

ORIGINAL ARTICLE

Attitude of First Year Medical Students towards Dissection

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<http://dx.doi.org/10.18049/jcmad/319>

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Abstract

Background: Anatomical knowledge remains the foundation stone of medicine and dissection is globally considered as a part of medical training. Now a day not only medical school curriculum but also medical students' attitude towards cadaver – based learning of anatomy has changed.

Aim: present study was conducted to find out the attitude of first year medical students towards dissection in anatomy teaching. **Materials and Methods:** A questionnaire was given to 150 1st M.B.B.S students. The questionnaire carried 20 questions each having 4 options a,b,c,d. Students were asked to tick the appropriate option. **Results:** Majority of students were not found to be mentally prepared about the composition of dissection though they were excited. Students have no idea about body donation. They were strongly agreed that dissection will help them in future medical practice. **Conclusion:** The students should be briefed about the composition of dissection. Atleast 10 days should be given to the students before starting actual dissection. Medical curriculum developers and policy makers should pay attention to the relevance of dissection for anatomy learning.

Keywords: Anatomical knowledge, Dissection, Medical teaching.

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Introduction

Anatomical knowledge remains the foundation stone of medicine and related professions in spite of reductions in the importance, time committed to and status of anatomical education in modern curriculum.¹ Dissection reinforces and elaborates knowledge that is acquired in lectures and tutorials.² The word anatomy is derived from the word“ anatome” that means cutting up. Dissection is globally considered as a part of medical training. It is designed to give students a hand on view of the body while also accustoming them to the transformation that the body undergoes after death. With time there is growing acknowledgement of the fact that a good medical or surgical practice could only be based on adequate and very exact knowledge of human anatomy which is derived from learning and teaching human dissection.³ Anatomy teaching in medical schools has been traditionally based on the use of human

cadaveric specimens, either taking the whole body specimens for complete dissection or as prosecuted specimens.⁴ In addition, the practice of cadaveric dissection allows students to grasp the three dimensional anatomy and concept of biological variability.⁵

Attitude is a predisposition or tendency to respond positively or negatively towards a certain idea, object, person or situation. Attitude influences an individual, choice of action and responses to challenges, incentives, and rewards (together called stimuli). In medical schools where cadaveric dissection mainly constitute preclinical teaching of anatomy, students are exposed to cadavers at early stages of their training but this exposure induces both positive and negative experiences in these students. The emotional impact of such exposure on students and their ability to cope has been examined in some studies. The effects which has been described include the physical (smell, nausea, conjunctival irritation) and psychological (anxiety, stress, emotional trauma,

depression).^{5,6,7,8} Now a day not only medical school curriculum but also medical students' attitude towards cadaver – based learning of anatomy has changed. Hence the present study was planned to find out the attitude of first year medical students towards dissection in anatomy teaching.

Materials and Methods

A survey was conducted among the 150 male and female first year students of NKP Salve Institute of Medical Sciences and Research Centre (NKPSIMS & RC), Hingna, India to assess the attitude of first year medical students towards dissection in anatomy teaching. Repeaters and readmitted students were excluded from the survey for they have had prior exposure to cadaver dissection. A questionnaire was given to the 1st Year M.B.B.S students of the institute in the year 2013 in December after 3 month of joining the institute. Before the students filled out the questionnaire, the purpose of the study was explained to them and verbal consent was obtained and was informed about the anonymity. The questionnaire carried 20 questions each having 4 options a,b,c,d. Students were asked to tick the appropriate option.

Observations and Results

1. 74% of the students found dissection hall as unclean and smelly, 6.6% found it as horrifying and depressing. Only 8.6% found it to be pleasant and 6.6% were not sure.
2. 70.6% students were excited when the first saw cadavers, 17.3% were surprised, 12% were horrified, and 1.3% fainted.
3. 40.6% got acquainted with the cadaver on 1st day, 46% took 10 days, and 1.3% of them took 60 days to get acquainted.
4. 59.33% sometimes come prepared for dissection, 25.6% come prepared for it, 10% always come prepared for dissection and 6% do not come prepared.
5. 56% frequently take help from other students, 43.3% sometimes take help, and 2% never take help from other students.
6. 66% frequently help other students for dissection, 32.33% sometimes help others, and 2% never help other students.
7. 83.33% bought dissection instruments, 3.3% say dissection instruments were provided by the department, 1.33% borrow from friends and 1.33% never brought.
8. 44.6% Spend 40-60 min on dissection, 28.6% spend 30 -40 min on dissection, 24% spend 20-30 min and 1.3% spend less than 20 min to do dissection.
9. 34% spend 15min/day in reading dissector, 24% spend 30min/day, 18.66% spend 1hr/day and 24.66% do not spend any time.
10. 40.6% recommend body donation for dissection purposes, 4.66% do not find it serves the purpose and 56.6% have no idea.
11. 83.3% say dissection is must to understand gross anatomy, 3.33% say to some extent, 13.3% say to a larger extent and nobody says it is no required.
12. 83.3% say it should be continued, 0.6 % say it should be stopped, 5.33% were not sure and nobody say it should be reduced
13. 10.6 % who say it should be stopped gave the reason as 3.3% time consuming, 0.6 other aids, 2% unethical and 0.6% not required.
14. 83.3% strongly agreed that dissecting cadaver will help them in future medical practice, 13.3% agreed 0.66% neither agree nor disagree but 0.66% disagreed.
15. 31.3% say they were not briefed about the composition of dissection before taking to the dissection hall, 26% say they were and 44% say they briefed to some extent.
16. 61.33% required help from the teacher, 35.33% say sometimes they require help and 2% never required help.
17. 76% say teachers are always available to help, 16.6% say most of the times they are available and 8 % say sometimes.
18. 76.6% say 30 min were given by the teacher to explain the gross anatomy and dissection to them, 17.3% say 15 and 3.3% say 10 minutes.
19. 75.3% say they are satisfied by the assistance of the teacher, 17.3% are satisfied to some extent and 1.3% is not satisfied.
20. 1:10 should be the teacher student ratio says 54% students, 26.6% say 1:15, 10.6 % say 1:5 and 5.33% say 1:20.

Table -1: Attitude Based

Questions	a	b	c	d
Q1 First day impression regarding dissection hall? (a) pleasant (b) unclean and smelly (c) horrifying and depressing (d) cannot say	8.6%	74%	8.4%	6.6%
Q2 Emotional feeling after seeing cadaver for the first time? (a) surprised (b) horrified (c) fainted (d) excited	17.3%	12%	1.3%	70.6%
Q3 Time required to get acquainted with the cadaver for dissection? (a) 1 day (b) 10d (3) 30d (4) 60d	40.6%	46%	5.3%	1.3%
Q4 Do you come prepared for dissection? (a) yes (b) no (c) sometimes (d) always	25.6%	6%	59.3%	10%
Q5 Do you take any help from other students? (a) sometimes (b) frequently (c) never (d) can't say	43.3%	56%	2%	Nil
Q6 Do you help other students for dissection? (a) sometimes (b) frequently (c) never (d) can't say	32.66%	66%	2%	Nil
Q7 Supply of dissection instruments? (a) provided by the department (b) bought (c) borrow from friends (d) never bought	3.33%	83.3%	1.33%	1.33%

Table -2: Knowledge Based

Questions	a	B	c	d
Q1 How much time was spent by you to do Dissection? (total time 120 min/period) (a) <20 min (b) 20-40 min (c) 40-60min (d) >60min	1.3%	24%	28.6%	44.6%
Q2 How much time was spent by you on reading Dissector to understand dissection and gross anatomy? (a) 1 hr/daily (b) 30min daily (c) 15 min daily (d) not at all	18.6%	24%	34.6%	24.6%
Q3 What is your opinion about body donation for dissection purposes? (a) strongly recommend (b) do not find it serves the purpose (c) no idea (d) can't say	40%	4.6%	56.6%	Nil
Q4 Do you think dissection is must to understand gross anatomy? (a) yes (b) no (c) to some extent (d) can't say	83.3%	Nil	3.3%	13.3%
Q5 Do you think dissection should be continued in the syllabus or stopped? (a) continued (b) stopped (c) reduced (d) can't say	83.3%	10.60%	5.33%	Nil
Q6 If so what are the reasons? (a) time consuming (b) other aids (c) unethical (d) no more required	3.33%	0.6%	2%	0.6%
Q7 In your opinion dissecting cadaver will help you in the future medical practice? (a) strongly agree (b) agree (c) neither agree nor disagree (d) disagree	83.3%	13.3%	0.6%	0.6%

Table -3: Practice Based (Teachers Based)

Questions	a	b	c	d
Q1 Were you briefed about the composition of dissection before taking to the dissection hall? (a) yes (b) no (c) to some extent (d) can't say	26%	31.3%	44%	Nil
Q2 Do you require any help from teacher for dissection? (a) yes (b) never (c) sometimes (d) can't say	61.33%	2%	35.33%	0.6%
Q3 Are the teachers readily available to you? (a) always (b) most of the times (c) sometimes (d) never	76%	16.6%	8%	Nil
Q4 If so, how much time was given by the teacher to explain the dissection and gross anatomy? (a)10 min (b) 15 min (c) 30 min (d) not at all	3.3%	17.3%	76.6%	Nil
Q5 Are you satisfied by the assistance of the teacher? (a) yes (b) no (c) to some extent (d) can't say	75.3%	1.3%	17.3%	Nil
Q6 What should be the teacher student ratio in the dissection hall? (a) 1:5 (b) 1:10 (c) 1:15 (d) 1:20	10.6%	54%	26.6%	5.3%

Discussion

The dissected cadaver remains the most powerful means of presenting and learning anatomy as a dynamic basis of solving problems. Majority of students in this study found dissection hall as dirty and smelly. This is in accordance with the findings of Saima Naz et al² who stated that while exploring the reasons dissection was found to be emotionally disturbing on initial exposure. In spite of that they were excited to see cadaver and to do dissection. They considered dissection as acceptable and regarded the cadaver with sanctity which supports the findings of Rajkumari et al.⁹ Briefing or mental preparation is a useful method for reducing anxiety. This finding is also given by other authors. In a study done by Cahill KC and Ettarh RR, many respondents felt they could be better prepared for the dissecting room experience, indicating an increasing requirement for effective preparatory programmes.³ According to Winkelmann et al those students with ethical concerns regarding dissection tended to spend less time with dissection. In this study 2% declared dissection is unethical.⁴ Dissection allows haptic (based on sense of touch) appreciation of 3-D anatomy unlike any other teaching facility. Dissection has served the most rigorous test of pedagogical fitness- the test of time.⁶ Patel and Moxham showed 98% of professional anatomists believe that dissection is important for gross anatomy learning.⁷ Another study done by Mulu and its

colleagues also showed that 98% of second year student responded dissection is relevant for anatomy.⁸

This study suggests that students should be adequately briefed both education wise and emotionally and should be given opportunities to discuss their emotions. The initial preparation could relatively reduce the rate of stress, so that the experimental group experience less emotional effect during dissection compared to control group.¹⁰ It observed that majority of students get acquainted in 1-10 days. This is in accordance with findings of Dinsmore et al who describes that medical students develop a coping mechanism which enables them to view cadaver dissection as an occupation.¹¹ Students who fainted in the dissection hall were all females may be due to weakness and lack of appetite before going to dissection hall. Anxiety in females before going to dissection hall has also been reported previously⁽²⁾.

In this study majority of students strongly agree that dissection is an important part of anatomy and will help them in future medical practice. Bhaskar Patel et al state that 84.67% of the students considered cadaver dissection is still considered important and indispensable in anatomy learning. In their study majority of students (91.33%) agreed that actual hands on training on cadaver dissection gives better results than demonstration of protected specimen.¹² The manual skill learnt in the dissection room are essential in almost every branch of medical profession.⁽⁵⁾ Dissections are

also considered as essential requirement in learning three- dimensional aspect of human anatomy and has remained universally recognizable step in becoming a doctor.^(3, 8) which puts undergraduates at the sharp end of medical education.

Conclusion & Recommendations

In conclusion majority of students were not mentally prepared about the composition of dissection though they were excited. The students should be briefed about the composition of dissection. Thus instructors are recommended to adequately prepare students mentally and emotionally before the commencement of the dissection session for an exciting and stress free anatomy learning through dissection. Atleast 10 days should be given to the students before starting actual dissection. This study suggests that students should be advised to read dissector regularly and come prepared for dissection. Students have no idea about body donation. Hence they should be adequately educated. Students strongly agree that dissection will help them in future medical practice. Therefore, medical curriculum developers and policy makers should pay attention to the relevance of dissection for anatomy learning.

Acknowledgment

We would like to thank our study subjects who volunteered and gave us their time to provide relevant information for the study. Our special thanks to Dr. Suresh Chari, Dr. Subhada Gade and Dr. Gawande for their help and cooperation. Our deep gratitude to Department of Anatomy for their help, cooperation and encouragement during data collection.

Conflict of Interest: None declared

Source of Support: Nil

Ethical Permission: Obtained

References

1. Gillingwater TH. The importance of exposure to human material in anatomical education: A philosophical perspective. *Nat Sci Educ.* 2008;1(6):264-6. [[PubMed](#)]
2. Saima Naz, Ghazala nazir, Samail Ram et al. Perceptions of cadaveric dissection in anatomy teaching. *J Ayub Med Coll Abbottabad.* 2011;23(3):145-8. [[PubMed](#)]
3. Cahill KC, Ettarh RR. Attitude to anatomy dissection in an Irish medical school. *ClinAnat.* 2009;22(3):386-391. [[PubMed](#)]
4. Winkelmann A. Anatomical dissection as a teaching method in medical school: A review of the evidence. *Med Edu.* 2007;41(1):15-22. [[PubMed](#)]
5. Parker LM. Anatomical Dissection: why are we cutting it out? Dissection in undergraduate teaching. *ANZ J Surg.* 2002;72(12):910-912. [[PubMed](#)]
6. Older J. Anatomy: A must for teaching the next generation. *Surgeon.* 2004;2(2):79-90. [[PubMed](#)].
7. Patel KM, Moxham BJ. The relationship between learning outcomes and method of teaching anatomy as perceived by professional anatomists. *Clin Anat.* 2008;21(2):182-189. [[PubMed](#)]
8. Mulu A, Muche A, Tegabu D. Assessment of the attitude and views of second year medical students towards cadaver dissection in anatomy course. *Etiop J Health Biomed Sci.* 2010;2:111-117.
9. Rajkumari A, Das BK, Sangama GTN, SinghYI. Attitude And Views of first year medical students towards cadaver dissection inb anatomy learning. *Calicut Medical Journal.* 2008;6(4):1-6.
10. Javadnia F, Hashemitabar M, Kalantarmadevi SR, Khajehmougahi N. How to decrease the emotional impact of cadaver dissection in medical students. *Pakistan Journal of Medical Sciences.* 2006;22(2):200-203.
11. Dinsmore CE, Daugherty S and Zeitz HJ. Students responses to the gross anatomy laboratory in a medical curriculum. *Clin Anat.* 2001;14(3):231-236. [[PubMed](#)]
12. Bhaskar Patel, Jagdeep Jadav, Ajay Parmar, Bharat Trivedi. *IJCRR.* 2012;4(22):54-58.