

HEALTHCARE PROFESSIONALS' KNOWLEDGE LEVEL REGARDING FORENSIC CASES IN THE INTENSIVE CARE AND OPERATING ROOM

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ABSTRACT

Purpose: This study aims to assess the knowledge and practices of healthcare professionals in operating rooms and intensive care units regarding forensic cases.

Material and Methods: A descriptive comparative design study was conducted, involving healthcare professionals from a university hospital in the Eastern Black Sea Region between March 17 and May 1, 2023 (n=116). Data were collected through a questionnaire developed by the researchers, and analysis was performed using descriptive statistics, t-tests, variance analysis, and correlation analysis.

Results: Participants had a mean age of 30.6±7.7 years, with 56% working in operating rooms and 56.9% being nurses. While 53.4% had received training on forensic cases, 82.8% had encountered such cases. Education significantly influenced both knowledge level (p=0.00) and application (p=0.02), with a moderate positive correlation between knowledge and application (r=0.541, p=0.000).

Conclusion: The study highlights a lack of knowledge and practices among healthcare professionals in operating rooms and intensive care units regarding forensic cases.

Keywords: Forensic case, healthcare professionals, intensive care, knowledge, operating room

INTRODUCTION

A forensic case refers to a situation that is considered a criminal or suspicious event that may have legal consequences on individuals or society. Such cases usually require a criminal or legal investigation and require a multi-faceted evaluation of the legal, medical, psychological and social dimensions of the event (1,2) Suspicious deaths, such as firearm injuries, traffic accidents, falling incidents, penetrating sharps injuries, occupational accidents, poisoning,

burns, drowning, and suicide attempts, and individuals who are admitted to healthcare facilities for these reasons are accepted as forensic cases. Physicians and nurses are the first group of health professionals who encounter the individual and their family through examination and laboratory samples in forensic cases (3,4). Therefore, all healthcare professionals, especially physicians, and nurses, have a great responsibility to prevent delays or negligence in the processes of identifying, collecting,

storing, transporting, and recording materials that may constitute evidence in forensic cases (5). For this reason, health professionals in all units have an important role in identifying, collecting, and preserving forensic traces, which can include fingerprints, blood, semen, saliva, hair, etc (6). Evidence only have value as evidence in a forensic investigation if they are collected, preserved, stored, and transferred in a suitable (1,6) Thus, important deficiencies and errors can occur in the determination, collection, storage, and transfer processes in forensic cases in the event of a lack or deficiency in training (7).

It is frequently emphasized in the literature that healthcare professionals who encounter forensic cases lack knowledge about the treatment and care of these cases. Since such cases are often intertwined with legal processes and ethical principles, healthcare professionals need to have not only medical knowledge but also forensic and legal knowledge. However, it is reported that many healthcare professionals lack training and experience in forensic cases and that these deficiencies can negatively affect both patient care and compliance with legal processes. In addition, the lack of special training programs for nurses and other healthcare professionals in the management of forensic cases can pose serious risks to both employees and (1,8,9). It is important to identify, collect and properly store evidence for individuals who apply to medical units due to legal cases. Deficiencies in these practices can lead to a large amount of evidence being overlooked, lost or damaged, leading to wrong decisions and unsuccessful cases in court (10). Therefore, the protection of the chain of evidence is very important in healthcare professional practices (11), and all evidence obtained should be kept in sealed envelopes, boxes, or suitable container for the type of sample (12).

Emergency departments typically serve as the initial points of contact for forensic cases and must consistently be ready to provide forensic care to patients. Given that emergency departments are often the first medical facilities consulted in forensic cases, in literature extensive research has been conducted in this specific clinical setting (13–16). It is worth noting that the treatment and follow-up of forensic cases after including physical injuries resulting from explosions, burns, severe injuries due to traffic accidents, poisonings, and suicide attempts in first emergency unit. Treatment and care continues

in the operating room and intensive care units (14). There is a high risk that evidentiary material will be ignored while treatment is ongoing. Forensic cases often require rapid intervention and due to their forensic nature, it is vital that treatment and care are immediately implemented while preserving and securing potential evidence. It is critical that such cases are not overlooked, within the scope of the duty, authority and responsibility of healthcare professionals. Forensic cases not only require medical intervention, but must also be handled correctly from a legal and ethical perspective. Healthcare professionals are responsible for both ensuring patient safety and acting in accordance with legal processes by correctly recognizing and documenting forensic cases (1,17). Therefore as healthcare professionals working in operating rooms and intensive care units may come across forensic cases, it becomes imperative for them to possess the necessary knowledge and competence to provide care, including all aspects of medical and technical training related to the collection, preservation, and documentation of forensic traces in forensic cases (5). Detection of the crime, recognition of the offender, protection of the victim and the role of health personnel in protecting the patient's right can be ensured by the correct management of the forensic case (18,19). Maintaining continuity of care in our country, there are no forensic nurses or healthcare professionals whose duties are defined and legally defined. In addition, healthcare professional cannot make the necessary approaches and practices because they do not have sufficient knowledge about forensic medicine. Therefore, the evaluation of forensic cases is mostly performed by nurses who have not received special training (20–24).

According to Article 280 of the Turkish Criminal Code No. 5237 in our country, "A healthcare professional who fails to report the situation to the authorities or shows delay in this regard, despite encountering an indication that a crime has been committed during the performance of his/her duty, will be punished with imprisonment for up to one year (25). For this reason, this study was conducted to determine the knowledge and practice levels of health professionals in the operating room and intensive care units where the treatment of forensic cases continues.

Research Questions:

Do health professionals have sufficient knowledge and practices about forensic cases and types of forensic evidence?

Do health professionals have sufficient knowledge and practices about the preservation and storage of evidence in a forensic case?

Is there a difference in terms of knowledge and attitude between the group that received training on forensic cases and the group that did not?

MATERIALS AND METHODS

Type of Research

The study was designed as a descriptive-comparative design investigation to assess the knowledge and attitudes of healthcare professionals working in the operating room and intensive care units regarding forensic cases. The study adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology guidelines).

Place and Time of the Study

The study was carried out in the operating room and intensive care units of a university hospital located in northern Turkey, within the period from March 17, 2023, to May 1, 2023.

Population and Sample of the Study

The study population included healthcare professionals employed in the operating rooms and intensive care units of the northern Turkish a university hospital (n=116).

Data Collection and Data Collection Tools

The data were collected by a questionnaire that prepared by the researchers the literature review (1). The form consists of two sections and 26 questions. The questionnaire included questions related to the descriptive characteristics of healthcare professionals (age, occupation, gender, marital status, educational background, the voluntary choice of their profession, and prior training on forensic cases) and their knowledge (9 questions) and level of knowledge regarding application (9 questions) regarding forensic cases. Participants were informed that their involvement was entirely voluntary and that the data would only be used for scientific research purposes. The questions regarding are responded as "Yes", "No" and "I don't know" and are evaluated those who answered the question correctly were given 2 points, those who did not know were given 1 point, and those who answered incorrectly were given 0 points in knowledge question form, the question correctly were given 3 points, 2 point for participant who answered "sometimes" those who did not know

were given 1 point, and those who answered incorrectly were given 0 points in attitudes form. Knowledge and apply practice question question form and the lowest and highest scores to be obtained from the information form on knowledge and practices forensic event were 0-16 and 0-27, respectively. Knowledge level score 0-5 was determined as low level, 6-10 as medium level and 11-16 as high level. The application knowledge level was determined as 0-9 points as low level, 10-19 points as medium level, and 19-27 points as high level. After receiving information about the study's scope, the questionnaire forms were distributed to those who agreed to participate, including healthcare professionals. Participants were given a specific time to respond to the survey questions and filled out the form face-to-face. Once they completed the questionnaires, they were directed to designated collection points in the operating room and each intensive care unit. The researchers made regular visits to these areas to gather the completed questionnaires. It took participants approximately 3-5 minutes to complete the questionnaire. Cronbach Alpha reliability coefficient of the questions was found 0.621.

Data Analysis

Statistical analysis was conducted using the IBM SPSS 25.0 (IBM Corp., Armonk, NY, USA) software package. In the evaluation of the data, Nonparametric categorical data were compared using χ^2 (chi-square) analysis, descriptive statistical methods such as percentage, mean, standard deviation, and Kolmogorov-Smirnov distribution test were used for the normal distribution. For the two-group comparison of quantitative variables, independent group t-test, and for the multiple groups, variance analysis and correlation analysis was used. Statistical significance was accepted at the level of $p < 0.05$

Ethical Approval

Ethics committee approval was obtained from the Clinical Research Ethics Committee of Giresun University, Giresun Education and Research Hospital (Date: 13.03.2023, Decision No: 14). Additionally, written permission was obtained from the relevant hospital after explaining the scope of the study. Once volunteers were informed and had filled out the voluntary consent form, the study was initiated. The study was carried out in accordance with the Helsinki Declaration and with the participant's approval.

RESULTS

The study encompassed healthcare workers with a mean age of 30.6 years. Among the participants, 64.7% were female, and 56.0% were working in operating room. Specifically, 56.9% were nurses, and 53.4% had previously received training on forensic cases. The socio-demographic characteristics of the study group are outlined in Table 1.

Table 1. Descriptive Information

Descriptive Information	n	%
Age (Mean ± Standard Deviation)	116	30.6±7.7
Unit		
Operating Room	65	56.0
Intensive Care	51	44.0
Occupation		
Nurse	66	56.9
Anesthesia Technician	21	18.1
Specialist Physician	12	10.3
Assistant Doctor	17	14.7
Gender		
Female	75	64.7
Male	41	35.3
Receiving Forensic Case Training		
Yes	62	53.4
No	54	46.6

Table 2 displays the numerical values of responses concerning the knowledge of healthcare workers about forensic cases. It was observed that 84.8% of nurses, 85.7% of anesthesia technicians, 91.7% of specialist physicians, and 64.7% of assistant physicians in operating rooms and intensive care units had encountered forensic cases during their professional experience. The total mean score of the healthcare professionals' questions related to knowledge regarding forensic cases was 15.62±3.97. Knowledge level score was found as high level. In Table 3, it was found that 42.2% of the participants answered "don't know" to the premise that damp or wet material should be allowed to dry before packaging. While 54.3% of the participants said yes to the question about visual recording of forensic cases such as photographs and drawings (e.g., bruises, abrasions, or cuts), 56.8% of the participants did not know about the practice of giving these records or documents to patients. The mean total

score of application skill knowledge level questions of healthcare professionals was found to be 19.25±7.40. The application knowledge level was found as medium level. The comparison of the mean scores of forensic case practice knowledge level according to the descriptive characteristics of healthcare workers is presented in Table 4. It was determined that the statistical difference between the healthcare professions in the total apply knowledge score regarding forensic cases was not significant (p>0.05), but a statistically significant difference was found between the responses to the apply knowledge score regarding previous training on the subject and encountering a forensic case (p<0.005).

In Table 4, it was determined that the statistical difference between the healthcare professions in the total knowledge score regarding forensic cases was not significant (p>0.05). However, a statistically significant difference was found between the responses to the knowledge score regarding previous training on the subject and encountering a forensic case (p<0.005).

A positive, moderately significant relationship was found between the forensic case knowledge mean score and the Applying Knowledge score in Table 5 (r=0.541, p=0.000).

DISCUSSION

This study, which aims to evaluate the knowledge, competence and education status of nurses, doctors and anesthesia technicians working in operating rooms and intensive care units of a hospital in eastern Turkey, regarding forensic cases, is particularly related to research conducted in a similar field and discussed in the light of literature findings regarding health professionals working in operating rooms and intensive care units. A review of the literature revealed that previous studies on this subject have primarily focused on emergency departments (1,13,19,21,26–28) However, it is important to note that patient transfers from the emergency unit to the operating room or intensive care unit can also occur based on the priority of the forensic case (7,29). During this process, the correct removal and storage of clothing or evidence is crucial for both the criminal and the victim. Because legal proceedings may be initiated as a result of some forensic cases presented to the court (14,30).

Table 2. Questions related to knowledge and ability the apply regarding forensic case

Questions related to knowledge regarding forensic case	Yes- n (%)	No- n (%)	Don't know- n (%)
1. Have you ever encountered forensic cases in the operating room or intensive care unit?			
Nurse (n=66)	56 (84.8)	7(10.6)	3(4.5)
Anesthesia Technician (n=21)	18(85.7)	2(9.5)	1(4.8)
Specialist Physician (n=12)	11(91.7)	-	1(4.8)
Assistant Doctor (n=17)	11(64.7)	6(35.3)	-
Total	96 (82.8)	15 (12.9)	5 (4.3)
2. Should a report be prepared when a forensic case is encountered in the operating room or intensive care unit?			
Nurse (n=66)	29(43.9)	19(29.8)	18(27.3)
Anesthesia Technician (n=21)	8(38.1)	6(28.6)	7(33.2)
Specialist Physician (n=12)	6(50)	2(16.7)	4(33.3)
Assistant Doctor (n=17)	10(58.8)	2(11.8)	5(29.4)
Total	53(45.6)	29 (25)	34 (29.4)
3. I know who is in charge of preparing reports on forensic cases			
Nurse (n=66)	24(36.4)	18(27.2)	24(36.4)
Anesthesia Technician (n=21)	5(23.8)	6(28.6)	10(47.6)
Specialist Physician (n=12)	5(41.7)	4(33.3)	3(25.0)
Assistant Doctor (n=17)	10(58.8)	6(35.1)	1(5.9)
Total	54(46.5)	34(29.4)	38(29.1)
4. I know who is in charge of reporting forensic cases in the operating room or intensive care unit?			
Nurse (n=66)	34(51.5)	12(18.2)	20(30.3)
Anesthesia Technician (n=21)	11(52.4)	-	10(47.6)
Specialist Physician (n=12)	7(58.3)	1(8.3)	4(33.3)
Assistant Doctor (n=17)	13(76.5)	2(11.8)	2(11.8)
Total	65(56.0)	15 (13.0)	36 (31.0)
5. I know the unit where forensic cases are reported			
Nurse (n=66)	58(87.9)	1(1.5)	7(10.6)
Anesthesia Technician (n=21)	18(85.7)	1(4.8)	2(9.5)
Specialist Physician (n=12)	10(83.3)	1(8.3)	1(8.3)
Assistant Doctor (n=17)	17(100)	-	-
Total	103(88.7)	3(2.7)	10(8.6)
6. I know that there should be a different clinic for the storage of forensic evidence			
Nurse (n=66)	13(19.7)	36(40.9)	17(39.4)
Anesthesia Technician (n=21)	7(33.3)	1(4.8)	13(61.9)
Specialist Physician (n=12)	2(16.7)	3(25.0)	7(58.3)
Assistant Doctor (n=17)	4(23.5)	1(5.9)	12(70.6)
Total	26(22.4)	41(35.0)	49(42.2)
7. The institution should have a forensic case archive			
Nurse (n=66)	24(34.8)	4(6.1)	39(59.1)
Anesthesia Technician (n=21)	8(38.1)	-	13(61.9)
Specialist Physician (n=12)	5(41.7)	-	7(58.3)
Assistant Doctor (n=17)	5(35.3)	-	11(64.7)
Total	42(36.2)	4(3.4)	70(60.3)
8. An easily accessible evidence collection kit should be available in the operating room or intensive care unit			
Nurse (n=66)	17 (25.8)	41 (62.19)	8 (12.1)
Anesthesia Technician (n=21)	6 (28.6)	14 (66.7)	1 (4.8)
Specialist Physician (n=12)	2 (16.7)	8 (66.7)	2 (16.7)
Assistant Doctor (n=17)	2 (11.8)	14 (82.4)	1 (5.9)
Total	27(23.2)	77(66.3)	12(10.5)
9. When you encounter a forensic case, do you experience feelings of prejudice, discomfort, anger, or fear toward the patient?			
Nurse (n=66)	17 (25.8)	41 (62.1)	8 (12.1)
Anesthesia Technician (n=21)	6 (26.8)	14 (66.7)	1 (4.8)
Specialist Physician (n=12)	2 (16.7)	8 (66.7)	2 (16.7)
Assistant Doctor (n=17)	2 (11.8)	14(82.4)	1 (5.9)
Total	27(23.2)	77(66.3)	12(10.5)
(Mean ± Standard Deviation) (n=116)		15.62±3.97	

Table 3. Ability to Apply Knowledge Forensic Cases

Ability to Apply Knowledge Forensic Cases	Yes- n (%)	No- n (%)	Sometimes-n (%)	Don't know- n(%)
1. The clothes of the forensic case are removed appropriately.				
Nurse (n=66)	50 (75.8)	1(1.5)	5(7.6)	10(15.2)
Anesthesia Technician (n=21)	13(61.9)	3(15.3)	-	5(23.8)
Specialist Physician (n=12)	10(83.3)	-	-	2(16.7)
Assistant Doctor (n=17)	12(70.6)	1(5.9)	2(11.8)	2(11.8)
Total	85(73.2)	5(4.3)	7(6.0)	19 (16.5)
2. All materials are labeled and protected because they can be evidence in a forensic investigation.				
Nurse (n=66)	52(78.8)	2(3.0)	5(7.6)	7(10.6)
Anesthesia Technician (n=21)	14(66.7)	1(4.8)	1(4.8)	5(23.8)
Specialist Physician (n=12)	6(50.0)	-	2(16.7)	4(33.3)
Assistant Doctor (n=17)	12(70.6)	-	-	5(29.4)
Total	84(72.4)	3(2.7)	8(6.8)	21(18.1)
3. Damp or wet material should be left to dry before packaging				
Nurse (n=66)	21(31.8)	15(22.7)	6(9.1)	24(36.4)
Anesthesia Technician (n=21)	4(19.0)	6(28.6)	1(4.8)	10(47.6)
Specialist Physician (n=12)	1(8.3)	2(16.7)	-	9(75.0)
Assistant Doctor (n=17)	2(11.8)	7(41.2)	2(11.8)	6(35.3)
Total	28(24.1)	30(26.0)	9(7.7)	49(42.2)
4. All evidence materials are placed separately (paper packaging or envelopes, etc.).				
Nurse (n=66)	46(69.7)	3(4.5)	5(7.6)	12(18.2)
Anesthesia Technician (n=21)	11(52.4)	-	1(4.8)	9(42.9)
Specialist Physician (n=12)	5(41.7)	2(16.7)	-	5(41.7)
Assistant Doctor (n=17)	10(58.8)	1(5.9)	1(5.9)	5(29.4)
Total	72(62.0)	6(5.3)	7(6.0)	39(33.7)
5. Any evidentiary material is properly recorded before it is handed over to the judicial authorities.				
Nurse (n=66)	53(80.3)	3(4.5)	3(4.5)	7(10.6)
Anesthesia Technician (n=21)	14(66.7)	1(4.8)	-	6(26.6)
Specialist Physician (n=12)	7(58.3)	1(8.3)	1(8.3)	3(25.1)
Assistant Doctor (n=17)	14(82.4)	-	-	3(17.6)
Total	88(76.0)	5(4.3)	4(3.3)	19(16.4)
6. Materials suitable for sending to the judicial authorities that may be evidence are known.				
Nurse (n=66)	41(62.1)	2(3.0)	12(18.2)	11(16.7)
Anesthesia Technician (n=21)	10(47.6)	1(4.8)	4(19.0)	6(28.6)
Specialist Physician (n=12)	6(50.0)	-	3(25.0)	3(25.0)
Assistant Doctor (n=17)	7(41.2)	2(11.8)	4(23.5)	4(23.5)
Total	64(55.2)	5(4.3)	23(19.9)	24(20.6)
7. Visual recording of the forensic case is conducted, such as photographs and drawings (e.g., bruises, abrasions, or cuts).				
Nurse (n=66)	38(57.6)	6(9.1)	5(7.6)	17(25.8)
Anesthesia Technician (n=21)	8(38.1)	1(4.8)	4(19.0)	8(38.1)
Specialist Physician (n=12)	5(41.7)	2(16.7)	2(16.7)	3(25.0)
Assistant Doctor (n=17)	12(70.6)	-	-	5(29.4)
Total	63(54.3)	9(7.8)	11(9.5)	33(28.4)
8. Any visual recording in a forensic case requires permission from the patient or his/her relatives.				
Nurse (n=66)	27(40.9)	12(18.2)	4(6.1)	23(34.8)
Anesthesia Technician (n=21)	8(38.1)	-	1(4.8)	12(57.1)
Specialist Physician (n=12)	6(50.0)	-	1(8.3)	5(41.7)
Assistant Doctor (n=17)	7(41.2)	5(29.4)	1(5.9)	4(23.5)
Total	48(41.4)	17(14.6)	7(6.0)	44(38.0)
9. Original films that are the result of any imaging method are delivered to the patient (photographs, etc.).				
Nurse (n=66)	14(21.2)	10(15.2)	4(6.1)	38(57.6)
Anesthesia Technician (n=21)	2(9.5)	3(14.3)	1(4.8)	15(71.4)
Specialist Physician (n=12)	3(25.0)	2(16.7)	-	7(58.3)
Assistant Doctor (n=17)	4(23.5)	4(23.5)	1(5.9)	8(47.1)
Total	23(19.9)	19(16.3)	6(5.2)	68 (58.6)
(Mean ± Standard Deviation) (n=116)		19.25±7.4		

Table 4. Comparison of the knowledge and level of practice knowledge mean scores of forensic events according to the descriptive characteristics of healthcare professionals (n=116)

Descriptive characteristics	Knowledge (Mean±SD)	Practices Knowledge (Mean±SD)
Occupation		
Nurse	15.62±4.15	18.07±7.03
Anesthesia Technician	16.80±3.74	22.00±7.49
Specialist Physician	15.50±4.92	21.50±7.00
Assistant Doctor	14.29±4.15	15.62±4.15
	F=1.27	F=1.94
	P=0.28	P=0.12
Receiving Forensic Case Training		
Yes	14.40±3.33	17.77±6.46
No	17.03±4.20	20.96±8.08
	t=-3.76	t=-2.32
	P=0.00	P=0.02
Have you ever encountered forensic cases in the operating room or intensive care unit?		
Yes	14.89±3.55	17.79±6.34
No	18.53±4.30	26.86±8.06
Don't know	21.00±2.73	24.60±9.02
	F=12.20	F=13.50
	P=0.00	P=0.00

Table 5. The Relationship Between Knowledge Status and Ability to Apply Knowledge Mean Score

Knowledge	r	Ability to Apply Knowledge
		0.541
	p	0.000
	n	116

r=pearson correlation, p<0.05

Therefore, forensic cases should not be restricted to the emergency unit alone. Healthcare professionals in the operating room and intensive care units must possess the necessary knowledge and experience to handle such cases. Prior research has highlighted training disparities in fields(14,31,32). In one study, 58% of emergency nurses (33), and in another study, 77% of emergency nurses (34) did not receive training on forensic cases. Similarly, more than half of the physicians and nurses in an operating room (1) study did not receive training. In our study, it was determined that those who received training in forensic medicine course were above average and most healthcare professionals reported receiving training on forensic cases. Differences between the stated situation and the literature may have been

addressed and incorporated into educational policies over the years. It may also correlated with the importance given to forensic cases by countries and their policies.

Recognizing and knowing about forensic cases also affects the collection, storage, and delivery of forensic evidence. For example, the collection and storage of evidence in forensic cases such as sexual assault, trauma, traffic accident or intoxication are different from each other (35). According to our research findings, it has showed that the knowledge level and practice attitudes of nurses regarding the storage and packaging of forensic evidence were higher than those of other health personnel but not at the expected level (20, 21). According to our research results, it was determined that the level of knowledge

of healthcare workers on the subject was high, but the level of implementation was at a medium level. This finding is based on research findings may be attributed to the infrequent encounter of forensic cases in operating rooms and intensive care units, or to the inadequacy of the training provided, which often lacks visual and practical components. This discrepancy could be related to the content, duration, and structure of the training programs.

It is well-documented in existing literature that individuals lacking adequate knowledge and training may commit errors in the documentation and reporting of forensic cases, which is crucial for the correct legal process (7,18). In our study, significant differences were found among professions regarding practical knowledge, particularly in areas such as "Should a report be prepared when a forensic case is encountered in the operating room or intensive care unit?", "Moist or wet material should be left to dry before packaging", "I know the unit where forensic cases are reported", and "The institution should have a forensic case archive". Therefore, it is believed that receiving appropriate training significantly impacts the handling and reporting of such cases.

In a study, a significant correlation was reported between the level of training and evidence preservation (33,36,37). Similarly in our study, it was found that a positive, moderately significant relationship was found between the forensic case knowledge level.

CONCLUSION

In our study, it was found that there was no significant difference in the theoretical and practical knowledge levels among different occupational groups and also it was concluded that training status positively influenced both theoretical and practical aspects. While healthcare personnel exhibited a high level of theoretical knowledge regarding forensic cases, their practical application was only at a moderate level. This finding highlights the importance of bridging the gap between theoretical knowledge and practical application, suggesting that healthcare personnel can effectively manage forensic cases by translating their acquired knowledge into practice through targeted training and practical experience. Therefore, it is recommended that mandatory practical training, including case scenarios and simulation techniques, be provided to healthcare personnel in operating rooms and intensive care units. Additionally, integrating forensic medicine education into the

curriculum of health schools and promoting further research on this topic are encouraged.

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