

Assessment of knowledge, attitude, and practice about first aid among male school teachers in Hail city

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ABSTRACT

Introduction: Children in schools are more prone to get injured during their activities. Awareness toward first aid is vital for teachers to provide solutions in case of the occurrence of accidents. Our work aimed to assess the knowledge, attitude, and practice of first aid and the associated factors among male school teachers in Hail city. **Methodology:** This is a cross-sectional study. A questionnaire-based survey was performed among teachers in primary, middle, and secondary male schools in the Hail region, Saudi Arabia. Statistical analysis was performed using STATA 12 software, Continuous variables were presented as mean, and SD and inter-group differences were compared using *t*-test. Categorical variables showed as numbers and percentages. *P* values <0.05 were considered statistically significant. **Results:** A total of 604 teachers were included in our sample; all completed an online structured questionnaire formed of 20 questions. The majority of participants were male teachers (80.96%). The teachers had a mean age of 39 ± 7.8 years old. Most of the teachers (90.9%) knew about first aids. More than one-half of teachers (58.28%) had not taken first aid training, and the majority of participants (87.9%) need to learn first aid principles. Age, sex, and marital status were significantly ($P < 0.05$) associated with the knowledge of first aids. Most of our samples depend on media and social media to gain information regarding first aid principles. **Conclusion:** Our study concluded that the school teachers in Hail city had good knowledge and attitude about the first aid. However, more training workshops were recommended for improving the first aid practice of teachers.

Keywords: Attitude, first aid, knowledge, practice, school, teachers

Introduction

First aid is providing early and first care for injury or illness by the untrained or inexperienced person until medical treatment can be provided.^[1] Injuries are the major causes of morbidity and death in the world, especially in middle- and low-income countries.^[2]

Primary care physicians are not present at the schools. Rapid administration of first aid by school teachers may minimize morbidity and mortality of pupils attributed to injury-related problems, therefore, teachers should have adequate knowledge and practice in basic first aid skills.

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First aid involves simple medical techniques that individually provide, this individual is either with or without a formal medical.^[3] In 2020, Taklual *et al.* performed a study to investigate the associated factors of first aid knowledge, attitude, and practice among elementary school teachers in Ethiopia. They found that school teachers have low knowledge of first aid. Educational status, previous first aid training, service year, and information on first aid were the determinant of first aid knowledge.^[4]

In Saudi Arabia, it was estimated that there were 30,263 cases of neck and back injuries, 41,561 fractures cases, 779 burn cases, and 467 asphyxia cases.^[5,6] Awareness toward first aid is important to provide solutions in case of occurrence of accidents, this can be performed by establishing training programs.^[1] Life-threatening emergencies in schools include preexisting health problems, violence, injuries, and other unexpected events.^[3] In Saudi Arabia,

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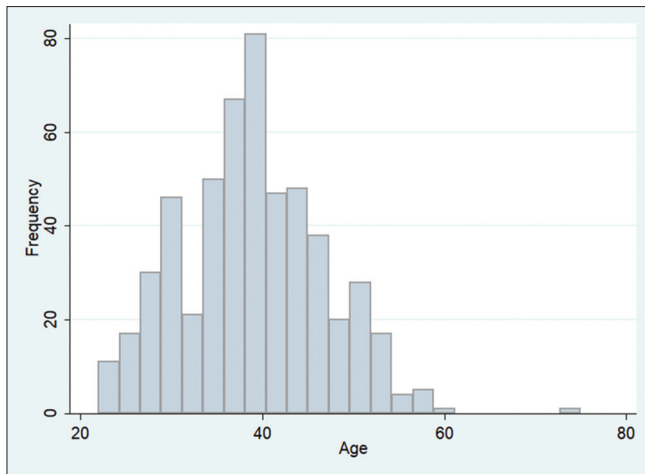


Figure 1: First aid knowledge correlation with age

the main caregivers in school for children are teachers and they are their first-line protectors and the first individuals who respond to the emergencies of the students, so they should be able to deal with emergencies and disasters the students face.^[7] Students in Hail spend a long time in school and they perform activities there, during the day several accidents may occur and may result in injuries. Teachers are responsible persons for children in school. No studies have been done before to explore knowledge, attitude, and practice about first aid among male school teachers in Hail city, Saudi Arabia.

To assess the knowledge, attitude, and practice about first aid among male school teachers in Hail city and to investigate its associated factors.

Methodology

Study design

This is a cross-sectional study. A questionnaire-based survey among teachers in primary, middle, and secondary male schools in the Hail region, Saudi Arabia. A 30-cluster survey methodology was approached.

Sample size and sampling technique

A two-stage random cluster sampling technique described by the World Health Organization (WHO) was applied to choose 30 schools to proportionate to size to represent primary, middle, and secondary schools in Hail City.

Data collection tool

The data collection tool was validated before and used by Dr. Ibrahim Adel AlYahya.^[8]

Study variables

Knowledge level, attitude, and practice were the outcome variables of interest. Sociodemographic variables of teachers and school-related characteristics were the independent variables that could influence the outcome variables.

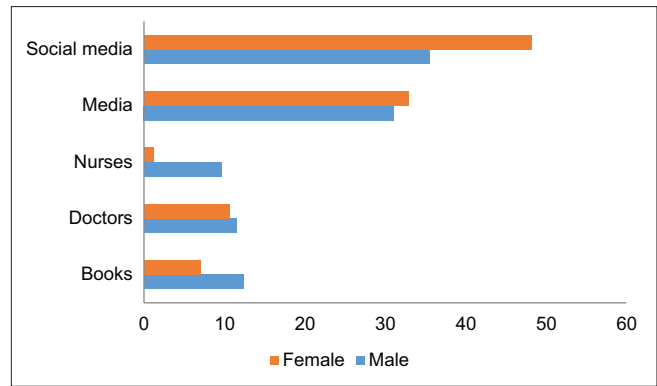


Figure 2: Source of first aid information based on gender

Ethical consideration

All the required permissions were obtained from the ministry of education, and ethical approval was obtained from the Bioethics review Board, General Directorate of Health Affairs, Hail Region.

Statistical analysis

The data were analyzed using STATA 12 software, continuous variables were presented as mean and standard deviation (SD), and inter-group differences were compared using *t*-test. Skewed numerical data were shown as median and average rank and between-group differences were compared using the Mann-Whitney U-test. *P* values <0.05 were considered statistically significant.

Results

Tests of correlations with age

Age was significantly associated with the knowledge regarding the compression of sounds to stop external bleeding with a *P* value 0.02, however, there was no correlation with other elements of knowledge [Figure 1].

Correlation with sex

Males had higher knowledge regarding the management of emergencies such as chemical contamination of eyes with *P* value 0.025, besides, to complete choking with foreign bodies as males were significantly knowledgeable regarding pushing the upper part of the abdomen maneuver to expel foreign body with *P* value 0.002 [Figure 2]. This study contain 604 participants, demographic characteristics were found in Table 1. Source of knowledge about first aid were reported in [Figure 3].

Males also knew that removing remnants of poisons in children's mouths if ingested with *P* value 0.04, on the other hand, females had more knowledge regarding how to manage burns by pouring cold water on burned skin with *P* value 0.006; nonetheless females knew how to manage bone fractures with *P* value 0.013.

Table 1: Demographic characteristic		
Character	n	%
Gender		
Male	489	80.96
Female	85	14.07
Unknown	30	4.97
Marital status		
Married	549	90.89
Single	21	3.48
Divorced	5	0.83
Unknown	29	4.80
Knowledge of first aids		
Yes	549	90.9
No	16	2.6
Unknown	39	6.5
Source of information		
Books	70	11.59
Doctor	69	11.42
Nurses	48	7.95
Media	190	31.46
Social media	216	35.76
Unknown	11	1.82
First aid training		
Yes	141	23.34
No	352	58.28
Unknown	111	18.38
Number of emergency cases need first aid		
One	253	41.89
More than one	293	48.51
Unknown	58	9.60
Can you offer immediate help		
Yes	292	48.34
No	293	48.51
Unknown	19	3.15
Do you need to learn first aid principles		
Yes	531	87.91
No	62	10.26
Unknown	11	1.82
Do you think first aid is important		
Yes	557	92.22
No	43	7.12
Unknown	4	0.66
Did you had first aid training		
Yes	181	29.97
No	414	68.54
Unknown	9	1.49
Management of eyes chemical burns		
Wash by water	353	58.44
Use gloves and wash by water	124	20.53
Call emergency	111	18.38
Unknown	16	2.65
First aid in partial choking		
Yes	282	46.69
No	303	50.17
Unknown	19	3.15
First aid in complete choking		
Wait and let the child calm down	112	18.54
Perform CPR	122	20.20
Squeeze upper abdomen	333	55.13
Unknown	37	6.13

Table 1: Contd...		
Character	n	%
In heat stroke you have to cool body first		
Yes	409	67.72
No	174	28.81
Unknown	21	3.48
After an insect bite, you have to mobilize the child to a safe area		
Yes	393	65.07
No	188	31.13
Unknown	23	3.81
In nasal bleeding, you have to		
Put your head backward	297	49.17
Squeeze the nose	198	32.78
Wash nose with water	71	11.75
Unknown	38	6.29
Remove remnants of poisons		
Yes	470	77.81
No	116	19.21
Unknown	18	2.98
Press on wound to stop bleeding		
Yes	432	71.52
No	142	23.51
Unknown	30	4.97
You have to clean wound after a dog bite		
Yes	340	56.29
No	245	40.56
Unknown	19	3.15
Pour cold water on burned skin		
Yes	368	60.93
No	216	35.76
Unknown	20	3.31
What to do electric burn		
Pour water on the child	45	7.45
Call emergency	87	14.4
Cutoff electricity	452	74.83
Unknown	20	3.31
You have to call an emergency in case of bone fracture		
Yes	493	81.62
No	101	16.72
Unknown	10	1.66

Female’s source of knowledge was mainly social media and media when compared to males with *P* value 0.025.

Correlations with marital status

Marital status significantly correlated with knowledge regarding partial choking as singles had the highest knowledge when compared to married and divorced with *P* value 0.009, while the married population had higher knowledge regarding chemical contamination of eyes to be washed by water after exposure with *P* value 0.011.

Correlations with first aid knowledge

Individuals who have previous knowledge about first aid were mostly trained before on first aid principles with *P* value 0.037, in addition to doing upper abdomen pushes in complete choking with *P* value 0.045. Nonetheless, those who knew about first aid had more knowledge regarding

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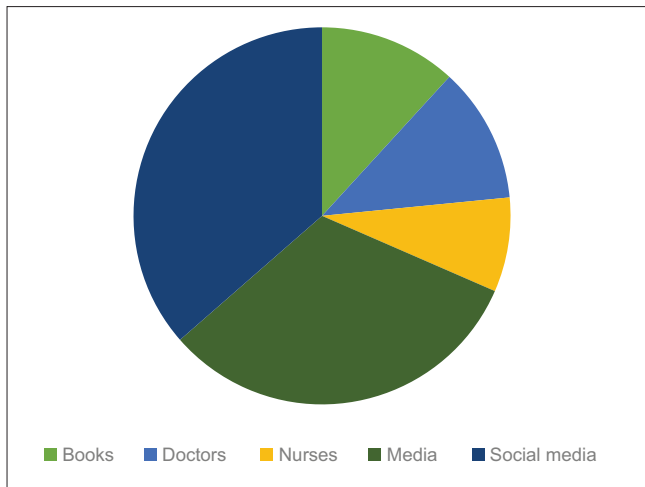


Figure 3: Pie chart showing sources of information about first aid

electric shocks to stop electric source and call emergency with P value 0.008.

Correlation to first aid training

Individuals who had first aid training were more ready to offer immediate help $P = 0.0001$, knowledge regarding partial choking $P = 0.0001$, and complete choking $P = 0.02$. Regarding management of heat-stroke, insect bite, nasal bleeding wound bleeding, and dog bites those who had training were significantly knowledgeable than people who did not have the training with P values 0.02, 0.02, 0.04, 0.008, 0.016, and 0.003, respectively.

Correlations with the source of information

Most of our sample depend on media and social media to gain information regarding first aid principles as persons who depend on social media and media were significantly more knowledgeable regarding management of chemical contamination of eye 0.005, nasal bleeding 0.048, skin burns 0.011, complete choking 0.02, to offer immediate help to those in need 0.001, to learn first aid principles 0.006, and to have training in first aid maneuvers 0.0001.

Discussion

Children are more prone to get injured during their activities.^[9,10] It was mentioned that physical injuries of children represented 88% of injuries and 20% of them occurred during the school attendance.^[11]

Most of the participant teachers (90.9%) in our study knew about first aids. AlYahya *et al.* (2019) conducted a study to assess the levels of knowledge of teachers in the Riyadh city related to basic first aid practices and its variables. They found that 60.1% of teachers had information about first aid practices which was less than our findings (90.9%).^[8] Another study from Saudi Arabia reported that more than half of teachers 62.88% did not attend any training about first aid and 51.26% had poor

knowledge, however, 95% had a positive attitude.^[7] Another study demonstrated that there was an unsatisfactory level of first aid knowledge among primary school teachers.^[10] A study from Al-Robaiaay showed that sports teachers had poor knowledge about first aid. In Madinah, 44.76% was the percentage of good first aid knowledge of overall school instructors. They also measured 60.55% of school instructors have a positive attitude toward first aid training.^[12]

In the present study, age was found to be significantly correlated to knowledge regarding the compression of sounds to stop external bleeding with a P value 0.02. Similarly, it was reported that teachers older than 35 years had higher knowledge about first aid more than younger teachers.^[13]

In agreement with the present study, it was reported that having previous first-aid training, source of first aid information, previous training, and exposure to children in need of first aid were positive associations with the attitude towards first aid.^[13]

A study from Egypt reported that the knowledge of primary school teachers about first aid was inadequate.^[14] A study from Iraq reported that 95% of teachers had total fair knowledge and 5% had poor knowledge, whereas 93.4% showed a positive attitude.^[15] A study from China found that the majority showed a positive attitude toward providing and learning first aid skills.^[16]

An Indian study showed that 77.5% of government school teachers had an average level of knowledge toward first aid, whereas 12.5% and 10% had good and poor knowledge, respectively.^[17] Another Indian study reported that 13% and 87% of school teachers in Mangalore had poor and moderate knowledge, respectively.^[18] Another study found that 72.5% had good knowledge.^[19]

In the present study, more than one-half of teachers (58.28%) had not taken first-aid training and the majority of participants (87.9%) need to learn first-aid principles. Similarly, it was reported that only 26.4% of teachers had attended first aid lectures and the majority of them had not attended the lectures.^[8] Training is a factor that improves the level of knowledge, there was a significant association between first aid training and the level of knowledge.^[20,21] It was reported that the majority of primary school teachers (86%) did not attend any specific seminar related to first aid management of minor injuries.^[9]

In our study, most of our samples depend on media and social media to gain information regarding first-aid principles. In agreement with our results, AlYahya *et al.* reported that most teachers reported a source of knowledge was social media (21.6%).^[8] However, another study reported that the majority (74%) of teachers had their information about first aid through literatures such as magazines, health newspapers, health-related articles, and from relatives, friends, and health professionals.^[9]

Summary

Knowledge of first aid is critical for teachers to provide solutions in case of the occurrence of accidents. Our work aimed to assess the knowledge, attitude, and practice of first aid and its associated factors among male school teachers in Hail city. Most of the teachers knew about the first aids. More than one-half of teachers had not taken first aid training, and the majority of participants need to learn first aid principles. Age, sex, and marital status were significantly associated with the knowledge of first aids. Most teachers depend on media and social media to gain information regarding first aid principles. Our study concluded that the school teachers in Hail city had good knowledge and attitude about the first aid. However, more training workshops were recommended for improving the first-aid practice of teachers.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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