

A study about Knowledge and Perception of Medical Students Towards Autopsy and Attitude Towards Forensic Medicine as a Career option

Kunal Mishra¹, Bikash Chandra Nayak², Mohan Kumar Hansda³, Ashim Mishra⁴

How to cite this article:

Kunal Mishra, Bikash Chandra Nayak, Mohan Kumar Hansda, et al. A study about Knowledge and Perception of Medical Students Towards Autopsy and Attitude Towards Forensic Medicine as a Career option. Indian J Forensic Med Pathol.2024;17(1):07-11.

ABSTRACT

INTRODUCTION: The questionnaire based study was carried out with the objective to know the present knowledge of students regarding autopsy, attitude towards autopsy and probability of choosing forensic medicine as a career which can enable to find out ways to make autopsy an enriching academic exercise and further increase the acceptability of our subject.

METHODOLOGY: A questionnaire based cross-sectional study, was carried out among the 2nd year medical students at IMS and SUM Hospital, Bhubaneswar. The first part of questionnaire comprised of items in form of simple statements for which response recorded dichotomously as true or false. The first nine statements were on knowledge component and second nine items were on attitude of the students. The second part of questionnaire comprised of eight items which contained the eight reasons for forensic medicine of not choosing forensic medicine as career.

RESULTS: A majority of students were found to have reasonable knowledge of the basic autopsy procedure. 88% of the students were of the opinion that autopsy has utility in medical education. 68% of the students were confident of independently performing an autopsy. 88% of students proactively searched for information on autopsy. However only 11.54% students reported that they plan to pursue a career in Forensic Medicine.

KEYWORDS: Autopsy; Forensic medicine; Knowledge; Attitude; Career.

Author's Credentials: ¹Professor, Department of Forensic Medicine & Toxicology, ²Associate Professor, Department of Community Medicine, ³Associate Professor, Department of Forensic Medicine & Toxicology, IMS & SUM Hospital, Siksha 'O' Anusandhan University, Bhubaneswar 751003, Odisha, India, ⁴Professor, Department of Forensic Medicine, Manipal Tata Medical College, Manipal Academy of Higher Education, Manipal 576104, India.

Corresponding Author: Ashim Mishra, Professor, Department of Forensic Medicine, Manipal Tata Medical College, Manipal Academy of Higher Education, Manipal 576104, India.

Email: ashim.mishra@manipal.edu

Received on: 23-01-2024

Accepted on: 27-03-2024

INTRODUCTION

The essence of learning Forensic Medicine lies in experiential learning experience by observing autopsy which is essential for effective understanding of associated pathology and traumatology. This learning instils a sense of confidence among the students while discharging medico legal duties and also enhances inquisitiveness in clinical practice. Even stalwarts

of medical science, Virchow and Osler, had also stressed on investigative dissection of dead body to establish pathology of fatal diseases.¹ The autopsy data play significant role in clinical auditing, clinical quality control and medical education.² Demonstration of autopsy is of prime importance in medical education, as it provides a holistic learning to students about gross anatomy of disease, pattern of injury, toxicology, protocols, the importance of death certification and thereby aid in better interpretation of death statistics.³

At present, most of the autopsy is Medico-legal autopsy carried out by specialists of Forensic Medicine permitted in Government set up and limited private medical colleges recognized by respective state governments. Few institutions also have the facility for pathological autopsy where documentation and consent process are streamlined. The new CBME curriculum has mandatory forensic posting of the interns reaffirms the significance of this discipline. Thus, it becomes essential for medical graduates to be capable of conducting an autopsy in a peripheral set up mandating the goal of an Indian Medical graduate making it locally relevant. Even Forensic Medicine was included in 3rd Professional year a vertical shift to put forth the importance of this subject. Although a post graduate degree in Forensic Medicine establish role as an expert conforming to Section 45 and 46 of Indian Evidence Act, the vacant PG seats of the discipline has questioned the existence of this subject. The vacuum in faculty positions is tangible and substantive which could have devastating effect on the Medico-legal work in coming years.

Despite the seemingly overwhelming importance of autopsy study in medical education, literature search indicates that the forensic autopsy rates have stayed stagnant, throughout the world. Authors had already pointed decline of autopsy as an educational tool as an alarming sign and the fact that many freshly graduating Medical undergraduates and junior doctors have never attended an autopsy, during their training.⁴ Thus, it was imperative on the part of authors to carry out this study to know the present knowledge of students regarding autopsy, attitude towards autopsy and probability of choosing forensic medicine as a career which can enable to find out reasons of this stagnancy.

MATERIALS AND METHODS

A questionnaire based cross-sectional study, was carried out among the 2nd year medical students at IMS and Sum Hospital, Bhubaneswar,

a tertiary care teaching hospital in Odisha, India. After necessary approval, a total of 104 students consented to participate in the study and the anonymity and confidentiality of the collected data was maintained.

The questionnaire was framed with the objective of analyzing the knowledge, and attitude of students and pre-validated after deliberation with the Forensic Medicine faculty of three Government Medical Colleges and two private Medical Colleges of the state of Odisha. The first part of questionnaire comprised of items in form of simple statements for which response recorded dichotomously as true or false. The first nine statements were on knowledge component and second nine items were on attitude of the students. The second part of questionnaire comprised of eight items which contained the eight reasons for forensic medicine losing its significance as a career option which students had to number with 1 as the primary reason to 3 as third common reason. It was pretested on 10 students and subsequently modified with reframing of some items. Data were analyzed using SPSS version 22.0 and expressed in percentage and means.

RESULTS

A total of 104 students who took part in the study, all the students had basic knowledge of the procedure of conduct and primary objective of autopsy evident from 100% true response to the first four items (Table 1) 95.2% knew about types of skin incisions in autopsy while 72.1% of the students had knowledge regarding procedure to preserve viscera. 90.4% had knowledge about negative and obscure autopsy while 31.7% gave a true response to knowledge regarding the time since death. (Table 1)

It was found that 72.11% of students were comfortable in their first exposure to autopsy room and all students felt the essentiality of autopsy training during MBBS. 74% of students were not comfortable with observing autopsy on a close relative while only 8.65% students would prefer to skip observing an autopsy if they had options. Majority of students viewed autopsy as scientific study and not disrespectful to the dead body. However only 65.4% of students were confident of performing a medico legal autopsy independently. 84.6% of the students searched internet and other learning modules for better experiential learning and almost hundred percent enjoyed this experience. But when it came to choose forensic medicine as a career only 11.54% were interested to

study further. (Table 2)

Stigma associated with dealing with dead body rather than a patient was the primary reason by 48 (46.2%) students followed by limited scope of super specialization by 30 (28.84%) students.

Dealing with police and court was the second common reason by 31(29.8%) students. Work pressure was the last reason since it was present in all streams of medical profession. (Table 3)

Table 1: Response of students regarding knowledge about autopsy.

SL. No.	Statements	True response	False response
1.	Medico-legal Autopsy done in all deaths.	0	104 (100%)
2.	Autopsy is done primarily to find the cause of death.	104 (100%)	0
3.	Police requisition, Inquest Report and Dead body challan are three essential items before conduct of medico legal autopsy.	104 (100%)	0
4.	Autopsy involve both external and internal examination.	104 (100%)	0
5.	There are basic three types of skin incision given in a Medico-legal autopsy.	99 (95.2%)	5 (4.8%)
6.	Preservation of viscera is done in all cases of autopsy.	7 (6.73%)	97 (93.3%)
7.	Supersaturated solution of common salt is used for preserving viscera in poisoning cases.	75 (72.1%)	29 (27.9%)
8.	An autopsy can reveal the cause of death in all cases.	10 (9.6%)	94 (90.4%)
9.	Inference about a range bound time since death is possible from external and internal post mortem changes	33 (31.7%)	71 (68.3%)

Table 2: Response of students regarding attitude towards autopsy

SL. No.	Statements	True response	False response
1.	I am comfortable on my first exposure to autopsy.	75 (72.11%)	29 (27.88%)
2.	I feel autopsy is essential for medical education.	104 (99%)	0
3.	I am comfortable with autopsy conducted on my close relative.	27 (25.96%)	77 (74.03%)
4.	I choose to skip an autopsy demonstration if I had a chance.	9 (8.65%)	95 (91.35%)
5.	The autopsy is a disrespect to the dead body.	13 (12.5%)	91 (87.5%)
6.	I am confident enough to perform an autopsy independently with out assistance after graduation.	68 (65.4%)	36 (34.61%)
7.	I proactively search for information and knowledge about autopsy in journals and internet.	88 (84.6%)	16 (15.4%)
8.	I enjoy the experiential learning during the autopsy.	104 (99%)	0
9.	I am interested to pursue a post graduate degree (MD) in Forensic Medicine as a career option.	12 (11.54%)	82 (78.8%)

Table 3: Reasons for not opting Forensic Medicine as a career

Reasons	Primary reason	Second reason	Third reason
Stigma in dealing with dead body	48	18	4
Limited scope	30	17	22
Dealing with police and court	12	31	29
Erratic timing of work	3	10	12
No holidays in govt set up	2	2	10
Only academics in private set up	3	4	1
Limited job prospects	5	12	6
Work pressure	1	10	20

DISCUSSION

The autopsy used to be considered vital for acquiring of medical knowledge and has been considered central in the training of medical students.⁵ Our observations were line with authors who had shown that a majority of students were conscious of practical utility of autopsy in medical education and consensus on making autopsy mandatory for all medical students.⁶

However, our result was not in agreement with the study in India which found that almost one third of the students, were ignorant about importance of autopsy examination in the country.⁷

An autopsy procedure involves extensive dissection which could make the students emotionally unstable if performed on a known person. Our finding similar to a study conducted at United Kingdom where majority of the students, rejected the idea of an autopsy being conducted on a close relative.⁸ However a study in Sweden showed 90% of students agreed to autopsy being performed on themselves proving adoption of the procedure as basic necessity.⁹ Although we have advanced in different fields, with regard to autopsy we have a static mind set and still considered a taboo in many parts of our country. Our findings were similar in view with a study done at Gujrat where autopsy was regarded as an important learning tool which was essential in medical education and opined of more exposure during the training period.¹⁰

Earlier study revealed that the scientific interest was the primary motivation for choosing forensic as a career. While the fear of death was more intense in students rejecting forensics. The study also observed stereotypical mentality about forensic doctors significantly modified the decision of students.¹¹ Another earlier study by researchers identified five independent risk factors for negative psychological reactions towards forensic dissections which were female gender, stereotypic beliefs, a less cognitive and more emotional frame of mind relative to forensic dissection, more passive coping strategies, and greater fear of death.¹² There were 31,185 PG seats in 2014, which increased to 64,059 in 2022. The government is having a target of 80,000 PG medical seats by 2024.¹³ The students had been more inclined towards clinical subjects. The time has come for introspection and inculcate good practices of fair practices of medical colleges of national and international repute. The grey

areas of our curriculum like Toxicology, Forensic Psychiatry and Clinical Forensic Medicine needs focus. The faculty need to update his knowledge and skills and keep abreast of recent developments.

Limitations of our Study

The cross-sectional nature of the study and less number of participants were the major limitations. A qualitative study could provide a better insight. Multidisciplinary studies involving other subject experts could be carried out to assess the student's choice for career.

CONCLUSION

The findings of the present study, indicate that students do possess a fair knowledge of medico legal autopsy. The autopsy being a crucial component of medical education, medical students must acquire reasonable skill to perform autopsy by themselves. A finding of concern in the general apathy of medical students to pursue a career in Forensic Medicine.

The reasons provided for not choosing Forensic Medicine is APT as increased MD/MS seats had increased the probability of a student to pursue a different career path. It has also left us with introspection as to enrich the student learning experience. The introduction of DM, Toxicology in AIIMS, Raipur and DM, Forensic Pathology in AIIMS, Jodhpur has proved to be pivotal.

The Fellowship courses undertaken by Indian Society of Toxicology and Indian Academy of Forensic Medicine also act as catalyst in regenerating interest. A earnest effort is required to change the fixed mindset of our fraternity. The Bioethics part in AETCOM curriculum also can be explored under this discipline. Innovations in teaching is imperative to rekindle the interest of students in our discipline.

ACKNOWLEDGEMENT

The authors are indebted to IMS and Sum hospital, Siksha'O' Anushandhan University Bhubaneswar for providing the support.

Conflict of Interest: Nil

Source of Funding: Self Funded

Ethical Clearance: Obtained prior to the study

REFERENCES

1. **Brooks JP, Dempsey J.**
How can hospital autopsy rates be increased? *Arch Pathol Lab Med* 1991; 115; 1107-11.
2. **Cooper H, Lucas SB.**
The value of autopsy, believe it or not. *The Lancet* 2007; 370(9581):27.
3. **Benbow EW.**
The attitudes of second and third year medical students to the autopsy. A survey by postal questionnaire. *Arch Pathol Lab Med* 1991; 155: 117-6.
4. **Charlton R.**
Autopsy and medical education. *Rev J. R. Soc, Medicine.* 1994;87:232.
5. **Marshall R, Catwright N, Mattick K.**
Teaching and learning pathology; a critical review of the English literature. *Med. Educ.* 2004; 38:302-13.
6. **Conran P, Nowacek G, Adams T, Smith L.**
7. **Varma SK.**
Knowledge and attitude of medical students in Delhi on post-mortem examination. *Indian J Med Sci.* 1999; 53:3528.
8. **Wilkes MS, Link RN, Jacob TA, Fortin AH, Felix JC.**
Attitudes of medical officers towards the autopsy. *J Gen Med* 1990;5(2):122-5.
9. **Sanner MA.**
Medical student's attitudes toward autopsy. How does experience with autopsies influence opinion? *Arch Pathol Lab Med.* 1995; 119(9):851-8.
10. **Jaideep C Jadav, Bhaskar N Patel, Kaplesh A Shah, Rekesh N Tandon.**
Knowledge and attitude of medical students on Forensic autopsy in Ahmedabad city. *JIAFM.* 2014;35(1):26-28.
11. Students who wish to specialize in forensic medicine vs. their fellow students: motivations, attitudes and reactions during autopsy practice. *Stavroula A. Papadodima, Theodoros N. Sergentanis, Roussos G. Iliakis, Konstantinos C. Sotiropoulos, Chara A. Spiliopoulou. Advances in Health Sciences Education.* Published. May 2007;13: 535-546.
12. **Theodoros N Sergentanis 1, Stavroula A Papadodima, Christos I Evaggelakos, Dimitrios G Mytilinaios, Nikolaos D Goutas, Chara A Spiliopoulou.**
Students' physical and psychological reactions to forensic dissection: Are there risk factors? *AnatSci Educ.* 2010 Nov-Dec;3(6):287-94.
13. <https://www.thehindu.com/brandhub/empowering-medical-education-a-105-growth-in-pg-medical-seats-in-the-last-8-years/article66784034.ece> assessed on 22-12-2023.

