



FINAL YEAR MEDICAL STUDENTS' KNOWLEDGE, ATTITUDE AND PRACTICE OF MEDICO-LEGAL PROBLEMS: A CROSS SECTIONAL STUDY AT IBN SINA NATIONAL COLLEGE IN JEDDAH

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ABSTRACT

Forensic medicine encompasses various subspecialties that involve resolving legal issues using diverse techniques. Medical students should be prepared for their near future career, in particular, the challenge of facing medico-legal cases with their consequent legal responsibilities. The aim of the study was to assess final year medical students' knowledge, attitude and practice of medico-legal problems. This cross-sectional study included randomly selected 138 6th year medical students at Ibn Sina National College in Jeddah. 56 (40.6%) were male and 82 (59.4%) were female, aged 24.46±1.45 years, and 114 (82.6%) were Saudis. A pre-designed, self-answered 23-item questionnaire in English was devised by a specialist in the field and circulated through Survey-Monkey forms from November 2018 to January 2019. Most students had good knowledge (66.27%) and positive attitude (71.47%). Some had poor (14.49%) or no knowledge (19.24%), negative (15.67%), or borderline attitude (14.31%). Poor responses were the legal value of incomplete reports (28.99%), notifications of relatives before police notification (15.94%) and informed consent before photographing (21.74%). Many students (44%) had negative attitude towards their current medico-legal overall education and knowledge. Only 14.5% had been previously involved in photographic documentation. Students thought that the main sources of stress/pressure during managing medico-legal problems were the victim's relatives (69.79%), followed by fear of legal consequences (54.17%). They also thought that the best educational stage for medico-legal training programs should be during undergraduate years (57.25%), or less frequently during residency (55.8%) or post-graduate years (46.38%). In conclusion, final year medical students were prepared for their future practice by good knowledge and positive attitude towards medico-legal problems. However, many gaps were detected between theory and practice. Therefore, we recommend medical colleges to initiate an undergraduate clinical forensic medicine training program. Moreover, residents and post graduate emergency physicians need to know their medico-legal responsibilities and to acquire technical skills to perform forensic evaluations of victims.

KEYWORD: *medico-legal problems, medical education, emergency medicine, clinical forensic medicine, photographic documentation.*



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INTRODUCTION

Medical team's priority is to save victim's life especially in case of fatal or dangerous wounding and stressful situation at emergency departments; however, minimal documentation will be expected under these conditions.¹ Whatever the emergency case is, the medical team should thoroughly address the forensic needs of patients.^{2,3} On the other hand, forensic practitioners have advanced skills of documentation, description, analysis of degree of causation, timing of assault, causative agent / instrument, manner of infliction, although, it is impossible to have a forensic doctor in every hospital and clinic.⁴ Apparently, it is difficult to have a qualified forensic pathological practitioner in every emergency room; therefore, the responsibility of recognizing medico-legal issues lies on the attending physicians. Any discovered sensitive information during history taking or examination by the medical practitioner is not allowed to be disclosed to anyone. This includes diagnosis, causal factors and prognosis. Exceptions in which the practitioner is allowed to disclose sensitive information on the patient's own will, for the patient's or doctor's benefits, and for the sake of the public and/or community. The last indication includes notifications of births and/or deaths, child abuse and neglect, notifiable diseases, medico-legal testimony in front of the court, and suspected criminal cases, imminent crimes.⁵ Therefore; medical school fresh graduates should be well prepared to properly handle emerging medico-legal cases in their near future carrier. Most curricula at medical colleges are based on theoretical knowledge with great gaps between theory and practice. Thus, the present study was conducted to explore knowledge, attitude and exposure to practice of final year medical students' medico-legal problems.

METHODS

A cross-sectional study was carried out among 6th year medical students (final year medicine program), studying at Ibn Sina National College (ISNC) of Medical studies in Jeddah. Participants were selected by a randomized convenient sampling over a period of 3 months from November 2018 to January 2019. The sample size was calculated using online sample size calculator. Sample size calculated were 145 students for confidence interval of 5%, confidence level of 95%, and total number of the students (255 students).

After exclusion of incomplete answers, the final sample was 138 students. An electronic pre-designed, self-administered 23-item questionnaire was devised in English by a specialist in the field to maintain face validity. The questionnaire was sent through Survey-Monkey electronic forms, starting with a briefing regarding the objective of the study, and invited students to voluntarily answer the questionnaire. Demographic data included age, gender; nationality and academic identity number were recorded. The questionnaire contained 11 questions to test knowledge, 8 for attitude and 2 for practice concentrating mainly on photo-documentation. There were 2 questions concerned with students' opinion. Most questions were objective in nature with 'yes', do not know or 'no' options whereas a few questions were only 'yes' or 'no' options. Each correct answer was considered good, incorrect answer was considered poor, and do not know answer was considered no knowledge. Then all similar answers were summated to generate the overall knowledge levels (good, no knowledge, poor) and then the percentages were calculated out of all the responses. Similar method was applied to answers concerning the attitude and practice. Good answers were interpreted as positive attitude, poor as negative and do not know answers as borderline attitude. Ethical approval of the study was received from ISNC ethical committee (proposal number 001MP05092019) and all personal data were dealt with confidentiality.

STATISTICAL ANALYSIS

Data was statistically analyzed by Statistical Package for the Social Sciences (SPSS Inc. Chicago, IL, USA) software 23 for Windows. Descriptive statistics included mean and standard deviation for normally distributed continuous variables and percentages for categorical variables. Microsoft excel 2003 was used to construct figures (1-3). P value < 0.05 will be use to decide for the statistical significance

RESULTS

The study included 56 (40.6%) males, 82 (59.4%) females, aged 24.46±1.45 years, and 114 (82.6%) of them were Saudis. In figure 1, good knowledge was reported collectively by 66.27% of students (1006 right answers), no knowledge by 19.24% (292 do not know answers) and poor knowledge by 14.49% (220 wrong answers). Positive attitude was reported collectively by 71.47% of students (789

right answers), borderline attitude by 14.31% (158 do not know answers), and negative attitude by 15.67% (173 negative answers). While good practice was reported only by 14.5% (Figure 1). In table 1, the poorest knowledge responses (<50% right answers) were those concerned by legal value of their incomplete reports (39.86%), notifications of relatives before notifying the police (41.3%), and the importance of informed consent by victims or relatives before photographing (46.38%). In table 2, the poorest attitude response (<50% right answers) was the negative attitude of the students towards their current overall medico-legal education and

knowledge (41.3%). In table 3, poor practice was seen by the students' response to the 2 questions (15.94% and 13.04%). The main sources of stress/pressure during managing medico-legal problems in the students' opinion was the victim's relatives (69.79%), followed by fear of legal consequences (54.17%) (Figure 2). The best educational stage for medico-legal training programs in the final year medical students' opinion was a bit more during undergraduate years (57.25%) rather than residency (55.8%), or post-graduate years (46.38%) (Figure 3).

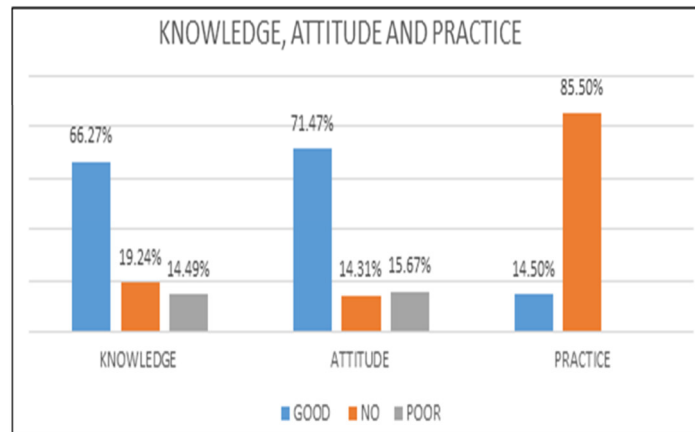


Figure 1
Total response for knowledge, attitude, and practice of future medico-legal problems by the final year medical students.

Table 1
The final year medical students' knowledge of their future medico legal problems.

QUESTIONS	RESPONSE	N (%)
1- In case of criminal suspicion of living or dead victims, the physician must notify the police authority immediately through official procedure?	Yes (good)	122(88.41)
	No (poor)	7(5.07)
	DK (no)	9(6.52)
2- In case of criminal suspicion, do you think that notification to the police authority is an essential legal procedure and has its legal responsibility?	Yes (good)	120(86.96)
	No (poor)	10(7.25)
	DK (no)	8(5.80)
3- In the same context, should you notify the relatives about your suspicion prior police notification?	Depend on different situation (good)	57(41.3)
	Yes (poor).	22(15.94)
	No (borderline)	59(42.75)
4- Do you expect any sort of pressure/stress from relatives or others preventing you from disclosure of a criminal suspicion	Yes (good)	90(65.22)
	No (poor)	48(34.78)
5- Should your workplace in the future provide a unified protocol about management of sexual abuse and physical abuse cases?	Yes (good)	111(80.43)
	No (poor)	12(8.7)
	DK (no)	15(10.87)
6- Do you think that photography by medical staff can have a role or useful in managing physical and sexual assault victims before referral to forensic medicine doctors?	Yes (good)	92(66.67)
	No (poor)	15(10.87)
	DK (no)	31(22.46%)
7- Do you think that photographic documentation could protect the	Yes (good)	99(71.74)

	medical staff from remote legal consequences	No (poor)	17(12.32)
		DK (no)	22(15.94)
8-	Is the informed consent from the victim or relatives is crucial before photographic documentation in these cases?	Yes (good)	64(46.38)
		No (poor)	30(21.74)
		DK (no)	44(31.88)
9-	Do you think that proper documentation for each medico-legal case is essential including (full description of wound, measurement, timing of injury and photography)	Yes (good)	115(83.33)
		No (poor)	6(4.35)
		DK (no)	17(12.32)
10-	Do you think that incomplete medico-legal reports issued from the medical department at your workplace are legally valuable?	Yes (good)	55(39.86)
		No (poor)	40(28.99)
		DK (no)	43(31.16)
11-	Do you expect major legal consequences, penalties of medico-legal reports in courts?	Yes (good)	81(58.70)
		No (poor)	13(9.42)
		DK (no)	44(31.88)

DK: do not know.

Table 2
The final year medical students' attitude of their future medico-legal problems.

	Questions	Response.	N(%)
1	Do you think that your future workplace provides instruments (Camera) and requirements for photographic documentation?	Yes (positive)	79(57.25)
		No (negative)	21(15.22)
		DK (borderline)	38(27.54)
2	Do you think that your future workplace should provide a specified protocol about collecting evidence from a medico-legal case (clothes, swabs, bullet, remnants of foreign bodies, etc.)?	Yes (positive)	107(77.54)
		No (negative)	12(8.7)
		DK (borderline)	19(13.77)
3	Do you think that your future workplace should provide sexual assault kits for evidence collection until referral to forensic medical centers?	Yes (positive)	95(68.84)
		No (negative)	10(7.25)
		DK (borderline)	33(23.91)
4	Do you think that your future workplace should provide you with a training program in evidence collection in medical departments?	Yes (positive)	122(88.41)
		No (negative)	16(11.59)
5	Do you think that your future workplace should provide a well-organized chain of custody for evidence collection until delivery to police authority?	Yes (positive)	102(73.91)
		No (negative)	11(7.97)
		DK (borderline)	25(18.12)
6	Should you have any training program in writing medico-legal reports in ER?	Yes (positive)	104(75.36)
		No (negative)	34(24.64)
7	Do you think that current overall education and knowledge about medico-legal cases is appropriate?	Yes (positive)	57(41.30)
		No (negative)	61(44.0)

		DK (borderline)	20(14.49)
8	Do you need more training programs concerning management of medico-legal cases at medical practice?	Yes (positive)	123(89.13)
		No (negative)	8(5.80)
		DK (borderline)	7(5.07)

DK: do not know. ER: emergency room.

Table 3
The final year medical students' practice of photographic documentation.

Questions	Response.	N(%)
1 Did you practice or help in photographic documentation for any of medico-legal cases?	Yes (practice)	22(15.94)
	No (no practice)	116(84.06)
2 Did you have any training for photographic documentation of medico-legal cases?	Yes (practice)	18(13.04)
	No (no practice)	120(86.96)

DK: do not know.

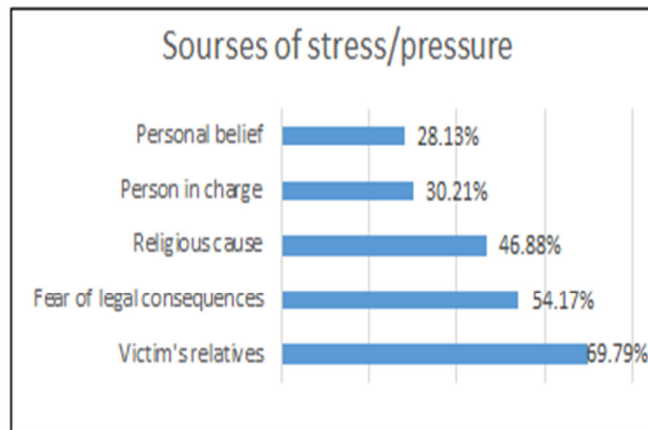


Figure 2
Sources of stress/pressure by medico-legal problems in the final year Medical students' opinion.

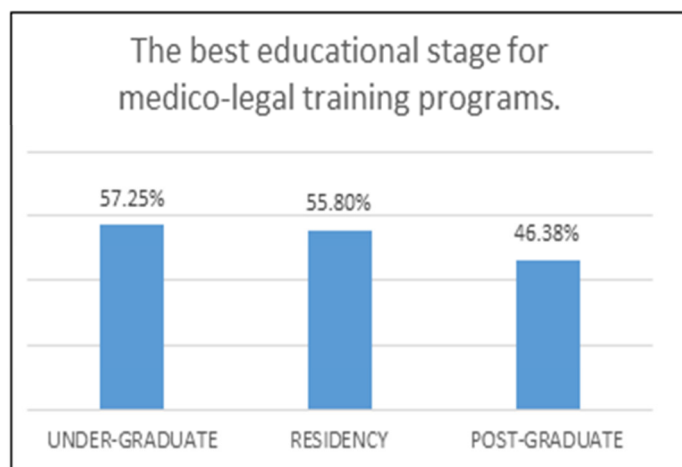


Figure 3
The best educational stage for medico-legal training programs in the final Year medical students' opinion

DISCUSSION

In the present study, a substantial percentage of the final year medical students had good knowledge (66.27%) and positive attitude (71.47%) concerning medico-legal problems. However, they scored poorly in certain knowledge namely recognizing the legal value of incomplete medical reports (28.99%). This is astonishing as incomplete reporting should be a major concern by most physicians. Moreover, only half of the students (54.17%) thought that the legal consequences could represent pressure on them during handling medico-legal problems. In a retrospective review of medico-legal reports, many written by treating practitioners or even by medico-legal experts were incomplete.⁶ This is consistent with the findings of other researches.^{7,8} Researchers found a possible association between the duration of training and professional experience of the physicians, and the completeness of the reports.⁸ Therefore, unawareness of the legal consequences of incomplete reporting by the students, the future physicians, may further complicate the already present reporting defect and necessitate the development of early awareness strategy by responsible agencies. This was expected by most of the student as they thought that their future workplace should provide them with a training program in evidence collection in medical departments (88.41%) and in writing medico-legal reports in emergency room (ER) (75.36%). Many students were hesitant to inform victims/relatives before notifying the police (15.94%) or taking their consent before photographing the victim (21.74%); probably due to their view of relatives as major source of pressure and stress (69.79%). Some emergency physicians are found to be compatible with collecting physical evidence from a suspected criminal act, whereas others view this practice as incompatible with the best interests of their patients.⁹ Patient's confidentiality is an ethical obligations to physicians. In condition where collecting evidence, including photographing and recording, is part of treatment of victims, physicians should act respectfully, with patient consent.¹⁰ In one study¹¹; health care workers thought that managing of a forensic cases was problematic due to the aggressiveness of the patients' relatives. All 6th years students received training in ER during their 5th years as per ISNC curriculum. However, their practical approach of forensic cases was inadequate as only 14.5% of them had been previously involved in photographic

documentation. Similarly, one study¹¹ reported that very few of health personnel received education about approaching a forensic case before (19.1%) and even after graduation (2.9%). Teaching basic principles of forensic medicine at the level of undergraduate will help physicians perform forensic medical examinations and might cover the shortage of specially trained forensic medical practitioners.¹² Many students (44%) had negative attitude towards their current medico-legal overall education and knowledge. They also thought that the best educational stage for medico-legal training programs should be during undergraduate years (57.25%), or less frequently residency (55.8%) or post-graduate years (46.38%). Forensic medicine courses given to medical students should be compulsory at medical schools, and should include autopsy, from both theoretical and practical aspects.¹³ Clinical- based learning methods should include orientation to the legal and ethical aspects in the management of medico-legal emergency cases, methods of assessment of physical/sexual abuse, photo-documentation of wounding, and the management of forensic evidence in emergency department.¹⁴ Moreover, there is a need to introduce the clinical forensic medicine into the core curriculum of any emergency medicine training program for residents and postgraduates in many specialties.^{15, 16} In the Chinese medical education system, forensic pathology is one of the most important and major subspecialties for medical undergraduates majoring in forensic medicine, including specifically educating undergraduates for five years, including forensic pathology, forensic psychiatry, forensic serology and other related subspecialties.¹⁷ This is in contrast to forensic education based on British models, in which medical undergraduates are supposed to receive lectures and tutorials in forensic pathology and then take an examination during their third or fourth years, where the forensic pathology curriculum is most likely elective for those students interested in forensic practice.¹⁸ One model of forensic education¹⁹ was characterized by a broad overview of forensic pathology and basic knowledge of the practice. It included primary skills of legal and medical issues, advanced forensic pathological techniques; resources, and opportunities to improve students' professional qualities and abilities; and proper mentoring of students. The main limitation of the study was the use of a convenient sample without randomization that limited the generality of the study as the sample was not representative of all final year

medical students. Students with very defective knowledge or negative attitude may not respond to the questionnaire. Second limitation was the accuracy of the responses collected by the self-answered questionnaire. Moreover, only photo-documentation of injuries was included in the questionnaire, no other practice aspect was included.

CONCLUSION

The final year medical students were prepared for their future practice by good knowledge and positive attitude towards medico-legal problems. However, many gaps were detected between theory and practice. Students were unaware of the legal consequences of incomplete reporting, did not know exactly how to deal with relatives, and did not recognize the necessity of taking informed consent from patients or their relatives. Therefore, we recommend medical colleges must initiate an undergraduate clinical forensic medicine training program. Moreover, residents and postgraduate emergency physicians need to have training programs to improve their understanding of

medico-legal responsibilities, acquire technical skills to perform forensic evaluations of victims and write complete reports.

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AUTHOR CONTRIBUTION STATEMENT

Dr.Mamdouh Zaki was the expert in the forensic medicine who constructed the questionnaire and shared in the data analysis and in writing the discussion section. Professor Intessar Sultan was the supervisor of the research. Haneen M Estantoli, Hassan Alduhailib, Assel A Bossi were involved in writing the research proposal, conducting the review of the literature, collecting and entering the research data, analyzing the research data, and drafting publication manuscript.

CONFLICT OF INTEREST

Conflict of interest declared none.

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