

# Cadaver as the first silent medical teacher: Exploring bioethical perceptions of department of anatomy



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Submission: 03-01-2022

Revision: 03-04-2022

Publication: 01-05-2022

## ABSTRACT

**Background:** Department of Anatomy with its time honored and integral essence, human cadaveric dissection has been trying to serve the medical profession since the inception of medicine. Every human cadaver who goes under the knife of medical student during anatomical dissection deserves special treatment and utmost respect. But unfortunately, probably the hidden curriculum of bioethical sentiments of the body donor and the human cadaver have been noted to become extinct from medical profession, until recently with the introduction of the new competency based medical education in India. **Aims and Objectives:** The present study attempts to dig out the noble practices followed in various medical schools to ensure the human cadaver gets the rightful respect and dignity. Our literature review reflects the practice of students' conduct and habits on the 1<sup>st</sup> day of dissection. We emphasize guidelines that may be sincerely recommended to medical schools to ensure respectful humanity and honor towards the human cadavers. **Materials and Methods:** The psycho-social attitudes of MBBS students has been attempted to learn by distributing questionnaire to the 2019 batch MBBS students (n = 60) of Late Shri Lakhiram Agrawal Memorial Government Medical College Raigarh (CG) during the foundation course (first 1 month of 1<sup>st</sup> year curriculum) and on their first encounter with the cadaver. **Results:** About 95.4% and 57.5% of students showed positive and negative perceptions. The religious beliefs and emotional attachments with the cadaver were noted to be as 23.33% and 76.11%, respectively. The sentiments included cognitive, affective, moral, and behavioral. **Conclusion:** The article attempts to focus the noble endeavor of the Cadaver as the first silent medical teacher who wishes to enlighten the pure minds of medical students with knowledge and empathy to be shown towards the patients. Based on the emotional observations made from the medical students on their first encounter with the cadaver, the present study anastomoses science and humanity with care, compassion, and dignity.

**Key words:** Bioethical; Cadaver; Dissection; Hidden curriculum; Medical education

## INTRODUCTION

Anatomy teaching has perhaps the longest history of any component of formalized medical education.<sup>1</sup> As a medical subject, the very essence of Anatomy is dissection of cadaver.<sup>2</sup> Cadaveric dissection has been the paradigm of anatomy teaching since the Renaissance, and the defining experience of medical teaching since the 16<sup>th</sup> and 17<sup>th</sup> centuries.

Unfortunately, is cadaver dissection served as obsolete and old fashioned in the current educational scenario? Perhaps it is not so.<sup>2</sup> A cadaver dissection laboratory allows the first visual and tactile experience of "human body and life" for aspiring future physicians.<sup>3</sup> Dissection prepares the medical students to confidently face the picture of death that is so important in treating life and provides an appreciation of human life through an understanding of death and dying.<sup>4</sup> The anatomy laboratory is an excellent setting

### Access this article online

#### Website:

<http://nepjol.info/index.php/AJMS>

DOI: 10.3126/ajms.v13i5.39305

E-ISSN: 2091-0576

P-ISSN: 2467-9100

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for faculty - student interaction to encourage humanistic qualities of respect, empathy, and compassion.

The best revered appreciable gift<sup>5</sup> ever received by Department of Anatomy including all the future budding doctors is donated Human body. Many times, the cadaver is rightly said as “God of Anatomy and dissection hall” by the examiners making the student conscious and be vigilant about the bioethical aspects of Anatomy.

First-year Indian medical students are designated with cadaver<sup>5</sup> in about a group of 10–15, who will study them for the next 12 months of teaching curriculum in Anatomy. This is 1<sup>st</sup> time medical students meet the cadavers wrapped in white cloth lying on a metal table, as the first ones to come under the scalpels of aspiring doctors.<sup>6</sup> By the end of 1<sup>st</sup> year, many students say they want to be donors themselves realizing the significance of human body.<sup>5</sup> The sensation of touch is also silently taught by the cadaver early in the dissecting room.<sup>6</sup>

Winkelmann and Guldner<sup>7</sup> reported Thailand’s approach towards body donors, where cadavers are honored with the special status of *ajarn yai* (a great teacher). Every year, Thai medical schools attempt to relieves the stress among newly admitted medical students<sup>8</sup> by bestowing respect to the body donors in a ceremony called *waikhru* (honor the teacher).<sup>9</sup> In addition, each dissecting table displays the personal details of the cadaver. The medical students including all faculties along with the relatives of the body donor read aloud the names of the deceased and Buddhist monks pray in the dissecting hall for the body donors.<sup>5</sup> The Buddhist monks and the relatives of the body donors are provided meal and gifts as a symbol of appreciation followed by a large procession where medical students carry their *ajarn yai*, through the streets of the city.<sup>5,8</sup> Similarly, cadaver cremation ceremony is undertaken at the end of first year teaching curriculum. (Figure 1)

We the authors of the current manuscript are greatly overwhelmed by voluntary body donation of a number of Indian citizens, whose honorable contribution has made the non-vital Anatomy Department filled with “post vital life.”<sup>10</sup>

The belief in body donation encouraged us to intersect the significant, implacable, non-ambiguous bioethical views of human cadavers who silently unfolds its thoughts towards our future Indian medical graduates and post graduates. Our sincere attempt will help in maintaining a balance between dissection and respect for the diseased recollecting the bioethics of dissection laboratory in Anatomy department. We may argue that the practical sessions within dissection labs is a kind of ethical training

for future medical practice, where students are given a chance by donors to explore their postmortem wishes and simultaneously learn how to deal with the uncertainty and ambiguity in life.

Database search do not give any studies conducted in central India that recorded student attitudes as they meet the cadaver for 1<sup>st</sup> time in medical curriculum. This makes our study unique as we sincerely effort to add ourselves to literature reviews to reflect about reverence and respect towards the cadavers by dissecting out the invisible thoughts within the tender minds of 1<sup>st</sup> year medical students on their first cadaver view. This feeling of gratitude will inculcate humanity, caring attitude, sympathy, compassion, empathy, solace, support, and love in the budding doctors so that they can bloom into noble persons who do not show any indifference towards ailing mankind<sup>11</sup> and will help to build ideals of the humble medical profession in the near new millennium.

### Aims and objectives

The present study attempts to dig out the noble practices followed in medical schools to ensure the human cadaver gets the rightful respect and dignity. Our review reflects the practice of students’ conduct, habits and emotions on the 1<sup>st</sup> day of dissection. We emphasize guidelines that may be sincerely recommended to medical schools to ensure respectful humanity and honor towards the human cadavers.

### Recommended dissection hall ethics and etiquettes (Professional conduct for cadaver)

The teachers and the students should observe professional conduct while in the dissection hall.

We may put forth a handful of sincere recommendations which might serve to unearth the concealed curriculum in medicine for laying a foundation stone for the bioethical and holistic perspectives of Anatomy. These steps might promulgate balance in doctor patient bond through a relationship of cadaver as the first medical teacher. The guidelines may prevent medical students from naming the cadaver as an “Anatomical specimen.”<sup>13</sup>

These etiquettes might be discussed as: (Table 1; Recommendations)

- (A) Etiquettes for foundation course.
- (B) Etiquettes on the introductory session of dissection hall.
- (C) Etiquettes during the Anatomy dissection curriculum.

## MATERIALS AND METHODS

We designed this investigation to learn about the students’ psycho-social attitude and emotions on their first encounter

**Table 1: Recommendation**

(A) Etiquettes for foundation course (Pre-education sessions) (First month of Newly admitted medical students)	(B) Etiquettes on the introductory session of dissection hall (On the 1 <sup>st</sup> day of dissection)	(C) Etiquettes during the Anatomy dissection curriculum (Throughout the 1 <sup>st</sup> year teaching curriculum)
<ul style="list-style-type: none"> <li>• Through audio and video sessions</li> <li>• Though role plays</li> <li>• By Professional counselors<sup>14</sup></li> <li>• Handled delicately and sensitively</li> <li>• Prepare students to allay fear and sense of repulsion.<sup>11</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Must be student driven</li> <li>• Explore learner's reflections on humanity, respect, gratitude, and personal growth</li> <li>• Inoculating students methods to "handle stressful dissection"<sup>14</sup></li> <li>• Decorate the dissection hall with floral pots, flowers and light music<sup>14,28</sup></li> <li>• Strengthen the students from getting unnerved in dissection hours by preparing them mentally and emotionally.<sup>11,14</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Methods to uplift intellectual and emotional bond with cadaver<sup>14</sup></li> <li>• Entering into "post vital life of cadaver"<sup>10</sup></li> <li>• Maintaining the esthetics of the cadaver<sup>10</sup></li> <li>• Dissecting respectfully and reinforce compassion.<sup>10,14</sup></li> </ul>
a. Narration of humanities in medicine	a. A compilation session in a nut shell regarding i. History of Medicine, Anatomy, Cadaver, and Dissection ii. Introduction to rules and regulations within dissection hall.	a. Batch division of medical students and distribution of cadaver
b. Session on curiosity of human body	b. Cadaver oath taking ceremony (Gratitude ceremony) (Figure 3)	b. Installation of framed chart on the wall of dissection hall: i. "The cadaveric oath" (Figure 3) ii. Cadaver view point (Figure 2)
c. Lecture session discussing the introduction of cadaver in medical curriculum	c. "Cadaveric ceremonies followed by medical school of other countries" – A encounter for 1st year medical student	c. Informing the student on the dissection table with i. The identity of the body donor. ii. Brief life and family history of the body donor and the cause of death. iii. Naming the cadaver (if unknown unclaimed body)
d. Audio and video session of global history of dissection emphasizing the importance of dissection for a medical student	d. Cadaver disrobing ceremony	d. Encouraging students to visit the body donor's house to pay their homage for the sacrifice done in teaching Anatomy
e. Scientific narration on Indian history of dissection	e. Perform "Gratitude ceremony for the first silent patient" - Role play explaining the journey of cadaver to progressively being torn into pieces	e. Regular teaching sessions: i. "AETCOM" classes to impart values of ethics in medical education concerning 'Cadaver as first medical teacher' ii. "Psychiatric counseling" <sup>10</sup> sessions on how to manage emotions.
f. Role play to bring forward the importance of dissection for a budding surgeon	f. Role play of the cadaver as the first medical teacher	f. Cadaver should always be plunged in fresh embalming fluid when not in study. In practical hours, areas of cadaver not under dissection should be moistened with cotton rolls dipped in glycerin.
g. Audio and video presentation emphasizing cadaver as a silent and first medical teacher	g. Gratitude ceremony with flowers for body donors and their family to encourage the noble cause	g. Students should be counseled to: • Wear appropriate full hands knee length white medical apron in dissection hall • Uncover only areas of cadaver to be dissected for study purpose. • Robe back the cadaver after every dissection session.
h. Role play on student – cadaver and doctor – patient relationship	h. Audiovisual presentation to put forth cadavers' view point to discuss the sacrifice of cadaver for medical cause (Figure 2)	h. Dissection hall should be a limited entry zone except for medical faculty and students registered with medical profession.
i. To know the views of the fresher for cadaver	i. Documentation of students views on their encounter on the 1st day with the cadaver as the first medical teacher to judge their emotional impact (From a set of preformed questionnaires)	i. Laboratory safety measures and ventilation system norms must be followed inside dissection hall.
j. Role play on body donation (To be participated by students)	j. Enact out simulations presenting the importance of cadaver dissection in Anatomy curriculum.	j. Dissected Cadaveric tissues and excess embalming fluid must be disposed following the accepted standard set for medical waste disposal, taking care not to mix cadaveric waste with other hospital and allied medical waste

(Contd...)

**Table 1: (Continued)**

k. To enlighten the students about the "act of body donation" and "Anatomy act."	k. Explaining the surgical procedure of preservation of donated human body by the process of Embalming	k. <sup>5</sup> Interdisciplinary approach of cadaveric dissection with tools used in live surgeries to incorporate the value of human tissue
l. Vote of congratulation to students to be part of noble profession	l. The importance of "body donation form," its availability and "legal process of body donation" should be thoroughly explained.	l. Unmasking student perceptions of cadaveric dissection by persuading them: <ul style="list-style-type: none"> <li>i. To bring out their reflections. (Expressing feelings and emotions) on dissection and cadaver relationships.</li> <li>ii. Commemorative sessions at the end of the course to show acclaim for the cadaver.</li> <li>iii. Implementation of cadaveric and donor memorial ceremony.</li> </ul>

with cadaver within the dissection hall at the very 1<sup>st</sup> day of visit to Department of Anatomy (without being influenced by any clinical inputs). The study is unique in being the first of its kind in a medical school in Chhattisgarh present in Raigarh district (Late Shri Lakhiram Agrawal Memorial Medical College) of India and attempts to explore the experiences of the newly admitted medical students for reflective journalism.

The study has been broadly divided under two parts.

The first part had certain initiatives<sup>12</sup> (in the form of certain specific ceremonies within the dissection hall, as discussed under results) put forward by the Department of Anatomy, Late Shri Lakhiram Agrawal Memorial Govt. Medical College Raigarh (CG) to bring out the benevolent qualities of a medical student.

The second part of the study had two preformed set of questions to be distributed among 60 MBBS (n=60) students (2019 batch). Set one, gathering students' general perceptions on Anatomy, dissection, and Cadaver discussed during the foundation course of 1<sup>st</sup> month. The second set of questions were concerned on the challenging emotions faced by the students on their very first encounter with human cadaver on the 1<sup>st</sup> day of Human Anatomy class within the dissection hall. The reliability of our structured questionnaire has been checked by parallel form reliability testing and validity has been justified by conducting a pilot testing among 20 participants from a different medical curriculum phase.

The study was conducted in the presence of Head of Department and all faculty of Anatomy department.

The primary measure of this study was student bioethical opinion of dissection laboratory on their 1<sup>st</sup> day of Anatomy curriculum. Keeping in mind, "competency bases medical curriculum including AETCOM" introduced in medical teaching from 2109 batch, ethical approval from Ethics Committee of Late Shri Lakhiram

Agrawal Memorial Medical College, Raigarh (CG) was obtained.

All of the above students (Batch 2019) were invited to participate in the study by giving their written consent, (considering as inclusion criteria) and students not willing to participate to be considered under exclusion criteria. Students were asked not to provide their demographic details in the study. Completion of the questionnaire was purely a voluntary, with no compulsion on the student and was not a component of the assessment criteria of the course. With this design in mind, we chose to focus on the completed pre formed questions and evaluated student perceptions of their cadaveric room experience without any extrinsic effects from assessment or course requirements. We did not find any student under exclusion criteria.

Data obtained were analyzed on Microsoft Excel 2017 software.

## RESULTS

The initiatives carried out as stated in methodology were:

- a. Cadaver disrobing ceremony (Figured 5 and 6).
- b. Cadaver oath taking ceremony.
- c. Emotional role play demonstrating gratitude toward the Cadaver for being the first medical teacher and the first patient (Figures 5 and Figure 6).

Questionnaire from 60 students were analyzed. A highly reflective attitude of newly admitted medical students was brought for documentation which was of cognitive, affective, moral and behavioral themes of students. These responses has been portrayed in Table 2, 3 and 4:

Table 2 shows general perceptions regarding Anatomy and cadaver dissection. Table 3 depicts combined tabulation of positive and negative perceptions regarding Anatomy and cadaver related lecture sessions and/or video demonstration.

Table 3 clearly speaks out the positivity as compared to negative feelings of students' (95.4% & 57.5% respectively) reflected over the students' mind concerning the bioethical aspect of foundation course spread over a span of 1 month at the beginning of the first MBBS course.

**Table 2: Students' general perceptions on Anatomy, dissection and Cadaver discussed during the foundation course of 1st month. The results were on the basis of Likert's scale reading from strongly disagree, disagree, undecided, agree and strongly agree. (Rating 1–5)**

Students' perception	Rating (n=60) (Out of 5 as on Likert's scale)
1. Felt nervous on the foundation course classes	4.3/5 (86%)
2. The foundation course concerning Anatomy, body donation, cadavers and history of medicine were very interesting and exciting	4.5/5 (90%)
3. I was claustrophobic during the Anatomy sessions	4.5/5 (90%)
4. The video sessions and role plays were very amusing and had message to be taken	4.5/5 (90%)
5. The Anatomy sessions of the foundation course will be very useful for my future Anatomy curriculum	5/5 (100%)
6. I developed a virtual emotional attachment with the Anatomy subject in general and Cadaver in particular on the pre-education classes itself	4.6/5 (92%)
7. The didactic lecture sessions followed by video and role play demonstration were going hand in hand for easy understanding	4.8/5 (96%)
8. I could easily grasp the importance of bioethical aspects in modern medicine	4.9/5 (98%)
9. All sessions, lectures, role plays, and video demonstrations were highly appreciable and the medical teachers involved were very knowledgeable about the subject	4.7/5 (94%)
10. In general, the overall experience regarding the sessions on Anatomy was highly interactive and further such sessions will be in need in near future	5/5 (100%)
11. I did not appreciate the sessions and will suggest changes	1.2/5 (24%)
12. I do not wish to comment	1.5/5 (30%)

The various emotions of 1<sup>st</sup> year MBBS students on the 1<sup>st</sup> day of dissection has been depicted in Table 4 and graphically represented in Figure 4.

## DISCUSSION

The documented responses of the MBBS students had no presuppositions or any scientific knowledge but based on empathetic emotional phenomenological analysis.<sup>12</sup> The first emotional encounter of the MBBS students with human cadaver makes the student emotionally vulnerable, but strictly emphasizes to learn Anatomy by the developing dissection skills and speaks about means to cope such "emotional confrontation."<sup>15</sup> This helps the students to equalize rational aspect and sensitive aspect of medicine.<sup>16</sup> The emotional outburst of MBBS students have been described under Table 4 and Figure 4. The emotions expressed is the method students develop to cope up with such emotional outburst exhaustion, "burn out," cynicism, empathy in patient-physician relationships.<sup>17</sup> The first student-cadaver encounter in dissection hall is the "nodal point" - from absolute convergence to comparative divergence.<sup>12</sup> The present study is the extended process of such encounter. A similar invisible relationship has been discussed by Paff,<sup>18</sup> a medical student in the US. Dr. Carol Scott Conner, president of the American Association of Clinical Anatomists has said, "the worst thing you can encounter as a young doctor is a dead body. If you get that first encounter earlier, it makes things easier" to regard the cadaver as the students' "first patient."<sup>19</sup>

Negative emotions expressed by students in our present manuscript also has similarity to literature review documenting the negative emotions of medical students such as anxiety, disgust, apprehension, shock at confronting death, desecration, dismemberment, violation of cultural taboos, dehumanization and invasion of privacy experienced by students as both natural and healthy because it reflects self-analysis<sup>14,20</sup> as studied by Rizzolo,<sup>21</sup> Segal.<sup>19</sup>

The questions framed by us in the present research article are quite in congruence with those past manuscripts. The reflective emotions and perceptions probed by us (Tables 2-4) can be favorably compared with study reported by Allison et

**Table 3: Summary of positive and negative perceptions**

Positive Perceptions	Percentage	Negative Perceptions	Percentage
Interesting, exciting, amusing and interactive	4.6/5 (93.33%)	Nervous students	4.3/5 (86%)
Useful for future Anatomy curriculum	5/5 (100%)	Claustrophobia	4.5/5 (95%)
Helped to developed virtual emotional attachment with Body donors and cadaver	4.6/5 (92%)	Not appreciable	1.2/5 (24%)
Full of knowledge and easy to understand	4.75/5 (95%)	Do not wish to comment	1.5/5 (30%)
Taught bioethics of medicine	4.9/5 (98%)		
Mean	4.77/5 (95.4%)	Mean	2.87/5 (57.5%)

**Table 4: The second phase of questionnaire was of the potential to grasp feelings of the silent teacher of Anatomy with the help of 30 short questions. The results may be tabulated as:**

Students' emotion on the first encounter with Cadaver	Percentage (n=60)
1. I was afraid and nervous on seeing the cadaver	54/60 (90%)
2. The sight of cadaver saddened me	51/60 (85%)
3. Spiritual beliefs were enlightened within me due to belief on life after death and religious teachings	14/60 (23.33%)
4. The odor of the dissection hall was highly uncanny	60/60 (100%)
5. An unknown emotional attachment developed within me	56/60 (93.33%)
6. I was sorry and restless to see the cadaver lying on the dissection table	51/60 (85%)
7. The condition of the cadaver filled myself with grief	23/60 (38.33%)
8. I felt sick, anorexia, and palpitations on the sight of the cadaver within the dissection hall	27/60 (45%)
9. I was not comfortable within the dissection hall on the 1st day	23/60 (38.33%)
10. I was claustrophobic inside the dissection hall	8/60 (13.33%)
11. I felt eager regarding donation of body for medical purpose	41/60 (68.33%)
12. I think donation of body is beneficial for medical cause	51/60 (85%)
13. I wanted to know the benefits of body donation (If any)	51/60 (85%)
14. There should alternate means for teaching Anatomy (other than human dissection)	10/60 (16.66%)
15. Cadaver made me realize the complexity of human body	57/60 (95%)
16. I became aware of the respect, the cadaver deserves	60/60 (100%)
17. We have to provide the due gratitude body donors deserves	55/60 (91.66%)
18. The atmosphere of dissection hall was a humble experience	53/60 (83.33%)
19. A professional conduct crowded in me	57/60 (95%)
20. I accept cadaver is truly my first medical teacher	60/60 (100%)
21. I became aware that cadaver is my first patient I can work upon	60/60 (100%)
22. Cadaver taught me humanity	51/60 (85%)
23. I felt guilty of why I should dissect a cadaver	34/60 (56.66%)
24. I was enlightened on seeing the cadaver	56/60 (93.33%)
25. I should share my appreciation towards donors' family	56/60 (93.33%)
26. I was in a sympathetic attitude towards the cadaver	45/60 (75%)
27. The 1st day of dissection made me panicked and dizzy	31/60 (51.66%)
28. Cadaveric oath taking ceremony made me realize the respect the cadaver deserves. I should be aware of the previous life of cadaver	60/60 (100%)
29. The gratitude ceremony towards cadaver and body donor should be a part of Anatomy curriculum	60/60 (100%)
30. Every medical student should abide the rules and regulations of dissection hall	58/60 (96.66%)

The mean of above emotions has been calculated to be 76.11%



**Figure 1:** Students in Phitsanulok participating in the cremation ceremony held at the end of the dissection course<sup>14</sup>

Do you remember me? When you entered.... I too entered to teach you..... Yes... I am your" first patient" I got disrobed.....I dedicated myself, To quench your quest for knowledge..... Your tender hands peeled me.....Sharp scalpels cut me into pieces.....Hard hammers broke my mandible.....My heart, lungs and brain were taken out from me.....Have they taught you well my dear?? .....At the beginning I was complete.....At the end; I have lost my physical integrity... But have become engraved in you In a form which cannot be erased..... I have accomplished my mission and successfully.....Returning to my nest.....I gave everything for you...What can I expect from you?? ..... Can you promise me that your journey.....Will continue with Courtesy... Compassion and ...Empathy... It's time to sign off.....good bye.....

**Figure 2:** Board within the dissection hall expressing gratitude for the cadaver<sup>12</sup>

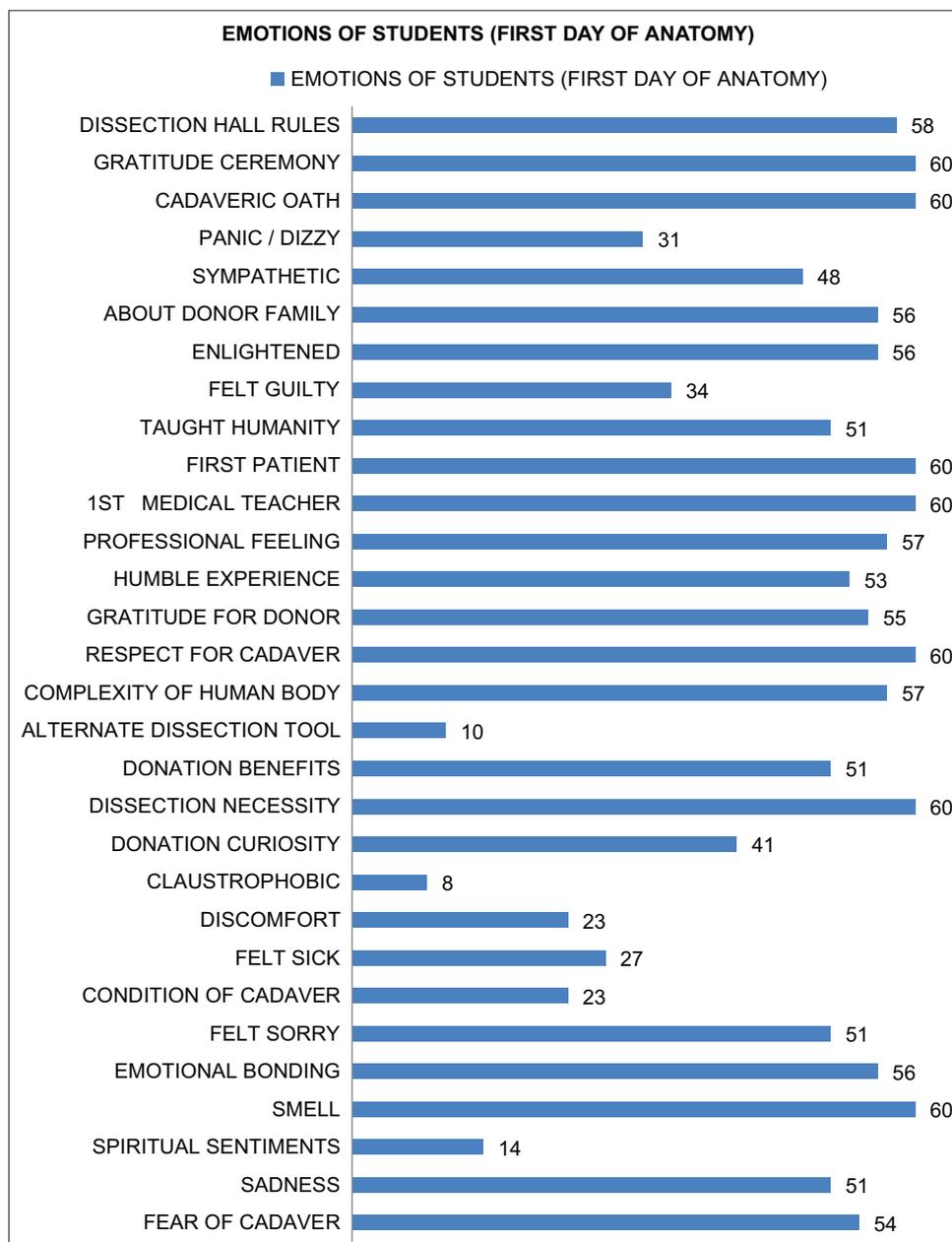
I do solemnly pledge that

- "I will always treat you with respect and dignity of highest order, as you are my first Anatomy teacher
- I will always respect your privacy and confidentiality
- I will use this knowledge for the service of the society
- In all my deeds from now onwards, I will do justice to your great sacrifice
- My heart fills with gratitude, as I realize your kind & courageous act of donating your body for the purpose of our learning
- I will be grateful to you and your family for this act of living after death."

**Figure 3:** Cadaveric oath taken by the students of late Shri Lakhiram Agrawal Memorial Govt. Medical College Raigarh (CG)

al.,<sup>22</sup> who explored the significance of Anatomy put forward by students' reflections, citing that some students having a tendency to emotionally over-identify with cadavers, while others were more likely to imagine them on humanitarian grounds. In this article, our students could effectively articulate and anastomose the intricacy and complexity of human body (through dissection) and expressed their gratitude toward the cadaver and body donor with awe and wonder. The stress factor (Table 2) associated with dissection on the 1<sup>st</sup> day of Anatomy as per our manuscript adapt well with documents available as literature review.

The present study advocated an extensive literature survey to illustrate the positive and negative sentiments appearing on the minds of tender 1<sup>st</sup> year MBBS students on the very 1<sup>st</sup> day of dissection (Tables 2 and 3). These optimistic and pessimistic thoughts have been broadly



**Figure 4:** Students emotions on the first encounter with human cadaver

summarized in Table 3. An overall weighted mean of the positive sentiments (95.4%) (Table 3) compared favorably to the sentiment reported by Mulu and Tegabu.<sup>23</sup> Students' positive attitudes towards human cadavers including body donors could be related to a more humane relationship with future patients. An overall mean of 57.4% (Table 3) was obtained for negative emotions on the 1<sup>st</sup> day of cadaveric dissection, concurred the feelings of fear and anxiety including unknown hesitation and were also expressed by Oyeyipo and Falana.<sup>29</sup>

A diverse range of physical effects experienced by students with a calculated mean of 76.11% (Table 4) in the dissecting

laboratory was similar to that reported by various authors in the literature survey.

We sincerely recommend naming of cadaver who has been acquired due to "unclaimed" legal means. At the same time, allowing the students know the name of the cadaver is definitely an act of sympathy and bioethics. Authors have preached that practice of naming of cadavers as an extremely prevalent occurrence among medical students and that this sort of inventive naming serves as a beneficial coping mechanism. Naming "allows students to acknowledge the cadaver's personhood, while psychologically shielding them enough to be comfortable



**Figure 5:** Cadaveric oath taking ceremony; Late Shri Lakhiram Agrawal Memorial Govt. Medical College Raigarh (CG) (BATCH 2019)



**Figure 6:** Cadaveric gratitude ceremony; Late Shri Lakhiram Agrawal Memorial Govt. Medical College Raigarh (CG) (BATCH 2020)

with the dissection.” Our study also highlighted an urgent need to know, in the form of curiosity among our medical students regarding the details regarding the life of the donor (Table 4).

Govt. Medical College Raigarh (CG) has been always fortunate to receive students from variety of socio-economic backgrounds, religious and cultural groups. This enabled the students to comment on issues of spirituality and cultural beliefs as stress factor as they encountered the human cadaver. This objective is akin to Sobnach et al.,<sup>24</sup> who had highlighted the importance of the belief associated with respect for the ancestors and the idea of an after-life. We made similar observations in our study, where students who believed in an after-life (the concept of “amadlozi”) (23.33%) (Table 4) were significantly affected by cadaveric dissection.

According to Ibn Rushd,<sup>19</sup> “He, who is engaged in the science of anatomy, increases his belief in God.” However, the practice of dissection of human body has many times been opposed and debated by religious scholars saying it mutilates God’s most noble creation.<sup>30</sup> But whatever may be the geo-political-socio-cultural differences, the sensitivity of body donation has been nicely explained by Paff<sup>18</sup> as a definite bond between the medical student and the cadaver. Our students have been keen in answering the religious sentiments very wisely (Table 4).

Medical humanity, as per Bolton’s emphasis is based on critical conceptualization, reflexivity reflective capacity and aims onto the core principle of phenomenology assumptions that phenomenological investigation should be free of hypothesis and preconceptions. Our nodal intention was to invoke the pluralistic

visualizations and de novo methods to think and interpret<sup>12,14</sup>.

The student utterances documented in our study was a reflection of similar phenomenological studies<sup>12,16</sup> where the themes were categorized into (a) emotional impact, (b) humanities, (c) coping strategies, (d) impact on perceiving cadavers. MacLean<sup>27</sup> had suggested that the human brain is a composite structure made of three entities. The original or oldest controlling human behavioral responses form the core and are known as the reptilian or “R” complex. The second brain or limbic system effectively controls the emotional responses. The most recently evolved part of human brain is the neo-cortex which controls human cognitive and moral responses. We followed this theory for our psychological analysis and classified themes from responses of students’ into cognitive, affective, moral, and behavioral (Tables 2 and 3).

The bioethical aspect of Anatomy is to “make the medical students consider cadaver as living person, having a previous life history, human like appearance and have special organs such as eyes and brain.”<sup>12</sup> Frequently first year medical students feel deceived to be silently welcomed by cadaver with burning watery eyes, disturbing smell and disfigured, discolored and disrobed body<sup>25</sup> Following the said theme, our medical students were able to effectively and emotionally detach themselves from the cadaver seeking the signs of disease and cause of death, as was transparent in views analyzed in Table 4 and Figure 4. Students were also filled with gratitude and moral reflections on their first encounter with the cadaver. The detachment<sup>27</sup> emotion empathetically and emotionally described with relation to first cadaveric experience has been said to re-emerge as a compassionate concern within the medical students in clinical years. This ideology is adopted by the students with “consideration of cadaver as first patient. We in our present manuscript sincerely conferred the same status to the cadaver.

We had a prior induction that in due course of analyzing the reflections, the due gratitude is paid to the first medical teacher and our first patient. Hence, our gratitude ceremony conducted ensured its cause in valuing the “sacrifice”<sup>12</sup> of the donor. These informal learning modules within the “hidden curriculum” serve as a foundation step for bioethical aspect of Anatomy. Loss of these bioethical concepts might result in loss of professional integrity and identity. Simultaneously, coping with future stress in medicine can be surely integrated with cadaver disrobing and robing ceremony.

Our initiatives intend to bring back the much needed idealism which has become a rare professional feature in the

present medical curriculum, as “ambinormative”<sup>12</sup> Medical students should simultaneously behave as a student and should have human concern to behave like physician in treating the cadaver as a human being. This can be grouped as adoption of a “ritualized”<sup>12</sup> professional identity.

### Limitations of the study

Although we focused on genuine student perception, experiences, beliefs, narratives, we believe that our study is limited in obtaining the themes which might had been much broader, in the sense bioethical aspects of medicine profession as a whole with an eagle’s eye perspective to 1<sup>st</sup> year medical students.

Second, the study should transfer the emotional portrait from a wide array of students from all aspects of medicine and allied field, involving bigger sample size.

Third, we might have failed in our attempt to characterize our approach by means of statistical socio- demographic variables. Probably we should put forward a future approach to find out the changed emotions and perceptions within the same sample that we have investigated on the 1<sup>st</sup> day of dissection after they enter internship or complete their medical academic curriculum and get themselves registered as Indian medical graduate.

### CONCLUSION

The Anatomy subject in general and dissection hall in particular allows the first exposure to human body for medical students and remains an ideal place to overcome inhibitions<sup>16</sup> and learn the concepts of humanistic care. Rightly, Anatomy subject is “where the dead teaches the living” has been safely appraised by many authors.<sup>12,16</sup> The bioethical attitude of the Anatomy teacher in delivering the bioethical hidden curriculum of Anatomy to fresh medical students’ makes them emotionally charged to tackle the stress and inhibitions of dissection and builds a virtual spiritual pathway and a model to respond to stress and fears of the patients and helps them to alleviate the fear to their own reactions to dead and dying.

The dissection hall recalls to the mind of a conscious student memories and conjectures about any life-threatening disease(s) within themselves and or their loved ones. This teaches the future doctors to practice humanistic values immediately after their clinical training of MBBS. Undoubtedly, the recognition of medical profession will come to a standstill without the acceptance of Cadaver as our first medical teacher and definitely the first patient. This has been possible since the “birth of treatment” with the kind, selfless and magnanimous gift from body donors’ – an

act respectfully undertaken for the continuation of medical education and research.

Finally, we converge our efforts by trying to instill appreciation deep inside the conscience of our medical students for those who went under the knife as a service to mankind. Our proposed recommendations (Table 1) regarding good memorial practices for the human cadaver will serve to bind science and humanity with dignity, compassion, and care.

### ACKNOWLEDGMENTS

The authors would like to sincerely thank respected Dean, HOD, and all faculty members and staff of the Department of Anatomy, participating faculty, mentors, and psychological counselors for the foundation program of 2019 MBBS curriculum, medical education Unit (MEU), and all participating MBBS students (2019 Batch) of Late Shri Lakhiram Agrawal Memorial Govt. Medical College Raigarh (CG) without whose support our manuscript would not been a success.

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**Source of Support:** Nil, **Conflict of Interest:** None declared.