

ATTITUDE OF FIRST YEAR INDIAN MEDICAL STUDENTS TOWARDS CADAVER DISSECTION

Vinay Kumar V ^{*1}, Martin Lucas A ², Vishal Kumar ³, Pradeep Kulal ⁴.

^{*1} Associate Professor, Dept of Anatomy, K. S. Hegde Medical Academy, Nitte University, Mangalore, Karnataka, India.

² Professor & HOD, Dept of Anatomy, K. S. Hegde Medical Academy, Nitte University, Mangalore, Karnataka, India.

³ Professor & HOD, Dept of Anatomy, Kodagu Institute of Medical Sciences, Madikeri, India.

⁴ Senior Resident, Dept of Surgery, K. S. Hegde Medical Academy, Nitte University, Mangalore, Karnataka, India.

ABSTRACT

Introduction: Cadaveric dissection is routinely practiced for teaching anatomy for medical students. Anatomy is one of the most important subjects offered during the first year MBBS course. Dissection is very important in learning anatomy, so the first year students will encounter, most likely for the first time, a dead human body. This experience, even though emotionally stressful, provides essential knowledge and skills for their future studies.

Methods: A total of 150 newly admitted first-year medical students emotional and physical reactions to cadaveric dissection were assessed by using a questionnaire. The questionnaires were given just before, after a week and 2 months after the initiation of dissection classes.

Results: Most of the students experienced negative physical symptoms, such as eye irritation (63.33%), headache (10%), decrease in appetite (12%), nausea (3.3%), sweating (35.33%) giddiness (2.66%), shivering (4.66%) and desire to leave dissection hall (9.33%) in the first encounter with a cadaver in the dissection hall. They also experienced adverse emotional responses such as fear (61.33%), depression (14.66%). However, most of these reactions decreased significantly 2 months later, except for eye irritation and their interest has increased on subsequent visit to dissection classes. A majority (95.5%) considered the cadaver dissection to be the most helpful tool in learning anatomy and it increased their skills.

Conclusion: The initial encounters with a cadaver caused emotional and physical stress to students, but most students adapted gradually to the stressful learning environment. The amount of stress can be greatly reduced if they are properly counselled before the dissection classes. Majority of students preferred dissection as the most useful tool to learn anatomy than any other method.

KEY WORDS: Cadaver, Dissection, MBBS, Medical Students.

Address for Correspondence: Dr. Vinay Kumar V, Associate Professor, Department of Anatomy, K.S.Hegde Medical Academy, Deralakatte, Mangalore-575018, Karnataka, India.

E-Mail: drvinay66475@rediffmail.com

Access this Article online

Quick Response code



DOI: 10.16965/ijar.2015.196

Web site: International Journal of Anatomy and Research
ISSN 2321-4287
www.ijmhr.org/ijar.htm

Received: 12 Jun 2015 Accepted: 06 Jul 2015
Peer Review: 12 Jun 2015 Published (O): 31 Aug 2015
Revised: None Published (P): 30 Sep 2015

INTRODUCTION

Anatomy is one of the most important subjects offered during the first year MBBS course.

Dissection is very important in learning anatomy, so the first year students will encounter, most likely for the first time, a dead human body. This

experience, even though emotionally stressful, provides essential knowledge and skills for their future studies.

Dissection is recognized as the most universal instrument, which is strongly supported and preferred over other methods, for professional training and skill development in learning anatomy [1–4]. Through dissection, students are able to grasp the three dimensional anatomy & visualize firsthand knowledge of the human body [5, 6].

Working with cadavers constitutes a potential stress [7] 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 [7-10].

The present study was done to assess student's attitude towards dissection by recording their attitudes as they progressed through dissection classes and compare baseline attitudes and changes followed after repeated experience. It also identifies student's preference towards other compensatory methods for anatomy learning.

SUBJECTS AND METHODS

A longitudinal study was conducted on 150 first year MBBS students with no previous cadaver dissection by using questionnaires. 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. Three different questionnaires were provided to students at each key-moment of this study. The 1st questionnaire- was given before first dissection class which dealt with basic demographics and prior attitudes towards the dissection. The 2nd questionnaire was given one week after first dissection which contained additional items on stress in the dissecting room and its triggers, coping strategies used by students, their opinion on the role of dissection in Anatomy learning. The 3rd questionnaire was given after two months of 1st dissection class which was almost similar to 2nd questionnaire. The data obtained from questionnaires were analyzed using SPSS version 16. P<0.05 was considered statistically significant.

RESULTS

The response of students towards cadaver alters with the duration of contact increases. Fear and depression has decreased from 61.33% to 3.33% and 14.66 to 0.66 % respectively (Table-1) with statistically significant difference (p<0.05). On the other hand interest has increased from 60% to 93.3% and excitement from 40 % to 62 % (Table 1) significantly.

Among the symptoms experienced (Table- 2) by the respondents, sweating was the most prevalent and had decreased from 35.33% to 20.66% on exposure to cadaver with a statistically significant difference (p<0.05). The desire to leave dissection hall has also decreased significantly from 9.33% to 0.66%. The number of study subjects with none of the symptoms had also significantly increased from 53.33% to 76% after frequent exposure to cadaver dissection. Symptoms like headache, anorexia, nausea, giddiness & shivering were reported but with no significant difference.

5 % of the subjects found the dissection room to be highly stressful and 69 % as mildly stressful while 26% of them said it was not at all stressful. The eye irritation & formalin odour from the cadaver were found to be factors that make the dissection room stressful.

About 98% of the subjects considered cadaver dissection is important for anatomy learning. 90% of them prefer dissection than prosection for Anatomy learning and 86% oppose the replacement of Cadaver dissection by other instructional methods. However, no statistical difference had been observed between the two surveys.

Table 1: Responses of students on attitudes towards dissection.

S.No	Factor	Questionnaire 1 No (%)	Questionnaire 2 No (%)	Questionnaire 3 No (%)
1	Fear	92 (61.33)	18 (12)	5 (3.33)
2	Depression	22 (14.66)	5 (3.33)	1 (0.66)
3	Neutral	62 (41.33)	91 (60.88)	87 (58)
4	Interest	90 (60)	109 (72.66)	140 (93.33)
5	Excitement	60 (40)	82 (54.66)	93 (62)

Table 2: Symptoms listed by respondents after initial exposure followed by subsequent experience with dissection.

S.No	Symptoms	Questionnaire 2 No (%)	Questionnaire 3 No (%)
1	Eye irritation	95 (63.33)	89 (59.33)
2	Headache	15 (10)	9 (6)
3	Anorexia	18(12)	8(5.33)
4	Nausea	5 (3.33)	1 (0.66)
5	Sweating	53 (35.33)	31(20.66)
6	Giddiness	4 (2.66)	1 (0.66)
7	Shivering	7 (4.66)	1 (0.66)
8	Desire to leave dissection hall	14 (9.33)	1 (0.66)
9	None of above	80 (53.33)	114 (76)

DISCUSSION

The results revealed that fear and nausea had decreased significantly along the three surveys. This result is similar to study done on medical students in United Kingdom which found out that 5% of students distressed by dissection after repeated exposure [11]. Similarly, a study by Mc Garvey et al (9) on students of Royal College of Surgeons in Ireland on their initial visit and on the tenth week visit of anatomy room showed a significant decrease of nausea, dizziness and fainting. In this study, interest and excitement of the students towards dissection showed statistically significant increment along time in the three surveys (60%, 72.66%, 93.30% and 40%, 54.66%, 62%, respectively). This accord's well with the study done by Cahill and Ettarh [12] in Ireland, where 95% of Irish medical school students were interested with cadaver dissection. Another study done in India also showed that interest and excitement had increased while fear and nausea had decreased along the three surveys [13, 14]. Thus, for the majority of the students, dissection does not appear to be unpleasant experience. A study of 425 Spanish medical and health science students attending dissections showed attitudes and emotional reactions progressively diminish with continuing exposure to dissection [15] as was observed in the present study. The leading factors which make the dissecting room stressful were the chemical odour (54% and 59%) and eye irritations (29% & 22%) on the first and repeated encounters, respectively and this result is in line with the study done by Abey Mulu 2012 [14] and Bataineh et al. [10] where 58.5% of medical students showed a variable degree of disturbance due to the chemical odour.

High percentage of students in this study were disturbed by the smell compared to (8%) [16] and (3.65%) [17] in the Western countries. These differences may be attributed to a better ventilation system and safety measures applied in these medical schools. A study done by Patel and Moxham [18], showed 98% of professional anatomists believe that dissection is important for gross anatomy learning. Another study done by Mulu and his colleagues also showed that 98% of medical students responded dissection is relevant for anatomy learning [19]. This study revealed that majority (90%) of the respondents preferred dissection than prosection. This finding is in line with the study of Izunya [20, 1]. The manual skills learnt in the dissection room are essential in almost every branch of medical profession [21]. Moreover, dissection has been considered as essential requirement in learning three-dimensional aspect of human anatomy [22]. Most of the students (92%) opposed replacement of dissection by other methods of learning.

CONCLUSION

The present study has shown that, the majority of the students fear and nausea had decreased while interest and excitement had increased on subsequent exposure to dissection. It also showed that chemical odour and eye irritations were the leading factors which create discomfort in the dissection room. Instructors are recommended to adequately prepare students mentally and emotionally before the commencement of the dissection session for an exciting and stress free anatomy learning though dissection. Majority of the students preferred cadaver dissection than prosection and opposed its replacement by other methods of learning. Therefore, medical curriculum developers and policy makers should pay attention to the relevance of dissection in learning anatomy.

Conflicts of Interests: None

REFERENCES

- [1]. McLachlan JC, Bligh J, Bradley P et al. Teaching anatomy without cadavers. *Medical Education* 2004; 38(4): 418-424.

- [2]. Azer SA, Eizenberg N: Do we need dissection in an integrated problem-based learning medical course? Perceptions of first and second year students. *Surgical & Radiological Anatomy*. 2007; 29(2):173-180.
- [3]. Korf HW, Wicht H, Snipes RL et al. The dissection course - necessary and indispensable for teaching anatomy to medical students. *Annals of Anatomy*. 2008; 190(1):16-22.
- [4]. Arraez Aybar LA, Casado Morales MI, Castano Collado G. Anxiety and dissection of the human cadaver: an unsolvable relationship? *The Anatomical Record*. 2004; 279(1): 16-23.
- [5]. Winkelmann A. Anatomical dissection as a teaching method in medical school: a review of the evidence. *Medical Education*. 2007; 41(1): 15-22.
- [6]. Maguire P. Barriers to psychological care of the dying. *British medical Journal (Clinical Research Edition)*. 1985; 291(6510): 1711-1713.
- [7]. Dinsmore CE, Daugherty S, Zeitz HJ. Student responses to the gross anatomy laboratory in a medical curriculum. *Clinical Anatomy*. 2001; 14(3): 231-236.
- [8]. Horne DJ, Tiller JW, Eizenberg N et al. Reactions of first-year medical students to their initial encounter with a cadaver in the dissecting room. *Academic Medicine*. 1990; 65(10): 645-646.
- [9]. Mc Garvey MA, Farrell T, Conroy RM, et al. Dissection: a positive experience. *Clinical Anatomy*. 2001; 14(3): 227-230.
- [10]. Bataineh ZM, Hijazi TA, Hijleh MFA. Attitudes and reactions of Jordanian medical students to the dissecting room. *Surgical & Radiologic Anatomy*. 2006; 28(4): 416-421.
- [11]. Evans EJ, Fitzgibbon GH. The dissecting room: Reactions of first year medical students. *Clinical Anatomy*. 1992; 5(4): 311-320.
- [12]. Cahill KC, Ettarh RR. Attitudes to anatomy dissection in an Irish medical school. *Clinical Anatomy*. 2009; 22(3): 386-391.
- [13]. Arora L, Sharma B. Assessment of role of dissection in anatomy teaching from the perspective of undergraduate students: A qualitative study. *Ibnosina Journal Medicine & biomedical sciences*. 2011; 3(2):59-65.
- [14]. Abay Mulu, Desalegn Tegabu. Medical students attitudinal changes towards cadaver dissection: A longitudinal study. *Ethiopian journal of Health sciences*. 2012; 22 (1): 52-58.
- [15]. Arraez Aybar LA, Castano Collado G, Casado Morales MI. Dissection as a modulator of emotional attitudes and reactions of future health professionals. *Medical Education*. 2008; 42(6): 563-571.
- [16]. Houwink AP, Kurup AN, Kollars JP, et al. 'Help of third-year medical students decreases first-year medical students' negative psychological reactions on the first day of gross anatomy dissection. *Clinical Anatomy*. 2004; 17(4): 328-333.
- [17]. Snelling J, Sahai A, Ellis H. Attitudes of medical and dental students to dissection. *Clinical Anatomy*. 2003; 16(2): 165-172.
- [18]. Patel KM, Moxham BJ. The relationships between learning outcomes and methods of teaching anatomy as perceived by professional anatomists. *Clinical Anatomy*. 2008; 21(2): 182-189.
- [19]. Mulu A, Muche A, Tegabu D. Assessment of the attitude and views of second year medical students towards cadaver dissection in anatomy course. *Ethiopian journal of Health & Biomedical Sciences*. 2010; 2:111-117.
- [20]. Izunya A, Oaikhen G, Nwaopara A. Attitudes to cadaver dissection in a Nigerian medical school. *Asian Journal of Medical Sciences*. 2010; 2: 89-94.
- [21]. Parker LM. Anatomical dissection: why are we cutting it out? Dissection in undergraduate teaching. *ANZ journal of Surgery*. 2002; 72(12): 910-912.
- [22]. Older J. Anatomy: a must for teaching the next generation. *Surgeon*. 2004; 2(2): 79-90.

How to cite this article:

Vinay Kumar V, Martin Lucas A, Vishal Kumar, Pradeep Kulal. ATTITUDE OF FIRST YEAR INDIAN MEDICAL STUDENTS TOWARDS CADAVER DISSECTION. *Int J Anat Res* 2015;3(3):1255-1258. DOI: 10.16965/ijar.2015.196