

## ORIGINAL ARTICLE

# Assessment of Medico-legal Knowledge among Internees of a Medical College, Kolkata: A Cross-sectional Study

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## Abstract:

Medical professionals around the world are encountering medico-legal issues in their daily practices. This is particularly problematic as patients or consumers are becoming increasingly aware of their rights. The term "medico-legal" refers to the intersection of two professions: medicine and law. It encompasses the legal and ethical duties of physicians as well as the medico-legal assessment of patients to ensure the smooth functioning of society. The consequences of an uninformed doctor making a mistake can be severe. Therefore, it is imperative that medical professionals have a thorough understanding of their rights and responsibilities. Addressing the issue of inadequate knowledge of legal medicine and the legal aspects of medical practice is critical and should be dealt with promptly. This present study was done to evaluate the level of knowledge regarding medico-legal issues among the interneers of Calcutta National Medical College, Kolkata and to make the future medical professionals aware regarding their medico-legal responsibilities. An institution based cross-sectional descriptive study was conducted among interneers of Calcutta National Medical College. Interneers who were absent on the days of data collection, unwilling to give consent were excluded from the study. Data were collected by using a pre-designed, pre-tested and semi-structured questionnaire. The study was conducted among 195 interns of Calcutta National Medical College, Kolkata. Among them 115 (59%) were male, 173 (88.7%) were below the age of 25 years, 16 (8.2%) belonged to middle to lower socio-economic class and 110 (56.4%) were residing in hostel. Only 60 (30.8%) students showed interest in doing internship in Forensic Medicine & Toxicology (FMT). About one-third of study subjects 55 (28.2%) had inadequate knowledge regarding medico-legal aspects. While assessing knowledge regarding medico-legal aspects overall mean score was  $13.96 \pm 2.67$ . The study revealed that upper socio-economic class ( $p=0.043$ ), doing internship in FMT ( $p=0.041$ ) were found to be statistically significant. Multi-nominal bivariate analysis showed that students who did internship in FMT department had better medico-legal knowledge than others. The objective of the current study was to assess the level of knowledge of medico-legal aspects among future medical professionals. The results indicated that completing a residency in the FMT department positively impacted their understanding of medico-legal issues. To address any knowledge gaps and increase awareness of legal aspects, it is recommended that the optional rotatory internship in FMT be made compulsory. This would ensure that all medical professionals have a comprehensive understanding of various legal aspects.

**Keywords:** Medico-legal; Interns; Knowledge; Forensic Medicine & Toxicology.

## Introduction:

India has experienced significant advancements in both government and private healthcare sectors since the end of British colonial rule. With the general population becoming increasingly knowledgeable, there has been a rise in awareness levels regarding health and healthcare facilities, resulting in an increase in seeking judicial justice against malpractices in the healthcare industry. To protect consumer interests, the Indian government passed the Consumer Protection Act<sup>1</sup> in 1986, but there was uncertainty about whether medical services were included until the Supreme Court of India made a decision in 1995 (Indian Medical Association v VP Shantha)<sup>2</sup> to bring medical services within the ambit of the Act. The medical

profession is also governed by a code of medical ethics and etiquette as laid down by the Medical Council of India.<sup>3</sup> Following the Supreme Court's decision, there was a significant increase in the number of litigations against doctors and hospitals. Medico-legal, which combines the basics of medicine and law, incorporates the legal aspects of medicine such as legal rights, privileges, duties and obligations of a medical practitioner.<sup>4</sup> This field has gained importance in recent years after the passage of the Consumer Protection Act. While forensic medicine and medical jurisprudence are part of the medical school curriculum in India, many interns and residents lack knowledge about medico-legal issues. The trainee period is a critical time for foresting ethical reasoning.<sup>5,6</sup> Good medical practice requires that medical graduates demonstrate knowledge and understanding of the law,<sup>7</sup> as professionalism relies heavily on the depth of knowledge and application of medical ethics in everyday healthcare practice.<sup>8</sup> The knowledge of medico-legal issues is essential for maintaining the patient-doctor relationship and preventing the commercialisation of the profession.<sup>9,10</sup> Lack of knowledge of legal medicine and legal aspects of the practice

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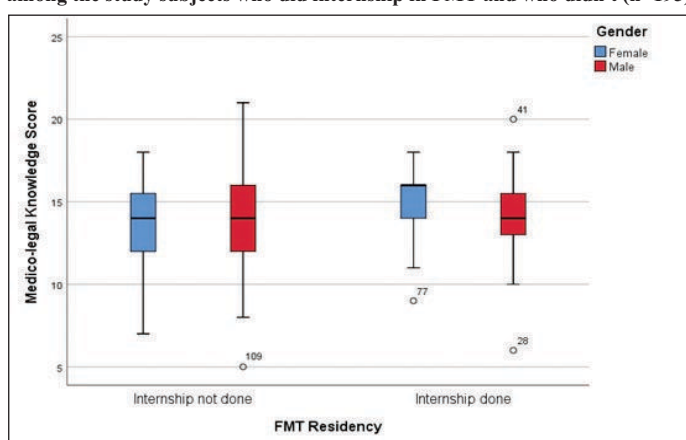
## Article History

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**Table 1. Distribution of study subjects according to socio-demographic profile and knowledge regarding medico-legal aspects (n=195).**

Variable		Number	Percentage
Gender	Male	115	59.0
	Female	80	41.0
Age Group (Years)	≤ 25	173	88.7
	≥ 26	22	11.3
Socio-economic Status	Upper	179	91.8
	Middle to Lower	16	8.2
Residence	Hostel	110	56.4
	Other than hostel	85	43.6
Internship in FMT	Yes	60	30.8
	No	135	69.2
Medico-legal Knowledge	Adequate (Score ≥ 50%)	140	71.8
	In-adequate (Score ≤ 50%)	55	28.2

**Diagram 1. Box-plot showing gender-wise medico-legal knowledge score among the study subjects who did internship in FMT and who didn't (n=195)**



of medicine is a significant issue that needs to be addressed promptly.<sup>11</sup>

Although, Forensic Medicine and Toxicology (FMT) are included in the medical curriculum, the subject has lost its importance over the years, leading to a lack of knowledge among future practitioners irrespective of their specialty. Therefore, this study aims to evaluate the level of knowledge regarding medico-legal issues among the internees of Calcutta National Medical College in Kolkata and raise awareness among future medical professionals regarding their medico-legal responsibilities.

**Materials and methods:**

An institution based cross-sectional descriptive study was conducted among internees of Calcutta National Medical College from February to March, 2023. Before starting data collection ethical approval was taken from institutional ethics committee (Ref. No: EC-CNMC/179, Dated: 28.01.2023). Internees who were absent on the days of data collection, unwilling to give consent were excluded from the study. Out of 236 Internees, data were collected from 195 by using a pre-designed, pre-tested and semi-structured questionnaire. It had two parts. First part was to gather information regarding socio-demographic profile. Second part was to assess medico-legal knowledge which was consisted of 26 questions. These questions were validated (Cronbach's alpha 0.693). Each correct response was scored as one and for wrong answers score zero was given. Henceforth the score range

**Table 2. Distribution of study population according to internship in FMT department with different variables (n=195).**

Variables		Internship in FMT Department		χ <sup>2</sup>	df	P
		Yes	No			
		Number (%)	Number (%)			
Gender	Male (n=115)	35 (30.4)	80 (69.6)	0.015	1	0.903
	Female (n=80)	25 (31.3)	55 (68.8)			
Socio-economic Status	Upper Class (n=179)	55 (30.7)	124 (69.3)	0.002	1	0.965
	Middle – Lower Class (n=16)	5 (31.3)	11 (68.7)			
Residence	Hostel (n=110)	37 (33.6)	73 (66.4)	0.974	1	0.324
	Others (n=85)	23 (27.1)	62 (72.9)			

**Table 3. Distribution of study population according to knowledge with different variables (n=195).**

Variables		Knowledge Score		χ <sup>2</sup>	df	P
		Score ≥ 13	Score ≤ 12			
		Number (%)	Number (%)			
Gender	Male (n=115)	82 (71.3)	33 (28.7)	0.033	1	0.855
	Female (n=173)	58 (72.5)	22 (27.5)			
Socio-economic Status	Upper (n=179)	132 (73.7)	47 (26.3)	4.089	1	0.043*
	Middle – Lower (n=16)	8 (50)	8 (50)			
Residence	Hostel (n=110)	75 (68.2)	35 (31.8)	1.627	1	0.202
	Others (n=85)	65 (76.5)	20 (23.5)			
Internship in FMT	Yes (n=60)	49 (81.7)	11 (18.3)	4.171	1	0.041*
	No (n=135)	91 (67.4)	44 (32.6)			

**Table 4. Bivariate analysis of medico-legal knowledge with different predicted variables (n=195).**

Variable	OR	AOR	df	p Value	95% CI for Exp (B)
Gender (Female)	0.942	0.924	1	0.814	0.477 1.787
Socio-economic Status (Middle to Lower)	2.808	2.659	1	0.073	0.912 7.759
Residence (Other than hostel)	0.659	0.658	1	0.219	0.338 1.282
Internship in FMT (No)	2.154	2.265	1	0.035*	1.060 4.838

was 0-26. Minimum score of 50% i.e. 13 was considered as adequate knowledge regarding medico-legal aspects. Modified B. G. Prasad Socioeconomic Scale, 2022 was used to determine socio-economic status of the students. Data were collected on a pre-specified date in department of Community Medicine using the questionnaire within a stipulated time period.

Statistical analysis: Data entry and analysis were done in Statistical Package for Social Sciences (SPSS) version 16.0. Frequency distribution tables were used for descriptive statistics. Chi-square test and multi-nominal logistic regression were used to assess factors influencing medico-legal knowledge considering significance level at 5% assuming 95% confidence interval (CI).

**Results:**

The study was carried out on 195 interns from Calcutta National Medical College in Kolkata, with 115 (59%) being male and 173 (88.7%) being below the age of 25 years. The majority of interns, 110 (56.4%), resided in the hostel and only 60 (30.8%) expressed interest in doing an internship in Forensic Medicine & Toxicology (FMT) as an optional subject. Around one-third of the subjects, 55 (28.2%), had insufficient knowledge about medico-legal aspects (Table 1). However, female interns (31.3%), interns belonging to middle-lower socio-economic groups (31.3%), and

those who lived in hostels (33.6%) showed more interest in doing residency in the FMT department as an optional subject, but statistical significance was not found in these findings (Table 2). The overall mean score for assessing knowledge regarding medico-legal aspects was  $13.96 \pm 2.67$ . Female interns had a higher mean score ( $14.03 \pm 2.61$ ) than male interns, and interns who did residency in FMT scored higher ( $14.25 \pm 2.45$ ) than those who didn't ( $13.83 \pm 2.76$ ) (Diagram 1). The study revealed that female interns (72.5%), those belonging to the upper socio-economic class (73.7%), interns residing outside the hostel (76.5%), and those who completed an internship in FMT (81.7%) had better knowledge than their counterparts. However, only the upper socio-economic class ( $p=0.043$ ) and completing an internship in FMT ( $p=0.041$ ) were found to be statistically significant (Table 3). Multi-nominal bivariate analysis showed that students who completed an internship in the FMT department had better medico-legal knowledge than others (AOR= 2.265,  $p$ -value = 0.035, 95% C.I. 1.06-4.838) (Table 4).

### Discussion:

The rotatory internship period is vital & important transitional period from learning student to practical professional, as during this time student can acquire practical knowledge by hands on training, technical skills and try to reach their excellence by doing their responsibilities and duties. Legal issues are very much important & necessary in every type of professional practices in their own domain. So also for medical professionals face medico-legal issues which is increasing in nature in our country or other developing countries irrespective of region or places. The services of medical professionals are very sensitive, risky, emergency instant decision making & crucial and any wrong or inappropriate or inadequate decision may be disastrous to beneficiaries. But even in that midst of situation professional should have medico-legal part kept in mind. Medical professional should be well acquainted with Medical Laws & Ethics before performing or providing any medical services otherwise facing penalty either monetary, physical, loss of reputation or even their professional licences temporarily or permanently. The present study assessed medico-legal knowledge among 195 interns of Calcutta National Medical College, Kolkata. Study showed that 71.8% of interns having adequate knowledge regarding medico-legal aspects which was not corroborated with the study done by Mohite PM<sup>12</sup> who performed a similar study in 2000 showing high level of ignorance about medico legal issues. This lack of knowledge is not restricted to professionals from India only. Even developed nations like USA have issues related to lack of knowledge about medico legal aspect of medicine. A study done by Giri PA<sup>4</sup> in Rural Medical College (RMC), Maharashtra showed the inadequate knowledge among the interns and residents. Significant disjunction between legal standards and doctors' awareness was shown in the study done by Darvall L.<sup>13</sup> Study done by Moreno-Hunt et al.<sup>14</sup> also observed significant lacunae in the knowledge of medico legal issues among obstetrics and gynaecology residents in USA. Among the study subjects 59.0% were male, 8.2% belong to middle-lower income group, 56.4% were residing in hostel. Only 30.8% interns did their residency in FMT. A study conducted in NEIGRIHMS, Shillong by Ropmay AD<sup>15</sup> found that only 3.7% of interns had poor knowledge but the

current study found that nearly one-third (28.2%) had inadequate knowledge. From this study it was seen that interns who resided in hostel showed more interest in doing FMT residency but there was practically no difference among different genders and socio-economic status category in doing internship in FMT. This finding may be further evaluated by doing in-depth interview. This study also revealed that female interns and interns who did residency in FMT were more knowledgeable than others in medico-legal issues. The study revealed that female interns (72.5%), upper socio-economic class (73.7%), interns residing outside of hostel (76.5%) and those who had done internship in FMT (81.7%) had better knowledge than their counterpart. But only doing internship in FMT was found to be statistically significant.

### Conclusion:

The purpose of the current study was to assess the level of knowledge of medico-legal aspects among the next generation of medical professionals. With the introduction of the Consumer Protection Act and the increasing awareness of people regarding their legal rights, this aspect has become a crucial part of the medical curriculum. The study findings revealed that undertaking residency in the FMT department had a positive impact on the medico-legal knowledge of the participants. Therefore, making the optional rotatory internship in FMT compulsory one could significantly enhance their understanding of various legal aspects. Furthermore, conducting regular re-orientation programmes, CMES and workshops for all medical professionals, organized by different medical associations, could help dispel any misconceptions, bridge knowledge gaps, and keep them updated on different legal issues related to medical practice.

**Limitations:** The study was conducted only among the intern batch of Calcutta National Medical College. Conducting a study involving all other medical professionals would reveal a larger scenario. Constructing a detailed questionnaire involving different angles of legal issues would definitely point out the lacunas among the healthcare givers.

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**Conflict of Interest:** There was no conflict of interest.

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