

# A Study on the Approach of Medical Students Towards Cadaver in the Dissection hall

Shalika Sharma, Vanita Gupta

## Abstract

Dissection has been the central pillar of anatomy learning since renaissance. It has been the main method of teaching human anatomy since last 5 centuries. In this study the behaviour of medical students was analyzed during their MBBS course. There are emerging concerns on the negative consequences of cadaver dissection on medical students leading to suggestions on the use of alternative technological advancements for the benefits of students. This study concentrates on emotional and psychological effect on the students when they are exposed to cadaver dissection during their first year of MBBS. This study was conducted on all 100 first year students who were pursuing MBBS at ASCOMS. Most of the students found their experience with cadaver exciting, as they were thrilled about the experience. Here in this study more emphasis is laid on the education of cadaver dissection and the student's reaction to it based on a well formed three types of questionnaire, one questionnaire had comprised of fifteen items that dealt with yes/no responses towards cadaver dissection, second questionnaire dealt with the frequency of performing dissection and third questionnaire for reasons for skipping/avoiding dissections.

## Key Words

Dissection, Cadaver, Formalin

## Introduction

Cadaver dissection is very important in anatomy teaching, that provides essential knowledge required for the duration of the future studies of the MBBS students. Many studies have been conducted to determine the emotional reactions of medical students to the dissection room (1,2). First year medical students normally experience a variety of emotional reactions and mixed feelings, when they encounter human cadavers for the first time (3).

The purpose of this study, conducted on students with no previous cadaver dissection experience is to evaluate the dramatic effect of dissection on their tender minds and how these cadavers become an important tool in their learning of anatomy. Although many studies report positive attitude and even excitement among students attending dissection (4), there are reports of traumatic experiences also. Hancock *et al* (1998) reported that the process of cutting, dismembering, mutilating and

disassembling a dead body is outside the realm of everyday experience, more so to students with little or no previous exposure to dead bodies (5)

## Materials and Methods

This was a disciplinary cross-sectional questionnaire study conducted in the department of Anatomy ASCOMS Sidhra, Jammu after taking formal permission from Institutional ethical committee. The purpose of the study was explained and consent was obtained from the students and the subject's name was not recorded to keep anonymity. The study was conducted among the 1st year pioneer classes; all the 100 1st year students undertaking human anatomy, course towards the attainment of Bachelor of Medical and Bachelor of Surgery degree. These students were given a same questionnaire, at an interval of five months, one during their fourth month of the course and another during the ninth month of the course of the 2016 batch. Their reactions were compared

---

From the Deptt. of Anatomy, ASCOMS, Sidhra, Jammu.(J&K), India

Correspondence to : Dr. Shalika Sharma, Asst. Professor, Dept. of Anatomy ASCOMS.Sidhra, Jammu (J&K) India

**Table. 1 Socio Demographic Profile of Students**

<b>Gender</b>	Male	70%
	Female	30%
<b>Religion</b>	Christian	0%
	Muslim	51%
	Hindu	49%
	Other	0 %
<b>Occupation of father/male guardian</b>	Clinician/doctor	12%
	Others	88%

**Table.3 Dissection performance rate**

<b>Dissection Done</b>	<b>Total</b>	<b>Percentage</b>
Yes(%)	35	35%
No(%)	65	65%

**Table. 4 Reasons of not performing dissection**

<b>Reasons</b>	<b>Yes (%)</b>	<b>No (%)</b>
Fear	23.07%(15)	76.93% (50)
Smell of formaldehyde	50.7%(33)	49.3%(32)
Eye irritation	18.4%(12)	81.6%(53)
Anxiety/tremors of hands	13.84%(9)	86.16% (56)
Laziness	9.2%(6)	90.8%(59)

and analysed in *Table 1*

## **Results**

The results are shown in *table 1-4*

## **Discussion**

It is an established fact that students learn Anatomy from the dead. Review of previous literature reveals that there are varying responses with regards to the attitudes, emotions and views of medical students towards cadaver dissections. More research in anatomy education is necessary to counter balance emotional arguments about dissection with scientific evidence (7). This study reveals that 49% of the students has no prior exposure to the dead body and 90% were shocked to see the cadaver for the first time that decreased significantly to 1% after 9 months of their admission. Our study revealed that 67% of the respondents found their first visit to the dissection room exciting. This is not in agreement with previous studies in Africa (Izunya *et al.*, 2010, Mulu *et al.*, 2010, Oyeyipo and Falana, 2012) (8,9,10) and elsewhere (Rajkumari *et al.*, 2008, Kemeir, 2012, Khan and Mirza, 2013) (4,11,12) which revealed that 85% respondents found their visit exciting. About 64% of the students experienced the formalin odour even when away from the college which decreased to 59 % with the passage of time which in accordance with the study Nirmalya Saha *et al* (2015).

82% of the students realized that the cadaver was once a living being and they had empathy and sympathy for the body and 60% had respect for the person who donated his dead body for them to learn, this is in concordance with other studies done in African American

*Table.2 Question asked to students and its response*

S.NO	QUESTION	After 4 months		After 9 months	
		YES (%)	NO (%)	YES(%)	NO(%)
1.	Have you ever seen the dead body before?	51%	49%		
2.	Were you shocked to see the cadaver for the first time?	10%	90%	1%	99%
3.	Did you get nightmares about the body?	29%	71%	2%	98%
4.	Did you find dissection exciting?	67%	33%	75%	25%
5.	Do you prepare mentally for dissection of human cadaver?	54%	46%	35%	65%
6.	Did you experience the formalin odour after your first encounter with the cadaver even when away from college?	64%	36%	59%	41%
7.	Did you think that cadaver was once a living being?	82%	18%	50%	50%
8.	Did you feel he donated his body for you to learn this intricate human body?	60%	40%	80%	20%
9.	Does cadaver dissection made anatomy easier to understand?	70%	30%	89%	11%
10.	Should cadaver dissection be replaced by better modalities like plastic models?	25%	75%	15%	85%
11.	Do you feel that doing dissection your self is better than demonstration on prosecuted parts?	95%	5%	95%	5%
12.	Is cadaver dissection important for learning anatomy?	90%	10%	98%	2%
13.	Did you assume to apply knowledge to heal the living after dissection of human body?	86%	14%	92%	8%
14.	Did you find human body intricate and complex?	98%	2%	99%	1%
15.	Did you find dissection knowledge about human body intimate and unknown to others?	94%	6%	97%	3%
16.	Would you like to choose anatomy as a career?	29%	71%	10%	90%

schools (Izunya et al., 2010, Oyeyipo and Falana, 2012) (8,10).95% Students prefer dissection than demonstration on prosecuted specimens, as it enhances understanding of the objectives of the course as observed by (Rajkumari and Singh, 2007) (4), but is at variance with reports by Izunya *et al.*, (2010) (8). A further proof of this preference in the current study population is the finding that only 25% would prefer replacement of cadaver dissection with plastic models or computer assisted programs. Parker (2002) (14) reports that cadaver dissection confers better three dimensional appreciation of human anatomy as opposed to plastic models. This can also be attributed to the poor exposure of students to the plastic models.

Majority of the respondents want to apply this anatomical knowledge to save the patients as they think cadaver as their "first patient". 86% of students want to apply the knowledge to heal the living and this percentage increase with the passage of time.

More than 90% of the students found themselves to be privileged to have such an intimate knowledge of the human body that is unknown to others.

The study also reported that only 35% of the student dissected the cadaver according to *Table 3* and the reasons are given in *Table 4*

When enquired about the reasons for not performing dissection majority of the students(50.7%) reported smell of the formaldehyde as unpleasant and irritating . Aspects of dissection that medical students are reported to find distressing include revulsion at the sight and smell of the cadavers, shock at confronting death, dismemberment, violation of cultural taboos, dehumanization, and invasion of privacy. 23.07% reported fear of not performing the dissection well as the main reason for avoiding dissection. Our finding was significantly different from the previous study in which Abu Hijleh *et al* (13) reported that 46.5% of their students expressed some level of fear before dissections . Anxiety and tremors of the hand while dissecting the body were embarrassing for 13.84% of the students. Though students do not want to mention laziness as the cause but still 9.2% admitted their laziness as one of the factor for not performing dissection.

It is therefore evident that while medical students

appreciate the usefulness of anatomy as a subject, few are willing to pursue it. This calls for immediate intervention measures to increase career interest in the subject, in the light of expansion of medical training , which will invariably require anatomists. Financial consideration is a major criterion for career selection and basic sciences are associated with low financial returns, possibly further explaining the low interest in anatomy as a career.

#### References

1. McLachlan JC, Bligh J, Bradley P, Searle J. Teaching Anatomy without cadavers. *Med Edu* 2004 ,38 (4) ;418 -24
2. Bockers A , Bretzke L, Lamp C, *et al* . The Gross anatomy course; an analysis of its importance . *Anat Sci Educ* 2010 , 3(1) ; 3-11.
3. Gaurav A, Mandeep GS. Reactions of first year medical students to the dissection hall experience. *NJIRM* 2010 ; 1 (4) :
4. Rajkumari A, Das BK , Sangma GTN, Singh AI. Attitudes and views of first year medical students towards cadaver dissection in anatomy learning. *Calicut Medical J* 2008; 6 (4); 1 - 6
5. Hancock, D., Williams, M, Taylor, A. Psychological impact of cadavers and prosections on physiotherapy and occupational therapy students. *Australian Journal of Physiotherapy* 1998; 44:247-55
6. Paul B K, Alex W, Kevin N, *et al* . Perception to cadaver dissection and views on Anatomy as a subject between 2 pioneer cohorts in a Kenyan medical school. *Anat J Africa* 2014 ; 3 (2) ; 318 - 323.
7. Saima N ,Ghazala N, Samia I, *et al* . Perception of cadaver dissection in anatomy teaching . *J Ayub Med Coll Abbottabad* 2014 ;3 (2)
8. Izunya AM ,Oaikhena GA ,Nwaopara AO . Attitudes to cadaver dissection in a Nigerian Medical School. *Asian J Med Res* 2010; 2 : 89-95
9. Mulu A, Muche A, Tegabu D. Assessment of the attitude and views of second year medical students towards cadaver dissection in anatomy course. *Ethiop J Health Biomed Sci* 2010; 2:111-17.
10. Oyeyipo IP, Falana BA. Attitude of pre clinical students to cadaver dissection in South West Nigerian Medical School *Int J Trop Med* 2012;
11. Kemeir MA ,2012 .Attitudes and views of medical students towards anatomy learnt in the preclinical phase of King Khalid University. *J Fam Community Med* 19 ;190-
12. Khan H M ,Mirza T M. Physical and psychological effects of cadaver dissection on undergraduate medical students. *J Pak Med Ass* 2013; 63 ; 831-34 .
13. Abu-Hijleh MF, Hamdi NA, Moqattash ST, Harris PF, Heseltine GF. Attitudes and reactions of Arab medical students to the dissecting room. *Clin Anat* 1997 ; 10 (4) :272 -8
14. Parker LM. Anatomical dissection: why are we cutting it out ? Dissection in undergraduate teaching . *ANZ journal of Surgery* 2002 ; 72 (12) : 910-912.