

# Cadaveric Dissection - Its Importance and Students Response: A Questionnaire Study

Abha Bharadwaja<sup>1</sup>, Mohammed Aman<sup>2</sup>

<sup>1</sup>Professor, Department of Anatomy, JLN Medical College Ajmer, India, <sup>2</sup>M.Sc Student Department of Anatomy, JLN Medical College, Ajmer, India

## Abstract

**Introduction:** Cadaveric dissection is practiced to study Anatomy since many years and still remains very important in learning anatomy.

**Materials and Methods:** The present study was conducted in the Department of Anatomy Jawaharlal Nehru Medical College, Ajmer to know the importance of cadaveric dissection and the response of students toward it. A questionnaire containing 26 questions was prepared and distributed to 100 first-year students.

**Results:** Most of the students were found to be inquisitive and relaxed while visiting dissection hall and were of the opinion that dissection was an integral part of a study of anatomy.

**Conclusion:** We conclude that most of the students though found dissection hall unorganized and smelly but were of the opinion that cadaveric dissection is integral and inseparable part of study curriculum.

**Key words:** Cadaver, Dissection, Dissection hall

## INTRODUCTION

Man is inquisitive and curious by nature and has always wanted to explore the unknown. Human body itself has been a mystery earlier, and use of human cadavers as a study material has been opted for more than 5 years.<sup>1</sup>

Study of the human body by dissecting a cadaver layer by layer from skin through subcutaneous tissue, muscles, organs, brain remains the pillar and an integral part of learning and teaching by a medical student and teachers.<sup>2</sup>

Although in present time importance of dissection and anatomy as such is decreased<sup>3,4</sup> as indicated by cutting short in tenure of studying the subject from 18 months to 12 months.<sup>5</sup>

Some are of the opinion that dissection is expensive and time-consuming and potentially harmful.<sup>6</sup>

Nowadays some institutions have stopped dissection of cadavers and started use of virtual decision table for the study of human anatomy.<sup>7</sup>

Still, it is believed that the dissection reinforces and elaborates the knowledge acquired by studying in theory classes.<sup>8</sup>

Since the first MBBS student sees the cadaver for the first time whom he/she will be dissecting using a scalpel blade in his life, it is important to know the first reaction of the young pupil who might not have seen a dead body so closely.

This encounter of the first kind may evoke many emotional reactions which may lead to positive or negative response.<sup>9</sup>

This encounter can have an effect on various senses which are stimulated when a cadaver is viewed and touched for the first time.<sup>10</sup>

Various psychological responses can be in the form of anxiety, stress, fear, depression, or excitement.

Physical factors are also stimulated such as foul smell, nausea, vomiting, lacrimation, and headache.

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**Corresponding Author:** Abha Bharadwaja, Professor, Department of Anatomy, JLN Medical College Ajmer, India.  
E-mail: dr.abha@yahoo.co.in

The impact on their life and ability to cope with it can be studied.

We undertook this study for recording the reaction and views of first-year MBBS students about the dissection of a cadaver for the first time.

**MATERIALS AND METHODS**

The present survey study was conducted in academic session of 2016-2017. 100 first-year MBBS students from the Department of Anatomy J.L.N Medical College and Hospital, Ajmer. Students were selected randomly they were informed about the type of questions and purpose of the study, after seeking their informed consent questionnaire containing 26 questions with multiple choices was provided to them and they were asked to choose an option, repeaters and remanded students were excluded from the study as they had previous exposure to the dissection hall and cadavers.

**RESULT**

Results are summarised in Table1, seventy six percent of students were excited on the first day in dissecting hall but 65% found it smelly and all were of opinion that it was not at all organised. Most of the students were surprised and excited after seeing a cadaver for first time and wished to be acquainted with it as quickly as possible. Sight of female cadaver instilled shock in 23% but 65% never felt fear or stress.

Only 25% students came prepared for dissection and 46% were not at all prepared while 56% preferred to dissect in groups and 64% needed help of others and 78% helped other students.

44% students read the dissector for 15 min daily and 50% spent 40-60 min on dissection.

Majority (80%) thought dissection is a must to understand gross anatomy and 64% said it is ethical to dissect a cadaver

**Table 1: Results**

1. How was your first day in the dissection Hall?	Pleasant 4%	Exciting 76%	Depressing 9%	Horrifying 11%
2. How was the dissection hall, when you entered into it for the first time?	Clean 20%	Dirty 13%	Smelly 67%	Highly organized 0%
3. What kind of feeling did you have on the first day?	Pleasant 4%	Exciting 60%	Enjoyed it 25%	Was depressed 11%
4. How you felt after seeing the cadaver for the first time?	Horrified 11%	Surprised 55%	Excited 32%	Vague 2%
5. What was your reaction after seeing the cadaver for the first time?	Fainted 4%	Did not want to enter again 23%	Wanted to become acquainted immediately 50%	Feel satisfied 23%
6. What was your reaction after watching female cadaver?	Fear 4%	Curious 64%	Shock 23%	Horrified 9%
7. After how many days you were well acquainted with the cadaver for the dissection?	1 week 64%	1 month 23%	3 months 4%	Still, find myself uncomfortable 9%
8. Have you ever had a fear/stress of entering in the dissection hall?	Yes 13%	No 65%	Cannot say 6%	Sometimes 16%
9. Do you come prepared for dissection?	Yes 25%	No 23%	Sometimes 46%	Always 6%
10. Do you dissect?	Alone 6%	Groups 56%	Always alone 2%	Always in groups 36%
11. Do you dissect alone or in groups?	Alone 57%	Group 10%	Always alone 27%	Always in group 6%
12. Do you dissect with somebody's help?	Yes 64%	No 16%	Sometimes 18%	Always 2%
13. Do you help other students?	Yes 78%	No 2%	Sometimes 16%	Never 4%
14. How do you get dissection instruments?	Get from the department 2%	Has own instruments 89%	Borrow from others 0%	Do not have own 9%
15. Could you feel the smell of formalin when you entered the hall for the first time?	Yes 75%	No 6%	Can't say 0%	Gets irritated 19%
16. How much time was spent by you to do the dissection (Total 120 min period)?	<20 min 6%	40-60 min 50%	20-40 min 36%	>60 min 8%
17. How much time was spent by you in reading dissector to understand dissection and gross anatomy?	1 h daily 13%	15 min daily 44%	30 min daily 36%	Not at all 7%
18. Do you think dissection is must understand gross anatomy?	Yes 80%	No 9%	Can't say 2%	To some extent 9%
19. Do you think cadaver dissection is ethically acceptable?	Yes 64%	No 6%	Can't say 18%	To some extent 12%
20. Do you think dissection should be continued in the syllabus?	Continued 78%	Stopped 2%	Can't say 10%	Reduced 10%
21. Instead of dissection can any other method be applied to learn gross anatomy?	Yes 41%	No 25%	Can't say 32%	None 2%
22. Do you think dissection helps in learning future of medical subjects?	Strongly agree 36%	Disagree 4%	Agree 51%	Neither agrees nor disagree 9%

(Contd...)

**Table 1: (Continued)**

23. Do you think that cadaver dissection technique can be replaced by plastic models, computer assisted teaching program, etc., in near future?	Yes 39%	No 41%	Can't say 18%	None 2%
24. Do you think that actual hands on training on cadaver dissection give better results than a demonstration of prosected specimen?	Yes 85%	No 2%	Can't say 11%	None 2%
25. Do you think that interaction with anatomy staff before entering the dissection hall would lessen the emotional impact?	Yes 70%	No 2%	Can't say 3%	None 25%
26. Did you feel haunted after the first day of dissection?	Yes 16%	No 65%	Can't say 9%	On holding bones for the first time 10%

and 78% wanted dissection to be continued in medical colleges. Around 85% wanted actual hands on training on cadavers with help of staff.

## DISCUSSION

A student when clears the entrance exam for medical college and plans to study various subjects encounter with anatomy is one of a special kind where they have not only read books but have an experience with the human body who they also have to dissect.

What goes on in their minds after entering the dissection hall and thought of the dissecting over a dead human body is the matter of study.

We found that 76% of the students were excited on the first day of entering the dissection hall which is in concordance with a study undertaken by Horne *et al.*<sup>11</sup>

Most (65%) were not harboring any fear of the dead body while 16% students felt haunted and 10% felt fearful on holding the bones for the first time.

About 85% of students were of opinion that actual hands-on training on cadaver gives better results than demonstration on a prosected specimen and 70% wanted dissection to be continued in anatomy classes.

About 64% responded that it is ethical to have a cadaver for study.

Older<sup>12</sup> also found dissection as an essential requirement to study human anatomy.

McLachlan *et al.*<sup>8</sup> said that dissecting a cadaver is an important step in learning and being a doctor.

A study by Jones,<sup>2</sup> Rajkumari and Singh,<sup>13</sup> Rajkumari *et al.*<sup>14</sup> were also of opinion that actual hands-on training is an important part of the medical curriculum.

41% of the responded agreed that alternate methods can be adopted to learn, but 32% were not sure of alternate methods used for the study of anatomy.

64% of the students wished to be helped by teaching staff while dissecting, as also was shown by Rajkumari *et al.*<sup>14</sup> and it is done in our institution, staff, and all the in-charge of different dissecting tables help students while performing the dissection.

Unfortunately, only 25% of the students came prepared for dissection beforehand, and 44% said that they dissect with the help of the dissector which they read for 15 min daily after entering the dissection hall.

On entering the 75% found it to be smelling of formalin 19% were irritated by the smell but none found it to be organized.

Sight of the cadaver surprised 55% of the students while 11% were fearful while 50% of the students wanted to be acquainted with the cadaver immediately.

Female cadaver ignited curiosity in 64% while 9% of students were fearful by sight of a female cadaver.

It took a whole week to majority of students to be acquainted with the dissection.

About 60% of the students did not feel any stress, but 11% were alarmingly depressed, interestingly 25% of the students enjoyed the first day of the dissection.

Many studies have studied the emotional reactions of the students in dissection hall suggesting that some students suffer from anxiety and stress as by Horne *et al.*<sup>11</sup> while other studies reported that there is no adverse reaction to the exposure of cadaver<sup>15</sup> as was seen in our study.

In contrast to the study by Nnodim *et al.*<sup>16</sup> who reported 75% of the students being upset with exposure to dissection while we found that 64% of students were curious, 65% did

not have any fear of entering the dissection hall, and 78% wished to help other students while dissecting.

## CONCLUSION

We can conclude that most of the two students though found a dissection hall smelly and disorganized but were excited, curious, and relaxed while visiting it.

They were of opinion that dissection of cadaver was integral and inseparable part of study curriculum.

The students also wished to be guided by a teacher in the dissection hall.

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