

## Evaluation of Knowledge and Attitude about Postmortem Examination Among Post Graduate Residents

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### Abstract

**Background:** Forensic Medicine and Toxicology is an important subject in medical curriculum as it deals mainly with legal aspects of medical practice and postmortem examination. **Aim and objective:** To assess Medicolegal knowledge and attitude about postmortem examination among Postgraduate residents. **Materials and methods:** A cross-sectional, questionnaire based study was conducted from June 2018 to March 2019. The questionnaire based on application of basic and clinical medicolegal knowledge of Forensic medicine and toxicology required during Postmortem Examination (Autopsy) was designed and distributed to Postgraduate residents of Dr. Vitthalrao Vikhe Patil Foundation's Medical College, Ahmednagar (M.S). Their responses were collected and analyzed statistically for number and percentage. **Results:** Total 54 Postgraduate residents were participated in study. Postgraduate residents have passed their MBBS from different government and private Medical colleges from Maharashtra state. It was shocking to know that only 7 (13%) resident were having knowledge regarding, who have the authority to decide whether Medicolegal Autopsy should be carried out or not. It was surprising and disgusting that not a single Postgraduate residents have knowledge about which organs should be preserved for routine viscera preservation for chemical analysis. We found that only 3 (5.6%) resident were having knowledge about preservatives required for chemical analysis. Only 12 (22.2%) were aware that, death in police custody essentially requires two postmortem surgeons and videography. **Conclusion:** This study was an honest attempt to assess knowledge and awareness about Postmortem examination. We observed that a knowledge about Postmortem examination is very poor among the Postgraduate (PG) residents who have passed their MBBS from different government and private Medical colleges from Maharashtra state. Their knowledge should be improved by implementing Competency based curriculum.

**Keywords:** Postmortem Examination; Autopsy; Medicolegal Knowledge; Forensic Medicine.

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### Introduction

Forensic Medicine and Toxicology is an important subject in the MBBS curriculum which deals with

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medicolegal aspects and postmortem examination. Autopsy, also known as postmortem examination, is dissection of a dead body to know cause, manner and time since death.<sup>1,2</sup> It is beneficial for knowing the rationality of therapeutic technique, potential medicolegal issues surrounding death and providing information of injury to investing officer for proper justice.<sup>3,4</sup> Postmortem findings helps in resolving the criminal cases and giving the justice. Autopsies should be performed by Forensic Medicine experts who have gained special training in the performing autopsies. In medical institutions, postmortem examinations are also demanded for teaching and research works. A clinical postmortem examination is the last step to determine the cause of death or person's illness,

while medico legal autopsy plays an important role in the administration of justice.<sup>1,5,6</sup>

Day by day there are increasing complaints against doctors by the patients, and judicial system is also passing negative remarks against doctors. In present curriculum Forensic Medicine is taught in II MBBS. After II year MBBS, students starts to forget all the theoretical things, taught in curriculum in due course of time and it is needed to be refreshed on regular basis.<sup>7,8</sup>

Doctors are called to the court to give expert witness regarding various medico legal cases such as assault cases, poisoning cases. Due to lack of poor medico legal knowledge, most of the doctors are badly exposed in the courts. Every doctor should realize that irrespective of postgraduate specialty they choose, throughout their carrier they have to deal with medico legal cases. Hence they should have sufficient and at least basic knowledge about medico legal aspects whether they work in private clinics or government or clinical hospitals.<sup>7,9-11</sup>

As by understanding all of the above facts, the present undergraduate curriculum may not be achieving its objectives. So to know this, we carried out this study to evaluate the knowledge and attitude about postmortem examination among Postgraduate residents.

### Materials and Methods

A questionnaire based cross sectional study was conducted in DVVPF's Medical College and Memorial Hospital, Ahmednagar, Maharashtra, India for a period from July 2018 to March 2019 after obtaining approval from Institutional Ethics Committee. A study sample was 54 Postgraduate residents who have passed their MBBS from different government and private Medical colleges from Maharashtra state. A good rapport was established with them. The purpose of study was explained in detail to them and verbal informed consent was obtained. To obtain more reliable & correct answers from them, they were informed

about confidentiality of an information collected. A peer reviewed and validated questionnaire containing 10 questions related to knowledge and attitude about basic and applied clinical Forensic Medicine and Toxicology related with autopsy was designed. Postgraduate residents responses were obtained, data was analyzed statistically for number and percentage.

### Results

Total 54 Postgraduate residents were participated in this study from various departments. Response rate was 100%. We found that 19 (35.2%) postgraduates were of the opinion that present undergraduate teaching is not sufficient to deal with medico legal aspects. Police officer's written request is required to undertake autopsy was known only to 22 (40.7%) of postgraduates. But it was shocking that almost 32 (59.3%) PG residents does not have knowledge about the deciding authority for carrying out PM examination, which is a basic knowledge. 12 (22.2%) PG residents were aware that two postmortem surgeons and videography is an essentially required if death of an individual occur in police custody. Not a single PG resident was able to tell about how viscera should be preserved for chemical analysis. It is disgusting that only 3(5.6%) PG residents were having knowledge of preservatives used for Viscera preservation for Chemical analysis.

It is very unfortunate that 17 (31.5%) PG residents were of opinion that due to autopsy dead body gets disfigured and 40 (74.1%) PG residents opined that Clinical Postmortem is carried out by Forensic Medicine Department, but it is actually carried by Pathology Department. 33 (61.1%) PG residents were having knowledge of the preservatives used for preservation of viscera for histopathological analysis and 15 (27.8%) postgraduate residents knows that 2 copies of autopsy report should be produced (**Table 1**).

**Table 1:**

Do you think that present undergraduate teaching is sufficient to know about medico legal responsibilities of postmortem examination or autopsy?	Yes 35 (64.8%)	No 19 (35.2%)		
Who have an authority to decide that medico legal autopsy should be done or not?	Doctor 23 (42.6%)	Patient's relative 6 (11.1%)	Magistrate 18 (33.3%)	Police 7 (13%)
Whose written request is required to undertake autopsy?	Medical Superintendent 14 (25.9%)	Patient's relative 9 (16.7%)	Police 22 (40.7%)	Judge 9 (16.7%)

In which cases, two postmortem surgeons & videography are essential to carry out postmortem examination?	Sexual assault or rape 24 (44.4%)	Suspicious death 17 (31.5%)	Death in police custody 12 (22.2%)	Dowry death 6 (11.1%)
Which viscera is preserved as evidence in poisoning case for chemical analysis?	No PG residents were knowing about the 3 Viscera bottles and which viscera should be preserved in these 3 bottles.			
What preservatives are used for viscera preservation for chemical analysis?	10% Formalin 32 (59.3%)	Ethanol 7 (13%)	Saturated NaCl solution 3, Potassium oxalate 3, Normal saline 3 each (5.6%)	Rectified spirit and liquid paraffin 2 (3.7%) Don't know 11 (20.4%)
Do you think that due to postmortem examination dead body gets disfigured?	Yes 17 (31.5%)	No 37 (68.5%)		
What are preservatives used for preservation of viscera for Histopathological analysis?	10% Formalin 33 (61.1%)	Ethanol and liquid paraffin 3 (5.6%)	Sat. NaCl and normal saline 2 (3.7%)	Don't know 16 (29.6%)
No of copies of autopsy report produced:	1 2 (3.6%)	2 15 (27.8%)	3 28(51.9%)	As per our wish 9 (16.7%)
Which department carries clinical autopsy?	Forensic medicine and toxicology 40 (74.1%)	Pathology 13 (24.1%)	Anatomy 1 (1.8%)	

## Discussion

Postmortem is an important scientific medical examination carried out for solving criminal cases. It is a procedure of detrimental in accurately finding the cause and manner of death in both, natural and unnatural deaths. Clinical Autopsies also helps in confirming ante mortem diagnosis, as well as identification of new and reemerging diseases, and hence it is important for both, in protecting the public health and improving accuracy of vital statistics.<sup>12</sup>

Because of increased public awareness regarding ethical conduct of medical practitioners, litigations against doctors are on hike which is an issue of an immediate concern. To avoid this, doctors need to familiarize themselves with laws and regulations that concern their practice. This will result in fulfillment of ethical, moral and legal obligations in their duties.<sup>13,14</sup>

Our study was carried among 54 postgraduate residents who have passed their MBBS from different government and private Medical colleges from Maharashtra state. We observed that most of them were not having proper basic medicolegal knowledge, which is similar with findings of Giri PA *et al.*<sup>15</sup>

Postgraduate residents have very poor knowledge about basic and clinical applied knowledge of postmortem as seen from results. Most of them were even unknown about authority of Police officer and Magistrate regarding Autopsy. The knowledge of students about preservatives required for viscera

preservation for various analysis is very poor, this is in agreement with Ahmad *et al.*<sup>16</sup>

Majority are of view that dead body does not get disfigured coincides with Nihal Ahmad *et al.*<sup>5</sup> But few resident are of negative view that disfiguration of dead body occurs which is not supposed to be expected from Medical graduate.

Resident who have handled Medicolegal cases have good knowledge of different incisions required for autopsy. Only couple of residents were knowing that pathology department carries clinical autopsy to find cause of death which helps in ante-mortem diagnosis. Not a single PG resident was able to tell about how viscera should be preserved for chemical analysis.

List of skills and attitude recommended by MCI desirable for MBBS and Postgraduate students for Forensic Medicine and Toxicology is compulsory to about reporting of injury, collection of biological material.<sup>17,18</sup> Very few were knowing that death in police custody essentially requires two postmortem surgeons and videography. Few students were known about number of copies of postmortem report to be produced. Very few study is done in India on this subject, similar study by Ahmad M *et al.*<sup>16</sup> and G Venkatrao *et al.*<sup>7</sup> compares favorably with present study.

This study has several strengths. First to our knowledge, assessment of medicolegal knowledge and awareness about postmortem examination have not been much investigated. Very few similar studies were carried out.

## Conclusion

The findings of this study shows that Indian Medical Graduate have very poor knowledge about postmortem examination. Indian Medical Graduate should have not only knowledge but also skills required for the autopsy. As present curriculum is not emphasizing any proper training related to actual autopsy. The basic need to expose undergraduate medical students to autopsy knowledge and skills cannot neglected because eventually these students will be doing postmortem examination in future. Knowledge and skill of postmortem examination will broaden undergraduate medical student's perspective and help legal system in delivering justice. So, for this Competency based curriculum should be designed and implemented.

**Limitation:** This study has some limitations as well. This study has been done on only 54 students. Large scale multi centric studies are warranted to confirm results.

## References

1. Nataraja Moorthy T, Thenmoli R. Study of Knowledge, Attitude and Perception regarding Medicolegal Autopsy among Malaysian Hindus: A Focus on Hinduism. *J. Bio. Innov* 2016;5(6), :890-899.
2. Madedin M, Magdy AK. Autopsy in Islam and current practice in Arab Muslim countries. *J Forensic and Legal Med.* 2014;23:80-83.
3. Jadeep C. Jadav, Bhaskar N. Patel, Kalpesh A Shah, *et al.* Knowledge and Attitude of Medical Students on Forensic Autopsy in Ahmedabad City. *J Indian Acad Forensic Med.* 2013 Jan-Mar;35(1):26-28.
4. Brooks JP, Dempsey J. How can hospital autopsy rates be increased 1? *Arch Pathol Lab Med.* 1991; 115:1107-11.
5. Ahmad N, Mohammad F, Shivkumar BC. *et al.* Attitude and Knowledge of Medical Students on Practical Aspects of Forensic Medicine. *Journal of Evidence based Medicine and Healthcare.* 2015 Jul 06;2(27):4002-4008.
6. Ravi R, Avishek K, Behera C. Attitudes of medical students towards medico-legal/ clinical autopsy. *J Indian Acad Forensic Med.* 2013;35(4): 358-364.
7. Venkat Rao G, Hari N. Medico-legal Knowledge assessment of interns & Postgraduate students in Medical Institution. *IAIM.* 2016;3(10):105-110.
8. Dash SK. Medical ethics, duties and medical negligence awareness among practitioners in a teaching medical college, Hospital-A survey. *J Indian Acad Forensic Med.* 2010;32(2):153-6.
9. Indrajit K, Bipinchandra T, Pankaj M, *et al.* Development of Clinical Forensic Medicine in India: A need of time. *J Indian Acad Forensic Med.* 2012;32(1):8590.
10. Mittal S, Garg S, Mittal MS. Need of Forensic Medicine in trauma care. *Medico-Legal Update.* 2007;7(3):81-6.
11. Sharma BR, Harish D, Chavali KH. Teaching, training and practice of Forensic Medicine in India: An Overview. *JIAFM.* 2005;27(4):247-51.
12. Lundberg GD. Low-tech autopsies in the era of high-tech medicine: continued value for quality assurance and patient safety. *JAMA.* 1998 Oct 14;280(14):1273-4.
13. Hill RB, Anderson RE. The uses and value of autopsy in medicine as seen by pathology educators. *Acad Med.* 1991;66:97-100.
14. Pratibha A Mardikar, Arti A Kasulkar. To Assess the Medicolegal Education in interns and postgraduates in Medical Institution. *Journal of Evolution of Medical and Dental Sciences.* 2015;4(17):247-51.
15. Giri PA, Chavan KD, Phalake DB. Knowledge about medicolegal problems amongst the interns and resident from rural tertiary care teaching hospital in western Maharashtra-A cross sectional study. *Indian journal of Forensic Medicine and Pathology.* 2010;3(3):89-93.
16. Ahmad M, Rahman MF, Rahman FN, *et al.* Knowledge and Attitude of 3rd year Medical Students regarding Postmortem Examination. *Journal of Armed Forces Medical College, Bangladesh,* 2016;12(2):9-14.
17. Medical Council of India. Undergraduate medical education regulations 1997.
18. Medical Council of India. Postgraduate medical education regulations 2000.

