



Assessment of the First Aid Knowledge of Students at the Mosul Technical Medical Institute

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Abstract

Objective: To assess the level knowledge of medical institute students about first aid.

Methodology: A random sample was used to select (191) participants. The sample consisted of (67) Students from the first stage of the department, in addition to (124) students from the Mosul Medical Institute. The second stage. Samples were taken from the morning and evening studies, amounting to 153 students in the morning study, while the participation rate was 38 for the evening study. The study began in the period from October 7, 2023, to March. 2024. The internal consistency of the questionnaire was evaluated by calculating the correlation coefficient which ($r = 0.80$), and statistical analysis was organized by (SPSS, version25).

Result: The current study found that many students in the study (90.1%) did not participate also in first aid programs and courses (97%) found it necessary to turn to first aid activity. We note that the students of the Mosul Medical Technical Institute have information about first aid, at a rate of 52.9%, and they also have knowledge and information on how to deal with head injuries, at a rate of 46.1%, but the students' information in cases of spinal injury was weak, at a rate of 38.7%, and they had excellent information on how to deal with a person with a head injury at a rate of 72.3%, and their information on dealing with cases of severe bleeding was also good at a rate of 56.5%, and they showed very good knowledge on how to apply pressure to the wound to reduce bleeding. By 75.4%, and 51.3% of the students agreed that force must be used to stop the bleeding.

Recommendations: Increase the special courses of First Aid for students of the Medical Institute by preparing lectures from the nursing department, and further studies can be conducted to assess the knowledge, trends and practices of first aid assistance among students at the Medical Institute.

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Introduction

First aid is provided to sick or injured individuals in any scenario that poses a risk to their health, to save their lives, prevent the situation from worsening, or assist in their recovery until more qualified medical help arrives. This includes treatments and assessments that can be performed by the victim or a bystander using little or no medical equipment ^[1]. Students are taught how to manage crises in a hospital emergency room with medications and other essentials at some time in their medical education. But having the necessary skills to manage an emergency without a hospital setting at the scene of the accident or incident might not be adequate ^[2]. Research shows that first aid knowledge among medical students has long been a neglected topic. Since medical crises have become more common in recent years, it is critical to make sure that medical staff members have the necessary training to handle such situations. There have been very few studies conducted on Indian medical students' first aid expertise ^[3]. A first aid giver should be able to rapidly and calmly assess the situation, treat life-threatening symptoms while shielding themselves from harm, get medical attention, and call for an ambulance in the event of a major sickness or injury ^[4]. The care given by a concerned party as quickly as possible following an illness or injury is known as first aid.

Even the most severe injuries may not show any obvious bleeding or potentially fatal symptoms; these injuries can be recognized and potentially life-threatening harm avoided by employing a systematic or structured approach to the evaluation procedure. The airway, breathing, and circulation (ABC) technique is used in all client examinations to accomplish this ^[5]. According to research that needed to be conducted, deaths occurred during the first five minutes of an accident (35%), and within the first thirty minutes (54%). First aid is often administered by an individual at the incident site; regrettably, this interference manifested as being too far away from rescue efforts. Being aware of the situation and providing effective first aid will increase the effectiveness of post-event therapy and reduce mortality (20%) ^[6]. Furthermore, by avoiding infections, lowering injuries, saving lives, alleviating chronic diseases, and empowering marginalized populations, FA is an essential skill that may improve public health. Through practices like mask wearing, hand washing, and physical distance, FA teaches individuals how to protect themselves and others from infectious illnesses like COVID-19. Before medical assistance comes, the FA also offers prompt, effective treatment for wounds and diseases such as bleeding, burns, fractures, and poisoning ^[7].

Methodology

The design: In order to assess the level knowledge of medical institute students about first aid in Mosul City, this study used a cross-sectional design from 7 October 2023 to 30 March 2024.

The Sample: A convenience sampling method was used to recruit students from medical institute students in Mosul City, the number of samples was (191). The research design for this study was a simple randomized.

Study tool: The questionnaire was developed by the researchers and provided to measure students' knowledge regarding first aid care in Mosul city. The study instruments comprised (6) Parts, including the following. Part One/Data includes the Table (2) Sex distributions of the students' participants in the study (male, female), Part Two Contains two items: Academic stage (first and second stages) Part three/ type of Study Contains two items :(morning study, evening study) Part four/ consists of (22) questions about the knowledge of the first aid and (2) questions about students participated in a first aid course.

Validity

(10) Experts on the panel determined the validity of the questionnaire instrument by defining the content's sufficiency, relevance, and clarity.

Reliability

To statistically assess reliability of questionnaire, A pilot study was completed before the start of work to gather data. It involved ^[10] samples selected from Mosul Medical Technical Institute (this sample was excluded from the original study sample) by direct self-administer of instrument questionnaire to assess the internal consistency of the questionnaire that examined the sample by using Cronbach's Alpha measurement, that done evaluation by the researcher, the result of reliability for a pilot study that Cronbach's Alpha

was (0.854).

Data collection

Data were collected by selecting the subject sample (participants) and by intruding to answer with simple explanations without giving any answer or suggestion that made the effect or bias of results; the researcher assumes time started from (8:30 A.M-1:30 A.M); five day per week for data collection and. Each needed approximately (15 – 30 min) is time. Trained interviewers administered the questionnaire to the participating student in face-to-face interviews.

Results

Table 1: Stage distributions of the students' participants in the study

Academic stage	Frequency	Percentage
First stage	67	35.1%
Second stage	124	64.9%

According to Table 2, the frequency distributions of the stages among the students first stage is (67) and second stages (124) were high, with a percentage of 64.9% higher than the second stage in the research population.

Table 2: Sex distributions of the students' participants in the study

Sex	Frequency	Percentage
Male	114	59.7%
Female	77	40.3%

Table 2 shows the frequency and distribution by gender among male students (114) while the number of female students was (77) and the percentage of males was 59.7, which is a high percentage in the study sample.

Table 3: Distributions whether students participated in a first aid course

Participated in a first aid course	Frequency	Percentage%
Yes	19	9.9%
No	172	90.1%
Total	191	100

Table 3 shows that a large majority of the students at the Medical Institute did not participate in first aid courses or programs, as the percentage reached 90%, while a small number of students participated in the courses, amounting to approximately 9.9%.

Table 4: Distributions whether students find it is necessary to learn the first aid Activity

Necessary to learn the first aid activity	Frequency	Percentage%
Yes	185	97%
No	6	3%
Total	191	100

As shown in Table 4, the majority of students (97%) believed that the first aid take was essential, whereas just 3% did not share this opinion.

Table 5: Distributions the answers of the knowledge level about the first aid

knowledge about the first aid	Yes		No		DNK	
	F	%	F	%	F	%
Do you have knowledge of first aid procedures ?	101	52.9	50	26.2	40	20.9
If someone gets hit in the head, do you know how to deal properly ?	88	46.1	60	31.4	43	22.5
Do you know how to deal with a possible spinal fracture ?	65	34	74	38.7	52	27.2
Do you think that moving someone with a head injury could increase the risk of their injury ?	138	72.3	32	16.8	21	11
In case of severe bleeding, do you know the initial steps to deal with it ?	108	56.5	51	26.7	32	16.8
Do you know how to apply pressure to the bleeding area to reduce the risk ?	144	75.4	29	15.2	18	9.4
Do you think it is necessary to use force to stop severe bleeding?	98	51.3	64	33.5	29	15.2
Do you know the initial steps for dealing with bone fractures ?	99	51.8	58	30.4	34	17.8
In case of suffocation ,do you know how to provide first aid ?	138	72.3	32	16.8	16.8	11
Do you think that first aid courses should be part of the university curriculum?	183	95.8	8	4.2	0	0
Do you know what the difference is between shortness of breath and suffocation?	136	71.2	35	18.3	20	10.5
Do you know the procedures to be taken in the event of a person choking ?	105	55	53	27.7	33	17.3
Do you have knowledge of how to open an airway ?	88	46.1	76	39.8	27	14.1
Do you know what steps should be followed in the event of exposure to poisoning ?	96	50.3	43	22.5	52	27.2
Do you have knowledge of the types of poisoning ?	95	49.7	66	34.6	30	15.7
Should you help a poisoned person meet ?	92	48.2	55	28.8	44	23
In the event of a dog bite, do you know how to sterilize the wound and what vaccines should be taken ?	79	41.4	52	27.2	60	31.4
Do you know how to bandage and sterilize wounds ?	151	79.1	22	11.5	18	9.4
Trauma happens to people in certain situations. Do you know what its causes are ?	136	71.2	32	16.8	23	12
Do you have knowledge of how to apply a splint in emergency situations ?	113	59.2	83	30.9	13	6.8
Do you have knowledge of the types of burns according to degree and type ?	83	43.5	83	43.5	25	13.1
Do you think a burned area should be cooled with cold water ?	138	72.3	32	16.8	21	11

Table 3 shows that students at the Mosul Technical Medical Institute have knowledge about first aid, with a rate of 52.9%. They also have knowledge and information on how to deal with head injuries at a rate of 46.1%. However, the information among students regarding spinal cord injury cases was weak, at a rate of 38.7%. They had excellent information on how to assist a person with a head injury, with a rate of 72.3%. Additionally, their knowledge in dealing with severe bleeding cases was good, at a rate of 56.5%. They showed very good understanding of how to apply pressure to a wound to stop bleeding, with a rate of 75.4%.

Discussion

Data analysis for this study demonstrates a large majority of the students at the Medical Institute did not participate in first aid courses or programs, as the percentage reached 90%, while a small number of students participated in the courses, amounting to approximately 9.9%. as table (3) Alternatively, a survey of students in grades 9–12 in Dehradun, India, revealed that just 23.1% of them knew enough about first aid, while 33.3% knew only a little. [8], also according to table (4), 97 percent of students thought that first aid was necessary, while only 3percent disagreed. This study is similar to a study conducted in Saudi Arabia 2016. Research indicates a positive correlation between first aid knowledge and prior first aid experience. Consequently, the research findings indicated that their pupils exhibited inadequate understanding and a low degree of prior first aid instruction [9]. Study shows that research conducted in Riyadh found that 12% of students had an emergency requiring cardiopulmonary resuscitation. However, only 14% of them were able to do it due to their ignorance (48, 2%) [10]. A research conducted at Taibah University in Medina found that students studying health sciences were not well-versed in basic first aid. However, once an awareness program was put in place, 55% of the pupils were able to handle emergency circumstances. This indicates that the degree of knowledge and performance of students would be greatly impacted by first aid instruction at institutions [11]. Unexpectedly, 65.3% of students who had

experienced a circumstance requiring CPR did not assist, 35.2% did not because they were ill-prepared, 20.1% were anxious, and 10% experienced other problems. According to a similar pattern in the US, bystanders did not do CPR because they were frightened of injuring the patient, 9.1% were unable to do it correctly, or 37.5 percent panicked [12]. Table (5) shows We note that the students of the Mosul Technical Medical Institute have information about first aid at a rate of 52.9%, and they also have knowledge and information on how to deal with head injuries at a rate of 46.1%, but the information of the students in cases of spinal injury was weak at a rate of 38.7%, and they had excellent information on how to deal with a person injured in the head at a rate of 72.3%, and their information on dealing with cases of severe bleeding was good at a rate of 56.5%, and they showed very good knowledge on how to put pressure on the wound to reduce bleeding at a rate of 75.4%, and a percentage of the students at a rate of 51.3% agreed that force should be used to stop bleeding, most of the students had basic information on how to deal with fractures at a rate of 51.8%, and a percentage of 72.3% of the institute's students had knowledge on how to deal with cases of suffocation, and the students of the Mosul Technical Medical Institute agreed on the necessity of having first aid training courses at a rate of 95.8%, a percentage of 71.2% of students had the ability to distinguish between suffocation and shortness of breath, few students had information on how to open the airway, their percentage was 46.1%, only 50.3% of students knew how to deal with poisoning cases, a small percentage of students had information on the types of poisoning, their percentage was 49.7%, the majority of students agreed to help the poisoned person vomit, their percentage was 48.2%, a very small percentage of students had knowledge of the necessary procedures in case of exposure to a dog bite, their percentage was 41.4%, the percentage of students who had knowledge of dressing and sterilizing wounds was very good, 79.1%, the majority of students had good knowledge of the causes of shock to the person, their percentage was 71.2%, some students, their percentage was only 59.2%, had knowledge of

how to put a splint in emergency cases, a small percentage of students had knowledge of the types of burns and their degrees, their percentage was 43.5%. These findings contradicted those of Semwal *et al.*, who found that over 99 percent of students are unaware of how to treat sprains and nasal bleeding ^[13]. Just 26% of senior school prefects in the Galle education zone in Sri Lanka understood the proper CPR ratio, and those who did had received prior first aid training, according to different research conducted in 2015 by Priyangika *et al.* The bulk of the students (83.1%) had no formal first aid training, which is the primary cause of the low knowledge shown in this study ^[14].

Conclusion

It was observed that many students do not take first aid classes, the large number of incorrect responses about the definition of first aid, and the necessity of learning how effective first aid is. The results also revealed that a significant portion of the students who took part gave incorrect responses or lacked understanding of the circulatory system, trauma, burns, bites, and respiratory first aid. However, the findings showed that a sizable portion of pupils gave accurate responses regarding the frequency of fractures and bleeding.

Recommendations

Increase the special courses of First Aid for students of the Medical Institute by preparing lectures from the nursing department, and further studies can be conducted to assess the knowledge, trends and practices of first aid assistance among students at the Medical Institute.

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