



KNOWLEDGE OF FIRST AID SKILLS AMONG MEDICAL STUDENTS IN SAUDI ARABIA

Neuroscience

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ABSTRACT

Background:

The sufficient knowledge regarding first aid skills is required to handle any emergency without the hospital settings. However, the dearth of knowledge is common in the concept of first aid management as most of the medical colleges do not have the formal first aid training program in their curriculum

Objective:

To assess the level of knowledge among medical students of King Faisal University regarding the ability to choose the best first aid management in each specific situation.

Methodology:

This cross-sectional study was conducted on the preclinical years (from the first year to the third year) with a sample size of 324 participants (108 from each year). Pretested self-administered questionnaire was used for data collection. Based on the scores obtained in each condition requiring first aid, the overall knowledge was graded as good, moderate and poor.

Results:

Out of the total responses, 2.5% (4/158) had a poor knowledge, 58.2% (92/158) moderate knowledge and 39.2% (62/158) with a good knowledge. It was also observed that 2nd year students had good knowledge of first aid skills (61.4%) in comparison to 3rd and 1st year students (40.0%, 24.6% respectively). In regard to the gender, level of awareness regarding first aid was found insignificant ($p > .01$). Table 2 clearly indicated that female students had good knowledge (43.7%) in comparison to their male counterpart (35.5%).

Conclusion:

Although the percentage of the good knowledge participants found to be above the third of the total number of responses, yet the number of the moderate knowledge participants is more than the half, which indicates to the lack of knowledge regarding first aid skills.

KEYWORDS

Knowledge; First aid skills; Medical students; Saudi Arabia

Introduction:

Knowledge of first aid measures is important for every individual at every age. In the developed countries, people are learned to call specific numbers when they experience traumatic events, however the situation is different in many developing countries where awareness of the community is not an appropriate. The deficiency regarding first aid skills among medical students has become a very popular issue in many communities. It is not surprising that even a doctor of medicine who is working at a hospital cannot perform the first aid skills properly (1-2). First aid is the primary and immediate treatment given to a sick person until professional medical help arrives. It is concerned with everything not only with physical injury or illness, but also with other essential care, including psychosocial support for people suffering from emotional shock caused by experiencing a traumatic event. The interventions of first aid seek to "preserve life, relieve and ease suffering, prevent further illness or injury and promote recovery." (3). The provider of first aid should be trained and prepared well to be able to deal with any unexpected illness or injury to the person who is aided. The basic principle is to prevent further damage and harm to the victim. This is done by making a good judgment on the situation and applying a sufficient intervening measure which is performed by an individual with minimal or no medical necessities. (4).

The significance of training and assessing the level of awareness regarding first aid skills and among healthcare providers is now acknowledged globally (1). The main reason for that is the significant

increase in the incidence rate of the medical emergencies (2) for instance, in the aspect of traffic injuries and fatalities, about one and quarter million people die each year because of road traffic crashes. Without any kind of interventions, road traffic accidents are predicted to become the seventh cause of death by the year 2030 (5). More importantly in 2015 Saudi Arabia was ranked as the second among Arab countries and twenty-third globally in terms of deaths due to road accidents and the numbers are increasing a year by year (6). According to the World Health Organization (WHO) report that the number of deaths was estimated to be seven thousand deaths annually, and more than 39,000 injuries per year in Saudi Arabia. (7).

Car accidents and the increase in the number of fatalities are correlated with the First aid skills and basic life support (BLS) in a significant way. A study has shown that acquiring first aid skills is an important factor in preventing further injuries in terms of car crashes. Adding to that according to The International Federation of the Red Cross and Red Crescent Societies (IFRC) that more than half of fatalities from traffic crashes occurring in the first few minutes after the crash (8). In case of heart attack or the cardiac arrest, the brain starts to die in the first 4 minutes after the accident. Every single minute decreases the survival chances by ten percent (8-9). In Saudi Arabia, the average time for the ambulance to be at the site of the emergency was approximately 13 min, and there is prolongation on weekends, which is longer than the international standard time for the ambulance arrival which should be 8 minute maximal (10). Because of these major

reasons, it has become necessary for any health care provider to be aware of the first aid skills and basic life support, because they are considered as the elite in the aspect of medical knowledge (5-10).

With all these needs to enhance the knowledge in this aspect, very few studies have been performed about the awareness of first aid amongst medical students in Saudi Arabia. As an example, a study was conducted in Taibah University in Al-Madinah. The colleges of health science that were included all College of Medicine, Nursery and Dentistry. The results of the study showed that there was insufficient knowledge regarding first aid skills among the female students. Health science students at Taibah University need first aid training program in their curriculum to enhance their awareness regarding first aid management (11). The recent studies have shown that the knowledge of first aid skills amongst medical students has been always a neglected subject. The dearth in the knowledge was obvious (2).

In many medical curriculums, the students are learning how to stabilize a patient with a critical condition in the hospital context with enough amount of drugs, equipment and necessities (2). However, it's significantly essential to have an adequate knowledge to handle an emergency without the hospital settings at the site of the accident or injury (4). Unfortunately, some situations need just a simple and immediate action to save a life, but most individuals fail to do that because of the lack of knowledge. Furthermore, the other cooperating factor that is elevating the problem is that most of the medical colleges don't have the proper training mandatory course about first aid skills and BLS. Providing that kind of courses will definitely enhance the decision making of the student in the emergency situations (2, 12).

For these reasons regarding the awareness of first aid, the present study was conducted. The aim of the present study was to assess the level of knowledge of undergraduate medical students in providing first aid care, to identify the emergencies where there is a lack of knowledge of first aid and to assess the student's opinion regarding the need for first aid training at medical colleges.

Methodology:

Study Design:

This cross-sectional study was conducted in the medical school of King Faisal University in Saudi Arabia in 2017. The ethical approval was obtained from the ethics community of the college.

Study Sample: A sample of 322 students has been selected from the medical college at King Faisal University for the present study. The target sample was the undergraduate male and female students from first year to third year. Simple random sampling method was used to collect the sample.

Measures: A Pretested self-administered questionnaire applied on 108 students from each year (52 females and 56 males). The questionnaire contained eighteen multiple choice questions to assess the level of knowledge regarding first aid skills among the medical students. Very few questions were in the form of scenario to test the best decision that is made for applying first aid management in that situation. The questions on management of common first aid emergencies such as unconsciousness, heat burns, external bleeding, epistaxis, heat stroke, drowning, choking, seizures, poisoning, animal bites, sports injuries, foreign body in ears and eyes, angina pain, heart burn, fractures were asked. Each choice represents a first aid management and the marks will be on the best first aid response.

Procedure: After seeking required permission from concerned colleges and university authorities, the participants were personally contacted. They were briefed about the purpose of research and questionnaire used in the study. After seeking consent of the student, a suitable time and date was fixed for data collection. Before administering the questionnaire, the purpose of the study was again explained to the participants and they were assured that their responses will be kept confidential and will be used for research and academic purpose only. A good rapport was built with the participants for getting correct responses. Necessary instruction and guidelines were provided to them for properly filling the questionnaire. After this, the questionnaires were provided to them and they were requested to fill-up the questionnaire as per the instructions given in the questionnaire. After completion of the questionnaire participants returned the questionnaire and they were thanked for their participation and cooperation.

Data analysis:

The data entry and analysis was performed using Statistical Package for Social Sciences software package (SPSS Inc., Chicago, IL, USA) version 22. Descriptive statistics was used to describe the major socio-demographic and background information about the subjects. Chi-square test was used to find out the association of socio demographic variables with the level of knowledge regarding first aid and $P < 0.05$ was taken as statistically significant association.

Results:

Participants of the present study were 158 medical students (87 males and 71 females) studying in college of medicine, King Faisal University, Saudi Arabia. The participants of the present study were randomly drawn from different Academic years. The age of these participants ranged from 19 to 22 years ($Mean = 20.30, SD = 1.70$). The majority of the participants (43.70%), were enrolled in 1st year and 27% and 28% of participants were from 2nd and 3rd year respectively. The detailed description about the characteristics of the participants of the present study is given in Table 1.

Table 1: Demographic characteristics of participants

| Variables | Frequency | Percentage |
|--|-------------|------------|
| Gender | Male | 87 55.1% |
| | Female | 71 44.9% |
| | Total | 158 100.0% |
| Academic Year | First year | 69 43.7% |
| | Second year | 44 27.8% |
| | Third year | 45 28.5% |
| | Total | 158 100.0% |
| Attendance to training program | No | 119 75.3% |
| | Yes | 39 24.3% |
| | Total | 158 100.0% |
| Opinion about the need for training program | No | 5 3.2% |
| | Yes | 153 96.8% |
| | Total | 158 100.0% |

Chi square test was used to examine the association between level of awareness regarding first aid, academic years and gender. Table 2 clearly showed that significant association between level of awareness regarding first aid with academic years ($p < .01$), with good knowledge among 2nd year students (61.4%) in comparison to 3rd and 1st year students (40.0%, 24.6% respectively). In regard to the gender, level of awareness regarding first aid was found insignificant ($p > .01$). Table 2 clearly indicated that female students had good knowledge (43.7%) in comparison to their male counterpart (35.5%).

Table2: Association of Academic year, and gender with knowledge of first aid skills

| Variable | | Poor knowledge | Moderate knowledge | Good knowledge | P value |
|----------------------|-------------|----------------|--------------------|----------------|-----------|
| Academic year | First year | 2.9% | 72.5% | 24.6% | $p=0.001$ |
| | Second year | 4.5% | 34.1% | 61.4% | |
| | Third year | 0.0% | 60.0% | 40.0% | |
| Gender | Females | 0.0% | 56.3% | 43.7% | $p=0.136$ |
| | Males | 4.6% | 59.8% | 35.6% | |

Discussion:

The aim of the present study was to assess the level of knowledge of undergraduate medical students in providing first aid care, to identify the emergencies where there is a lack of knowledge of first aid and to assess the student's opinion regarding the need for first aid training at medical colleges. In the present study very few students had good knowledge about first aid and this was not influenced with whether the student was previously trained or not in first aid procedures. Similarly, a Peruvian study reported that in spite of 52.5% medical students having had prior training in management of medical emergencies, 60.4% had poor knowledge about first aid (13). A Dutch study reported 81% of junior doctors to be having poor knowledge about first aid (14). A study conducted in Lucknow, India showed that there was less than adequate knowledge (52%) and practices (54%) in all groups of participants (resident doctors, hospital consultants, and private practitioners).(15)

This meant that, not only is first aid training required at medical

colleges it has to be reinforced periodically with refresher training workshops in first aid. Only a Karachi based study found that 63.2% medical students had good, 28.3% moderate and 8.3% poor knowledge about first aid, which was better than our observations (16).

In the present study, females had slightly better knowledge about first aid than males, which was similar to the findings of a study performed in Karachi (16). The Peruvian study found a significant association between knowledge about first aid and female gender (13). Senior students in this study had significantly better knowledge about first aid compared to juniors, which was similar to findings of other studies (13).

Overall knowledge of first aid among students in the present study was poor in comparison to student's awareness level in other studies. Hence, if a formal first aid session is introduced into medical curriculum then this will provide students with sound knowledge and practical skills (17) This should be complimented with hands on experience or activities in order to increase students' experiences in practical procedures during medical school followed by its evaluation as there is a problem of assessment of practical competence (18).

Strength:

One of the strengths in this study that there was no similar study performed in Saudi Arabia. It is revealing the level of awareness regarding first aid skills among medical students. The knowledge can be improved by introducing formal simulated first aid skills training program into the medical curriculum.

Limitations:

This present study only assessed the knowledge of first aid skills among medical students, but not focus on practical skills. Assessment of practical skills would have further helped in understanding the difficulties faced by students in rendering first aid during emergencies. This could be an area for future research studies. Moreover, as the study was performed in one medical college in the kingdom, the findings in this study cannot be generalized to all colleges in different parts of Saudi Arabia. The required sample size also could not be achieved due to non-responses by few participants.

Conclusion:

The Overall knowledge of first aid skills among medical students was not satisfactory. The results are showing that there is a need for introducing first aid training program from the first year with refreshing workshops that contain practical work mostly into the medical curriculum, so that the trained students are competitive enough to provide first aid independently and spontaneously in real life situations. The study also brings out the need for first aid training as a felt need among medical students as there is no formal first aid training in the medical curriculum at the first place. This should be backed up with periodic refresher training as level of knowledge in first aid skills did not differ significantly between students with previous training in first aid and those without. The study also identified key areas in which first aid knowledge was lacking. More such studies should be conducted to evaluate the knowledge and skills of first aid among doctors and medical students in the kingdom of Saudi Arabia

Conflict of Interest Statement:

There are no potential conflicts of interest or any financial or personal relationships with other people or organizations that could inappropriately bias conduct and findings of this study.

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