

# Evaluation of Perception of II Year MBBS Students Regarding A Clinical Forensic Medicine Module in a Tertiary Care Centre

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## Abstract

**Background:** Besides providing treatment to patients in medico legal cases, a competent medical practitioner is legally bound to collect all necessary evidence material from the body of patients which may help in the investigation of the crime and to aid in the court of law towards justice. In India, the current practice of theoretical teaching of students in Forensic Medicine towards handling medicolegal cases is not enough to deliver clinical skills effectively in handling medico-legal cases.

**Aims & Objectives:** This study was undertaken with objectives to evaluate students perception on Clinical Forensic Medicine and impart them a hands on training towards handling antemortem medico legal cases.

**Material & Method:** It was an educational interventional study, including 125 second MBBS undergraduate students. At the end of module, the students' responses towards educational project on Clinical Forensic Medicine were collected in the form of a pre-validated questionnaire template.

**Results & Conclusion:** About 52 % students responded as agreed and 29 % strongly agreed with the questionnaires at the end of this module. Students favoured Clinical Forensic Medicine Module as an effective teaching/learning method to learn on the basics of handling medico legal cases.

**Keywords:** *Case based teaching, Medico legal cases, Clinical Forensic Medicine.*

## Introduction

The current practice of teaching Forensic Medicine to students in India is not able to deliver effectively clinical skills in handling medico-legal cases is a matter of concern<sup>1</sup>. As per section 39 of Criminal Procedure Code of India, any person who is aware of the commission of an offense by any person in relation to the human body is bound to report such commission of offense to the law enforcement authorities i.e. the police or the magistrate<sup>2</sup>.

A medical practitioner is constantly exposed to such information about the commission of a crime as they are in a position to treat patients who are suffering due to crime committed by any person. Apart from conveying this information to the police/magistrates, a medical practitioner is also legally bound to collect all necessary evidence material from the body of patients which may help in the investigation of the crime. It is the discretion and the duty of a doctor to judge a medical case and to assess whether there is a possibility of any crime or not.

Legal court may sometimes refer cases to a medical doctor for the purpose of identification, age estimation, etc.; such cases are generally identified as Clinical Forensic Medicine cases. The training of handling of such medico-legal and clinical forensic medicine cases is given to a medical student during the second year of the MBBS course.

It can be argued that second-year MBBS students may lack awareness about the importance of learning to handle medico-legal cases, probably due to non-exposure to emergency cases at that time. Hence, a dedicated module to teach clinical forensic and medico-legal cases to second-year MBBS students along with hands-on training can impart them with skills required to deal in such cases. It is essential that opinion of one of the main stakeholders that is the students towards this module be taken to assess the usefulness and impact of this module.

## Objectives

This study was undertaken with following objectives:

1. To evaluate students perception on Clinical Forensic Medicine.
2. To impart a hands on training to undergraduate students towards handling antemortem medico legal cases.

## Methodology

Study type: Educational interventional study.

i. Protocol was submitted to Institutional Ethics Committee & IEC Permission will be taken.

ii. Study volunteers: The second undergraduate students of Seth GSMC & KEMH were included in this project. The written informed consent of participants was taken.

iii. Inclusion criteria: The students giving consent voluntarily were included in the study.

iv. Exclusion criteria: First & Third year MBBS students were not included in the study.

v. Study variables: questionnaire with Five point Likert scale used for assessment.

vi. Faculty were trained specifically for this module to conduct training sessions.

vii. Training sessions:

For the teaching of undergraduate students in Clinical Forensic Medicine, the broad goal is to have the knowledge, skills and behavioral attributes to function effectively as the first contact Medico-legal experts. This course introduced the systematic instruction to undergraduate students in the principles and practice of Clinical Forensic Medicine, including medico legal cases of age & injury by way of lectures, practical demonstrations on subjects or video. In the project, 125 undergraduate students of Seth GSMC & KEMH were taken into consideration with voluntary will to participate. The written informed consent of participants had been taken. Besides lectures, video demonstrations, they were subjected to hands on training in small groups

towards handling medicolegal cases such as age & Injury and training given towards preparation of medicolegal reports & expert opinions to investigating agencies.

The project had been completed for the MBBS undergraduate students with 125 students. The batch of 125 students divided in the groups of 25 to 30 students for small group demonstrations. The module was applied to this batch to all participants. The students' responses towards educational project on Clinical Forensic Medicine were collected in the form of a pre-validated questionnaire template.

The perception of students collected in a questionnaire form containing 20 questions viz. I found the teaching method enjoyable; The questions stimulated me to think; The discussion aroused curiosity about the topic & generated lot of new ideas; The method was a useful way to understand the topic; I think the role of teacher as facilitator is important in this method; I was attentive throughout this class; I am rarely bored throughout this course; I am able to memorize what I need; The teaching method facilitated my participation; I found the method to be good for clearing doubts which I had after the initial lecture; Much of what I have to learn seems relevant to a routine clinical medical practice; The teaching method will help me in applying the knowledge in my clinical practice; The programme develops an understanding of application of Clinical Forensic Medicine in clinical practice; It creates interest in subject; The course helps to perform better in University Examination; I would like all practical topics to be covered using the same method; I found the course relevant; I satisfied with the level of my Participation; Case based training in Clinical Forensic Medicine is need of hour; Teaching made us confident towards handling medico legal cases more competently; respectively. The responses were 1-strongly disagree, 2- Disagree, 3- Uncertain, 4- Agree, 5-Strongly agree. The data collected was analyzed.

## Results

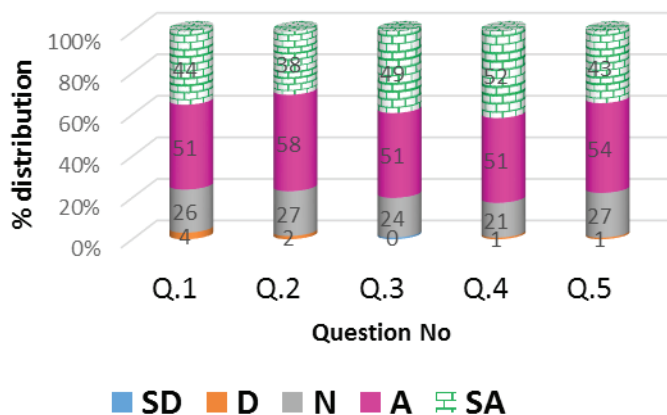
About 52 % students responded as agreed and 29 % strongly agreed with the questionnaires of this module [Table 1]. There were 16 % students who were not able to decide whether this module is going to improve their medico-legal knowledge and its use in clinical practices [Table 1].

**Table 1: Overall Students response to Questionnaire**

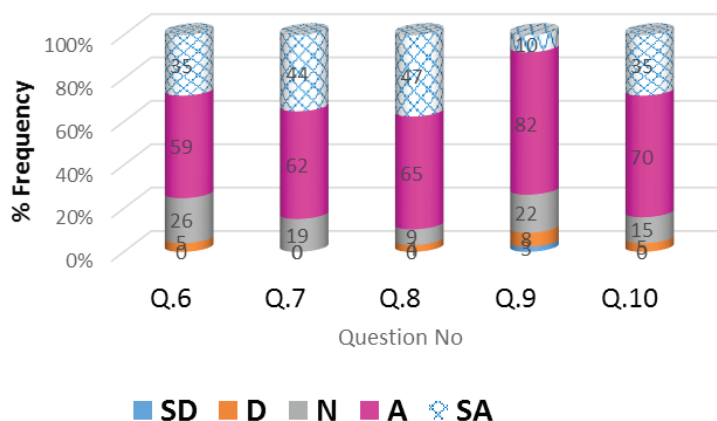
Score	OVERALL SCORE		Percentage (%)
1- SD	STRONGLY DISAGREE	13	1
2-D	DISAGREE	60	2
3-U	UNCERTAIN	389	16
4-A	AGREE	1312	52
5-SA	STRONGLY AGREE	726	29
	Total	2500	100

For most of the question response for students were either agreed and strongly agreed [Figure 1, 2, 3 and 4] for Clinical Forensic Medicine module as a method of teaching medico-legal aspects and for the method used to deliver this module by video clips and small group case discussion in addition to Lecture. The graphical representation of participant’s responses to questionnaire 01 to 20 was shown in figure 01 to 04.

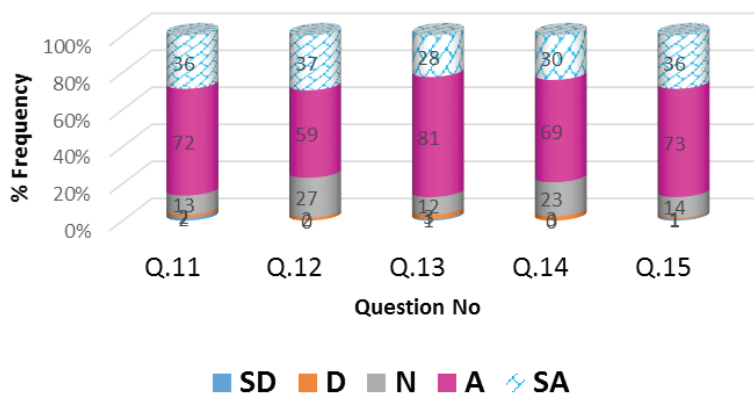
**Figure 1: Proportional Bar Diagram presenting Response Distribution for Q1 to Q5**



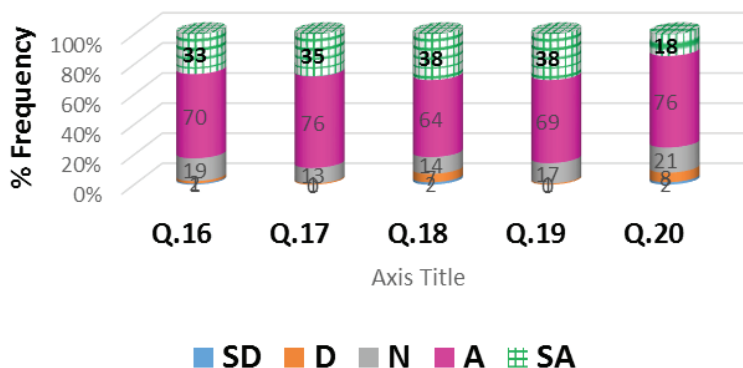
**Figure 2: Proportional Bar Diagram presenting Response Distribution for Q5 to Q10**



**Figure 3: Proportion Bar Diagram presenting response Distribution for Q11 to Q15**



**Figure 4: Proportion Bar diagram presenting response Distribution for !16 to Q20**



### Discussion

Division of Clinical Forensic Medicine is a recent entity which deals with practice of physically examining and assessing a living person who is alleged to be a victim of assault or assessing the alleged culprit of the crime. It includes participation from various other departments such as pharmacology and criminology<sup>1,3</sup>.

One of the core competencies of an Indian Medical graduate as per Medical Council of India is that they should know to describe the importance of documentation in medical practice in regard to medico-legal examinations, Medical Certificates and medico-legal reports<sup>1</sup>. This would include being able to make observations, carry out proper physical examination (Medico-legal) and documentation/reporting of a living person alleged to have been injured as per prescribed and accepted format. He should have knowledge of preservation of relevant biological and also be able to

estimate Age for certification. However, until recent past this essential information was delivered in Forensic Medicine through Lectures. However, a shift in teaching system has been initiated world-wide with transition towards an active learning format for delivering such information. Clinical Forensic Modules is a way forward to enlighten students on these aspects which is usually done in small group with discussion on a case scenario or video clipping or clinical rounds. Currently in India, Program on Clinical Forensic Medicine in which evaluation of a living victim is carried out by trained medico legal person has not evolved and also not implemented everywhere<sup>1</sup>.

It has also been found that Physicians involved in assessment and treatment of victims of violence or accidents have minimal or no training in forensic aspects of trauma. This would result in overlooking of evidence and sometimes loss of evidence as it would

have been discarded<sup>4</sup>. Another important skill required is appropriate documentation of evidence which would assist Pathologists, police and legal authorities in the forensic aspects of an investigation<sup>5</sup>.

It is expected from a medical graduates performing physical examination to be well versed with basic forensic skills to handle medico legal cases. Therefore, this study was undertaken to apply principles of active learning and assess students satisfaction on their learning experience with this Clinical module.

In the present study most of the students (81%) had a good learning experience with this module with reference to enjoyable experience, stimulation to learning, and aroused curiosity about topic. Students who participated in this Clinical module study found the delivery of method useful to understand the topic better. In addition, Students opined that Clinical module and active participation helped them in memorizing and clearing of doubts. Learning seemed to be relevant to them for a routine clinical medical practice and also helped them in applying the knowledge in clinical practice programme. This method developed an understanding in them of application of Clinical Forensic Medicine in clinical practice.

Students felt they can perform better in university examination if they are trained by this module. An acceptance to this module by students encourages implementing this Clinical module as students understanding would improve and will make them competent in Clinical application of Forensic Medicine in medico-legal cases.

More than 80% students (either agreed or strongly agreed) that practical should be covered by this method. Case based training in Clinical Forensic medicine is need of hour, and teaching by this method has given them confidence to handle these medico legal cases. It is essential to take opinion from students too as they are main stakeholders when we design or implement Programs which are not a routine. In this study it was welcoming feature to note students wanted case based learning for other modules as well.

In a relatively similar study done on II MBBS students by Mohite et al revealed comparable results. They concluded in their study that reframing of curriculum with introduction of Clinical posting in

Forensic Medicine is need of hour for enabling medical graduate with skills of handling medico legal cases<sup>6</sup>.

Ingole et al in their study on early Clinical exposure to medico-legal cases documented that implementation of this critically designed module, definitely improved knowledge and skills of students.<sup>[7]</sup> They discussed that Clinical Posting should start in 4 and 5th semester and have casualty Posting of Interns under forensic Medicine as compulsory which is currently optional in India<sup>7</sup>.

Overlooking of evidence or errors in documentation due to ignorance by physician may weaken the case for innocent and offers easy escape for the guilty. Hence, medical practitioner must have an adequate knowledge of documentation, policies and dealing of such cases. Solution to this essential lacuna would be routinely training medical students by Clinical Forensic Medicine Module through active learning for topics that requires them to have good knowledge and skills in handling medico-legal cases.

It is hoped that implementation of Clinical Forensic Medicine Program will give an opportunity to the present staff of Forensic Medicine to teach students all clinical medico-legal aspect in an efficient way. This will help definitely to improve the medico-legal examination and medico-legal report writing.

## Conclusion

Students favoured Clinical Forensic Medicine Module as an effective teaching/learning method to learn basics of Medico-legal issues and protocols for them to perform efficiently in Professional examination and also as Medical graduates in future. The approach and tool used in this Module for teaching principles and practice of Clinical Forensic Medicine, including medico legal cases of age & injury was accepted by students as a good learning method and hence this study demonstrates students acceptance towards active learning method for better understanding of medico-legal issues.

## References

1. Khandekar I, Tirpude B, Murkey P, Pawar V. "Development of Clinical Forensic Medicine in India A need of time." *J Indian Acad Forensic Med*, 2011; 32: 85-90.
2. Legal advice online in India [homepage on the Internet]. CrPC 39: Section 39 of the Criminal Procedure Code. Copyright © 2013-2015 Kaanoon

- Corporation; accessed 20 June 2019. Available from: <https://www.kaanoon.com/indian-law/crpc-39/>
3. Wells David. "Clinical Forensic Medicine in Australia. *BMJ* 1995; 311: 1587.
  4. Mittleman RE, Goldberg HS, Waksman DM. Preserving evidence in the emergency department. *Am J Nurs* 1983;83:1652-6.
  5. Goldsmith MF. US forensic pathologists on a new case: examination of living persons. *JAMA* 1986;256:1685—91.
  6. Mohite PM, Anjankar AJ, Srivastava T. Clinical Teaching in Forensic Medicine: Need of the Hour. *J Indian Acad Forensic Med* 2015; 37: 275-277.
  7. Ingole A, Patond S, Srivastava T, Ninave S, Mohite P. Early clinical exposure of medicolegal cases to 2nd MBBS students in forensic medicine. *Int J Forensic Med Toxicol Sci* 2019;4:19-21.