Attitude towards cadaver demonstration among first-year dental students

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ABSTRACT

Anatomical demonstration is one of the important parts of learning and understanding anatomy. It is considered an essential requirement in learning gross anatomy. It plays an important role in shaping medical and dental students’ attitude. The survey was conducted online. Questionnaires which consist of 18 questions were prepared and distributed through google forms. The study population consists of 100 first-year dental students. From the collected data, 73% of them have seen the cadaver, the remaining 26% of them had never seen the cadaver before. This study helps students to improve their attitude on cadaver demonstration. Cadaver demonstration is essential and indispensable in learning anatomy. This study helps in knowing the attitude of the students towards cadaver demonstration. From this study, it has been concluded that cadaver demonstration enhances the skill of thinking in a logical manner and also cadaver demonstration gives better results than cadaver dissection.

INTRODUCTION

Anatomical demonstration is one of the most important parts in learning and understanding Anatomy. It is considered as essential requirements in learning gross anatomy. It plays an important role in shaping medical and dental students (Chang et al., 2018). Anatomy is the fundamental of medical and dental education. Anatomic demonstration enables the examination of the organs in humans systematically and topographically (Bati et al., 2013). Today there is a worldwide move of anatomy based teaching from dissection from prossection (Snelling et al., 2003). Undergraduate medical and dental students in India go through extensive anatomy teaching by demonstration (Arora and Sharma, 2011). If a student wants to become a doctor, they should be completely aware of where the artery, nerve runs and also they should be aware of the position and function of organs. And hence anatomy is one of the exciting subjects which deals with the function of organs and also positions of organs (Darras et al., 2019). Formalin is used to preserve cadaver, especially in the field of medicine for study purposes. But it has many harmful effects in an individual body that depends on the time they are in contact with formalin (Mwachaka et al., 2016). In cadaver demonstration, students will be exposed to the anatomic relationship of the major organ sys-
tems of the body and how those organ systems can relate to various human diseases. Cadaver demonstration is important for surgeons to acquire fundamental scientific knowledge is a critical necessity in clinical examination of patients, diagnosis of disease and consultation with other medical personnel (Rajeh et al., 2017). During recent years, the use of human dissection or demonstration as a learning tool has come under controversy and also cadaver demonstration is considered as a tool for studying the structural detail of the human body (Menon and Thenmozhi, 2016). It has been well reported that the emotional experience of medical students in the gross anatomy laboratory could have significant impacts on their professional identification. The main ethical concern of cadaver demonstration lies in respect to human life. The students in our country have an enormous opportunity to dissect cadaver and learn about themselves where there are morgues for medicolegal autopsy purposes. (Nandhini et al., 2018; Subashri and Thenmozhi, 2016) Demonstration is the act of showing something which exists is true by giving proof, or evidence Cadaver demonstration also shows students the practical examination, which makes them easily understood. (Kannan and Thenmozhi, 2016; Keerthana and Thenmozhi, 2016; Pratha and Thenmozhi, 2016) This study is to know the anxiety level of students during the demonstration. And hence the aim of this study is to assess the attitude of the first year dental students towards cadaver demonstration.

Over the past years various research done by our team was on osteology (Choudhari and Thenmozhi, 2016; Hafeez and Thenmozhi, 2016) stature estimation (Krishna and Babu, 2016) use and ill effects of electronic gadgets (Sriram et al., 2015; Thejeswar and Thenmozhi, 2015) on RNA (Johnson et al., 2020; Sekar et al., 2019) Animal studies (Seppan et al., 2018) and in few other fields (Memon, 2018). There is a lack of much information on the current topic of attitude towards cadaver demonstration. Hence, the aim of this study is to assess the attitude of the first year dental students towards cadaver demonstration. (Samuel and Thenmozhi, 2015)

MATERIALS AND METHODS

Study design

A cross-sectional survey was conducted among first-year dental students to evaluate the attitude of the students towards cadaver demonstration. The study population are the first-year dental students with a sample size of 100. The participants did the survey voluntarily and no incentives were given to them. The study was conducted in May 2020. Ethical approval and informed consent from the participants were obtained

Survey instrument

The questions were prepared after extensive review of existing literature. The questionnaire was reviewed and amendments were made to improve the clarity of pertinent questions and eliminate ambiguous responses. The survey instrument was a structured questionnaire with both open and close-
ended questions. It consists of a brief introduction regarding research objectives. Eighteen questions were circulated to the participants via google forms.

**Data analysis**

Only filled online forms were included in the study. The filled responses were verified by two reviewers and the collected data was entered on the same day. The entered data analysed using SPSS statistics 19. As a version used for statistical analysis. Descriptive statistics were performed to calculate frequencies of categorical variables as pie-charts.

**RESULTS AND DISCUSSION**

Out of 100 participants, 73% of the students have seen cadaver before and 26% of the students had never seen a cadaver before (Figure 1). 61% of the students have a pleasant feeling before entering the demonstration hall and 36% of them does not have a pleasant feeling (Figure 2). 34% of the students were anxious while seeing cadaver; 39% of the students were fearful while seeing cadaver, whereas 26% of the students were normal (Figure 3). 58% of the students liked to hold the bone and 41% of the students did not like to hold the bone (Figure 4).
54% of the students have the thought of leaving the course for cadaveric experience and 45% of the students do not have the thought of leaving the course for cadaveric experience (Figure 5). 52% of the students have apprehension in handling the cadaver directly, whereas 47% of the students do not apprehend in handling the cadaver directly (Figure 6). 66% of the students think that personal equipment is necessary for demonstration and 33% of the students do not think that personal equipment is necessary for demonstration (Figure 7). 63% of the students will wear gloves when they touch the cadaver and 35% of the students do not wear gloves (Figure 8). 66% of the students experience the formalin odour and 33% of the students do not experience the formalin odour (Figure 9). 59% of the students felt some physiological effects and 40% of the students have never felt a physiological effect (Figure 10). 52% of the students have been affected with a disease and 47% of the students answered no (Figure 11). 68% of the students think that demonstration enhances the skill of thinking and 31% of the students answered no (Figure 12). 64% of the students answered that cadaver demonstration is better than dissection, whereas 35% of the students answered no (Figure 13).
students said that cadaver demonstration is useful in dentistry and 43% of the students said that cadaver demonstration is useful in medicine (Figure 14). 65% of the students answered that cadaver demonstration is ethically acceptable and 34% of the students said that cadaver demonstration is not acceptable (Figure 15). 65% of the students said that cadaver demonstration is highly used in medical, whereas remaining students answered dental (Figure 16). 61% of the students respect cadaver remaining 38% of the students do not respect cadaver (Figure 17). 75% of the students have a sense of gratitude towards people who donate their bodies whereas 20% of the students answered no (Figure 18). association between gender and Attitude regarding pleasant feeling before entering the demonstration hall in which 44% of the male and 22% of the female answered Pearson’s Chi Square value: 2.284, P value: 0.131 (> 0.005), Statistically not significant. (Figure 19) Association between gender and attitude while seeing cadaver in which 45% of the male and 23% of the female answered yes Pearson’s Chi Square value: 1.812, P value: 0.404 (>0.005), Statistically not significant. (Figure 20) Association between gender and participants attitude to holding bone in which 54% of the male
and 25% of the female answered yes Pearson's Chi Square value: 0.055, P value: 0.814 (>0.005), Statistically not significant (Figure 21) Association between gender and thought of leaving the course in which 43% of the male and 22% of the female answered yes (Figure 22)

When compared to other studies, around 76% of the agreed that demonstration enhances the skill of thinking (Izunya, 2010). Whereas in this study, 68.69% of the students agreed that demonstration enhanced the skill of thinking and the remaining 31% of them answered no. The results are almost the same in both studies. In another article, 84% of them said that they like to hold the bone and 6% of them answered no (Saha and Moirangthêm, 2015). Whereas in this study, 58% of them said that they like to hold bone remaining 41% of them answered no. When compared to another article, 99% of them said cadaver demonstration is important (Mulu and Tegabu, 2012) Whereas in this study 55% of them answered yes and the remaining 43% of them answered no. The results are different from the previous study, as the population involved is limited in this study.

Future study can change the attitude of the students
Figure 19: The bar graph reveals the association between gender and attitude regarding pleasant feeling before entering the demonstration hall.

Figure 20: The bar graph reveals the association between gender and attitude while seeing cadaver.

Figure 21: The bar graph reveals the association between gender and participants’ attitude to holding a bone.

Figure 22: The bar graph reveals the association between gender and thought of leaving the course by enhancing the smell of cadaver and can avoid physiological symptoms.

Figure 1, 73% of the students had seen cadaver before while 26% of the students had never seen a corpse before.

Figure 2, 61% of the students had a pleasant feeling before entering the demonstration hall while 36% of them did not have pleasant feelings.

Figure 3, 34% of the students were anxious while seeing cadaver, 39% of the students were fearful while seeing cadaver whereas 26% of the students were normal.

Figure 4, 58% of the students liked to hold the bone whereas 41% of the students did not like to hold the bone.

Figure 5, 54% of the students had the thought of leaving the course due to cadaveric experience whereas 45% of the students did not have the thought of leaving the course for cadaveric experience.

Figure 6, 52% of the students had apprehension in handling the cadaver directly whereas 47% of the students did not have apprehension on handling the cadaver directly.

Figure 7, 66% of the students thought that personal equipment was necessary for demonstration while 33% of the students did not think that personal equipment was necessary for demonstration.

Figure 8, 63% of the students were ready to wear gloves when they touch the cadaver while 35% of the students did not want to wear gloves.

Figure 9, 66% of the students experienced formalin odour whereas 33% of the students did not experience formalin odour.

Figure 10, 59% of the students felt some physiological effects whereas 40% of the students did not feel...
any physiological effect

Figure 11, 52.5% of the students had been affected by a disease, whereas 47.5% of the students were not affected

Figure 12, 68.69% of the students thought that demonstration enhances the skill of thinking, whereas 31% of the students did not think so

Figure 13, 64% of the students answered that cadaver demonstration was better than dissection whereas 35% of the students answered no

Figure 14, 56% of the students said that cadaver demonstration was useful in dentistry whereas 44% of the students said that cadaver demonstration is useful in medicine

Figure 15, 65.5% of the students answered that cadaver demonstration is ethically acceptable while 34.5% of the students said that cadaver demonstration was not acceptable

Figure 16, 65% of the students said that cadaver demonstration is highly used in medical whereas the remaining 36% of the students answered highly useful in dental

Figure 17, 61.6% of the students respected cadaver whereas remaining 38.3% red of the students did not respect cadaver

Figure 18, 75% of the students have a sense of gratitude towards people who donate their bodies whereas 20% of the students answered no

Figure 19, Pearson's Chi Square value: 2.284, P value: 0.131 (> 0.005), Statistically not significant. The bar graph reveals the association between gender and X-axis represents the gender and Y-axis represents Attitude regarding pleasant feeling before entering the demonstration hall, the number of participants responding. Chi Square test was done and the association was found to be statistically non-significant

Figure 20, Pearson's Chi Square value: 1.812, P value: 0.404 (> 0.005), Statistically not significant. The bar graph reveals the association between gender and attitude while seeing cadaver. The X-axis represents the gender and Y-axis represents the number of participants responding to their attitude while seeing the cadaver Chi Square test was done and the association was found to be statistically non-significant

Figure 21, Pearson's Chi Square value: 0.055, P value: 0.814 (> 0.005), Statistically not significant. The bar graph reveals the association between gender and holding bone X-axis represents the gender and Y-axis represents the number of participants' attitude regarding holding bone Chi Square test was done and the association was found to be statistically non-significant

Limitations include small population, homogenous population. The biased response could do in a large population, heterogeneous.

CONCLUSIONS

This study helps in knowing the attitude of first-year dental students towards cadaver demonstration. From this study, it has been concluded that cadaver demonstration enhances the skill of thinking in a logical manner and also cadaver demonstration gives better results than cadaver dissection.

Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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