



SCHOOL TEACHERS' KNOWLEDGE AND ATTITUDES ABOUT FIRST-AID IN QATIF CITY, EASTERN PROVINCE, SAUDI ARABIA

Medicine

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ABSTRACT

Introduction: Children and adolescents are vulnerable to accidents at schools. Lack of knowledge and skills of their teachers may lead to serious health consequences. Acquiring the basic knowledge and skills of first aid can be invaluable for teachers to be able to provide a proper emergency pre-hospital care in the event of an accident to save life and prevent avoidable consequences. This study reflects the current knowledge and attitudes of male school teachers regarding first aid skills.

Methodology: This study was conducted through a cross-sectional analytic study using self-administered questionnaire among (396) male school teachers at governmental and private schools in Qatif City, Eastern Province, Saudi Arabia. The questionnaire was designed and validated by the researcher. It includes social-demographic data, knowledge and attitudes about first-aid measures for the most common incidents in schools.

Results, Conclusion and Recommendations: The present study found that most of the school teachers (62.88%) have not attended any training courses in first aid. Their knowledge level appears to be poor (51.26%) to perform effective first aid. Although positive attitudes of the majority still existing among teachers. Therefore, Educational programs in schools to all teachers should be initiated in terms of first aid.

KEYWORDS

First aid – School health – Teachers – Saudi Arabia – Knowledge – Attitudes.

INTRODUCTION

Children and adolescents are the most powerful natural resource in every country and community. Their health, competencies, knowledge, and vitality will determine the future of nations around the world. Schools are considered a suitable media to promote the health of staff, families and community members as well as their student's health. Almost in every community, the school is a setting where students and employees expend a great deal of their time. It is a location where education and health programs can have their biggest impact since it influences students at such critical stages in their lives, childhood, and adolescence. Therefore, school leaders can foster students' health as actively as they promote learning [1].

School children are highly vulnerable to accidents and emergency situations due to their increased activities. Adolescents and secondary school-age students are at greater risk with severe consequences [2]. Perhaps this is due to an increased tendency in being involved in riskier physical behavior and violent acts [3].

Approximately two-thirds of all deaths among children and adolescents result from injury-related causes [4]. Injuries needing medical attention and subsequently restricted activity affect about 20 million children and adolescents (250/1,000 persons) and cost 17 billion \$ annually of the total medical expenses [5]. Physical activities related injuries are the most common type of the school injuries [6]. Other common types of school accidents were coma, epistaxis, shortness of breathing, fractures, joint dislocation, hematoma, burns, choking, seizures, insect bites and poisoning [7].

Teachers are the main caregivers and the first line of protection for school students. Their role complements that of parents. They are the first respondent in cases of disasters or emergencies. Therefore, They must be able to deal appropriately with medical emergencies, for all healthy students and those students with special health care needs. This role can be achieved if teachers are equipped with the required skills to provide effective first aid services that promote recovery and prevent future serious health consequences [8].

According to the International Federation of Red Cross and Red Crescent Societies, first aid is defined as "Immediate help provided to a sick and injured person until professional help arrives. It is concerned not only with physical injury or illness but also with other initial care, including psychosocial support for people suffering emotional distress from experiencing or witnessing a traumatic event. First aid interventions seek to preserve life, alleviate suffering, prevent further illness or injury and promote recovery" [9]. The prognosis of casualties after accidents mainly depends on the management provided to the victim in the first minutes immediately following the incident. Therefore, this reflects the vital importance of the first-aid given early

to the victim, which may sometimes be life-saving [10]. Thus, the National First-aid Science Advisory Board mandate that "Everyone can provide and should learn first-aid; education and training in first-aid should be universal" [11].

Unfortunately, in many countries, school health services are often neglected, and this may reflect the lack of awareness and training about common illnesses and first-aid care [12].

Worldwide, most of studies about the knowledge and skills of school teachers are insufficient. In our country, studies about the level of knowledge and attitude of school teachers about providing first aid are lacking. Therefore, this study aims to explore the first aid knowledge and attitude of school teachers at male schools in Qatif City, Eastern Province, Saudi Arabia.

Methodology (Materials and Methods)

Study Area/ Time

This study was conducted in governmental and private male schools in Qatif City (zip code 31911 KSA), Eastern Province, Saudi Arabia in June 2016 for 12 months duration.

Study Subjects

All male school teachers in Qatif City were included. The choice of male schools for this study was based on evidence that showed that the highest incidence rates for injuries were among male schools.

Study Design

An analytic cross-sectional study through self-administered modified questionnaire to assess knowledge and attitude about first-aid measures for the most common incidents and emergencies among school students (e.g., injuries, bleeding, burns, hypoglycemia, epileptic fits, asthma exacerbations, loss of consciousness).

Sample Size

Based on the Saudi Ministry of education annual statistics at June 2016, there were 2346 male teachers in a total of 128 schools (1063 teachers in 59 primary schools, 633 teachers in 40 intermediate schools & 650 teachers in 29 secondary) in Qatif city [13]. Governmental schools were 105 and 23 private schools.

Sampling size (n) calculation was done by Raosoft® calculator and based on assuming a 95% confidence interval (CI) with a degree of precision 5% n = 331, raised up to 400 to compensate for uncompleted questionnaires, drop-out or other events leading to exclusion from the study (like absence or vacation leave).

Sampling Technique

The study sample was selected randomly through Proportionate

Stratified Random Sampling technique in multi-stages. First, One-third of each level of schools randomly selected. Then, based on the percentage of the number of teachers from the sample size, 45 % of the primary level teachers, 27% of Intermediate level teachers and 28% of the secondary level teachers were randomly selected without any inclusion or exclusion criteria.

Data Collection Methods and Study Tool

While constructing the questionnaire, the researcher inclined first to examine many similar published studies looking for a standard Research Instrument. However, there were no accessible, complete "standard questionnaires" that can be used to meet the objectives of the current study.

A designed instrument validated in the Arabic language used by the researcher to collect the required study data in the form of self-administered questionnaire that based on recent guidelines and relevant literature review. The questionnaire reviewed by a panel of expert four emergency medicine consultants, three family medicine consultants, two public health educators and one biostatistician; its face, construct, condition, and contented validity all evaluated. A pilot administration was conducted on 40 teachers not included in the main study sample to assess the questionnaire's reliability that showed good Cronbach's Alpha (0.79). Personal attendance of researcher and contact email was provided for any queries. However, in order to be included in the analysis, only returned questionnaires with 70% or more valid answers were entered.

Data Managements and Analysis Plan

After filling the questionnaire they were collected, and any questionnaire less than 50% filled was excluded. Data was entered into a personal computer and it was analyzed using (SPSS) software version 21. All variables were coded before entry and were checked before analysis.

Knowledge scoring: For each item in the questionnaire a score of one was given for proper knowledge and a score of zero for improper knowledge of zero. The total score was divided into three categories: poor, insufficient and sufficient knowledge as follows:

- <50% of total score was considered poor knowledge.
- 50 – 69% was considered insufficient knowledge.
- ≥ 70% was considered sufficient knowledge.

Attitude scoring: Nine questions in the form of 5-points Likert scale for the attitude about first-aid measures.

The participants were 396, and all filled the questionnaire completely. Kolmogorov-Smirnov test for normal distribution test was used for one-sample to determine whether the data follow the normal distribution or not and therefore to determine the tests (parametric, nonparametric) required for the analysis of the data. It was found that the terms of all the study questions separately do not meet the normal distribution conditions, forcing the researcher to use some non-parametric tests.

Continuous data was presented in mean and standard deviation. Categorical data was presented in percentages. Association between variables was tested by chi-square, Mann-Whitney for two categorical variables and Kruskal-Wallis test for more than two categorical variables. A p-value of <0.05 was considered significant.

Study strength

To our knowledge this is the first study in Eastern Province, Saudi Arabia, which evaluates the first aid knowledge and attitude among school teachers that emphasize the importance of first aid in School Health.

Study Limitations

- This was cross-sectional study, so temporality and causality of the observed relationship cannot be established.
- Additionally good level of knowledge of first aid measures doesn't necessarily reflect their current skills in managing emergency medical situations in real life.

Ethical considerations

Approval of the study requested from the IRB before implementation. After that, approval from the Ministry of Education was obtained before conducting the presented study in the schools and then from the Qatif school director at the time of data collection. All the information

from the questionnaire is kept confidential and anonymous. The teachers received a detailed written, and verbal explanation of the study purpose and its methodology. Informed consent has taken before the respondent's involved in the study and reassured that there would be no adverse impact on them in all aspects. Their participation was entirely voluntary, and anyone would be allowed to refuse to participate in the study if he wanted.

Results

Table (1) shows the characteristics of the 396 studied school teachers. 159 (40.2%) were above 41 years, 109 (27.5%) in the age group 36 - 40 years, while 78 (19.7%) were in group 31 - 35, and 44 (11.1%) were in age group 26 - 30, only 6 (1.5%) were in the younger age group 20 - 25 years. Saudi teachers constituted 83.3% of the sample, while non-Saudi teachers were 16.7%. The majority of schools were governmental schools 314 (79.3%) while 82 (20.7%) were private schools. Among the level of school 176 (44.4%) primary, 112 (28.3%) secondary and 108 (27.3%) were intermediate schools. Included 355 had Bachelor degree teacher's (89.6%), 25 were diploma holders (6.3%), 13 had Master degree (3.3%) and 3 had PhD degree (0.3%) in the sample. Among Qatif teachers 142 (35.9%) had 16 - 20 years of experience, 102 (25.8%) had 11 - 15 years, 99 (25.0%) had more 21 years of experience, while 40 (10.1%) of them had 6 to 10 years of experience, and 13 (3.3%) claimed to have less than five years of experience. More than two third (69.7%) of the respondent teachers are teaching other subjects the physical education and natural science.

Table 1. The socio-demographic characteristics of the studied teachers

Teachers (n=396)		
Characteristics	Number	%
Age group		
20 – 25	6	1.5
26 – 30	44	11.1
31 – 35	78	19.7
36 – 40	109	27.5
41 and above	159	40.2
Nationality		
Saudi	330	83.3
Non-Saudi	66	16.7
School type		
Governmental	314	79.3
Private	82	20.7
School level		
Primary	176	44.4
Intermediate	108	27.3
Secondary	112	28.3
Educational level of the teacher		
Diploma	25	6.3
Bachelor's	355	89.6
Master	13	3.3
PhD	3	0.8
Years of experience		
Less than 5	13	3.3
6 – 10	40	10.1
11 – 15	102	25.8
16 – 20	142	35.9
21 and above	99	25.0
Education field		
Physical Education	38	9.6
Natural Science	82	20.7
Other	276	69.7

Out of the 396 respondents, the majority 249 (62.88%) had not received any training, while 147 (37.12%) had received regarding first aid. Respondents were asked about the type of training they had received. The majority 73.15% had received theoretical and practical training, while 25.50% trained only theoretical, and 1.34% received practical training.

About two third of school teachers who responded to the questionnaire accurately identified the first aid definition (65.4%), Saudi Red Crescent phone number (62.9%), initial first aid of eye injuries (66.7%), , choking (64.6%), and unconscious student (61.6%). More than half correctly answered the questions related to leg fracture

(56.6%), and diabetic child with hypoglycemia (55.1%). About half of the respondents correctly answered the questions related to the first step in providing first aid (49.4%), and nose bleeding - Epistaxis - (48.0%). Less knowledge where founded in providing first aid related to external bleeding (45.7%), unconscious person who is unable to breathe (42.7%), burns (38.6%), child with asthma attack (33.1%), epileptic fit (convulsions) (31.3%), and breathing examination (30.8%). Only (18.4%) of the respondent teachers answered the questions related to the adult rhythm of CPR. Table (2)

Figure 1 shows the teacher's knowledge towards first aid. Sufficient knowledge constitute only 20.96% of the sample, and (27.78%) had insufficient knowledge while the majority had poor knowledge (51.26%).

Figure 1: Teachers' level of knowledge towards first aid

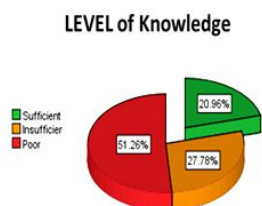


Table 2 .Distribution of the answers of the knowledge about the first aid

Question	Correct answer (n=396)	
	Number	%
First aid Definition	259	65.4
The first step in providing first aid	196	49.5
Saudi Red Crescent phone number	249	62.9
Unconscious student	244	61.6
Breathing Examination	122	30.8
Unconscious person who is unable to breathe	169	42.7
The adult rhythm of CPR	73	18.4
External bleeding	181	45.7
Choking	256	64.6
Child with asthma attack	131	33.1
Diabetic Child with hypoglycemia	218	55.1
Epileptic seizure (convulsions)	124	31.3
Nose bleeding - Epistaxis -	190	48.0
Leg fracture	224	56.6
Burns	153	38.6
Eye injury	264	66.7

Table 3. Association between first aid knowledge and socio-demographic characteristics.

Socio-demographic characteristic	Level of knowledge interpretation						Total (n=396)	Chi square P value
	Insufficient		Poor		Sufficient			
	No.	%	No.	%	No.	%		
Age group								
20 – 25	1	16.7	5	83.3	0	0.0	6	0.113
26 – 30	6	13.6	27	61.4	11	25.0	44	
31 – 35	22	28.2	36	46.2	20	25.6	78	
36 – 40	26	23.9	60	55.0	23	21.1	109	
41 and above	55	34.6	75	47.2	29	18.2	159	
Nationality								
Saudi	100	30.3	163	49.4	67	20.3	330	0.043*
Non-Saudi	10	15.2	40	60.6	16	24.2	66	
School type								
Governmental	98	31.2	152	48.4	64	20.4	314	0.011*
Private	12	14.6	51	62.2	19	23.2	82	
School level								
Primary	43	24.4	100	56.8	33	18.8	176	0.401
Intermediate	34	31.5	50	46.3	24	22.2	108	
Secondary	33	29.5	53	47.3	26	23.2	112	
Educational level of the teacher								
Diploma	9	36.0	12	48.0	4	16.0	25	0.228
Bachelor's	100	28.2	183	51.5	72	20.3	355	
Master	1	7.7	6	3.0	6	7.2	13	
PhD	0	0.0	2	66.7	1	33.3	3	
Years of experience								
Less than 5	2	15.4	8	61.5	3	23.1	13	0.860
6 – 10	9	22.5	23	57.5	8	20.0	40	
11 – 15	25	24.5	54	52.9	23	22.5	102	
16 – 20	41	28.9	72	50.7	29	20.4	142	
21 and above	33	33.3	46	46.5	20	24.1	99	
Education field								
Physical Education	7	18.7	9	23.7	22	57.9	38	0.000*
Natural Science	32	39.0	31	37.8	19	23.2	82	
Other	71	25.7	163	59.1	42	15.2	276	
Receiving training								
Yes	61	41.5	25	17.0	61	41.5		0.000*
No	49	19.7	178	71.5	22	8.8		
Time of training								
Less than one year	10	35.7	2	7.1	16	57.1	28	0.006*
1 – 2 years	8	36.4	2	9.1	12	54.5	22	
3 – 4 years	8	29.6	3	11.1	16	59.3	27	
5 years and above	35	48.6	19	26.4	18	25.0	72	
Training type								
Theoretical	17	44.7	16	42.1	5	13.2	38	0.000*
Practical	1	50.0	0	0.0	1	50.0	2	
Theoretical and practical	43	39.4	10	9.2	56	51.4	109	

*The meaning is statistically significant at less than 0.05

Table (3) shows the association between the first aid knowledge and socio-demographic characteristics of the participating teachers. Sufficient first aid knowledge were significantly higher in non-Saudi teachers (24.2%) than in Saudi teachers (20.3%) ($P=0.043$).

Also Sufficient first aid knowledge were significantly higher in private schools (23.2%) compare to governmental schools (20.43%) ($P=0.011$). Also Sufficient first aid knowledge were significantly higher among physical education teachers (57.9%) than natural science teachers (23.2%) and other teachers (15.2%) ($P=0.000$).

Table (3) Sufficient first aid knowledge were significantly higher among teachers who received training (41.5%), especially those who had received theoretical and practical training (51.4%) ($P=0.000$) in comparison to those who did not received any training (8.8%) ($P=0.000$).

Attitude

Table (4) shows the interpretation of the mean scores of the respondents towards attitudes on "school first aid". The mean score for the question about the importance of provision of tools bag and first aid Kit at schools?" was (4.59), the level of significance is equal to (0.000), which is less than (0.05), this indicates that there was strong agreement among the respondents that the provision of tools bag and first aid kit is absolutely essential in schools, as shown in table (4), (81.8%) strongly agree while (2.5%) strongly disagree. With regard to the question that emphasize the presence of a teacher or staff member in every school who is specialized in providing first aid?" the mean score was 4.54, and the level of significance is (0.000), which indicates strong agreement that respondents support the presence of a teacher or staff member who is specialized in providing first aid in every school, (77.0%) strongly agree while (2.3%) strongly disagree.

In terms of the question, about the importance for the teachers to learn first aid skills. It was found that the mean score of this question was (4.48) and the level of significance (0.000), which confirms that learning first aid skills is essential to the teacher in their view, (79.0%) of the respondents, strongly agree while only (7.6%) strongly disagree. Also in terms of the question which indicate that it is necessary for every teacher to get more courses about first aid?" it was found that the mean score of this question is (4.44) and the level of significance (0.000), which confirms that most respondents think it is necessary for the teacher to get more courses about first aid, (74.0%) of the

respondents, strongly agree while only (5.3%) strongly disagree.

For the question which suggest adding a curriculum of public health and how to provide first aid in schools?" the mean was (4.32) and the level of significance, which indicates a strongly agreement among the sample that there is need to add a curriculum of public health and how to provide first aid in schools, (65.2%) of the respondents, strongly agree while only (5.1%) strongly disagree.

Table (4) shows also that the mean score for the question which indicate that lack of skills in first aid measures of teachers as a major barrier for not providing initial first aid was (3.99), the level of significance is equal to (0.000). This indicates that there was agreement among respondents that lack of skill make a barrier for non-interference of initial providing first aid according to the teachers, as shown in table (4), (43.3%) strongly agree while (31.1%) agree and (6.1%) strongly disagree. With regard to the question that pointed out to the ability of teachers to provide first aid?" the mean score was 3.71, and the level of significance is 0.000, which indicates agreement among the respondents teachers on their ability to provide first aid, (39.1%) strongly agree while (26.8%) agree and (9.8%) strongly disagree.

Table (4) shows also the mean score for the question which indicate that "Fear of responsibility is not a justification for teachers for not providing first aid. Their mean score was (3.37), the level of significance is equal to (0.000). This indicates that the respondents don't know if fear of responsibility do not justifies the non-interference of the teacher in providing first aid, as shown in table (4), (15.2%) strongly agree while (16.4%) agree, (16.9%) don't know and (32.1%) strongly disagree. With regard to the question that measures the level of confidence and skills in teachers to provide first aid for students. The mean score was 3.15, and the level of significance is 0.000, which is less than 0.05. This indicates that the respondents don't know if they had the skills which makes them provide first aid for students with confidence, (19.2%) strongly agree while (24.7%) agree, (23.2%) don't know and (15.4%) strongly disagree.

From table (4) the researcher concluded that the majority of the respondents teacher at Qatif city schools had agreement on the questions related to attitudes towards first aid questions where mean score reached (4.065) and at a level of significance equal (0.000) indicating high agreement by respondents.

Table 4. Response interpretation of mean attitude scores for school teachers

Question	Mean	Std. deviation	2	p-value	Response interpretation
Do you think that learning first aid skills is essential to the teacher?	4.48	1.179	869.530	0.000*	Strongly agree
Do you think that teachers are able to provide first aid?	3.71	1.364	127.838	0.000*	Agree
Do you have the skills, what makes you provide first aid for students with confidence?	3.15	1.337	12.157	0.000*	I don't know
Do you support the presence of a teacher or staff member who specializes in providing first aid in every school?	4.54	0.992	811.929	0.000*	Strongly agree
Fear of responsibility do not justifies the non-interference of the teacher in providing first aid?	3.37	1.455	37.990	0.000*	I don't know
Is the lack of Skill make a barrier for non-interference of initial providing First aid according to the teachers?	3.99	1.192	220.843	0.000*	Agree
Do you think it is necessary for the teacher to get more courses about first aid?	4.44	1.138	732.131	0.000*	Strongly agree
Do you think that the provision of tools bag and first aid Kit is absolutely essential in the schools?	4.59	0.972	947.005	0.000*	Strongly agree
What do you think about adding a curriculum of public health and how to provide first aid in schools?	4.32	1.145	523.773	0.000*	Strongly agree
Total attitude mean score	4.065	0.832	660.182	0.000*	Agree

*The meaning is statistically significant

DISCUSSION

The researcher collected data from a total of 396 respondent from Qatif city schools, Eastern Province, Saudi Arabia, with the number of school teachers from governmental and private schools being 314, and 82. The study sample predominantly consisted of experienced school teachers who had been in practice for nearly eleven years and above (76.7%) and had Bachelor's degree of education (89.6%). The number of teachers who had received training were only 147 (37.12%), the majority had received theoretical and practical training 109 (73.15%) school teachers.

The majority of respondents had poor knowledge (51.26%) while only 20.96% showed sufficient level of knowledge. This results are aligned with the results of a review of Turkish Literature, to assess teachers' knowledge about first aid which showed more than half of the teachers' knowledge in first aid was unsatisfactory^[14].

A similar findings of local study in Southern Region of Saudi Arabia, support unsatisfactory knowledge among teachers in primary schools^[15].

Furthermore, the teacher's first aid knowledge was highly correlated with the type of subjects they teach. Since sufficient first aid

knowledge were significantly higher among physical education teachers (57.9%) than natural science teachers and other teachers ($p=0.000$). This is may be related to their exposure to learning basic first aid skills in the past or previous exposure to such accidents in the field compared to other teachers. On the contrary, Al-Robaiaay study found poor knowledge level about first aid among sports teachers^[16].

Receiving training in first aid was another factor which significantly affect the level of first aid knowledge especially for teachers who received both theoretical and practical training. These findings were supported in many studies. In one study in Vadodara city, India, it revealed a significant association between first aid training and better knowledge level^[17]. Likewise, results of the Ankara study mentioned a significant improvement in knowledge level and skills after training program administered to them^[18].

Poor knowledge about first aid in our sample may be explained by lack of training on first aid skills as the majority 249 (62.88%) did not receive any training regarding first aid while 73.15% reported that they had received theoretical and practical training. In contrast to a recent local study conducted in Saudi Arabia, Southern Region, in Abha City. The study involved 187 teachers. Fifty-three teachers (28.3%) attended a course on first-aid. Of them, 33 (62.3%) reported that these courses included practical training^[19].

More than half of the participants (61.6%) correctly identified "examination of the airway" as an initial step to manage unconscious student. These findings matches the results of a local study in Southern Region (68.4%)^[15]. Also, in 2014 a study by Sonmez et al., found that 60% of teachers recognized the proper response to manage the loss of consciousness^[19]. In contrast to Kumar 2013 study and Joseph 2015 study that showed only (30.2%) and (40.0%) correctly answered the decent management option, respectively^{[20],[21]}. In addition, only (18.4%) of respondent teachers answered correctly the questions related to the adult rhythm of CPR in the study sample. The variety of results mainly due to background information and number of participants who received previous training.

Furthermore, less knowledge was found in managing issues related to external bleeding (45.7%). our findings was in same line with two other studies, one done in Al-Najaf Al-Ashraf, in Iraq that found (43.4%) of the teachers had inadequate knowledge. Another conducted in the Southern Region of Saudi Arabia that show only (14.4%) of participants correctly knew how to deal with bleeding wounds^{[22],[15]}.

About two third (64.6%) were aware of Heimlich's maneuver to manage choking. Contrariwise to studies results that showed only about one third recognize the right reaction toward first aid management of choking^{[21],[22],[23]}.

Additionally, nearly half of the sample (55.1%) recognize the first aid of hypoglycemia in diabetic child, but still 44.9% of participants lacked these important first aid information. Furthermore, 61 teachers (15.4%) wrongly identify insulin as an intervention for hypoglycemia and this may lead to serious consequences. Similarly, in Poland, 42.3% of the teachers did not know how to help a hypoglycemic child^[24]. Also, studies conducted in Bahrain and Saudi Arabia among school teachers revealed their insufficient knowledge about diabetic related accidents among school students^{[25],[26]}. Furthermore, teachers' knowledge regarding asthma was found to be poor in the present study. This finding share the same results found in several studies conducted in Iraq, Bahrain, and South Africa about poor knowledge regarding asthma management among school teachers and the need for training programs to promote it^{[22],[27],[28]}. Concerning seizure attacks, the respondent's knowledge was graded as poor which concurred with findings of local study conducted in Najran 2013, which showed that 64.1% of the exposed teachers weren't able to provide first aid to students who were having seizure attacks^[29]. Similarly, studies in Karachi, Pakistan and in Mangalore, South India highlighted the lack of Knowledge amongst teaching staff regarding seizures^{[30],[11]}.

More than half of school teachers in the study sample were correctly aware of how to deal with leg fractures (56.6%). Additionally, less than two-thirds of them rightly recognized how to manage a case of fall with suspected fractures (61.5%)^[15]. Our findings contradict the findings of a study conducted in Saudi Arabia 2015, which revealed only 12% of

teachers sustained satisfactory knowledge regarding first aid for fractures^[31]. These differences may be explained by the variation in study methodology, mean sample size and different study design used.

Existing results showed about two third of participants correctly identified the initial step to approach eye injuries (66.7%). Furthermore, a nearly similar result found that (54.8%) of school teachers had a good knowledge regarding first aid of eye problems^[21]. However, teachers had fair knowledge assessment in Iraqi study 2016, and a local study in 2015 noted that only 39% of primary school teachers reacted correctly to eye injuries^{[22],[15]}. This discrepancy in results mostly related to differences in participants number, previous exposure, and previous training experience on first aid.

Concerning the teacher's attitude, the present study demonstrates high total mean score (4.065) out of (5) which indicate an agreement about the attitudes towards first aid. Nearly 95% (282) of participants had an overall positive attitude, and only 20 (6.6%) had an overall negative attitude toward first aid. In the same context, a recent study in Iraq shows similar a positive attitude toward first aid of teachers 282 (93.4%)^[22].

Similarly to a Chinese study that shows the vast majority of participants felt positively toward learning and providing first aid skills. Additionally, its results showed that higher attitude scores were correlated with higher educational level and previous first aid training^[32].

Many school teachers in the study sample (87.6%) support the provision of tools bag and first aid Kit and consider it absolutely essential at schools. Likewise, (87.4%) support the presence of a teacher or staff member who is specialized in providing first aid in every school. In the present study, strong agreement was observed of the vast majority of participants about this issue. However, at present most of schools are not fully equipped with first aid kits, as a Chandigarh study concluded in India. Therefore, Lack of facilities in schools should be considered as a foremost barrier. So, School health services need to provide and maintain first aid equipment's to enhance the quality of first aid care^[31].

Learning first aid skills is essential to the teacher was confirmed by the majority of the respondent (87.4%) and (86.4%) support the need for the teacher to get more courses about first aid. Furthermore, the majority of the respondent school teachers (82.4%) found necessity to include curriculum of public health and how to provide first aid in schools as in some literatures^[33]. Lack of skills to provide first aid and fears of responsibility were the main barriers raised by respondent school teachers (74.4%) and (51.4%) respectively for non-interference of initial providing first aid. On the other hand, two third of the respondents (65.9%) think that teachers can provide first aid and (32.8%) found that they had the skills to provide first aid for students with confidence.

CONCLUSIONS

The following findings include important summary highlights of this study:

1. The present study found that most (62.88%) of the Qatif school teachers were not trained on providing first aid to common or critical accidents at school. In first aid cases, the majority of teachers had poor first aid knowledge (51.26%) and unaware of the first steps in providing first aid, or even the correct definition of first aid. Furthermore, many of them are unaware of Saudi Red Crescent Number to call for help.
2. Many of them fail to demonstrate awareness on how to manage simple minor events like nose bleeding -Epistaxis-, the external bleeding nor serious major events like dealing with the unconscious person who is unable to breathe.
3. There was significant difference in knowledge towards first aid between nationality (Saudi and Non-Saudi), type of school (governmental and private schools), educational field (physical education, natural science and others), training (received and not received), type of training (theoretical, practical and theoretical and practical together) at the Qatif schools in Eastern Province.
4. There is was no significant difference in the knowledge & attitude of first aid among school teachers in relation to (age, school level, educational level of the teacher and years of experience) at Qatif

schools in Eastern Province.

- There was significant difference in attitudes towards first aid with regard to, educational field (physical education, training (received and not received), at Qatif schools in Eastern Province.

RECOMMENDATIONS

Based on the study findings, our recommendations are given below:

- School teachers are a credible source of information to the public regarding first aid and can play a vital role by advertising the effectiveness of first aid, but lack of awareness of first aid constitute a major barrier to fulfill this role. This problem can be addressed by first aid education for teachers at all school levels. This training should be periodically reinforced in the form of focused programs/seminars and hands on workshops addressing first aid skills.
- Further studies in this field are greatly recommended to address the knowledge, attitude, and practices of the first aid among school teachers in female schools and other provinces of Saudi Arabia as well.
- Future studies on health promotion of school health program and its impact on the frequency and consequences of school injuries are greatly recommended.

For advancement, there is a necessity to add a curriculum of public health and how to provide first aid in schools and colleges of teachers' preparation.

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