

# Attitude of Medical Students Towards Dissection on Human Cadaver: A Study on the Students of a Medical College of Eastern India

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**Background** : Dissection of cadaver is an integral part of anatomy. It is a vital component in order to understand the relations of structures and to have an orientation on the subject. With the advent of modern technologies and equipments like synthetic cadavers, virtual dissection table and lack of adequate number of cadavers, the importance of dissection seems to be compromised among students.

**Aim and Objective:** This study was conducted to find out the attitude of MBBS students towards cadaveric dissection. It focused on the emotional and psychological aspect on the tender minds of students.

**Material and Method:** The study included 1<sup>st</sup> year MBBS students. It was conducted after 3 months of their exposure to the course. A formatted questionnaire was given to them. The questionnaire included some general information about the students, some questions regarding their feeling towards cadaveric dissection. The questions were to be answered in Yes or No.

**Discussion and Conclusion** : The response of the students was tabulated and analyzed. The data revealed that only 21.58% students preferred for dissection. Majority of students don't perform dissection. The most frequent cause of it was smell of formaldehyde (38.85%) and lack of adequate number of cadavers (15.11%). There are other factors too which expels them from dissecting the cadaver. Many other angles were explored and discussed.

**Key words:** Attitude, dissection, cadaver, psychological

## Introduction

Anatomy is one of the first, most basic, and a major part of the MBBS curriculum. It is very necessary for students to have a clear understanding of clinical sciences. The provision of learning gross anatomy has an emotional as well as intellectual approach to

medical education. Cadaveric dissection is the key stone of learning anatomy. It helps the MBBS students to acquire adequate information, orientation, about the 3-dimensional architecture of human body. Cadaver dissection also plays a very important role and acts as a building block that provides essential knowledge required for the duration of the future studies of the MBBS students. Many students express a cocktail of emotional reactions, different types of feelings when they come across the cadaver for the first time. To study these effects, many studies have been conducted by various researchers. Many studies have shown a positive attitude of students, however some studies also reported adverse effects too. The present study is done to estimate the effect of dissection on the tender minds of first year MBBS students.

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### Aim of the Study

- To study the psychological effect of dissection while doing it on cadavers.
- Attitude of students towards dissection.
- To know about the preference of students towards cadaveric dissection as compared to modern amenities available.

### Material and Method

This is a cross sectional study. The study was conducted on 1<sup>st</sup> yr. MBBS students of IMS & SUM Hospital, Bhubaneswar. It included 278 students. Purpose of the study was explained to the students. Formal consent of the students was taken. Formal permission was taken from ethical committee of the institution. Name of the students was not recorded to have a free opinion. The students were given a formatted questionnaire after 3 months of commencement of course. The answers were analyzed and tabulated.

#### Questionnaire

- Name -
- Age -                      Sex -                      Religion -
- Dissection done = Yes/No

- Reason for not performing dissection
- Fear/ Smell of formaldehyde/ Anxiety/ Laziness/ Not interested/lack of cadavers/others
- Have you ever seen dead bodies before? Yes/No
- Were you shocked to see the dead body for first time? Yes/No
- Did you get nightmare about the body? Yes/No
- Did you find dissection exciting? Yes/No
- Do you prepare mentally for dissection of cadaver? Yes/No
- Did you experience the formalin odour after your first encounter with cadaver, even when away from college? Yes/No
- Does cadaver dissection made anatomy easier to understand? Yes/No
- Should cadaver dissection be replaced by plastic models? Yes/No
- Do you feel dissection by yourself is more helpful than demonstration of prosected parts? Yes/No
- Is dissection essential for anatomy? Yes/No

**Table 1: Religion**

Hindu	260 (94%)
Muslim	12 (4%)
Christian	6 (2%)
Others	0

**Table 2: Dissection performance**

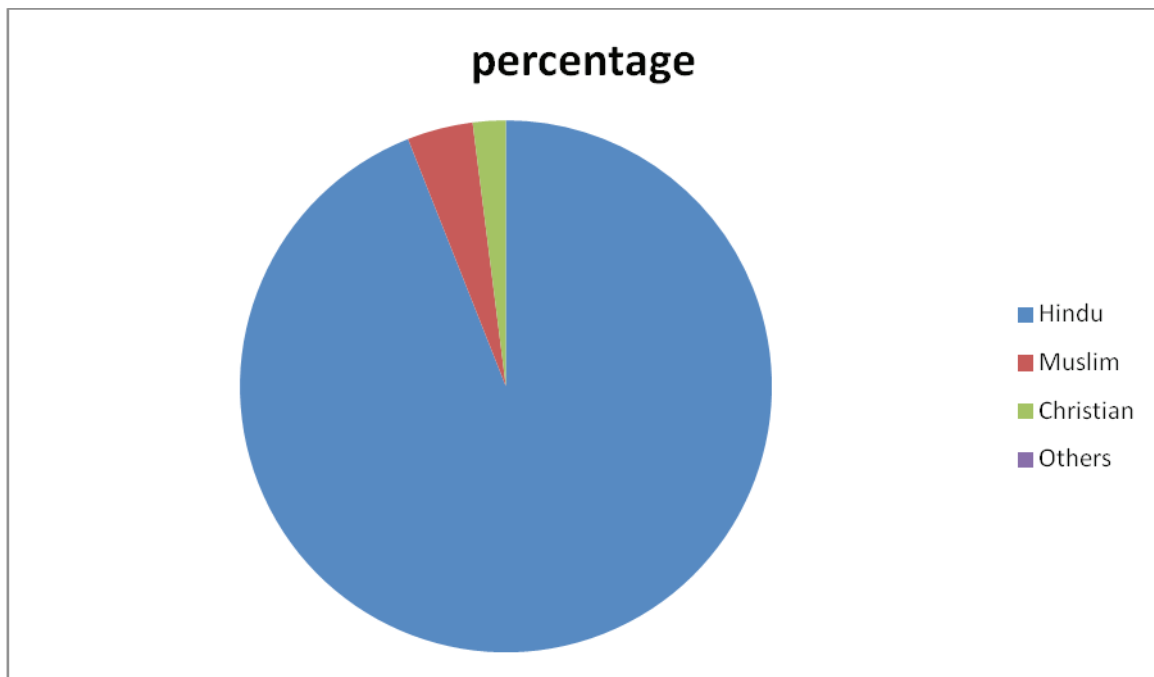
Yes	60 (21.58%)
No	218 (78.41%)

**Table 3: Reasons for not doing dissection**

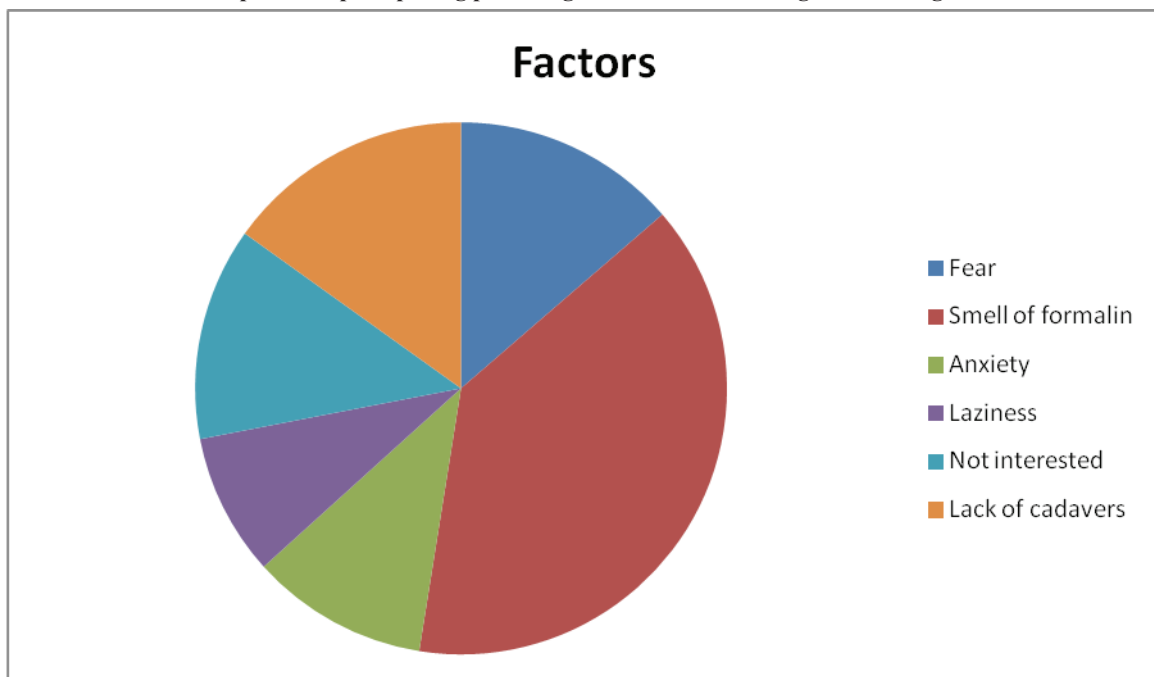
Fear	38 (13.66%)
Smell of formaldehyde	108 (38.85%)
Anxiety	30 (10.79%)
Laziness	24 (8.63%)
Not interested	36 (12.95%)
Lack of adequate no. of cadavers	42 (15.11%)

**Table 4: Response to the questionnaire**

	Yes	No
Have you ever seen dead bodies before?	88 (31.65%)	190 (68.34%)
Were you shocked to see the dead body for first time?	50 (17.98%)	228 (82.01%)
Did you get nightmare about the body?	66 (23.74%)	212 (76.26%)
Did you find dissection exciting?	190 (68.34%)	88 (31.65%)
Do you prepare mentally for dissection of cadaver?	30 (10.79%)	248 (89.21%)
Did you experience the formalin odour after your first encounter with cadaver, even when away from college?	136 (48.92%)	142 (51.08%)
Does cadaver dissection made anatomy easier to understand?	240 (86.33%)	38 (13.67%)
Should cadaver dissection be replaced by plastic models?	88 (31.65%)	190 (68.34%)
Do you feel dissection by yourself is more helpful than demonstration of prosected parts?	214 (76.98%)	64 (23.02%)
Is dissection essential for anatomy?	124 (44.6%)	154 (55.39%)



Graph 1: Graph depicting percentage of students according to their religion



Graph 2: Graph depicting different factors preventing students from doing dissection

### Discussion

The study reveals that only 21.58% of students have done dissection while a large no. of them are not dissecting. A study done by Sharma et al.<sup>1</sup> showed that 35% of students were dissecting. So, the results are not very contrasting. There were so many causes that expel the students from doing the dissection. Most prevalent

cause was smell of formaldehyde (38.85%) as it causes irritation and gives unpleasant odour. The study of Sharma and Gupta et al.<sup>1</sup> showed the same result. But in that case, the prevalence was 50.7%. This is a factor that students have to accept and get habituated to it. Because, formalin is the most common and most effective chemical to preserve the cadaver. Study of Nirmalya Saha *et al*<sup>2</sup>

showed that about 64% of the students experienced the formalin odour even when away from the college. In this case, about 48.92% students feel that. Monika Lalit *et al*<sup>11</sup> reported that 52.17% students experienced the formalin odor even when they are away from the college. Next factor was lack of adequate no. of cadavers. So, maximum students don't get a chance to dissect. With increase no. of colleges and increased no. of seats in each college, the demand for cadavers is shooting high. Public awareness and body donation programmes must be more aggressive in order to fulfill our needs. Other less common factors are anxiety, laziness and fear. To overcome this, the students need a proper counseling and motivation. They must learn first the importance of dissection preferably during orientation programme. 32% of students have previously seen the dead bodies, so they are not really shocked to see it for first time. They are mentally prepared for it. Parker<sup>13</sup> reported that students with prior exposure with a dead body were better equipped to deal with issues surrounding death and are more aware of medical uncertainties. Other less common factors are anxiety (10.79%), laziness (8.63%) and fear (13.66%). Sharma *et al.*<sup>1</sup> found that anxiety and tremors of the hand was experienced by 13.84% of the students which was quite embarrassing. Also, Abu Hijleh *et al*<sup>9</sup> reported that 46.5% of the students expressed some level of fear before dissections. To overcome this, the students need a proper counseling and motivation. They must learn first the importance of dissection preferably during orientation programme. 68.34% of students found human dissection very exciting. Studies done by Izunya *et al.*<sup>4</sup>, 2010, Mulu *et al.*<sup>5</sup>, 2010, Oyeyipo and Falana<sup>7</sup>, 2012 and by Rajkumari *et al.*<sup>3</sup>, 2008, Kemeir<sup>10</sup>, 2012, Khan and Mirza<sup>6</sup>, 2013 revealed that 85% students were very excited with their dissection experience. They also accept (86.33%) that dissecting the cadaver helps them to learn and remember the subject in a better way as it creates a visual and motor experience, but the study of Izunya *et al.*<sup>4</sup> gives a different picture. Still 31.65% students believe that cadaveric dissection can be replaced by plastic models. Because unlike cadavers, in plastic models, the relation is not distorted with time. They can also be used time and again. This gives ample opportunity to most of the students to see the relations properly. Those students who can't perform dissection due to lack of cadavers, it can be solved by synthetic models. So, we believe,

though plastic models should not replace dissection, but they should be there as a helping hand. With the availability of virtual study table, the radiological study, the cross sectional views are at our reach. Still students prefer dissection to demonstration of dissected specimen as it gives a better three dimensional approach. The same fact was observed by the study done by Rajkumari and Singh *et al.*<sup>3</sup> 2010

## Conclusion

So, students should be more motivated and they should be counseled properly about the importance of cadaveric dissection. Though there are other modalities available, but cadaveric dissection is irreplaceable. It gives a visuo-motor and psycho-motor impact on the subject. Cadaver acquisition procedures should be more streamlined, so that "lack of cadavers issue" is solved.

**Ethical Clearance:** Taken from Ethical Committee, Siksha 'O' Anusandhan University, Bhubaneswar

**Conflict of Interest:** Nil

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