

Assessment of Family Members' First Aid Education in Saudi Arabia

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Abstract

Background: Providing instant care for life-saving or rescuing the injured or sick people requires having a considerable amount of first aid (FA) knowledge and experience. The current work sheds some light on the current status of Saudi family members' first aid knowledge and experience aiming at reaching a sustainable decrease in the number of deaths and unnecessary losses. **Methodology:** A questionnaire was used to collect ($N=447$) participants' information 35.6% (159/447) males and 64.4% (288/447) females from a number of Saudi cities. The collected data were analyzed using IBM SPSS v 25. **Results:** The results showed that 48.3% (216/447) of the participants have good FA experience and only 7.2% (32/447) have excellent FA experience. The majority of the participants 65.3% (292/447) were not FA-certified, 22.8% (102/447) attended an FA course, and 11.9% (53/447) were certified first aiders. 93.7% (419/447) of the participants think that the community's FA awareness is low. The results also reported statistically significant association between being related to health care sector and FA experience $\chi^2(3) = 56.8, p = 0.000$, witnessing accidents and gender $\chi^2(7) = 19.1, p = 0.008$, and having got FA tools and FA experience $\chi^2(3) = 28.5, p = 0.000$. **Conclusion:** The current study's results along with numerous similar research provoke a public outcry to take practical steps towards enhancing a sustainable community's FA education through campaigns, workshops, and training courses.

Keywords: First aid, first aid education, lifesaving, instant care.

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INTRODUCTION

First aid (FA) translates for the sort of care – initial or helping behaviors - that could be provided for both injuries or acute illnesses and initiated by whoever is available and in any situation (Singletary *et al.*, 2015). It is also the immediate care provided to the individuals who have been injured or suddenly taken ill, encouragement, willingness to help (Kalaiyarasan, 2015), or willingness to give care (first aid) (Bakke, Steinvik, Angell, & Wisborg, 2016).

First aid education is required for decreasing the number of death and injury cases and minimizing the level of severity resulting from pandemic and epidemic diseases, accidents, natural disasters, terrorism, and war (Emir & Kuş, 2015). Consequently, the American Red Cross experts have provided first aid

courses to almost 12 million citizens every year (Eisenburger & Safar, 1999). Moreover, the educational goals in the Belgian secondary schools include calling for help, providing first aid, and performing cardiopulmonary resuscitation (De Buck *et al.*, 2015). Therefore, teaching first aid to bystanders has resulted in increasing their first aid response and improved survival (Bakke, Steinvik, Eidissen, Gilbert, & Wisborg, 2015). Additionally, Snape *et al.*, (2017) argue that people with epilepsy might not need to visit hospital emergency departments if their relatives acquire the correct first aid training. Likewise, Eze, Ebuehi, Brigo, Otte, and Igwe (2015) reported that respondents' (trainee teachers) first aid management skills have increased after they have been provided with an educational intervention at the Federal College of Education in Lagos, Nigeria. Thus, providing first aid

education to bystanders or laypersons is a must and can contribute to improving the outcome of critical cases such as trauma and out-of-hospital cardiac arrest (Bakke *et al.*, 2016).

OBJECTIVES

This proposed study is a cross-sectional study aiming at investigating the Saudi family members' opinions regarding the importance of first aid and the extent to which they are aware and educated about it. It is also set to address the following questions:

1. What is the current position of first aid in the Saudi community?
2. To what extent are the Saudi family members aware of the importance of first aid?
3. What are the Saudi family members' attitudes regarding first aid awareness?

LITERATURE REVIEW

Numerous studies emphasize the need for FA training for its role in saving lives thanks to the individuals' lack of adequate knowledge and skills (Emir & Kuş, 2015). First aid training gains its importance from the crucial role the trained individuals play in saving others' lives and protecting them from the consequences of unexpected disasters and life-threatening events (Emir & Kuş, 2015).

Field-based Studies

Several studies concluded that the first aid knowledge of the participants is at an adequate level but with poor implementation skills (Mahony, Griffiths, Larsen, & Powell, 2008), moderate level (Joseph, Kumar, Babu, Nelliyanil, & Bhaskaran, 2014), inadequate level (Al-Khamees, 2006; Kitchener & Jorm, 2004; Lynch *et al.*, 2006; Ransone & Dunn-Bennett, 1999), or a worse than expected first aid theoretical knowledge in a nationwide survey study (Bakke *et al.*, 2016).

Emir and Kuş (2015) conducted their study to assess the level of first aid knowledge and skills of hotel employees and their role in improving customers' safety after having attended a first aid training course. The study found out that those who received the training course and its certificate gained first aid knowledge and skill better than those who did not. Likewise, Blancher *et al.*, (2016) aimed at describing the resources for managing medical conditions in mountain huts and their epidemiologies in a study of three steps from April 2013 – August 2014. In its second step, the study used semi-structured interviews to conduct a qualitative evaluation of the role of mountain hut guardians in medical situations. The third phase involved carrying out a prospective observational study during the summer season to include the related medical events. The study concluded that medical events had low prevalence and the hut guardians played an appreciated role in providing first-aid response.

A recent study (El-Den, Moles, Choong, & O'Reilly, 2020) searched the databases PsycINFO, MEDLINE, ERIC, EMBASE, CINAHL, AND PreMEDLINE to review the studies on mental health first aid training among university students from 2000 – 2020. The study identified only 12 works out of 1662 records done on mental health first aid training and conducted in Australia, the United States, and the United Kingdom: 8, 3, 1 respectively. Another study (Goktas *et al.*, 2014) was conducted in Istanbul, Turkey from May 2013 – June 2013 including 936 students using a 21-item questionnaire to assess the students' first aid knowledge in poisoning cases.

Saudi Studies

Some recent studies were carried out in Saudi Arabia aiming at investigating the level of first aid awareness and skills among various categories of society. For instance, Halawani, Alghamdy, Alwazae, and Alkhayal (2019) conducted a cross-sectional study in Riyadh, Saudi Arabia using a self-administered questionnaire to assess the FA knowledge, skills, and attitude of university Saudi female students from Oct. 2017 – Dec. 2017. The majority of the participants were from nonmedical colleges and the remaining was from medical colleges. Although the attitude of most of the students was positive toward first aid, they were lacking the necessary knowledge and skills. The study emphasized the need to introduce FA training in Saudi universities and secondary schools. Similarly, AlQahtani *et al.*, (2020) carried out their cross-sectional study between Aug. 2018 and Feb. 2019 aiming at assessing the level of FA knowledge among medical and nonmedical university Saudi students. It was found out that only less than half of the participants had training courses in basic life support. Interestingly, more than half of both medical and nonmedical students had good FA knowledge.

METHODS

We carried out a cross-sectional study. The study area covered almost all the cities of the Kingdom of Saudi Arabia with a special focus on Jeddah, Makkah, Riyadh, Madinah, and Taif where the remaining Saudi cities are mentioned as "Other". The study has been collecting information between 04/02/2020 and 21/03/2020 utilizing an eleven-item electronic questionnaire written in Arabic and spread over social networks using the snowball technique.

The study population consisted of adults aged above or equal to 18 years old. We chose this range of age because of their ability to provide proper first aid. The targeted population was divided into two broad categories based on their age: (18 – 23) and (24 and above) years old. So, age along with gender, city of residency, and "having children" represent the socio-demographic scale, while information such as "healthcare-related", "having first aid kit", and

“relatives’ first aid experience” form the scale of “first aid current position”. Finally, the “first aid providing” scale is formed by their attitude about the current first aid awareness amongst the Saudi population. “First aid accredited”, “participant’s own first aid experience”, “having witnessed accidents”, and “attitude about first aid awareness”.

The collected data were analyzed using IBM SPSS Statistics v.25 and the specific statistics used for data analysis are specified in the results section.

RESULTS

A total of ($N=447$) questionnaires have been filled by 35.6% (159/447) males and 64.4% (288/447) females representing many cities in Saudi Arabia. Respondents’ geographic details are shown in the following figure, where Makkah respondents form 4.3% (19/447), Jeddah 61.3% (273/447), Riyadh 12.1% (54/447), Taif 2.9% (13/447), Madinah 2% (9/447), and 17.7% (79/447) respondents are residents of other KSA cities. Most participants 69.4% (310/447) have children living with them in the same house (Table 1) shows the respondents’ socio-demographic details as follows:

Table 1: Respondents’ Socio-Demographic information

Gender	N	
Male	159	35.6%
Female	288	64.4%
Age		
18 - 23	254	56.8%
24 and above	192	43.0%
Missed	1	0.2%
City of Residence		
Makkah	19	4.3%
Jeddah	273	61.1%
Riyadh	54	12.1%
Taif	13	2.9%
Madinah	9	2.0%
Other	79	17.7%
Do you have children?		
Yes	310	69.4%
No	137	30.6%
Total	447	100%

Strikingly, 68.2% (305/447) of the participants are not involved in the healthcare field, 60.4% (270/447) of the participants do not have first aid kits at

their homes, and 54.1% (242/447) have a relative who can provide first aid if needed. These details are shown in (Table 2) as follows:

Table 2: First Aid Current Position

Are you healthcare-certified?		
Yes	142	31.8%
No	305	68.2%
Do you have a first aid kit?		
Yes	177	39.6%
No	270	60.4%
Is one of your relative’s first aid experienced?		
Yes	242	54.1%
No	205	45.9%
Total	447	100%

Moreover, 8.3 % (37/447) of the participants have no first aid experience, 36.2% (162/447) have poor experience, 48.3% (216/447) have good

experience, and 7.2% (32/447) have excellent experience in first aid according to (Figure 1) as follows:

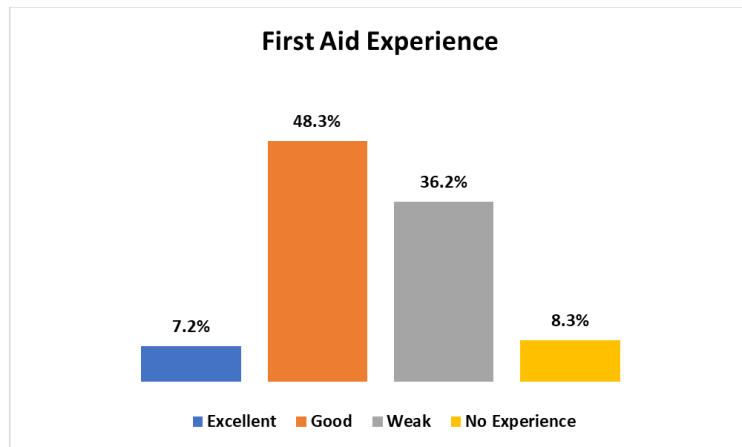


Figure 1: Participants' FA Experience Levels

Furthermore, the majority 65.3% (292/447) of the participants were not certified in first aid, whereas 22.8% (102/447) attended a course in first aid and

11.9% (53/447) were certified first aiders. The following (Figure 2) shows the results regarding participants' FA education.

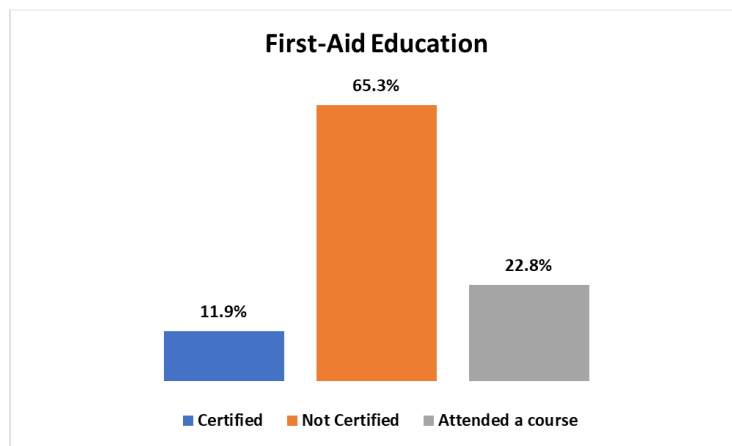


Figure 2: Participants' information regarding their FA education

Regarding the types of accidents witnessed by the participants, 19.7% (88/447) of them had an accident of burning injury where first aid was needed, 25.5% (114) had fainting accidents, 6.7% (30/447) had trauma accidents, only 0.7% (3/447) had electric shock

accidents, 14.1% (63/447) had asphyxia accidents, 5.4% (24/447) had drowning accidents, 10.1% (45/447) had falling accidents, and 17.9% (80/447) had other accidents. The results above are shown in (Figure 3) as follows:

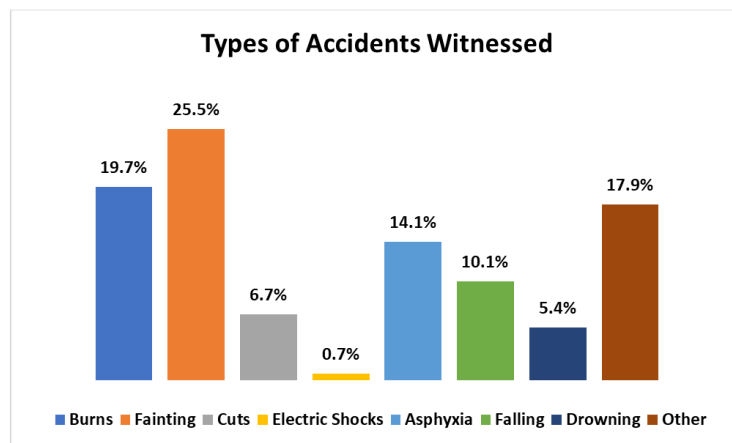


Figure 3: Types of accidents witnessed by the participants

Also, 93.7% (419/447) of the participants think that the community’s first aid awareness is low according to (Figure 4) as follows:

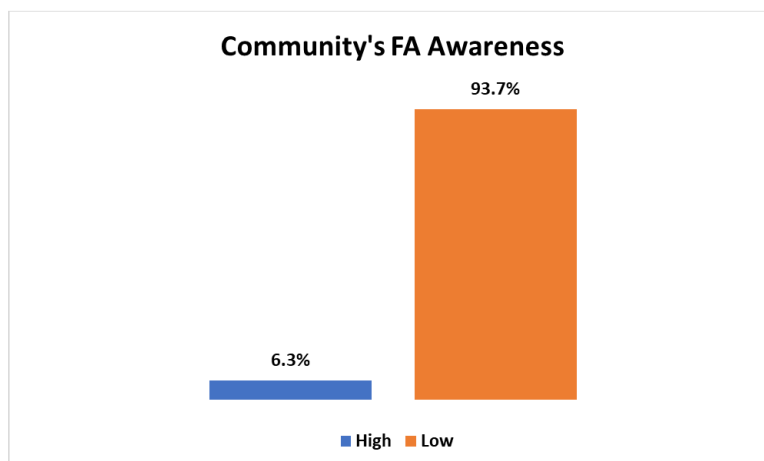


Figure 4: Participants’ Opinion Regarding FA Awareness

Chi-square tests for association were conducted between There was a statistically significant association between “Being Related to Health Care Sector and FA Experience” $\chi^2(3) = 56.8, p = 0.000,$

“Witnessing Accidents and Gender” $\chi^2(7) = 19.1, p = 0.008,$ and “Having Got FA Tools and FA Experience” was observed, $\chi^2(3) = 28.5, p = 0.000.$ Table (Table 3) illustrates the above-mentioned association as follows:

Table 3: Chi-Square Tests showing different Association

Being Related to Health Care Sector and FA Experience			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	56.777 ^a	3	0.000
Likelihood Ratio	57.151	3	0.000
Linear-by-Linear Association	49.634	1	0.000
N of Valid Cases	447		
a. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 10.17.			
Having Witnessed Accidents and Gender			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.107 ^a	7	0.008
Likelihood Ratio	19.820	7	0.006
Linear-by-Linear Association	3.301	1	0.069
N of Valid Cases	447		
2 cells (12.5%) have expected count less than 5. The minimum expected count is 1.07.			
Having Got FA Tools and FA Experience			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	28.505 ^a	3	0.000
Likelihood Ratio	29.460	3	0.000
Linear-by-Linear Association	27.870	1	0.000
N of Valid Cases	447		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.67.			

DISCUSSION

First aid education is required by numerous studies for its vital role in improving survival that follows out-of-hospital trauma or cardiac arrest or in getting better outcomes in general (Bakke *et al.*, 2016; Bakke *et al.*, 2015). Likewise, Buck and Remoortel (De Buck *et al.*, 2015) recommended integrating an evidence-based educational curriculum with pre-set educational goals relating to first aid learning in school curricula. Similarly, in the current study, we found that

the majority of the respondents 419 (93.7%) in the different Saudi cities agree that awareness regarding first aid or first aid education is low which necessitates initiating massive nationwide campaigns with organized educational and awareness programs. Although there is a national program that gives free courses about first aid, the people's knowledge about this program is very low. Similarly, it has to be improved by increasing the efforts of the government and the Red Crescent to publicize these program courses. We also hope that

these courses be provided in high schools because only 37.2% of the Saudi schools integrate first aid in their curricula according to a recent report by Mobarak and Afifi (Mobarak, Afifi, & Qulali, 2015). In Addition, the current study reported a high percentage of the families who have children 310 (69.4%), which demands knowing how to properly provide them with first aid in case of injuries.

Saudi Arabia witnesses a greater rise in the prevalence of obesity than numerous neighboring countries which stands as a risk factor for many chronic diseases (Al-Nuaim *et al.*, 1996; Al-Raddadi, Bahijri, Jambi, Ferns, & Tuomilehto, 2019). Consequently, Saudi Arabia has a high percentage of different chronic diseases such as hypertension (Al-Nozha *et al.*, 2007), diabetes mellites (Bahijri, Jambi, Al Raddadi, Ferns, & Tuomilehto, 2016), and respiratory distress syndrome (Arafa & Alshehri, 2003). It is well known that the patients with these chronological diseases might experience exacerbated episodes that require the intervention of a first aider in their family or the people who work with them. Therefore, Saudi Arabia preserves a big public health demand of first aid and basic life support (Mobarak *et al.*, 2015).

The sample's (93.7%) opinion that the Saudi community's awareness is low is an alarming proportion because of part of this community. This frequency suggests a collaborative work of awareness campaigns, workshops, training courses, and practical steps towards reaching the ideal FA community situation.

We also found a strong correlation between the individuals who do not work in the health care field and the individuals who do not have first aid experience, having mentioned that does not justify it for those people even if they do not work in the health care field, first aid is a skill all individuals should have whether they were working in a health care field or not. Most importantly, if an accident happened to one family member and no one in the house knows how to properly give first aid, that could lead to dramatically increase in morbidity or even mortality of the casualty in contrast to someone who had a proper first aid intervention quickly after an accident until the Emergency Medical Service (EMS) arrives.

Strengths

The current study is unique in addressing the issue of Saudi families' FA awareness and education as a lot of studies carried out in Saudi Arabia addressed a field-based assessment of participants' FA knowledge and education. Nevertheless, the current situation of FA knowledge and education among Saudi families provokes the need to educate the whole family through specifically designed training programs to enhance the

whole community's knowledge, willingness, and readiness to handle the ever-lasting life-saving duties.

Limitation

This study only assessed the knowledge and skills of first aid among the Saudi families; however, it has not assessed the participants' practically nor offered training courses to educate them.

CONCLUSION

Furthermore, accidents could happen anywhere at any time, thus, it is significantly important to be able to provide first aid during various emergencies. Besides, first aid helps ensure that the correct methods of administering medical assistance are provided. Also, first aid knowledge may benefit the individual themselves whether the emergency affects them directly or involve people they live or work with. Nevertheless, first aid is a requirement for certain people. For example, people who work in day-care centers, watch over children, watch over the elderly, or work as a lifeguard. Finally, having properly trained individuals and the right first aid equipment, a simple injury could be prevented from turning into severe or life-threatening injury. First aid does not only facilitate recovery but also saves lives. The current study finds that suggesting training courses to enhance the students' levels of knowledge and skills is a must to achieve various benefits such as live-saving, death prevention, and decreasing the dangers of daily or seasonal disasters and harms.

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