



## ASSESSING KNOWLEDGE REGARDING MEDICOLEGAL ISSUES, PREVENTION OF DISEASES AND FINANCIAL ASPECTS AMONG MEDICAL OFFICERS IN A STATE OF NORTH INDIA: A CROSS-SECTIONAL STUDY.

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### ABSTRACT

**Introduction:** Medical science is a vast arena where many branches amalgamate and a Medical Officer (M.O.) must be well versed and acquainted with all the branches for proper and smooth medical practice. The need of the hour is to have forensically equipped doctors who are well-versed with the legal and ethical aspects of their practice, having vision of prevention and control of diseases and also adequate knowledge regarding functioning of Rogi Kalyaan Samiti (RKS) so as to provide quality health services to the patients. This study has been conducted with an objective to assess knowledge regarding medicolegal issues, prevention of diseases and financial aspects among Medical Officers (M.O.) in state of Himachal Pradesh, India. **Material and methods:** This was a cross-sectional study conducted in the month of January 2023 to February 2023 on the Medical Officers appointed in the various primary and secondary health institutions of Himachal Pradesh. The data was collected using self designed semi-structured questionnaire after reviewing concerned literature and informed consent was obtained from the study participants. Results: 63.4% and 36.6% of the study participants had adequate and partial knowledge respectively regarding the medicolegal issues. Only 5.4% had adequate knowledge and 87.1% had partial knowledge regarding prevention of diseases. 49.5% had adequate knowledge and only 2.2% had poor knowledge regarding financial aspects. Overall 24.7% of the study participants had adequate and 75.3% had partial knowledge. Knowledge score for medicolegal issues, prevention of diseases and financial aspects has been found to be significantly associated with gender with p-value of 0.014, 0.011 and 0.018 respectively. **Conclusion:** Such gap needs to be addressed by introducing needed topics in MBBS curriculum, mandatory posting in department of Forensic and toxicology and Community Medicine during internship and regular in-service trainings followed by monitoring and evaluation.

**KEYWORDS :** Pandemic, financially literate, Rogi Kalyaan Samiti, litigations, refresher trainings.

### INTRODUCTION

Medical science is a vast arena where many branches amalgamate and a Medical Officer (M.O.) must be well versed and acquainted with all the branches for proper and smooth medical practice. Apart from their regular medical course, understanding the law of the country is a must for all medical professionals<sup>(1)</sup>. Not only medicolegal but preventive and financial knowledge is also needed by a Medical Officer for providing quality services to the public. The rising crime rate and traffic congestion have led to an overall increase in the number of violent assault and vehicular accident cases reporting to the Casualty departments of hospitals in our state. Therefore, the need of the hour is to have forensically equipped doctors who are well-versed with the legal and ethical aspects of their practice<sup>(2)</sup>. They must be confident about medical examination and report writing, standard operating procedures to be followed and appearing as expert witnesses in courts of law<sup>(3)</sup>. In the COVID-19 Pandemic era, adequate knowledge regarding prevention of COVID-19 and other communicable and non-communicable diseases is also required which will further improve the morbidity and mortality rates in the country. Low financial knowledge is also reported to be associated with sub-optimal financial outcomes in many areas (i.e., retirement planning, borrowing decisions, stock market participation, etc.)<sup>(4-9)</sup>. A financially literate individual is also less susceptible to financial frauds<sup>(10)</sup>. For a Medical Officer, adequate knowledge regarding Rogi Kalyaan Samiti (RKS) and Jan Aarogya Samiti (JAS) is must for purchasing essential items in the health institution and providing required quality services to the patients.

There is lack of published literature on the Knowledge regarding medicolegal issues, prevention of diseases and financial aspects among Medical Officers (M.O.) in Himachal Pradesh. Thus, this study has been conducted with an objective to assess knowledge regarding medicolegal issues, prevention of diseases and financial aspects among Medical Officers (M.O.) in state of Himachal Pradesh, India and the findings of the study may help the government and medical council to devise effective curriculum during MBBS and even after appointment in the Health services.

### MATERIAL AND METHODS

**Study design and data collection:** This was a cross-sectional study conducted in the month of January 2023 to February 2023 on the Medical Officers appointed in the various primary and secondary health institutions of Himachal Pradesh. The study was conducted in Regional Health and Family Welfare Training Centre (RHFWTC)

Kangra at Chheb, Himachal Pradesh where refresher trainings are carried out among government in-service HCWs round the year. The data was collected using self designed semi-structured questionnaire after reviewing concerned literature and informed consent was obtained from the study participants. All the Medical Officers attending innovative trainings during the study period were provided the information about the study by using participant information sheet. Those who were interested to participate were enrolled in the study. The data was collected from 93 candidates.

**Data collection tool:** The questionnaire was based on socio-demographic details and knowledge about medicolegal issues, prevention of diseases and financial aspects. The knowledge section on medicolegal issues contained 15 questions, prevention of diseases contained 30 questions and financial aspects contained 10 questions. One mark was awarded for each right answer and there was no negative marking. The total number of questions were 55 and total maximum marks were 55.

**Criteria used for assessment of the levels of KAP:** Following criteria was used to label as adequate, partial and poor knowledge. The knowledge was labelled as adequate when score obtained was above 67%, partial when between 34-67% and poor when <34%<sup>(11)</sup>.

**Ethical consideration:** The whole procedure was performed in accordance with the ethical standards and the Helsinki declaration of 1975 and a permission was sought from the head of the institution prior to the commencement of the study.

**Data analysis:** Data collected was coded and then entered in Microsoft-excel spreadsheet and analysed using SPSS version 24. Results for the continuous variables were expressed as mean and standard deviation (SD). The results for the categorical variables were expressed as percentages. Association between the independent variables (sociodemographic variables) and the levels of knowledge was assessed using Chi-square test and p-values less than 0.05 were considered as significant.

### RESULTS

**Table 1: Distribution of study participants based on the Sociodemographic characteristics.**

DEMOGRAPHIC CHARACTERSTICS	TOTAL RESPONDENTS (n=93)
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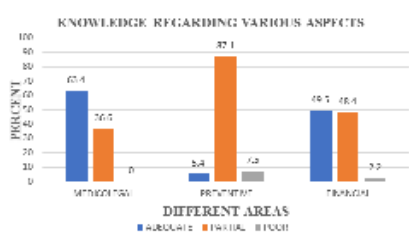
Age group ( in yrs)	N(%)
Upto 30	59(63.4)
31 and above	34(36.6)
Gender	N(%)
Male	65(69.9)
Female	28(30.1)
Experience (in yrs)	N(%)
Upto 2	24(25.8)
2-5	50(53.8)
>=5	19(20.4)
Facility type	N(%)
Primary	50(53.8)
Secondary	43(46.2)
Marital status	N(%)
Married	32 (34.4)
Unmarried	61(65.6)

Out of 93 study participants majority( 63.4% ) were of age upto 30 years and the mean age was found to be 30.2 +/-6.3 years. Majority( 69.9%) were males, 53.8% had experience of 2-5 years, 53.8% were posted in primary health centre and 65.6% were unmarried (Table 1). Mean score obtained for knowledge regarding medicolegal issues was found to be 33.3(5.5), regarding prevention of disease to be 15.1(3.5) and regarding financial aspects to be 7.2(1.6). The overall score for knowledge was found to be 33.1(5.5) (Table 2).

**Table 2: Score obtained among the study participants.**

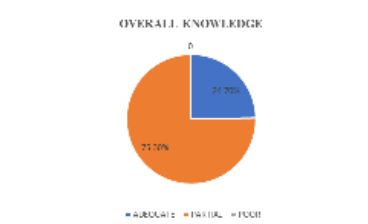
Characteristic	Mean score	Standard deviation
Overall knowledge	33.1	5.5
Knowledge regarding Medicolegal issues	11.5	2.3
Knowledge regarding Prevention of disease	15.1	3.5
Knowledge regarding Financial aspects	7.2	1.6

**Figure 1: Level of Knowledge regarding various aspects among the study participants.**



63.4% and 36.6% of the study participants had adequate and partial knowledge respectively regarding the medicolegal issues. Only 5.4% had adequate knowledge and 87.1% had partial knowledge regarding prevention of diseases. 49.5% had adequate knowledge and only 2.2% had poor knowledge regarding financial aspects (Figure 1). Overall 24.7% of the study participants had adequate and 75.3% had partial knowledge (Figure 2).

**Figure 2: Distribution of study participants based on the overall score obtained.**



Knowledge score for medicolegal issues, prevention of diseases and financial aspects has been found to be significantly associated with gender with p-value of 0.014, 0.011 and 0.018 respectively. No association has been found with age, duration of experience, facility type and marital status.

**DISCUSSION**

MBBS is such a long course which consumes 5-6 years of an

individual. Even after getting degree, individuals are not so knowledgeable in field of medicolegal cases handling, prevention of communicable and non-communicable diseases and dealing with financial matters. When such doctors are posted in some primary and secondary health institutions they face various problems related to these and are not in state of readiness and confidence to handle the situation. They hesitate to deal medicolegal cases and hence refer them to higher centre. Numerous medical professionals are worried about dealing with medico-legal cases as they might land up in courts of law, be badgered by the attorneys, and be questioned by police staff<sup>(11)</sup>.

Also implementation of national health programmes becomes difficult which mainly focus on prevention of diseases. Such medical officers face problems in purchase of items for the patient care in the institutions due to lack of knowledge in financial aspect. As a whole, such lack of knowledge creates a barrier in delivery of services to patients and also growth of a Medical Officer and the health facility.

In our study, there was adequate knowledge regarding dealing medicolegal issues in 63.4% of study participants, partial knowledge in 36.6% and none had poor knowledge. In a study conducted by Nath A et al<sup>(11)</sup>, from 94 subjects analyzed for their answers, 56% had adequate knowledge. Amongst nonspecialist doctors (n = 53), 52.8% had adequate knowledge and amongst specialist doctors (n = 34), 67.6% had adequate knowledge in various aspects of management of medico-legal cases.

In our study, candidates were assessed regarding various types of consent, MTP act, dying declaration, preservatives used for samples and medicolegal injuries. All these areas are the must areas for a Medical Officer besides many more. A significant association has been found with gender. A study by Mir MS et al<sup>(12)</sup>, increasing knowledge in the management of medico-legal issues has been found to be associated with years of experience; however, our study showed that years of experience has no role on knowledge.

The adequate knowledge can be increased from 63.4% to some higher percentage by a mandatory 15 days posting in the Department of Forensic Medicine and Toxicology during internship<sup>(13)</sup> and conducting problem-oriented on-the-job training on regular basis. Further, regular Continuing Medical Education (CME) programmes on medical law and ethics could be held from time to time to ensure that interns and doctors are confident about dealing with such situations on a day-to-day basis<sup>(5)</sup>. Hence, a refresher course at least once in a year with respect to medicolegal issues and medical jurisprudence is considered necessary to avoid any litigations that might arise out of their daily clinical practice<sup>(14)</sup>.

In our study, only 5.4% had adequate knowledge, 87.1% had partial and 7.5% had poor knowledge regarding prevention of diseases. In this crucial time of pandemic of diseases like COVID-19, knowledge regarding prevention and control is very important. Study participants were assessed regarding HIV post exposure prophylaxis, recent initiatives under various national health programmes and prevention and control of various non-communicable and communicable diseases including COVID-19 vaccination. The score obtained is not satisfactory thus more focus is needed in providing time to time trainings in such field to avoid emerging epidemics and pandemics of diseases. In our study, knowledge score for prevention of diseases has been found to be significantly associated with gender with p-value 0.011 and no association has been found with age, duration of experience, facility type and marital status. In a study by Padmanaban S et al<sup>(15)</sup> knowledge of higher education students towards COVID-19 was significantly associated with the socio-demographic variables such as marital status (p < 0.05); programme of study (p < 0.01); field of study (p < 0.01); the locality (p < 0.01) and socioeconomic status (p < 0.01). A study by Lee M et al<sup>(16)</sup> females (β = 0.06, p < 0.05) and individuals with higher levels of education (β = 0.06, p < 0.05) demonstrated higher levels of knowledge.

One of the innovative strategies adopted under NRHM was formation of Rogi Kalyan Samiti (RKS), whose primary role was to ensure smooth functioning and maintaining the quality of services. The primary healthcare system in the state operates in a hierarchical manner with subcenters and primary health centers at the base and community health centers (CHCs) at the secondary level. The RKS has been framed at all levels including the CHCs to ensure provision of comprehensive quality care to the beneficiaries<sup>(17)</sup>. For smooth

functioning of RKS, there is provision of funds generation through government and nongovernment agencies. The RKS is empowered to mobilize resources through levying user charges, commercial use of assets like land of the institution, and donations in cash or kind from the public at large<sup>(17)</sup>. In our study, we assessed the candidates regarding objectives, members, functions and meetings proceedings. 49.5% had adequate knowledge, 48.4% had partial and only 2.2% had poor knowledge regarding financial aspects. In a study by Ganguly E, poor interest of the members and lack of awareness among members and the general community has been observed. The participants reported a number of factors, mostly inhibitory in nature, which affected the smooth functioning of the RKS. The most frequently cited problem was that the members never reached a common consensus for deciding on purchasing of goods required for quality upliftment of the CHC services. Half of the RKS had members who had an indifferent attitude toward the goals and objectives of the respective RKS, and most of them were absent from the meetings under false pretexts. A study by Adsul N et al also reported nonawareness of community members as well as lack of clarity of objectives among RKS members in low-performing CHCs<sup>(17)</sup>. In our study about half of the study participants have inadequate knowledge, this gap may hamper service delivery to the patients. Introduction of RKS during MBBS curriculum and regular in-service trainings may reduce this gap.

Our study is a novel study which had not been conducted in the past under similar settings. Since the study has been conducted on in-service Medical Officers, this will provide actual picture of knowledge among them in the state. A big sample size may be need for countrywide external validity.

## CONCLUSION

Overall 24.7% of the study participants had adequate and 75.3% had partial knowledge regarding various aspects related to medicolegal, preventive and financial issues. Such gap needs to be addressed by introducing needed topics in MBBS curriculum, mandatory posting in department of Forensic and toxicology and Community Medicine during internship and regular in-service trainings followed by monitoring and evaluation. The same study can be conducted on larger samples and could be replicated in different settings for better generalization.

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