

# Is Cadaveric Dissection Still Considered an Indispensible Learning Tool? A Study With 1<sup>st</sup> M.B.B.S. Students

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## Abstract

**Background:** Cadaveric dissection is an important experience for every medical student. However a first year student goes through a variety of responses on exposure to cadaveric dissection.

**Aim:** This study was undertaken to note the various attitudes of first year M.B.B.S. student.

**Methods:** Questionnaires were administered to willing candidates out of 250 first M.B.B.S. students to determine attitude of students to cadaveric dissection.

**Result:** 22.14% had recurrent thoughts of the cadaver during the first week of dissection. 5.1% had thoughts about leaving the course in the first week. These thoughts decreased to 0% after 8 weeks of dissection. 85.11% students felt that interaction with Anatomy teachers helped them to emotionally cope with the stress.

**Conclusion:** We conclude that cadaveric dissection is an indispensable learning tool of medical education. Better student staff interaction will help the student cope with stress of first year curriculum.

**Keywords:** Cadaveric dissection; Attitude of students, Gratitude towards cadaver, Emotional help and learning tool.

## Introduction

Dissection of a Cadaver has been the central part of anatomy learning process. Many consider

dissection as a once in a lifetime experience. Since Renaissance period dissection is considered as an important pillar in medical education.<sup>1</sup> However, every medical student goes through a variety of emotions when exposed to human cadaver. Poles apart responses like a deep feeling of gratitude towards the cadaver<sup>2,3</sup> to a shocking feeling of leaving the M.B.B.S. course<sup>1,4</sup> after few days of starting cadaveric dissection have been reported. In the new curriculum with integrated teaching, newer methods like use of dissection videos, virtual dissection, prosected specimens or plastic models as an option for cadaveric dissections are being used.<sup>5</sup> A newly admitted first year student is dealing with sense of pride, excitement and stress of entering the world of Medical education.

## Aim

The present study was conducted to determine the attitude of 1<sup>st</sup> year medical students to cadaver dissection and to determine if students still feel that cadaveric dissection is an indispensable learning tool.

## Materials and Methods

The attitude of 1<sup>st</sup> year medical students towards cadaveric dissection was tested, before exposure to cadaver, one week after exposure to cadaver and 2 months after starting cadaver dissection.

Standardized and pretested questionnaires prepared in English were administered to willing candidates from 250 1<sup>st</sup> MBBS students of Dr. D.Y. Patil Vidyapeeth and Medical College, Pune. 1<sup>st</sup> questionnaire was administered immediately before the first class of dissection session. The 2<sup>nd</sup> questionnaire was administered a week after the first dissecting room experience. The 3<sup>rd</sup> was 2 months later. The relevant data obtained from questionnaires was captured and analyzed statistically.

## Results

In this study 59.35% female and 40.65% male students with age ranged between age 16 to 22 has

been participated. 69.9% follow a non vegetarian diet while 30.1% are vegetarians. 22.14% students had recurrent thoughts of cadaver and formalin smell even outside college in the first week of dissection. Fear for dissection decreased from 19.9% to 2.55% in two months of dissection. View of student that dissection is an important part of medical course increased from 95.93% to 100%. 5.1% students had thoughts of leaving M.B.B.S. course after first cadaver exposure. 99.14% felt gratitude towards the cadaver after months of dissection which is more than 93.08% response after one week of dissection. 85.11% felt that interaction with anatomy staff helped them emotionally.

**Table 1:** Response to various attitudes

Attitude	Before start of dissection	After one week of dissection	After 8 weeks of dissection
Fear of cadaver	19.9%	15.31%	2.55%
Recurring thoughts about dissection	-	22.12%	0%
Thoughts about leaving the course	-	5.1%	0%
Difficulty in eating non-veg food	-	12.34%	0%
Interaction with anatomy staff helped them emotionally.	69.51%	-	85.11%
Feeling of gratitude towards the cadaver	-	93.08%	99.14%
Considering dissection as a indispensable tool	-	95.93%	100%

## Discussion

Mulu and Tegabu<sup>6</sup> in a longitudinal study of Medical students' attitudinal changes towards cadaver dissection, found that the reaction of students towards cadaver varied as the duration of the contact increased. Fear had decreased from 58.5% to 2.7% and nausea from 6.1% to 2% with statistically significant difference ( $p < 0.05$ ). Interest increased from 70.7% to 95.2% and excitement from 42.9% to 57.8% on subsequent exposure to dissection.

Saha et al.<sup>1</sup> studied the attitude of 1<sup>st</sup> year Medical students in Dissection Hall and found that 100% of them agreed that cadaver dissection was important part of Medical Degree and 96.97% agreed that dissection gave better learning than demonstration on prosected specimen. 96.7% felt gratitude

towards the body donors, and 3% stated that they had thought of leaving the training programme following exposure to the cadaver.

Somanath et al.<sup>2</sup> studied the experience of preclinical students in anatomy-Lab and found that 96% males and 97% females agreed that dissection enhanced the skill of thinking in a logical manner. 94% males and 90% females thought that actual hands-on training on cadaver dissection gave better results than demonstration of prosected specimens. 93% males and 96% females admitted that cadaver dissection was ethically acceptable. 86% males and 97% females agreed that cadaver dissection could not be replaced by plastic models and computer assisted training programmes. 100% females and 96% males consider cadaver dissection to be important and indispensable to anatomy learning.

Mishra et al.<sup>7</sup> while studying the attitude of

medical students towards dissection found that majority of students were not found to be mentally prepared about the composition of dissection though they were excited. Students had no idea about body donation though they strongly agreed that dissection would help them in future medical practice.

Oyeyipo and Falana<sup>3</sup> studied the attitude of preclinical students to cadaver dissection in South-West Nigerian Medical School and found that majority (70%) of students found their 1<sup>st</sup> visit to Dissection hall exciting, 46.7% were upset at the beginning of dissection while 36% showed anxiety and stress immediately before and during dissection. While 76.7% were mentally prepared for dissection 20% were not. 81.7% felt that dissection enhanced their thinking ability and 93.3% felt that dissection provided the best method of learning anatomy. 86.6% and 91.7% felt cadaver dissection was acceptable religiously and culturally respectively.

Dubashi et al.<sup>8</sup> in a study of reactions of Medical students to dissection, found that students experienced positive feelings such as curiosity and interest to learn about the structure of human body and some felt scared, put off by the formalin fumes because of which few were hesitant to dissect the cadaver. Some of these negative feelings influenced their routine activities. Students reported feeling

of gratefulness to the people who donated their bodies. Students felt need for pre-education session before the formal dissection.

Vijayabhaskar P et al.<sup>9</sup> studied the emotional impact of cadaveric dissection on first M.B.B.S. students. They used the Appraisal of life events (ALE) scale to measure the amount of impact felt by the student. More loss in ASE scale was reported by vegetarian students. Majority of the students showed a positive response. They considered dissection as a positively significant life experience. The knowledge from theory lectures and tutorial gets elaborated and reinforced during cadaveric dissection. Interaction and assistance by senior students and anatomy staff reduced the stress of dissection significantly. Even 85.11% students in our study state that anatomy staff helped them to emotionally manage the stress. A three dimensional view of human anatomy is given to the students by cadaveric dissection.

Arraez and Aybar<sup>10</sup> in a study with 425 first M.B.B.S. students state that for technical and emotional skill training, cadaveric dissection is an important training tool. The emotional responses to dissection decrease with continual exposure. Students gained better emotional control. Authors say that dissection makes the student learn how to face and adapt to their emotional responses and attitude to deeper thoughts about life and death.

**Table 2:** Comparison with other studies

Attitude	Mulu & Tegabu <sup>6</sup>	Agnihotri G & Sagoo M <sup>11</sup>	I.P. Oyeyipo & Falana B <sup>3</sup>	Nirmalya Saha et al. <sup>1</sup>	Current study
Fear of cadaver – before dissection	64.6%	30.6%			19.9%
After 1 week	12.9%				12.31%
After 8 weeks	4.7%	15.33%			2.55%
Recurring thoughts about dissection				24.2%	22.12%
Thoughts about leaving the course				4%	5.1%
Difficulty in eating non-veg food				29.3%	12.34%
Feeling of gratitude towards the cadaver			83.3%		99.14%
Considering dissection as an indispensable tool	99%		98.3%		100%

## Conclusion

We state that, cadaveric dissection is an indispensable learning tool in Medical education. A three dimensional view of human anatomy

is given by cadaveric dissection. On cadaver exposure students demonstrate a variety of responses. Continued dissection exposure for a period of 8 weeks has considerably decreased the negative responses reported in the first week.

A positive response of increase in gratitude for the cadaver is seen. 100% students in this study feel that Cadaveric dissection is an indispensable tool in medical education. First year student is going through a sense of excitement and stress while starting cadaveric dissection. Better student-teacher interactions will help students to emotionally cope with the stress of dissection and academic curriculum.

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