

Attitude of Undergraduate Medical Students towards Medico-Legal Autopsies at I.G.I.M.S., Patna, Bihar

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ABSTRACT

Objectives: To study the attitude of undergraduate medical students towards medico-legal autopsies.

Methods: In this cross-sectional study, 107 students of 6th semester of MBBS were selected for the study. The students were asked to respond undesignated to a set of self-administered, predesigned, multiple choice questionnaire. The questions were framed to cover several aspects of autopsy practice like the knowledge of the procedure, attitude and perception towards autopsy.

Results: Out of the 107 questionnaires distributed, 94 were returned duly filled. Most of the respondents (95.74%) were aware that medico-legal autopsy is required in all cases of suspected death. Majority of the students (96.81%) were of the opinion that autopsy is necessary in medical education. Only 59.58% agreed to an autopsy being performed on them. Majority (95.74%) of the students agreed that they acquired detailed knowledge of autopsy from their medical curricula. Many (90.43%) students were in the opinion of having casualty posting specifically for Forensic Medicine.

Conclusions: The knowledge of medico-legal autopsy will definitely increase the student's perception and will help the

legal system in delivering justice. The post-mortem examination of a dead body is not simply a technical exercise; it induces emotional surge with regard to human mortality and dignity. Overall, this study supports several studies conducted earlier, which indicate that the necropsy is of value in medical education.

Key words: Attitude, Autopsy, Medical Education, Forensic Medicine, Necropsy.

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INTRODUCTION

A Medico-legal autopsy (Necropsy) or Post-mortem examination (Necros = dead; opis = view; Post = after; Mortem = death) is a special type of scientific examination of dead body carried out under the law of the state mainly for the protection of its citizens and to assist the identification and prosecution of the guilty in cases of unnatural deaths. As such it requires State permission and must meet with certain essential requirements.¹ The postmortem examination has been central to medical education for centuries. Virchow and Osler previously used the autopsy in the nineteenth century to understand the pathology of fatal diseases such as endocarditis and pulmonary embolisms by correlating pre and post mortem findings.² The use of autopsy in medical education has been declining, just as autopsy rate has been falling worldwide.^{3,4} This is further worsened by authorities deterring medical students from attending autopsy sections in some areas.⁵ In India, according to the curriculum of the Medical Council of India, a medical student should witness a minimum number of medico-legal autopsies in the second year so that they can observe and interpret various findings. Compulsorily

witnessing a minimum number of medico-legal autopsies by a medical student is implemented to acquaint a medical student with conducting a medico-legal autopsy after registering as a medical practitioner. Due to lack of Forensic Medicine experts in India, a general practitioner many a time is required to perform a medico-legal autopsy. It is only when students attend an autopsy section that they can appreciate the large number of pathological conditions in different patients. The value of autopsy (Clinical/Medico-legal) has been proven in its elucidation of the cause of death, clinical quality control, medical auditing and in medical education.^{6,7} The autopsy sessions provide opportunities to discuss subjects like death certification, Forensic Pathology, appropriate attitudes towards deaths and communication skills essential for giving bad news or seeking consent for autopsy.⁸ It is obvious that knowledge of autopsy will broaden the students' mind and enhance a more accurate diagnosis during the subsequent years of their clinical practice as doctors.

Various reasons given for the decline in autopsy-based teaching include insufficient hospital autopsies, competing departmental

duties and limited curriculum time.⁹ It is obvious that knowledge of autopsy will broaden the students' mind and enhance a more accurate diagnosis during the subsequent years of their clinical practice as doctors.

In Australia, medical students used to be expected to attend routine hospital autopsies. But anecdotal evidence shows a decline in human dissection and autopsies for teaching in Australian medical schools. The key reason for the decreasing use of autopsies by university pathology departments is the decrease in the rate of hospital autopsies and the growing field of non-autopsy pathology, including molecular and cellular pathology.¹⁰ Students attendance at autopsies is compulsory in five medical schools in Australia. The United States does postmortem examinations in less than 5% of deaths in hospital, and the procedure is alien to almost every doctor trained in the past 30 years. Less than half of US medical schools require attendance at autopsy, and most students graduate without attending a single session.⁵ In general, throughout Turkey, a general practitioner often does Forensic autopsies and examines legal cases because there are insufficient forensic medicine specialists. Undergraduate forensic medicine education is a must for every medical student in Turkey.¹¹⁻¹³ In Brazil, students are encouraged, but not obliged, to attend necropsies. They are most likely to attend necropsies during the final two academic years.¹⁴

The reactions of students to Forensic dissection encompass psychologico-emotional and physical components.¹⁵ In undergraduate medical education the training of post-mortem examination on dead bodies might evoke strong emotional reactions in medical students that could counteract the intended learning goals.¹⁶

Very few studies have been conducted on the attitudes of medical students to clinical autopsy /medico legal autopsy. The aim of this study is to investigate the general attitude of medical students of 6th semester undergraduate medical students towards medico-legal autopsy.

MATERIALS AND METHODOLOGY

Medical undergraduate students of 6th semester at I.G.I.M.S, Patna, Bihar, were asked to fill a self-administered, predesigned, multiple choice questionnaire during the year 2018. Participation in the study was voluntary. A total of 107 students were provided with the proforma of questionnaire. The survey consisted in several questions relating to the autopsy practice, the knowledge of the procedure and attitude and perception towards postmortem examination. The responses were made anonymously. Three reminders were given subsequently to submit this proforma, after third reminder submission of proforma treated as cancelled, so total 94 students submitted questionnaire back.

Table 1: Questionnaires

1. Medico-legal postmortem examination is mandatory in all unnatural and sudden unexpected and suspicious death cases	Yes = 95.74%(n=90) No = 3.19%(n=3) Ignorant = 1.07%(n=1)
2. The purpose of doing Postmortem examination	Done to know the cause of death = 97.87%(n=92) Mere legal formality = 20.21%(n=19) Harassment to the relatives of the deceased = 2.12%(n=2) Helpful in reaching the culprit of crime = 90.43%(n=85)
3. The reaction of the students on the first exposure to postmortem examination	Comfortable = 10.64%(n=10) Slightly uncomfortable = 39.36%(n=37) Moderately uncomfortable = 10.64%(n=10) Very uncomfortable = 37.23%(n=35) Indifferent = 2.13%(n=2)
4. The utility of P.M examination in medical education	Yes = 96.81%(n=91) No = 3.19%(n=3)
5. At death would you like autopsy to be performed on you or any of your near relatives	Yes = 59.58%(n=56) No = 40.42%(n=38)
6. Source of information and knowledge about Postmortem examination	Medical Curriculum = 95.74%(n=90) Magazine and Newspaper = 20.21%(n=19) T.V. = 10.64%(n=10) Internet = 9.57%(n=9) Friend and Relative = 8.51%(n=8)
7. Do you think the number of autopsies you watched were enough?	Yes = 74.47%(n=70) No = 25.53%(n=24)
8. Did you learn anything from the autopsies you watched?	Yes = 85.11%(n=80) No = 14.89%(n=14)
9. Suggestions for improvement in Autopsy procedure	Improvement in hygiene and sanitation in autopsy room = 69.15%(n=65) More involvement of autopsy surgeon during autopsy = 20.21%(n=19) Replacement of primitive instruments with modern ones in the autopsy room = 79.79%(n=75) Active participation of students during autopsy = 64.89%(n=61) Show more respect towards dead body = 41.49%(n=39)
10. Casuality posting specifically for Forensic Medicine for trauma, poisoning and other medico-legal cases	Yes = 90.43%(n=85) No = 9.57%(n=9)

RESULTS

Out of the 107 questionnaires distributed, 94 were returned duly filled. The age range was 18-24yrs because the commonest age of admission into the Medical College in India is between 17-20 yrs. 50 (53.2%) of them were male while 44 (46.8%) were females. In the evaluation of response, 95.74% of the respondents were aware that medico-legal autopsy is required in all cases of suspected death. Majority of the respondent (97.87%) were of the opinion that postmortem is done to know the cause of death whereas only 2.12% of the students opined that postmortem examination is harassment to the relatives of the deceased. 10.64% students felt comfortable on the first exposure to post-mortem while only 2.13% of them remained indifferent to it. 96.81% of the students agreed that autopsy is necessary in medical education. In present study, only 59.58% agreed to an autopsy being performed on them, although most of them felt uncomfortable at the thought of it. Majority (95.74%) of the students acquire knowledge and information about postmortem examination from their medical curricula. Although 74.47% of the students said that the number of autopsies they witnessed were enough, 24 (25.53%) students recommended that medical students should watch more autopsies. Most of the students (85.11%), agreed that autopsy is necessary and they learnt something from watching and participating in an autopsy. 79.79% students suggested that primitive instruments such as chisel, hammer and saw should be replaced with modern oscillatory electric saw in the autopsy room. Majority (90.43%) of the students were of the opinion of having casualty posting specifically for Forensic Medicine for trauma, poisoning and other medico-legal cases.

DISCUSSION AND CONCLUSION

The knowledge of medico-legal/clinical autopsy will broaden the student's perceptive and will help the legal system in delivering quick justice in criminal cases. In our study, most of the students knew that autopsy is required in all cases of suspected death. However, several students have raised objections to autopsies on the victims of road traffic/rail traffic accident, on the grounds that the cause of death was already known in these cases. This compares favourably with the study of E W Benbow.¹⁷

The students' emotional reactions are important, but unfortunately neglected aspect of medical training. The dissection of a dead body is not simply a technical exercise; it raises emotional feelings with regard to human mortality and dignity. Most of the students were uncomfortable at the first sight of postmortem examination in our study which compares favourably with other studies done in the past.^{18,19}

In present study, majority of the students agreed that autopsy is necessary in medical education. This compares favorably with the study of Botega et al¹⁴ in Brazil and a study by Conran et al²⁰ in Ohio, USA, where 85% of the students also said that autopsy should be mandatory for all medical students. Most of the respondents in the present study agreed for an autopsy being performed on them, which is similar to the study by Ekanem and Akhibe²¹, where only 34% agreed to autopsy being performed on themselves, and is in contrast to the studies by Sanner²² in Sweden, and Jadav CJ et al¹⁸ in which 90% and 82.5% of the students respectively agreed for autopsy to be performed on themselves. In spite of development of print, electronic mass

media and internet accessibility, most of the students acquire knowledge and information about autopsy from their medical curricula, which is similar to the study by Jadav CJ et al.¹⁸ Majority of the respondents were of the opinion that the number of autopsies witnessed were enough while a few recommended for more numbers of autopsies to be witnessed by medical students. This is in contrast to the study by Ekanem and Akhigbe²¹, where the figure was 57% and 74% respectively. Majority of the respondents opined that autopsy is necessary and they learned something from it which compares favourably with the studies of other authors in the past.^{14,18,20,21} However, most of the mortuaries in India are in a primitive state and do not encourage the student to become more interested in observing autopsies. Moreover, the apathetic attitude of the mortuary staff, including autopsy surgeons, the archaic methodology, equipment and procedure involved act as a deterrent to the involvement of students in the subject. Majority of the students suggested for the need of replacement of primitive instruments with modern ones which compares favourably with the study of Jadav CJ et al.¹⁸ Most of the students were of the opinion of having casualty posting for Forensic Medicine for medico-legal cases, which is similar to the study by Ahmad N et al.¹⁹

Unpleasant aspects of an autopsy demonstration should be kept to a minimum to encourage attendance and promote a sense of its value, and that it might be useful to influence and modify students' opinions before they become entrenched in discussing dying and death in the medical curricula. Overall, this study supports those studies conducted with a quantitative methodology, which indicate that the necropsy is of value in medical education.

REFERENCES

1. Subrahmanyam BV. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology for Classrooms and Courtrooms. 6th Edition. CBS Publishers and Distributors New Delhi 2011.p. 2.39.
2. Hume M. Pulmonary embolism: historical aspects. Archives of Surgery. 1963 Oct 1;87(4):709-14.
3. Lowry F. Failure to perform autopsies means some MDs' walking in a fog of misplaced optimism". CMAJ: Canadian Medical Association Journal. 1995 Sep 15;153(6):811.
4. Galloway M. The role of the autopsy in medical education. Hospital Medicine. 1999 Oct;60(10):756-8.
5. Anderson RE, Hill RB. The current status of the autopsy in academic medical centers in the United States. American journal of clinical pathology. 1989 Oct;92(4 Suppl 1):S31-7.
6. Teo CE. The autopsy. Singapore medical journal. 1997 Feb;38(2):71-5.
7. Diegbe IT, Idaewor PE, Igbokwe UO. Autopsy audit in a teaching hospital in Nigeria--the Benin experience. West African journal of medicine. 1998;17(3):213-6.
8. Charlton R. Autopsy and medical education: a review. Journal of the Royal Society of Medicine. 1994 Apr;87(4):232.
9. Hill RB, Anderson RE. The uses and value of autopsy in medical education as seen by pathology educators. Academic medicine: journal of the Association of American Medical Colleges. 1991 Feb;66(2):97-100.
10. Russell KF. The Melbourne medical school 1862-1962. Melbourne University; 1977.

11. Inanici MA, Birgen N, Aksoy ME, Alkan N, Batuk G, Polat O. Medico-legal death investigations and autopsies in Istanbul, Turkey. *Journal of clinical forensic medicine*. 1998;5(3):119-23.
12. Salacin S, Çekin N, Özdemir MH, Kalkan S. A questionnaire survey applied to undergraduate students who have taken the course on Forensic Medicine. *Bull Legal Med*. 1997;1(2):21-4.
13. Tuncer I, Salacin S, Erkocak EU. The importance of education in forensic medicine for medical students in Turkey. *Annual report of association for medical education in Europe*. 1989 Sep 2:2-9.
14. Botege NJ, Metzke K et al. Attitudes of medical students to necropsy. *Journal of clinical pathology*. 1997 Jan 1;50(1):64-6.
15. Sergentanis TN, Papadodima SA, Evaggelakos CI, Mytilinaios DG, Goutas ND, Spiliopoulou CA. Students' physical and psychological reactions to forensic dissection: Are there risk factors?. *Anatomical sciences education*. 2010 Nov;3(6):287-94.
16. Anders S, Fischer-Bruegge D, Fabian M, Raupach T, Petersen-Ewert C, Harendza S. Teaching post-mortem external examination in undergraduate medical education—the formal and the informal curriculum. *Forensic science international*. 2011 Jul 15;210(1-3):87-90.
17. Benbow EW. Why show autopsies to medical students?. *The Journal of pathology*. 1990 Nov;162(3):187-8.
18. Jadav JC, Patel BN, Tandon RN. Knowledge and attitude of medical students on forensic autopsy in Ahmedabad city. *Journal of Indian Academy of Forensic Medicine*. 2013;35(1):26-8.
19. Ahmad N, Mohammad F, Shivkumar BC, Akram FM, Mateen A, Pawar A. Attitude and knowledge of medical students on practical aspects of forensic medicine. *J of Evidence Based Med & Healthcare*. 2015;2(27):4002-8.
20. Conran P, Nowacek G, Adams T, Smith L. Medical students' attitudes toward the autopsy. *Academic medicine: journal of the Association of American Medical Colleges*. 1996 Jun;71(6):681-3.
21. Ekanem VJ, Akhigbe KO. Attitudes of Nigerian medical students towards autopsy. *Turkish Journal of Medical Sciences*. 2006 Feb 27;36(1):51-6.
22. Sanner MA. Medical students' attitudes toward autopsy. How does experience with autopsies influence opinion?. *Archives of pathology & laboratory medicine*. 1995 Sep;119(9):851-8.

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