

Attitude of First Year Medical Students in Dissection Hall

Nirmalya Saha¹, Susmita Chaudhuri², Moirangthem Matum Singh³.

1. Assistant Professor, 2. M.D. Community Medicine, 3. Professor

1. Department of Anatomy, TMC & Dr. B. R. A. M. Teaching Hospital, Hapania, Tripura, India.

3. Department of Anatomy, Regional Institute of Medical Sciences, Imphal, Manipur, India.

Abstract: First year medical students experience mixed feelings of various emotional reactions when they encounter with human cadavers. So this study was conducted to assess the attitude of first year medical students in dissection hall. Predesigned questionnaire was prepared & distributed among 100 students after obtaining permission from Institutional Ethics Committee and consent from the participants. Demographic characteristics, history of previous exposure to dead body and various emotional reactions and views were assessed among participated 99 students. All the participants (100%) agreed that anatomy dissection is an important part of Medical Degree where as 96.97% of them opined that dissection gives better results than demonstration on prosected specimen. Majority of the students (82.83%) agreed with dissection techniques instead of plastic model or computer assisted training programme. 96.7% of the participants had gratitude to people who donated their bodies. Three in hundred participants had ever thought of leaving the course following cadaveric exposure. 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.

Key words: Cadaver, Dissection, Ethics, Formalin, Osteology, Prosection.

I. Introduction

Anatomical dissection is a time honored part of medical education.¹ Since the Renaissance, dissection of cadaver has been central to medical education and the chief pillar for learning anatomy.² It is considered as essential requirements in learning gross anatomy, particularly the three-dimensional aspect of human anatomy.³ It plays an important role in shaping the medical students attitudes to life and death.¹

The area of concern is the variety of psychological & emotional reactions and mixed feelings by first year medical students when they encounter with human cadavers for first time in dissection room.² So, anatomy dissection hall represents a significant emotional challenge to many medical students.⁴ 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.⁵

The anatomists are often the first teachers in the curriculum who need to be aware of ethical problems. So, more attention to be paid to the first encounter with the cadaver. The students should be offered the opportunity to discuss their emotions.⁶ There were varying responses regarding the attitudes and views towards cadaver dissection found in first year medical students. So, this study was conducted to assess the attitude, to analyze the psychological & emotional reactions and mixed feelings among first year medical students on exposure to human cadaver in dissection hall.

II. Materials & Methods

After obtaining formal permission from Institutional Ethics Committee and consent from the participants with full explanation of the purpose of the study, the study was conducted in the Department of Anatomy, Regional Institute of Medical Sciences, Imphal, Manipur. A predesigned questionnaire of 25 items including socio-demographic characteristics, physical & emotional reactions and mixed feelings, attitudes of students, was prepared & distributed among 100 first year medical students of 2013-2014 batch after initial exposure to cadavers in dissection hall within 7 days. 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 emotional reactions and views among participated 99 students were collected the data were then analyzed and the result was discussed with available literatures.

III. Results

Out of 100 students, 99 were volunteered to participate in the present study. The age of the students ranged from 18 to 23 years. Their socio-demographic profile, attitude before & on encounter with cadaver in dissection hall, physical and emotional responses, and responses on attitude towards dissection were summarized in following tables.

Table 1: Socio-demographic characteristics of study respondents.

SI no.	Characteristics		Number of students (n=99)	Percentage (%)
1.	Gender	Male	45	45.5%
		Female	54	54.5%
2.	Religion	Christianity	47	47.5%
		Hinduism	39	39.4%
		Buddhist	3	3%
		Meitei	3	3%
		Muslims	2	2%
		others	5	5.1%
3.	Food habit	Vegetarian	7	7.1%
		Non-vegetarian	92	92.9%
4.	Occupation of father	Employed	93	93.9%
		Unemployed	6	6.1%
5.	Occupation of mother	Employed	41	41.4%
		Unemployed	58	58.6%
6.	Whether exposed to animal dissection in school	Yes	8	8.1%
		No	91	91.9%

Table 2: Responses on attitude “before & on encounter with cadaver” in dissection hall.

SI no.	Particulars of questions	Number of ‘Yes’ (%)	Number of ‘No’ (%)	Number of ‘Can Not Say’ (%)
1.	Have you ever seen cadaver or dead human body before?	4 (4%)	95 (96%)	-
2.	Did you like to hold the bones, the first time you saw them?	84 (84.8%)	6 (6.1%)	9 (9.1%)
3.	Have you ever had any fear or anxiety or stress till now with regard to the cadaver?	3 (3%)	96 (97%)	-
4.	Did you have a pleasant feeling before entering the dissection room?	31 (31.3%)	44 (44.4%)	24 (24.2%)
5.	How do you feel when you enter the dissection room for the first time?	Happy	Unhappy	No feelings
		44 (44.4%)	4 (4%)	51 (51.5%)
6.	Did you after your first encounter with the cadaver have recurrent thoughts about the cadaver even when away from college?	24 (24.2%)	64 (64.6%)	11 (11.1%)
7.	Did you experience the formalin odour after your first encounter with the cadaver even when away from college?	61 (61.1%)	33 (33.3%)	5 (5.1%)
8.	Do you have any apprehension in handling the cadaver directly?	24 (24.2%)	61 (61.6%)	14 (14.1%)
9.	Did you have the thought to leave the course for cadaveric exposure?	4 (4%)	90 (90.9%)	5 (5.1%)

Table 3: Physical and Emotional responses.

SI no.	Particulars of questions	Number of respondents (n=99) with percentage (%)	Number of males (n=45) with percentage (%)	Number of females (n=54) with percentage (%)
1.	Nausea	8 (8.1%)	4 (8.9%)	4 (7.4%)
2.	Dizziness	8 (8.1%)	3 (6.7%)	5 (9.3%)
3.	Weakness	0	0	0
4.	Fear	1 (1%)	1 (2.2%)	0
5.	Restlessness	1 (1%)	0	1 (1.9%)
6.	Sweating	0	0	0
7.	Difficulty in breathing	7 (7.1%)	3 (6.7%)	4 (7.4%)
8.	Tremor	0	0	0
9.	Lack of concentration	2 (2%)	1 (2.2%)	1 (1.9%)
10.	Difficulty in consuming non-vegetarian food	29 (29.3%)	12 (26.7%)	17 (31.5%)
11.	Sleep disturbance	2 (2%)	0	2 (3.7%)
12.	No feelings	41 (41.4%)	21 (46.7%)	20 (37%)

Table 4: Responses on attitude towards dissection among respondents.

Sl no.	Particulars of questions	Number of 'Yes' (%)	Number of 'No' (%)	Number of 'Can Not Say' (%)
1.	Do you feel anatomy dissection is an important part of medical degree?	99 (100%)	0	0
2.	Do you think that dissection enhances the skill of thinking in a logical manner?	97 (98%)	2 (2%)	0
3.	Does cadaver dissection give better results than demonstration on prosected specimens?	96 (97%)	1 (1%)	2 (2%)
4.	Should cadaver dissection technique be replaced by plastic models, computer assisted training etc in near future?	8 (8.1%)	78 (78.8%)	13 (13.1%)
5.	Do you think that personal protective equipment is necessary for all dissection?	79 (79.8%)	12 (12.1%)	8 (8.1%)
6.	Do you feel that interaction with anatomy staff before entering the dissection hall would lessen the emotional impact?	56 (56.6%)	13 (13.1%)	30 (30.3%)
7.	Do you respect the cadaver and regard it with sanctity?	80 (80.8%)	5 (5.1%)	14 (14.1%)
8.	Is cadaver dissection Ethically acceptable?	38 (38.4%)	21 (21.2%)	40 (40.4%)
9.	Do you have any sense of gratitude to people who donated their bodies?	97 (98%)	2 (2%)	0

IV. Discussion

The established fact in learning anatomy is from dead. Previous literature review reveals that there are varying responses regarding the attitudes, emotions and views of medical students towards cadaver dissections.⁷ The observations and findings from the present study demonstrate a favourable outcome to cadaver dissection and its indispensability in anatomy learning. So, the students' responses observed by various authors regarding attitude before & on encounter with cadaver in dissection hall, physical and emotional responses, and responses on attitude towards dissection were compared and were summarized in following tables.

Table 5: Attitude "before & on encounter with cadaver" found in other authors' studies.

Sl no.	Particulars of questions	Prese nt study (%)	Rajku mari et al. ² (%)	Izun ya AM et al. ⁸ (%)	Agniho tri G et al. ⁹ (%)	Oyey ipo IP et al. ¹⁰ (%)	Naz S et al. ¹¹ (%)	Dubha shi S et al. ¹² (%)	Kara u PB et al. ¹³ (%)	Arraez- Aybar LA et al. ¹ (%)	
1.	Have you ever seen cadaver or dead human body before?	Yes	4	-	49	34.66	50	-	-	50.7	-
		no	96	58.75	50	62	50	-	-	49.3	-
2.	Did you like to hold the bones, the first time you saw them?	Yes	84.8	-	-	60	-	-	-	-	-
		No	6.1	-	-	23.66	-	-	-	-	-
		Cannot say	9.1	-	-	16.33	-	-	-	-	-
3.	Have you ever had any fear or anxiety or stress till now with regard to the cadaver?	Yes	3	18.75	-	86.66	-	16	5.6	29.3	8.2
		No	97	72.5	-	10	-	55.2	-	62.7	-
4.	Did you have a pleasant feeling before entering the dissection room?	Yes	31.3	-	-	60.33	-	-	-	8	-
		No	44.4	-	-	30	-	-	-	-	-
		Cannot say	24.2	-	-	10	-	-	-	-	-
5.	How do you feel when you enter the dissection room for the first time?	Happy	44.4	-	-	-	-	-	-	-	-
		Unhappy	4	-	-	-	-	-	-	-	-
		No feeling	51.5	-	-	-	-	-	-	-	-
6.	Did you after your first encounter with the cadaver have recurrent thoughts about the cadaver even when away from college?	Yes	24.2	-	-	90	-	-	-	-	-
		No	64.6	-	-	9.33	-	-	-	-	-
		Cannot say	11.1	-	-	0.66	-	-	-	-	-
7.	Did you experience the formalin odour after your first encounter with the cadaver even when away from college?	Yes	61.6	-	-	66.67	-	45	71	-	-
		No	33.3	-	-	23.33	-	33.2	-	-	-
		Cannot say	5.1	-	-	10	-	21.8	-	-	-
8.	Do you have any apprehension in handling the cadaver directly?	Yes	24.2	32.5	35	46.67	35	-	-	29.3	-
		No	61.6	53.75	46	40.67	56.7	-	-	61.3	-
		Cannot say	14.1	-	19	12.66	8.3	-	-	22.7	-
9.	Did you have the thought to leave the course for cadaveric exposure?	Yes	4	-	-	-	-	-	-	-	-
		No	90.9	-	-	-	-	-	-	-	-
		Cannot say	5.1	-	-	-	-	-	-	-	-

Table 6: Physical & emotional responses found in the study of the following authors. (Percentage = %).

Sl no.	Particulars of questions	Present study (%)	Agnihotri et al. ⁹ (%)	Arora L et al. ¹⁴ (%)	Arraez Aybar LA et al. ¹ (%)	Naz S et al. ¹¹ (%)	Mulu A et al. ¹⁵ (%)
1.	Nausea	8.1	32.33	3.87	3.3	-	0.7
2.	Dizziness	8.1	4.33	-	3.5	-	-
3.	Weakness	0	12.33	-	-	-	-
4.	Fear	1	33.67	4.16	-	-	12.2
5.	Restlessness	1	21.33	-	-	-	-
6.	Sweating	0	-	-	-	-	-
7.	Difficulty in breathing	7.1	-	-	5.2	16.2 (Asthma)	-
8.	Tremor	0	-	-	-	19.4	-
9.	Lack of concentration	2	44	-	-	-	-
10.	Difficulty in consuming non-vegeterian food	29.3	-	-	-	-	-
11.	Sleep disturbance	2	-	-	<1	7.4	-
12.	No feelings	41.4	-	-	-	-	-

Table 5: Attitude towards dissection among respondents found with other authors' studies.

Sl no.	Particulars of questions	Present study (%)	Rajkumar i et al. (%) ²	Izunya AM et al. ⁸ (%)	Agnihot ri G et al. ⁹ (%)	Oyeyipo IP et al. ¹⁰ (%)	Naz S et al. ¹¹ (%)	Mulu A et al. ¹⁵ (%)	Karau PB et al. ¹³ (%)	
1.	Do you feel anatomy dissection is an important part of medical degree?	Yes	100	98.75	90	78.33	98.3	46	-	92
		No	0	-	7	7	1.7	32	-	6.7
		Cannot say	0	-	3	11.33	-	22	-	1
2.	Do you think that dissection enhances the skill of thinking in a logical manner?	Yes	98	85	76	90	81.7	-	-	92
		No	2	-	15	7.33	15	-	-	4
		Cannot say	0	-	9	2.66	3.33	-	-	4
3.	Does cadaver dissection give better results than demonstration on prosected specimens?	Yes	97	96.25	71	83.66	88.3	-	90.5	96
		No	1	-	14	7.33	6.7	-	9.5	2.7
		Cannot say	2	-	15	9	5	-	-	1.3
4.	Should cadaver dissection technique be replaced by plastic models, computer assisted training etc in near future?	Yes	8.1	28.75	45	33.33	45	60.8	-	24
		No	78.8	-	39	36.66	51.7	-	83	72
		Cannot say	13.1	-	16	30	3.3	-	-	4
5.	Do you think that personal protective equipment is necessary for all dissection?	Yes	79.8	-	-	-	-	-	99	-
		No	12.1	-	-	-	-	-	-	-
		Cannot say	8.1	-	-	-	-	-	-	-
6.	Do you feel that interaction with anatomy staff before entering the dissection hall would lessen the emotional impact?	Yes	56.6	-	-	82	-	-	-	-
		No	13.1	-	-	10	-	-	-	-
		Cannot say	30.3	-	-	8	-	-	-	-
7.	Did you experience the formalin odour after your first encounter with the cadaver even when away from college?	Yes	80.8	83.75	80	70	83.3	87	-	-
		No	5.1	-	12	10.66	15	13	-	-
		Cannot say	14.1	-	8	19.33	1.7	0	-	-
8.	Is cadaver dissection Ethically acceptable?	Yes	38.4	70	78	66.67	90	77.0	-	-
		No	21.2	-	6	19.67	3.3	14.7	-	-
		Cannot say	40.4	-	17	13.66	6.7	8	-	-
9.	Do you have any sense of gratitude to people who donated their bodies?	Yes	98	-	-	-	-	-	-	-
		No	2	-	-	-	-	-	-	-
		Cannot say	0	-	-	-	-	-	-	-

V. Conclusion

Cadaver dissection is an important and indispensable in learning anatomy. 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.

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