



## ATTITUDES AND PERCEPTION OF FIRST YEAR MEDICAL STUDENTS IN SKIMS MEDICAL COLLEGE TOWARDS CADAVERIC DISSECTION

### Anatomy

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### ABSTRACT

**BACKGROUND:** The medical student has to show a responsibility as he is facing a professional course that needs total dedication and concentration as human life is at stake. The study of structure of human body is the basic & one of the first subjects a medical student faces during his/her medical career and the science which deals with study of gross and microscopic structure is the human anatomy. Human anatomy has for long been studied through dissection of preserved dead bodies (cadavers) & First year medical students experience mixed feelings of various emotional reactions when they encounter with human cadavers. AIM: To assess student's attitudes & reaction towards human cadaveric dissection as a traditional method of teaching.

**METHODOLOGY:** It is a questionnaire based study in which a Predesigned questionnaire was prepared & distributed among 100 students after obtaining consent from the participants. Different parameters were assessed among participated 100 first year medical students.

**OBSERVATION:** 88% of the participants agreed that anatomy dissection is an important part of Medical Degree and is necessary for learning anatomy. Majority of the students (70%) agreed that introducing other methods like dissection videos, anatomy computerised software, models etc. as complement to traditional cadaveric dissection. A good majority of the students like dissection (63%) and give the cadaver proper respect during dissection and after its disposal (72%). A good number of students report allergic symptoms to formalin (41%). 75% of students think that there is no religious binding on dissection

**CONCLUSION:** Over the last 10-15 years increasing attention has been drawn on physical and psychological effects of cadaveric dissection on medical students and a debate is going on its present role as an effective major tool of learning anatomy. In our present study majority of students wanted cadaveric dissection to be a part of the teaching curriculum as dissection allows the development of three dimensional image of the different anatomical regions of the body. So we conclude that though dissection is time consuming, cumbersome, potentially hazardous etc. still it provides an opportunity to reflect on the feelings of mortality, humility and spirituality. However, learning by other methods like computer multimedia programmers like videos, cadaveric plastination, non-cadaveric models, computer based images etc. can supplement teaching for better understanding of Medicine.

### KEYWORDS:

Cadaver, Dissection, Ethics, Formalin, Anatomical models, 1st year Medical students, Dissection, Reaction

### INTRODUCTION

Anatomy is the branch of science concerned with the bodily structure of humans, animals, and other living organisms, especially as revealed by dissection and the separation of parts & is most basic and important subjects for medical student during their medical education career (1). It deals with studying the human body – both Gross and at Microscopic level. Dissection is very important in learning anatomy. Cadaver Dissection has been called the “sharp-end” of medical education. (2) Dissection has also been labelled as the “royal road” and cadaver as the “first patient” (3). Traditionally, Anatomy teaching in medical schools has been done by using human cadaveric specimens, either the whole body specimens for complete dissection or as prosected specimens (4). It has been since ancient times (over 500 years) that the dead human bodies (cadavers) has been used as a learning tool for the teaching and study of human anatomy. In fact, Andreas was the first medical student to dissect the cadaver and also continued with it even as a professor. (1) In ancient Egypt, dissection was a religious ritual, required as a rite of passage to the kingdom of the dead, even if the procedure was resembling more a crude autopsy than an anatomical dissection as we intend today. (5) For an efficient professional training and skill development, It has been recognized, strongly supported and preferred over other methods. (6,7,8). In addition, the practice of cadaveric dissection allows students grasp the three-dimensional anatomy and concept of biological variability (9). Although the teaching of dissection for advancement of medical science is widely accepted, but its emotional impact on medical student is often ignored. (10) The first exposure of first year medical student to human cadaver has the potential of becoming a stressful factor which can cause psychological trauma as medical student questions different aspects during dissection of a human body during an anatomy course. (11)

So, anatomy dissection hall represents a significant emotional challenge to many medical students. The students should be offered the opportunity to discuss their emotions. (12)

Moreover, the use of cadavers for dissection in anatomy learning has been identified by some scholars as expensive, time consuming and potentially hazardous (13). Although there is no consensus on its

effect, working with cadavers, whether through active dissection or by examination of prosected specimens constitute a potential stress (14). In medical schools where cadaveric dissection mainly constitutes preclinical teaching of anatomy, students are exposed to cadavers in the early stages of their training but this exposure induces both positive and unintended negative experiences in these students. The emotional impact of such exposure on students and their ability to cope has been examined in some studies. Though initial cadaver dissection can be experienced as a significant life event by many young medical students, but the majority of them adapt to the situation quickly. A number of studies conducted in different parts of the world have documented reaction of medical students to human cadaveric dissection by examining experiences retrospectively through structured questionnaires (15-18). Because of current arguments on balancing learning outcomes, problems related to the use of human cadaver, teaching methods and resources, many recent curricula in anatomy have introduced a shift towards greater use of alternative modalities of teaching involving cadaveric plastination, non-cadaveric models and computer-based imaging (19,20). Keeping this in view a lot of debate is going on whether cadaveric dissection should or should not be a part of teaching curriculum of medical colleges. The objective of our study was to find out from the students, what they considered as the ideal method of learning anatomy i.e. whether the age old tradition of cadaveric dissection should be the method of teaching, or teaching by models, dissected specimens, peer examination etc. should be there. The present study is done to assess students' attitude towards anatomical dissection either retrospectively through recollection or by recording student's attitudes as they progressed through a dissecting room-based anatomy instruction. This investigation was therefore designed to record students' attitudes to human cadaveric dissection. It also identifies student's preference towards other compensatory methods for anatomy learning.

### MATERIALS & METHODS

The purpose of the study was explained to the students and verbal consent was obtained and the subjects' name was not recorded to keep anonymity. A predesigned questionnaire was prepared & distributed among 100 first year medical students. The questionnaire was based upon a review of literature and similar studies conducted elsewhere.

For each question, the student had to choose one of the three possible responses: "yes", "no", and or "cannot say". Various views among participated 100 students were collected the data were then analyzed and the result was discussed with available literatures.

**ASAMPLE QUESTIONNAIRE**

Do you think that dissection is not religiously acceptable
Do you give the cadaver its due respect
Do you consider cadaveric dissection ethically acceptable
Is cadaveric dissection necessary for learning anatomy
Can alternative methods replace the cadaveric study-
Do you have any allergy to formalin
Do you have images of cadaver even after you leave the dissection hall
Do you like to dissect the dead body
Do you avoid dissection due to laziness
Do you like to watch when other students are dissecting
Does dissecting a body answers all your queries about the topic under consideration
Would you want the newer methods like models, dissected specimens, computer based imaging etc. to complement dissection

## RESULTS

In our study we had taken 100 1st year medical students ,out of which Male – 50%, Female – 50%. 66% of the students say that they are comfortable with the sight of cadaver . 72 % of the students agree that a due respect is given to the cadaver during dissection and at its disposal. 88 % had a view that a cadaveric dissection is necessary for learning Anatomy.Majority of the students had a view that they like to dissect the body and also while others dissecting.70% of the students agreed that the newer methods like models, computerised images, dissection videos, various anatomy softwares should be introduced to complement dissection.

Most of the students had an opinion that the dissection is religiously acceptable(75%).83% students believe that no other alternative methods can replace the cadaveric dissection. A good number of students report allergic symptoms to formalin(41%).

## DISCUSSION

Cadaver based anatomy teaching is indispensable for 1st year medical students for understanding various anatomical terminology, normal appearance, arrangement of body structure. In the present study majority of the students i.e., 88% thought that the dissection is the best method of learning. This in agreement to the authors who did similar study comparing the cadaveric dissection with new computer based teaching methods.(21). In our study 53% considered dissecting the cadaver as unethical and is more or less in accordance to observations made by Winkelmann et al. (22) A good number of students in our study report allergic symptoms to formalin (41%) & is in contradiction with Sakanioto et al.(23) Who reported only 9.4% with allergic problems. 11% students did not show interest towards dissection due to laziness and more or less same findings were seen by Dotinga R.(24) who found problem in 8.6%. There seems no religious bar regarding enthusiasm of students towards cadaveric dissection . 70% of our study group agreed to add the other teaching materials to the cadaveric dissection & is similar to Gutman G D et al.(25) In the present study more than 53% of students considered dissection ethically acceptable.

## CONCLUSION

Over the last decade a debate is going on the present role of cadaveric dissection as an effective major tool of learning anatomy . In our present study majority of students wanted cadaveric dissection to be a part of the teaching curriculum as dissection allows the development of three dimensional image of the different anatomical regions of the body. So we conclude that though dissection is time consuming, cumbersome, potentially hazardous etc. still it provides an opportunity to reflect on the feelings of mortality, humility and spirituality. However, learning by other methods like computer multimedia programmers like videos, cadaveric plastination, non- cadaveric models, computer based images etc. can supplement teaching for better understanding of Medicine . Better teacher-students interactions, pre-education sessions will help in improving the attitude of the students towards cadaveric dissection which in turn will help in

improving their mental status to handle the highest level of stress in clinical carrier. It also point out that the allergic symptoms can be diminished by local adjustment like well ventilated Dissection hall preferred centralised air conditioned and appropriate concentration of fluid which used for preservation of cadavers

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