

## Attitude towards Dissection among First Year Students in a Medical College in Mandya

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### Abstract

*Background:* Dissection has been used for centuries to explore anatomy. Objections to the use of cadavers have led to the use of alternatives including virtual dissection of computer models. The current state of dissection in Anatomy is deteriorating. The number of hours spent by the students in dissection labs during medical school has decreased substantially over the last few years. The future of anatomy will be probably an elegant mix of traditional method and computer learning. *Aim:* To study the attitude of first year medical students towards dissection. *Materials and Method:* A cross sectional questionnaire based study was conducted in the department of Anatomy, Adichunchanagiri Institute of medical sciences, BG Nagara on 150 first year medical students. The data obtained was analyzed statistically. *Results:* Most of the students believed that dissection is an important tool and it facilitates anatomy learning. According to them it improves the skill but at the same time it consumes a lot of time. *Conclusion:* The use of dissection in medical training has been shown more effective in the retention of intended information than their simulated counterparts. The combinations of these methods are intended to strengthen the students understanding of anatomy, a subject that is infamously difficult to master.

**Keywords:** Attitude; Dissection; First Year Students.

### Introduction

During the prehistoric period, there was very little scope to study human anatomy by dissections due to superstitious beliefs, religious impositions and faith in supernatural power. People gathered knowledge of anatomy from experiments on sacrificed animals. The urge for learning human anatomy grew to such an extent that some over-inquisitive men resorted to stealing dead body from the graveyard for the said purpose. Thus, the purposeful anatomy emerged from the myths and mythology into a definitive science [1].

Cadaver dissection has been used as the main method of teaching human anatomy for the last five centuries. There are emerging concerns on the

negative consequences of cadaver dissection on medical students, leading to suggestions on use of alternative technological advancements to cadaver dissection [2].

The teaching of Anatomy in medical schools has traditionally been based around the use of human cadaveric specimens, either as whole body specimens for dissection or as already prosected specimens for study by students. In medical schools where cadaveric dissection is still included in preclinical teaching and instruction in anatomy, students are exposed to cadavers in the early stages of their training. This exposure induces positive and unintended negative experiences in these students. The impact of such exposure on students has been examined in some studies to evaluate its emotional impact and the ability of students to cope [3].

Many studies have been conducted to determine the emotional reactions of medical students to the dissection room [4].

Working with cadavers constitutes a potential stress which induces both positive and negative experiences in these students. The exposure has both the physical (smell, nausea, conjunctival irritation) and psychological (anxiety, stress, emotional trauma, depression) impact on students [5].

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Thus this study was undertaken among first year medical students to know their positive and negative attitude towards dissection.

### Materials and Methods

The study was done among first year medical students of Adichunchanagiri Institute of Medical Sciences, BG Nagara, Mandya district. A total of 150 students were included in the study. The full strength participation of the subjects was ensured. The study questionnaire which included information regarding their attitude towards dissection in their first year of the course was administered to students after obtaining their written consent. The ethics committee approval was taken prior to commencement of the study.

The study was of cross sectional type which included details of the subjects collected at one point of time in the study period. The information obtained was coded and entered in a excel sheet and analyzed. The suitable percentage and proportions were calculated in interpretation of the result obtained.

### Results

Almost all the students (98%) stressed the need of dissection in their learning of medicine. Nearly 50% of the students had some fear about handling the cadaver. About 10% of the subjects were not so happy in handling the cadaver. More than 70% of the subjects were excited about dissection and the knowledge they gain from that.

Nearly 40% of the subjects presented with one or the other symptoms of illhealth like headache, nausea, giddiness and unable to bear the smell because of dissection procedure. According to 68% of the subjects dissection should not be replaced by newer methods of teaching like models & computers. Ninety six percentage of the subjects feel that dissection will enhances their surgery skills.

- The difference in the response of the students towards time consumption is not too variable. Forty eight percent say yes, 42% no and 11% neutral.
- The study also compared dissection to the use of projected specimens. The results were slightly in favour of dissection.

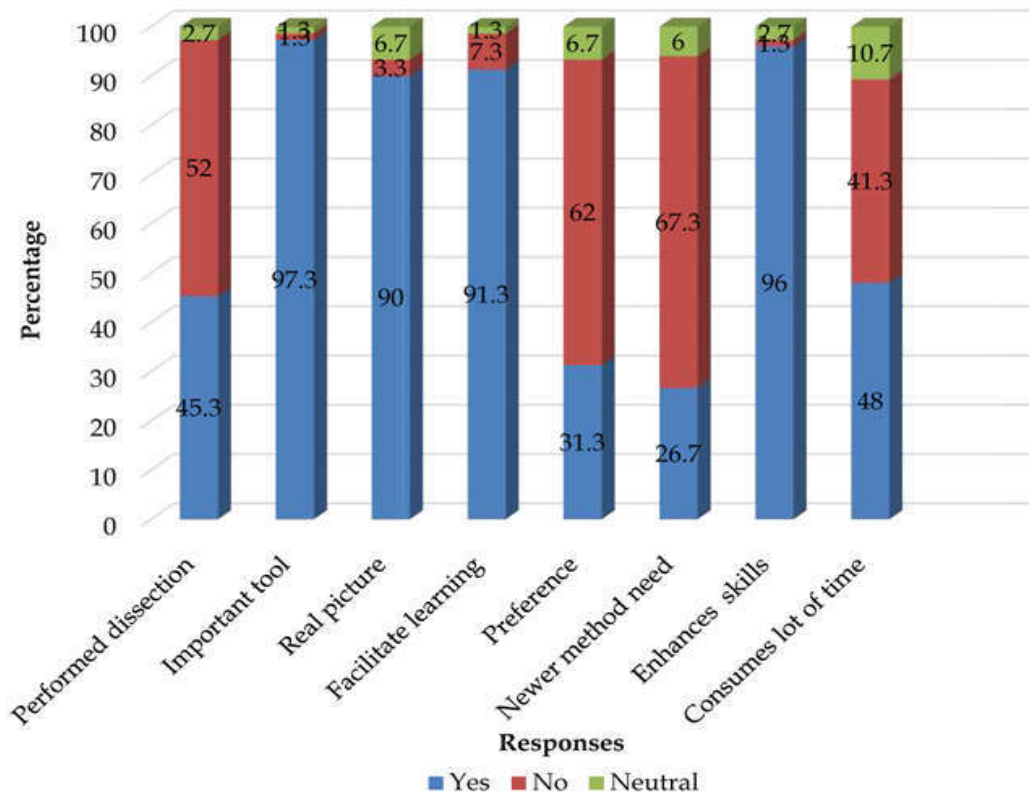


Fig. 1: Student response towards dissection

## Discussion

The dissection remains the most powerful means of presenting and learning anatomy. Dissection reinforces and elaborates knowledge that is acquired in lectures and tutorials [6]. Learning anatomy by dissection provided students with a clearer understanding of how to connect concepts.

The main disadvantages as perceived by students of the current study are the 'time consuming nature of dissection,' 'difficulty in finding correct structures', and the 'smell of the embalmed cadavers.' By nature of its attributes, dissection is time consuming compared to other forms of learning anatomy; however, this slow but sequential nature of dissections may be beneficial to study and understand complex anatomical regions such as limbs which can be challenging for a beginner due to the content, complexity and the terminology involved.

Considering the significant time limitations and strong emphasis placed on clinical applicability of basic sciences such as anatomy from the outset of modern medical curricula, it is important to identify the specific components that can be delivered using dissection which facilitates engagement of students in an active learning experience [7].

In a study done by Karau PB et al, majority of the students found their first visit to the dissection room exciting (85.3%). A third of the respondents (30.7%) felt emotional shock at initial exposure to the cadaver, but the shock wore off gradually in 87% of them. There was an overwhelming favorable attitude towards human anatomy, with most students agreeing that dissection should not be replaced by computer models (72%), gives better results than prosected specimens (96%) and is indispensable for learning. Most of them considered dissection the best method of learning anatomy [2].

Few studies recorded student attitudes as they progressed through dissection classes and compared it with baseline attitudes after repeated exposure. In their study anxiety of the students had decreased while interest had increased on subsequent exposure to dissection [8].

The study done by Wyk VJ and Rennie CO reported a positive experience (70%) during anatomical dissection in terms of visual and clinical application. Students further indicated that learning through the dissection provided them with a foundation which would be useful as future doctors. This aspect is especially important in a medical curriculum and further supports the philosophy of problem-based learning where a deeper understanding of the basic

sciences is essential in relating scientific concepts to practical clinical examples which is important in developing their cognitive skills [9].

Apart from teaching, cadaveric workshops are useful adjuncts when teaching operative skills. In particular, there is little research into how these workshops improve the performance of surgical trainees during subsequent live surgery. However, both trainees and assessors hold them in high regard and feel they help to improve operative skills. Further research into the role of cadaveric workshops is required [10]. Anatomical dissection being an active, student-centred and exploratory way of learning can be considered harmonious with current trends in medical education [7].

## Conclusion

The use of dissection in medical training has been shown more effective in the retention of intended information than their simulated counterparts. The combinations of these methods are intended to strengthen the students understanding of anatomy, a subject that is infamously difficult to master. Computer and multimedia should be complementary but not a substitute to dissection.

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