

Knowledge of first aid skills among medical and nonmedical students in Saudi Arabia

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ABSTRACT

Background: First aid is the first treatment a health care worker provides at the site of an accident to a patient who is injured or very sick before the ambulance arrives. First aid providers are those who have the skill and knowledge to deal with life-threatening conditions outside the facilitated environment of a hospital. This study aims to assess the knowledge of first aid among university students in Saudi Arabia. **Methodology:** An observational descriptive cross-sectional study was conducted from 17 August 2018 until 2 February 2019 on Saudi universities' students, including medical and nonmedical students and excluding postgraduate. The sample size was 384 students using a cluster sampling technique. The questionnaire was developed specifically for the purpose of this study after searching the literature and consulting an epidemiologist. It contains questions that assess the level of knowledge regarding first aid. It was subjected to a prop to test for validity and liability. Data were analyzed using (SPSS, version 22.0) and (P values of ≤ 0.05) considered significant. The consent was obtained before data collection. **Result:** Only 40.35% (157/389) of the total participants had basic life support (BLS) course in their college syllabus. Good knowledge was generally observed in both medical (61.2%) and nonmedical (53.2%) student participants. Medical students' knowledge regarding first aid was better than nonmedical students in all questions, whereas the results were not statistically significant. **Conclusion:** Medical students were more familiar with the knowledge of first aid than other colleges' students. Researches should investigate the willingness of medical students to apply their first aid knowledge when necessary using a health belief model.

Keywords: First aid, knowledge, medical students, neck injury

Introduction

First aid is the first treatment a health care worker provides at the site of an accident to a patient who is injured or very sick before the ambulance arrives. First aid providers are those who have the skill and knowledge to deal with life-threatening conditions outside the facilitated environment of a hospital.^[1]

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In our medical colleges, the student's study plan teaches how to manage an emergency case in hospital scenarios, in which drugs and other necessities are available. However, enough knowledge and skills are needed to deal with an emergency outside hospital settings at the site of an emergency may not be significant.^[2]

Everybody needs to be aware of basic first aid skills in emergency situations, especially medical students, future health care providers. Worldwide, a lot of studies were conducted to estimate the level of knowledge regarding first aid among

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different groups including medical students. In the review of previous studies conducted to assess level of first aid skills among medical students we found that a study done in Vydehi Medical College, Bangalore, India, showed that 23.3% student participants had adequate knowledge regarding first aid, 47.3% needed improvement, and 28.7% of them had excellent knowledge.^[3] Another study was conducted in medical colleges of Lucknow showed that only 11.2% of participants have a good level of awareness about first aid.^[4]

Locally, a study was conducted in 2016 in Abha to assess knowledge of first aid among medical students at King Khalid University revealed poor knowledge of first aid among medical students.^[5] Another study that was carried among medical students at King Saud University in Riyadh reported that (47.4%) of participants answered correctly.^[6] Also, in 2016 a study was done at Taibah University in Al Madinah Al Munawwarah, concluded that female students of health science colleges had inadequate knowledge about the main concept and skills of first aid.^[7] In a review of the studies conducted in Saudi Arabia, no studies were done to measure the knowledge of first aid among medical students. However, few studies were done but limited to a specific university or city. Therefore, this study aims to assess the knowledge of first aid among university students in Saudi Arabia.

Methods

Observational descriptive cross-sectional study was conducted from 17 August 2018 until 2 February 2019 on Saudi universities using an online questionnaire containing questions regarding sociodemographic characteristics and basic life support (BLS) knowledge questions.

The study included medical and nonmedical students while postgraduates were excluded. The targeted sample size was 350 and additional responses were accepted to overcome any missing data or falsely filled forms.

The questionnaire’s purpose was to evaluate the level of knowledge regarding first aid and prior to data collection; it was subjected to a probe test to measure validity and reliability before starting the study.

All data were gathered in Excel, coded, then entered into the statistical package of social sciences (SPSS, version 22.0), the results were presented in graphs and tables, the analysis was done using a suitable statistical test, (*P* values of ≤ 0.05) considered significant. Ethical approval was obtained from AlMaarefa University research committee at (14\01\2019) and all participants were assured that the information will be handled anonymously and for scientific purposes only.

Results

The total of responses was 389. Of which, 44.2%, *n* = 172 were males. The majority (78.7%, *n* = 306) were aged 18–23. Those

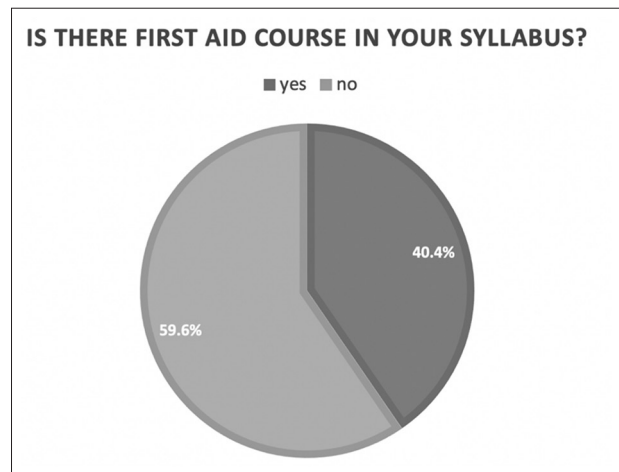
who were medical students represented 74%, *n* = 288 and the rest were nonmedical students [Table 1]. The academic year was variable and distributed between the participants.

Upon asking if their syllabus includes a BLS course or not, we came to know that only 40.35% (*n* = 157) of the students had the BLS course in their college syllabus. While 59.6% (*n* = 232) had indicated that their study plan does not include the BLS course [Graph 1]. In the question have you ever got a BLS course?, only 34.3% answered yes, and the rest answered no.

[Table 2] The knowledge of our sample generally indicates a good level of knowledge and the results in both medical and nonmedical students showed 61.2%, 53.2%, respectively. More than half of the participants have submitted correct responses except at questions regarding shocking, superficial wounds, and frostbites. The percentages of whom submitted correct answers were 38.6% (*n* = 150), 46.8% (*n* = 182), and 29.3% (*n* = 114), respectively.

By comparing medical and nonmedical students’ responses, although not statistically significant, the medical students’ knowledge regarding BLS was better than nonmedical students in all the questions.

The knowledge of medical students was satisfying regarding neck injuries, heatstroke, seizures, and hypoglycemic attacks. Correct



Graph 1: Responses for “Is there first aid course in your syllabus?”

Table 1: The academic year distribution between the participants

level	Frequency	Percent
1	39	10
2	58	14.9
3	61	15.7
4	95	24.4
5	70	18
6	30	7.7
7	36	9.3
Total	389	100.0

Table 2: Comparing between medical and nonmedical students

Question		Response		Chi-square test
		False (%)	True (%)	
When you witness a victim with a neck injury, what should you do?	Medical	61 (15.7%)	227 (58.4%)	1.31
	Nonmedical	27 (6.9%)	74 (19%)	
If you witness a victim with a neck injury in a position causing the airway to be blocked, what should you do?	Medical	108 (27.8%)	180 (46.3%)	4.46
	Nonmedical	50 (12.9%)	51 (13.1%)	
If you witness a person showing signs of shock such as (cool, pale, skin, rapid pulse, rapid breathing, changes in mental status or behavior, dizziness or fainting) what to do first?	Medical	181 (46.5%)	108 (27.5%)	0.92
	Nonmedical	58 (14.9%)	43 (11.1%)	
In case of soft tissue injury (e.g., joint sprains) appropriate initial management is?	Medical	98 (25.2%)	190 (48.8%)	1.40
	Nonmedical	41 (10.5%)	60 (15.4%)	
The best way to clean superficial wounds and abrasions as initial management is to use?	Medical	151 (38.8%)	138 (35.2%)	0.27
	Nonmedical	56 (14.4%)	45 (11.6%)	
The standard way to control external bleeding is?	Medical	92 (23.7%)	196 (50.4%)	3.72
	Nonmedical	43 (11.1%)	58 (14.9%)	
In case of deep frostbite; which of the following is the right thing to do?	Medical	199 (51.2%)	89 (22.9%)	1.36
	Nonmedical	76 (19.5%)	26 (6.4%)	
If you witnessed a case of heatstroke, what to do?	Medical	83 (21.3%)	205 (52.7%)	3.33
	Nonmedical	39 (10%)	62 (15.9%)	
What should you do when you see someone is having a seizure?	Medical	53 (13.6%)	235 (60.4%)	16.9
	Nonmedical	39 (10%)	62 (15.9%)	
If a person with diabetes reports or exhibits signs or symptoms of mild low blood sugar such as dizziness, rapid heartbeat, sweating or shakiness, and is able to follow commands and swallow, what should you do first?	Medical	21 (5.4%)	267 (68.6%)	5.1
	Nonmedical	15 (3.9%)	86 (22.1%)	
If you find a person who has ingested some poison, what should you do?	Medical	203 (52.2%)	85 (21.9%)	1.69
	Nonmedical	78 (20.1%)	23 (5.9%)	
Which sentence is correct about first aid in the case of chemical burns?	Medical	89 (22.9%)	199 (51.2%)	6.17
	Nonmedical	45 (11.6%)	56 (14.4%)	

responses regarding the mentioned items were 78.8% ($n = 227$), 81.2% ($n = 205$), 82.6% ($n = 235$), and 92.7% ($n = 267$), respectively.

While nonmedical students had scored less than medical students, their knowledge and attitude about neck injuries and hypoglycemia were satisfying as well. The percentages of correct answers were 73.3% ($n = 74$) for neck injuries and (85.1%, $n = 86$) for hypoglycemia.

Discussion

In this study, it was found that the majority of participants (61.2%) who were medical students had good knowledge regarding first aid. This goes in contrary to a study conducted in 2014, India, to assess the level of knowledge regarding first aid skills among students of medical college.^[2] This revealed that only 13.8% had a good knowledge regarding first aid. 11.2% of total participants had previous exposure to first aid training, while this study's sample revealed that 40.4% had the first aid as a course in their syllabus.

More than half of nonmedical students (53.2%) had good knowledge regarding first aid skills which was out of our expectations. This goes in contrary to a study conducted in 2017, Poland, to assess the knowledge of first aid among medical and nonmedical university students.^[6] This revealed that financial and construction fields of study who had very good knowledge been 7% and 8%, respectively. The high number of

car accidents in Saudi Arabia and the effort of the ministry of education to increase workshops and brochures may contribute to increasing the level of knowledge regarding first aid among university students.

The knowledge of Saudi female university students regarding first aid was assessed and showed that only 34.7% had good knowledge, 57.5% with moderate knowledge, and 7.8% with poor knowledge. The same study showed that 20% of the students have encountered situations requiring the use of their first aid knowledge and skills.^[8]

The relationship between knowledge of first aid and being medical student statistically insignificant despite that the medical students' knowledge regarding BLS was better than non-medical students in all the questions. This goes in line with a study conducted in 2016, to assess First aid knowledge among University students in Jordan.^[9] which showed that the health science students surpassed other colleges' students regarding first aid.

The knowledge of first aid was also studied among parents attending primary health care centers in Madina, Saudi Arabia. First aid is needed in primary care, as parents would probably visit the primary care centers in case of any urgent conditions. However, 97.2% of the parents were aware of first aid.^[10] As primary care centers can be the base for knowledge and education distribution in the communities, it is important to know that primary care centers can receive cases that need first aid skills to primarily manage the urgent cases.

Conclusion

In conclusion, more than half of our participants had good knowledge regarding first aid. However, there was a noticeable lack of knowledge regarding questions about shock, superficial wounds, and frostbites which needs more attention from the ministry of education to add the first aid course into the students' curriculum and to increase the workshops in high schools. First aid is the basic skills needed in emergency situations and save lives.

Declaration of patient consent

The authors certify that they have obtained all appropriate participants consent forms. In the form, the participants have given their consent for their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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