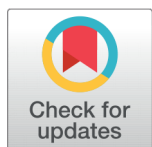


## RESEARCH ARTICLE



### OPEN ACCESS

**Received:** 22-06-2020

**Accepted:** 30-07-2020

**Published:** 11-08-2020

**Editor:** Dr. Natarajan Gajendran

**Citation:** Howaida S. Saati (2020) Describing the effect of a first aid training program on the first aid knowledge and attitudes of female secondary school students in Jeddah – Saudi Arabia. Indian Journal of Science and Technology 13(29): 2941-2946. <https://doi.org/10.17485/IJST/v13i29.985>

**\*Corresponding author.**

[saatih@ksau-hs.edu.sa](mailto:saatih@ksau-hs.edu.sa)

**Funding:** None

**Competing Interests:** None

**Copyright:** © 2020 Howaida S. Saati. This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Published By Indian Society for Education and Environment ([iSee](https://www.indjst.org/))

**ISSN**

Print: 0974-6846

Electronic: 0974-5645

## Describing the effect of a first aid training program on the first aid knowledge and attitudes of female secondary school students in Jeddah – Saudi Arabia

**Howaida S. Saati<sup>1\*</sup>**

<sup>1</sup> King Saud Bin Abdulaziz University for Health Sciences, College of Nursing, King Abdulaziz Medical City, Jeddah, Saudi Arabia

### Abstract

**Objectives:** to explore the effect of a first aid training program on knowledge and practice of female secondary school students in Jeddah- Saudi Arabia. Sample the study was applied at one Secondary female School in Jeddah and the data were collected from 100 Saudi female students who attended the first aid training programmed. **Method:** to achieve the target of this article, the researcher applied pre-post quasi-experimental approach. Data entry and statistical analysis was done using SPSS 20.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for quantitative variables and means and standard deviations for variables. **Findings:** The study shows that First-aid training is essential to develop female secondary school with first aid skills and to extend their input to health emergency situations. On the other hand, students should have sufficient practice and knowledge in first aid to be able to manage injuries and illness that commonly take place at the school sitting. **Novelty:** By Introducing, acquainting and sustaining the lifesaving skills and first aid practices among female students increase the students' confidence in responding to any contingency. **Conclusions:** It is agreed that nurses at schools could play a key role in the provision of lifesaving skills and basic emergency training for the students; this might be very important addition for investigating the effectiveness of future health education programs at females Saudi schools.

**Keywords:** first aid; female secondary school; Saudi Arabia

### 1 Introduction

Injuries amongst school students are considered one of the most severe health problems that the world today face as they can lead to lifelong disabilities or even death. Therefore, basic life support (BLS) and first aid are very important to preserve students' lives and minimize the consequences of injuries until

medical assistance is obtained<sup>(1)</sup>. Universal statistics indicated that around 875,000 school students aged under 18 years die because of accidental injuries annually and more than 95% of those deaths take place in states with middle and low-income levels, further critical injuries were reported at preparatory and secondary schools. The World Health Report showed that the affliction of the diseases occurring because of injuries has enlarged from around 12% in year 1990 to around 15% in year 2000 and estimated to increase to around 20% by year 2020<sup>(2)</sup>.

Injuries that frequently take place at schools are considered the primary reason behind death for school students in the age of school going around the world<sup>(3)</sup>. Quick and appropriate administration of such injuries and emergencies could reduce morbidity/mortality rates. First aid, if administered properly, could mean the line between life and death, quick versus lengthy recovery and permanent versus impermanent disability. In addition, provision of training about first aid for schools' students has been widely preferred as a long-standing strategy to inform and train the wider community<sup>(4)</sup>. In their daily life, school students frequently face injuries such as cuts, burns, sprains, choking, insect bites, nose bleeds, epileptic fits where several improper managements related to these injuries still exist among them. Such indicators and results prove that the number of injuries could be managed and reduced through providing first aid training for school students considering potential dangers and launching safe learning conditions<sup>(5)</sup>.

Commonly, school students possess humble knowledge about providing first aid during injuries, thus majority of them need to be encouraged to receive training about first aid and BLS that are necessary for the chain survival for a student experiencing a life-threatening injury<sup>(6)</sup>. First aid is defined as the preliminary help or administration given at the site of accident to someone who is injured or unexpectedly fallen ill to save their life before the arrival of ambulance and medical support. BLS is an indispensable emergency care component, which should be provided for all cardiac arrest victims with no certain contraindications until providing full medical care at medical centers<sup>(7)</sup>. In the same context, first aid providers should be trained to be able to assess the situation quickly and calmly, deal with life threatening conditions as well as protecting themselves from danger, find medical aid and call an ambulance in case of serious injury or sickness<sup>(8)</sup>.

Consequently, the aim of the study is to explore the effect of a first aid training program on knowledge and practice of female secondary school students in Jeddah- Saudi Arabia.

**Objectives of the study:** to explore the effect of a first aid training program on knowledge and practice of female secondary school students in Jeddah- Saudi Arabia.

**Specific objectives:** assess female secondary school students' knowledge and practice after first aid training program.

**Research question:** what is the effect of a first aid training program on knowledge and practice of female secondary school students in Jeddah- Saudi Arabia?

## 2 Materials and Methods

**Study area/setting:** the study was applied at 48th Secondary female School in Jeddah where the effect of first aid training program were evaluated.

### Study subjects

- 100 female students who are available at 48th Secondary female school in Jeddah.
- Female students who have the desire and willing to participate in the study.

**Study design:** the researcher applied pre-post quasi-experimental approach as follow:

- The researcher organized a training program about first aid practices and tips.
- The researcher distributed a questionnaire among the students before implementing the program to assess their knowledge in this regard.
- The researcher distributed another questionnaire amongst the students after the provision of the training program to assess the students' performance of first aid practice.

A training session of 60 minutes was presented to the students followed by demonstration and video training regarding the first aid for school injuries such as hypoglycemia signs and symptoms, burns injuries mismanagement, fall and fracture accidents managements, wound care, simple CPR cardio pulmonary resuscitation, suffocation managements. First aid kit demonstrated and provided hands-on training to the students about the practice of first aid.

The measurement part was done based on the 40-item scale to know about the impact of training session on female secondary school students in Jeddah, Saudi Arabia. This scale consists of four subscales that is general knowledge of first aid, practice of first aid and attitude towards first aid. The responses to the items on the questionnaire ranged between 5 and 1 on a five-point Likert scale as follows:

The analysis was done in two phases, that is, question responses collected before the training session and question responses collected after the training session and it was analyzed using the above-mentioned tools. A comparative analysis of the questionnaires from the two phases (Pre/Posttest) of the questionnaire were done with a view to find out the extent to which the aim of the present study has been achieved.

### **3 Data collection methods, instruments used, measurements**

The research was used an adapted questionnaire based on the study conducted by Sahar M. Yakout et al.<sup>(9)</sup>. As the questionnaire was distributed amongst the secondary school female students sample, the questionnaire was used as a part of a pilot study and distributed to a small group of 5 students selected from the chosen school for study so that the required modifications may be done prior to distributing the final questionnaire to the representative population.

The developed a self-administered questionnaire is divided into four sections as follow:

- The first section: general knowledge about first aid.
- The second section: knowledge regarding the practice of first aid.
- The third section: attitude towards first aid before receiving the training session.
- The fourth section: attitude towards first aid after receiving the training session.

The instructions were given to the students to answer the questionnaire before attending the training session and answer the same questionnaire after attending the training session.

### **4 Ethical consecrations**

This study was conducted up on an approval from the research unit at nursing college at King Saud Bin Abdul-Aziz University for Health Sciences, and there was an IRB approval from King Abdul-Aziz medical research center KAIMRC. In addition to approval from the university, also prior permission was taken from the concern school authorities and consent form was distributed and signed by the participants and it was clearly stating the research aims objectives, confidentiality and right to withdraw were covered at the participants consent.

### **5 Data management and analysis plan**

Data entry and statistical analysis was done using SPSS 20.0 statistical software package. Data was presented using descriptive statistics in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. The data collected with the help of questionnaire were analyzed section-wise and the data of both the pre-test and post-test results compared to find out the impact of training session of first aid for school injuries upon the Saudi females of 48<sup>th</sup> secondary school in Jeddah, Saudi Arabia.

### **6 Results and Discussion**

Describing the effect of a first aid training program on the first aid knowledge of female secondary school students in Jeddah- Saudi Arabia. [Table 1](#) : shows the students General knowledge about first aid before and after the training

session and it show the improvements regarding the knowing the Serious injury can leads to death (96 %). Knowing the cause and effect of an injury, and how to prevent it was improved after the training session (89%), the nature of Saudi culture may affect the female students response to Knowing that First aid can be done by everyone (67 %)

**Table 1.** Students' general knowledge about first aid

General knowledge about first aid	Before Training	After Training
Knowing the meaning of first aid	21 %	73%
Knowing that First aid is given an immediate care to an injured person	18%	79%
knowing that First aid may mean the difference between life and death	15%	86%
Knowing the Serious injury can lead to death	53 %	96 %
Knowing the cause and effect of an injury, and how to prevent it.	38 %	89 %
Knowing how to perform first aid at school, home and streets	17 %	61 %
Knowing which number should be called for help	13 %	87%
Knowing that the person who gives first aid should know what to do, and what not to do	11%	74%
Knowing that First aid can be performed without the help of a health professional	16 %	58%
Knowing that First aid can be done by everyone	12%	67%

Table 2 shows the students' Knowledge regarding practicing first aid before and after the training session and it shows improvement regarding the practice of first aid considering this is the first time for the students to receive this kind of training and the limited time provided by the school to provide the training session (the school provide only 1 hour for the training for 100 students which was not enough and there many questions need to be answered by the students at the school regarding the first aid practice ), still the female students need further encouragement regarding Knowing how to perform various steps of first aid as demonstrated which was shows minor improvement (58 %) and how to deal with an injured person who is bleeding (56 %) or someone is suffocating while eating (48 %) which reflect the need for further training for the female students with sufficient time

**Table 2.** Student's knowledge regarding practicing first aid before and after the training session

Knowledge regarding practicing first aid	Before Training	After Training
Knowing how to perform first aid	12%	73%
Knowing the methods of practicing first aid	11%	64%
Knowing where the first aid kit is located	49%	71%
Knowing the needed supplies for emergencies	23%	69%
Knowing how to perform various steps of first aid as demonstrated	13 %	58%
Knowing the basic steps to save someone who is laying on the ground	15%	62%
Knowing what to do for an injured person who is bleeding	9%	56%
Knowing what to do when see someone who has been scratched or inculcated	41%	77%
Knowing what to do for someone who bleeds from his nose	38%	54%
Knowing what to do if someone is suffocating while eating	16%	48%
Knowing what the serious medical signs and symptoms are required for first aid	24%	65%

Table 3 shows the students' Attitude towards first aid before and after the training session which show positive improvement due to their interesting regarding the first aid and Suchtraining session should be arranged in future (89 %) and the need to gain experience about first aid which was low (57%) due to the limited time and large number of the students who need further training.

It was found that the most common concern of nursing educators frequently is attrition in nursing education programs. Participants identified similar barriers, such as time constraints and financial concerns , to successful progression in concurrent enrollment programs. The potential barriers to student success due to the academic rigor and increased workload of concurrent enrollment programs were frequent concerns of nurse educators. In spite of the barriers and concerns, participants reported greater retention and higher graduation rates of concurrently enrolled

students, which was attributed to better academic preparation of the students and higher admission requirements for enrollment.

**Table 3.** student's attitude towards first aid before and after the training session

Attitude towards first aid	Before Training	After Training
Comfortable to know about first aid	54 %	87%
Comfortable to discussed with someone the importance of first aid	46 %	73 %
Comfortable to practice first aid	38%	79 %
Value the important to practice first aid	63%	83 %
Have the ability to discussed first aid with family member	21 %	68 %
Gain experience about first aid	18 %	57 %
Value the important of doing first aid for an injured person can minimize the risk of injury	24 %	81 %
Value the important of gaining something valuable from the training session	36%	72 %
First aid has been explained and demonstrated properly	15 %	63 %
Such training session should be arranged in future	56 %	89 %

## 7 Conclusion & Future work

Providing first aid training enables the students to deal with situations and deliver immediate, efficient administration for various incidents such as choking, respiratory and cardiac arrest, breathing and circulation emergencies, bleeding and cardiopulmonary resuscitation training, bone fracture, muscle injuries etc. Providing first aid training and knowledge about proper administration of wounds and illnesses to students is significant for 2 reasons: the first one is related to improving their health knowledge that in turn may lead to healthy and save life; the second one: they can play as a changing individuals in the family and society. Therefore, schools should train students to fulfil those needs in terms of assisting victims, responding to emergencies, caring for their own safety, and so on. Because there are potential barriers to concurrent enrollment for some students, more research is needed to examine the impact of concurrent enrollment programs on nursing workforce diversity.

Additional studies are needed to understand the potential benefits and drawbacks of concurrent enrollment programs to students, faculty, and institutions. As previously mentioned, quantitative studies are needed to examine the program costs, graduation rates, and time-to-degree completion of concurrent enrollment programs. Nurses at schools might play a key role in the provision of lifesaving skills and basic emergency training for the students; this is very important for the health programs at school. Students should have sufficient practice and knowledge in first aid to be able to manage injuries and illness that commonly take place at the school sitting. Therefore, introducing, acquainting and sustaining the lifesaving skills and first aid practices amongst students increase the students' confidence in responding to any contingency. Consequently, the aim of the this study is to explore the effect of a first aid training program on knowledge and practice of female secondary school students in Jeddah-Saudi Arabia. The study showed the important to add first aid skills to female Saudi secondary school's curriculum or extra curriculum activities which could elevate the Saudi community health and safety, and in particular first aid skills, to a position of prime importance for public's health advantages and economic savings. Having a thorough and well thought out first aid strategy will not only make Saudi schools safer, but will also benefit wider communities. Finally, further researches should be encouraged in Saudi Arabia to evaluate the gained skills of the trained Saudi female school students on managing first aid skills including Basic life support (BLS), trauma, burns, injury, and different types of health emergencies.

## References

- 1) Hong KT, Hwang SH, Hong KS. Automotive ride-comfort improvement with an air cushion seat. In: and others, editor. Proceedings of SICE annual conference. 2003;p. 2043–2048. doi:<https://doi.org/10.1.1.76.5424>.

- 2) Karnopp D, Crosby MJ, Harwood RA. Vibration Control Using Semi-Active Force Generators. *Journal of Engineering for Industry*. 1974;96(2):619–626. Available from: <https://dx.doi.org/10.1115/1.3438373>.
- 3) Kiefer A, Shirazi-Adl A, Parnianpour M. Synergy of the human spine in neutral postures. *European Spine Journal*. 1998;7:471–479. Available from: <https://dx.doi.org/10.1007/s005860050110>.
- 4) Wolf E, Pearlman J, Cooper RA, Fitzgerald SG, Kelleher A, Collins DM, et al. Vibration exposure of individuals using wheelchairs over sidewalk surfaces. *Disability and Rehabilitation*. 2005;27(23):1443–1449. Available from: <https://dx.doi.org/10.1080/09638280500264709>.
- 5) Aye SA, Heyns PS. The evaluation of whole-body vibration in a South African opencast mine. . *The Journal of the Southern African Institute of Mining and Metallurgy*. 2011;111. Available from: <https://doi.org/10.4271/2016-28-0203>.
- 6) Singiresu R, S. Mechanical vibrations. 5th ed. and others, editor;Pearson Education Inc. 2011.
- 7) Cooper RA, Wolf E, Fitzgerald SG, Boninger ML, Ulerich R, Ammer WA. Seat and footrest shocks and vibrations in manual wheelchairs with and without suspension. *Archives of Physical Medicine and Rehabilitation*. 2003;84(1):96–102. Available from: <https://dx.doi.org/10.1053/apmr.2003.50069>.
- 8) ISO 2631-1. Mechanical vibration and shock, evaluation of human exposure to whole-body vibrations. Part 1: general requirements. International Organization for Standardization: Geneva (Switzerland). . 1997. Available from: <https://www.iso.org/standard/7612.html>.
- 9) Garcia-Mendez Y, Pearlman JL, Cooper RA, Boninger ML. GDynamic stiffness and transmissibility of commercially available wheelchair cushions using a laboratory test method. *The Journal of Rehabilitation Research and Development*. 2012;49:7–7. Available from: <https://dx.doi.org/10.1682/jrrd.2011.02.0023>.