medical colleges. The medical colleges must depend on the body donation as source of cadavers. Therefore, motivation of the people for body donation play very important role in Anatomy teaching. Organ transplantation is the last option in end stage organ failure. Particularly the medical health professionals should lead the society in this regard and they

should be forerunner regarding organ and body donation. There are various studies across the world regarding the attitude of general populations, University students, engineering students and even Anatomists and MBBS students. But on literature search no such study amongst the medical health professionals who are intimately involved in body and organ donation was found out except one in Denmark that was conducted among ICU staff [6]. Spain showed highest rate of body donation [7]. The distribution of willing participants of the present study has been compared to the previous studies in [Table/Fig-8] [2,6-13]. The higher percentage of willing population revealed in the present study can be contributed to the proximity of the target population to the recipient or beneficiary of the organ and body donation.

Among the males population the percentage of willing participants were higher (84.67%) compared to the willing participants among females (73.78%) [Table/Fig-3]. This finding was corroborative with another Indian study [13]. But one interesting finding was that 100% nursing staff expressed positive responses towards body and/or body donation and all the nursing staff were female [Table/Fig-4]. So, they are the potential donor and must be addressed for conversion of their willingness into the actual act of pledge form submission. This finding was corroborative to the finding of another study which found out that if a person had been engaged in a female-gendered occupation, he or she was more likely to co-register [14]. Body co-donation can be used as one policy to increase organ and body donation. Comparatively lower percentage of willing population among the 1st year MBBS students compared to the other groups in this study brings into focus that the 1st year students must be taught the importance of cadaver in Anatomy teaching from the inception of the dissection class. Anatomists and medical students should practise dissection in a professional manner. The first classroom session in anatomy should be focused on the humanities to express gratitude to body donors for their contribution. An educational plan should be formulated such that the first class in anatomy begin with a thanksgiving ceremony for donors, as well as a moment of silence as followed in Nanjing Medical University at China [15]. This will inspire the 1st year MBBS students to show the proper degree of respect for donors, as well as to comfort donors' relatives. Special care should be taken to ensure the responsible and respectful treatment of donors' bodies in the daily activities of the dissection lab. Not only paying respect to the human anatomical gift i.e., cadaver, proper care to cadavers, limited access to laboratory, following safety measures at dissection hall and preservation of tissues and organs are other ethical ways in cadaver dissection by the medical students in medical colleges [16].

To analyse the cause of motivation it was found that 136 (75.13%) were willing to donate body and /or organ to serve the mankind and to help others, 49(27.07%) were willing for improvement of medical education and 16(8.88%) willing participants did not mention any specific reason.

Among the participants who were non-willing, most of them did not reveal the cause of not donating body and /or organ. Only 12 persons informed that family background was the obstacle and 10 persons showed that religious cause was obstacle for body and/or organ donation. In this respect, there is an interesting conclusion of a study which revealed that organ transplantation has an acceptable therapeutic value from viewpoint of certain religion too provided some criteria are fulfilled [17].

On further scrutiny among the willing participants it was found that for 74(40.88%) participants' medical persons, themselves were the source of motivation or willingness. 42(23.20%) willing persons demanded that print or electronic media played important role behind their motivation for body and /or organ donation. Sufferings of the family members were the main reason for willingness in 34(18.78%) cases. Campaigning of voluntary organisations was the reason of willingness in 17(9.39%) participants.

Another important point which was revealed that despite of 79.73% willing participants none filled up the pledge form. So, it was very evident that there was wide gap between ideal situation and actual behaviour of the participants. Therefore, this gap must be bridged for effective voluntary body and /or organ bequest program.

LIMITATION

This study could not take into consideration of the knowledge and attitude of general population.

After implementation of recommended policies like body or organ co-donation, initiation of the class of 1st year with thanks giving ceremony, practising dissection in professional manner etc., the knowledge and attitude of the same population should be assessed.

CONCLUSION

The medical students and medical health professionals are potential donors. So, they must be approached for pledge form (for voluntary organ and body donation) submission. The medical students should be motivated for body and organ donation from the very beginning. There is more need for vigorous and vibrant voluntary organ and/or body bequest programme for conversion of potential donors into actual one.

REFERENCES

- [1] McLachlan JC, Patten D. Anatomy teaching: ghosts of the past, present and future. *Med Educ.* 2006;40:243-53.
- [2] Alexander M, Marten M, Stewart, Serafin S, Štrkalj G. Attitudes of Australian chiropractic students toward whole body donation: a cross-sectional study. *Anat Sci Educ.* 2014;7:117-23.
- [3] Gangata H. A proposed worldwide classification system for ways of sourcing of anatomical cadavers that is progressive towards the use of donated anatomical cadavers. *Edorium J Anat Embryo.* 2015;2:20-26.
- [4] Kaistha M, Kaistha S, Mahajan A. A study of factors influencing decisions on organ donation among patient attendees in a Tertiary Care Hospital in North India. *Chrismed J Health Res.* 2016;3:101-05.
- [5] Bøgh L, Madsen M. Attitudes, knowledge, and proficiency in relation to organ donation: a questionnaire-based analysis in donor hospitals in northern Denmark. *Transplant Proc.* 2005;37:3256-57.
- [6] Conesa C, Ríos A, Ramírez P, del Mar Rodríguez M, Rivas P, Parrilla P. Socio-personal factors influencing public attitude towards living donation in south-eastern Spain. *Nephrol Dial Transplant.* 2004;19:2874-82.
- [7] Sehirli US, Saka E, Sarikaya O. Attitude of Turkish anatomists towards body donation. *Clinical anatomy.* 2004;17:677-81.
- [8] Chen JX, Zhang TM, Lim FL, Wu HC, Lei TF, Yeong PK, et al. Current knowledge and attitudes about organ donation and transplantation among Chinese university students. *Transplant Proc.* 2006;38:2761-65.
- [9] Bilgel H, Sadikoglu G, Bilgel N. Knowledge and attitudes about organ donation among medical students. *Transplantations medicin.* 2006;18:91.
- [10] Mekahli D, Liutkus A, Fargue S, Ranchin B, Cochat P. Survey of first-year medical students to assess their knowledge and attitudes toward organ transplantation and donation. *Transplant Proc.* 2009;41:634-38.
- [11] Rokade SA, Gaikawad AP. Body Donation in India: Social Awareness, Willingness, and Associated Factors. *Anat Sci Educ.* 2012;5:83-89.
- [12] Loch A, Hilmi IN, Mazam Z, Pillay Y, Choon DSK. Differences in attitude towards cadaveric organ donation: observations in a multiracial Malaysian society. *Hong Kong J Emerg Med.* 2010;17:236-43.
- [13] Saha A, Sarkar A, Mandal S. Body donation after death: the mental setup of educated people. *J Clin Diagn Res.* 2015;9:AC05-09.
- [14] Anteby M, Garip F, Martorana PV, Lozanoff S. Individuals' decision to co-donate or donate alone: an archival study of married whole body donors in Hawaii. *PLoS ONE.* 2012;7(8): e42673.
- [15] Zhang L, Xiao M, Gu M, Zhang Y, Jin J, Ding J. An overview of the roles and responsibilities of chinese medical colleges in body donation programs. *Anat Sci Educ.* 2013;7(4):01-08.
- [16] Nurunnabi ASM, Ara S, Khalil M, Khalil M. Ethics in dissection of cadaver in teaching and learning of anatomy. *Bangladesh J Bioeth.* 2011;2(3):10-15.
- [17] Athar S. A Gift of Life: An Islamic Perspective in Organ Donation and Transplantation. *J Transplant Technol Res.* 2015;5:146.

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