

## Questionnaire Based Survey on Medicolegal Autopsy among Medical Students in Sikkim

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### Abstract

**Background:** Contemplating the curriculum of an Indian Medical Undergraduate, demonstration of autopsy is still considered to be the cornerstone in Forensic Medicine. Medicolegal autopsy has always been perceived negatively by the public either due to their religious beliefs or due to their preconceived notions or fear. Considering these prejudices, a study was undertaken not only to assess the knowledge, attitude & perception of a medical undergraduate but also to understand the reflection of these societal stigma on a medical student.

**Material and Methods:** A cross sectional survey was done on 200 medical students pursuing medicine in SMIMS, Gangtok, Sikkim who participated voluntarily in the study wherein structured questionnaire in google form was distributed through google link validated through their mail i.d. & registration number.

**Results:** Out of 191 medical students, the number of students were predominantly females with the ratio of 1:1.30 (M: F). 87.96% of the students knew that the medicolegal autopsy is done in all sudden, suspicious & unexpected death. 90.05% strongly affirmed that the medicolegal autopsy ascertains the cause of death. The spectrum of ease with which the students watched the autopsy was almost along the same wavelength, 27.75% students were comfortable, 25.13% were uncomfortable, 17.80% were indifferent while 29.32% were not yet exposed (due to online teaching). Majority of students (93.72%) are interested in watching watch more of postmortem examination.

**Conclusions:** The attitude of the students were optimistic towards autopsy & awareness among the participants was found to be acceptable. However, there were still a lot of grey areas that needed to be addressed.

**Keywords:** Knowledge; attitude; perception, Survey; medicolegal autopsy.

### Introduction

Autopsy is known to determine the cause of death since the beginning of time. In 44 B.C, Roman jurist Antistius performed an autopsy on Julius Caesar & declared that out of 23 stab wounds sustained, Caesar

succumbed to his chest injury leading to the rupture of aorta. This application of medical knowledge to homicide investigation in Cesar's death was possibly the history's first autopsy report with an opinion as an expert witness.<sup>1</sup> But the first medicolegal autopsy on record was performed in Bologna (Italy) in 1302, by

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Bartolomeo De Varignana. While in India, it was only in the 18<sup>th</sup> century that the first medicolegal autopsy was performed officially by Dr. Edward Bulkley.<sup>2</sup>

“Autopsy means postmortem examination of the corpse to establish identity; determine the cause, manner & time since death; collect physical evidence & also to determine the question of live birth & viability”.<sup>2</sup> Based on consent, there are 2 types of autopsies: medicolegal autopsy & clinical or academic autopsies. In the former, consent is given by the state on behalf of the deceased while in the latter consent has to be obtained from the legal heir. In an editorial autopsy case report, an author Ameer Hamza has clearly highlighted the worldwide decline in clinical autopsy rate for the last few decades despite its evidentiary importance & high value.<sup>3</sup> In non-medicolegal/ clinical autopsies, the fright of trial in court, shortage of expert manpower, cost effectiveness, non-compliance from patient or relatives, communication failure, increased objections based on optics & emotions along with the medical practitioner’s attitude & knowledge were few of the reasons identified to cause the decline in number in clinical autopsies.<sup>4,5</sup> In medicolegal cases, consent is not required & autopsy is mandatory under the order of competent legal authority.

On receiving the Inquest report, Body Challan & Requisition form for autopsy from the Investigating Officer/ Executive Magistrate, scientific examination of a deceased is carried out in all sudden, suspicious & unnatural death under the laws of the State.<sup>6,7</sup>

### Material and Methods

*Study design:* A survey based cross-sectional study was designed to assess the knowledge, attitude and perception on medico legal autopsy among the Indian Medical Undergraduates of Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Gangtok, Sikkim. The questionnaires were structured, self-administered, pre-designed<sup>8-10</sup> and modified in context of Sikkim.

*Data collection:* The primary data were obtained using google form & shared via google link. The data was then compiled, organized & analysed.

#### Inclusion criteria:

1. Willing to give consent.
2. Active participants.
3. Knowledge on medicolegal autopsy.

#### Exclusion criteria:

4. Refusal.
5. Incomplete form submission.
6. Repetition.
7. Forms without validation (like email id or registration no.)
8. First year MBBS students since their curriculum for Forensic Medicine begins only from 2nd year.

### Results

This study was conducted on MBBS students & Interns willing to participate & give their consent for the study. Out of 191 students, 108 were females & 83 were males participating in the study from different batches (Table 1).

**Table 1: Total number of participants from different batches**

Batch	No. of participants
2015	02 (1.05%)
2016	14 (7.33%)
2017	29 (15.18%)
2018	51 (26.70%)
2019	95 (49.74%)

A cross sectional survey based on 25 questionnaires was designed to gauge the in-depth knowledge, positive/ negative attitude & perception of the medical students towards medicolegal autopsy.

It was observed that the students have sound knowledge & positive attitude towards medicolegal autopsy.

However, the 25<sup>th</sup> question was mostly designed to assess the irrationality or the superstitious belief that they have experienced or have heard of in their daily life. For which an array of answer was observed, to name a few:

*“Presence of ghosts near autopsy hall”*

*“The paranormal activities are common near the autopsy hall and we usually don’t walk that way at night!”*

*“The dead souls haunts”*

*“Autopsy is done for harvesting organs”*

*“Body becomes impure after postmortem”*

*“Post mortem disturbs passage to afterlife”*

*“Person will be born disfigured In Next life and he’ll haunt others after death”*

*"Post-mortem examination will bring no good to anyone"*  
*"Salvation is not found after post mortem"*

These irrational phobias or superstitious beliefs mentioned by the students has a negative connotation towards autopsy. Leastways, it is fair to say that the social stigma associated with the dead is not unknown to these students too. The idea of teaching forensic medicine should not only be limited to the knowledge part of the education but also to make an impact in changing the negative attitude & perception of the students towards autopsy with scientific reasoning, cautious explaining & holistic approach to promote the sense of well-being.

### Discussion

This study was carried out among 191 medical students of SMIMS in order to assess their knowledge, attitude & perception towards medicolegal autopsy. A questionnaire based cross sectional survey with the inclusion & exclusion criteria was self-administered among volunteered students. Out of 191 medical students, the number of students were predominantly females with the ratio of 1:1.30.

On the knowledge-based front, 87.96% of the students knows that the medicolegal autopsy is unavoidable in all sudden, suspicious & unexpected death which is similar to study done in Ahmedabad & Haryana.<sup>10,11</sup> 90.05% strongly affirmed that the medicolegal autopsy is done to know the cause of death which is concurred by other studies too.<sup>8,10,11</sup> 87.43% students agreed that the law enforcement agency orders medicolegal autopsy. Majority of the students choose inquest form as prerequisite for medicolegal autopsy (53.93%) & only 32.98% knew that the consent of family members is not required in a medicolegal autopsy. Similar findings were also observed in a study conducted in Haryana.<sup>11</sup> 33.51% of the students knew that viscera can be removed for chemical analysis in medicolegal autopsy without consent. The approximate findings were also observed in studies done in Uttar Pradesh, Telangana & Ahmedabad.<sup>8-10</sup> 39.27% believed that the expenses incurred during medicolegal autopsy is borne by the government/ teaching hospital. 41.36% agreed that a surgically disposed organ does not need an autopsy. 65.45% of students knew that the Postmortem report is handed over to investigating officer. 49.21% of students agreed that not all medicolegal cases end up in going to the court.

On assessing the attitude of the students towards demonstration of medicolegal autopsy, it was observed that 27.75% students were comfortable, 25.13% were uncomfortable, 17.80% were indifferent while 29.32% were not yet exposed (due to online teaching). Majority of students (93.72%) are interested in watching more of postmortem examination. The attitude of the students was mostly positive towards medicolegal autopsy, similar to the studies done in Uttar Pradesh, Telangana, Haryana & Ahmedabad.<sup>8-11</sup> In contrast to the study done in Sweden, where 75% of the students were uneasy with the thought of performing autopsy on oneself.<sup>12</sup> 67.01% agreed on performing autopsy on self & offering it to relatives too which concurred with studies done in Haryana, Ahmedabad, Uttar Pradesh & Sweden.<sup>9-11</sup> Most of the students (83.25%) assented that postmortem examination in a medical education should be mandatory. Many of them also wanted to watch autopsy while only 16.75% did not wanted to watch it which is in accordance with studies by different authors.<sup>9-11</sup> 84.29% agreed that didactic teachings with autopsy demonstration would provide an opportunity for students to discuss the issues related to autopsy & the results coincide with the observation made in a study conducted in Haryana.<sup>11</sup> Contrary to the similar study done in Haryana, 41.36% disagreed that it causes disfigurement of body.<sup>11</sup> 59.69% of the participant agreed that autopsy delays the funeral. Only 39.79% were confident on performing the medicolegal autopsy independently after completion of their graduation. The source of information for most of the students (77.49%) were from Lecture & Books similar to study done in Haryana.<sup>11</sup>

As far as perception of the students towards medicolegal autopsy is considered, 85.86% of the students does not think that postmortem examination is disrespectful in any way. Similar to studies done in different medical colleges.<sup>9-11</sup> Most of the students 61.26% of the students does realise that autopsy is not merely a legal obligation in concurrence with other studies.<sup>8,9</sup> Majority, 60.73% of the students does not feel that autopsy is against religious belief. 52.36% believes that autopsy does not cause emotional disturbances.

### Conclusion

Overall, the participants do have sound knowledge on medicolegal autopsy & its implications. However, the attitude of future

practitioners is formed by the societal experiences, customs, traditions, culture, religious rites & rituals which predisposes an individual psychologically to conform to the societal norms. The knowledge in cognitive domain, optimistic attitude can facilitate the societal perception without prejudices with holistic approach of explicit learning, awareness, cautious & scientific reasoning to facilitate the social being of an individual.

**Conflict of interest:** Nil

**Source of funding:** Self

**Ethical clearance:** The present study was carried out using the google form-based questionnaire & does not involve any risk to humans in any form. However, the consent from the participants is taken & it is also ensured that the response would be anonymous and solely used for research purpose only.

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