



Research Article

First Aid Knowledge among Primary School Teachers in Riyadh, Saudi Arabia

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Abstract

Introduction: School has a significant impact on a child's physical and mental growth. A child's vulnerability to accidents and injuries increases when he or she is in primary school. Teachers are the children's first caregivers in elementary school. Parents fully dedicate their children to the educational system. At school, they regard the teachers to be their second parents. The purpose of this study is to determine how much first-aid knowledge a Health assigned teacher have and how that knowledge connects to demographic factors. It aids in determining the requirement for enhanced awareness in order to prevent serious consequences and effectively manage these situations. **Methodology:** Cross sectional study among primary school teachers in Riyadh, Saudi Arabia. A predesigned questionnaire is to be used for data collection. Respondents will receive the questionnaire to complete it. The parameters included in the questionnaire included age, gender and other questions that is related to the first aid application. **Results:** The p values for age, gender, nationality, years of experience, and kind of school are all 0.300, 0.067, 0.962, and 0.569, respectively, according to the Likert scale that was used to assess the 17 knowledge questions with two points in this study. In order to evaluate the first aid knowledge and awareness of primary school teachers in Riyadh, Saudi Arabia, the survey's final findings are presented: the main score is 8.13, and the standard deviation is 2.43. **Conclusion:** We came to the conclusion from our study of primary school teachers in Riyadh, Saudi Arabia, that the majority of them lacked the training required to provide first aid to pupils in an emergency.

Keywords: First aid; Primary school teachers; Children; Elementary school; Injuries; Accidents

Introduction

According to the Saudi Red Crescent Authority's training chief, Dr. Mohammed Al-Suwaih, there has been an increase in first-aid training and awareness. On the Saudi Red Crescent Authority (SRCA)'s website, many initiatives are updated for all Saudi residents. The ability to recognize and administer first aid is critical for saving many lives in the event of an accident or tragedy.

Children are sent to school to gain information in many disciplines of study. In a child's life, school is quite important. School has a direct influence on a child's physical and mental development. When a child is in elementary school, he or she is more vulnerable to accidents and injuries. The child is still too

young, both physically and cognitively, to take the steps necessary to recover from trauma [1].

Teachers at the elementary school level are the children's first caregivers. They safeguard schoolchildren against accidents and suffering. Professional health care providers may not be present at the school; thus each school should have a trained health teacher assigned to it. The teacher should be able to administer first aid in the event of minor injuries or mishaps [2].

Importance of this study

The parent of a child understands how difficult it is to keep their child safe at home, but when they go to school, they face a whole new set of issues. Parents commit their children entirely to the schools. They consider the teachers to be their second parents at the school.

They know that their teachers will do all in their power to keep them safe. They are certain that their children are being looked for while they are at work. The goal of this study is to find out how much knowledge in first aid a Health assigned teacher has and how that knowledge correlates with demographic characteristics. This study also considers that the teachers have enough knowledge, and in order to verify this, the researcher has chosen to undertake a study to test first-aid knowledge among Health assigned teachers working in primary schools in Riyadh, Saudi Arabia.

Aim and Objective of the Study

The aim of this study is to evaluate the knowledge and awareness of the primary school teachers about The first aid to be given to children, in Riyadh, Saudi Arabia.

Specific Objectives

- To determine the knowledge of teachers about children’s first aid
- To identify the proper practice of children first aid among the teachers
- To identify the source of first aid information among the teachers.

Materials and Method

Target population: Primary school teachers in Riyadh, Saudi Arabia.

Sample method and sample size calculation: cross sectional study among primary school teachers in Riyadh, Saudi Arabia

Descriptive study: one proportion I calculated my sample size using this equation; $P(0.196 \text{ in the first study}, 0.149 \text{ second study}, 0.23 \text{ third study})$ (Average of 3 studies from the literature review): $273+195+243/3=237$ so my sample size will be 237

Inclusion criteria: All Saudi and non-Saudi male or female teachers of primary government or private schools in Riyadh.

Exclusion criteria: All teachers of intermediate and high schools, retired teachers, teachers outside of Riyadh.

Study duration: The estimated study duration will be one year.

Data collection form: A predesigned questionnaire will be used for data collection. Respondents will receive the questionnaire to complete it. The parameters included in the questionnaire included age, gender and other questions that is related to the first aid application.

About the First-Aid Study

A cross-sectional survey among primary school teachers in Riyadh, Saudi Arabia, was conducted to examine primary school teacher’s knowledge of children’s first aid. It helps to assess the need for increased awareness in order to avoid major repercussions and properly manage these circumstances. Teachers for the data collection, sociodemographic data and relevant questions on first aid in children will be collected from various primary schools in

Riyadh, including private and public schools. Female and male instructors, Saudi and non-Saudi teachers (Table 1).

		Number	%
Age	< 30	18.00	7.63
	30-45	117.00	49.58
	46-50	59.00	25.00
	> 50	42.00	17.80
Gender	Male	126.00	53.39
	Female	110.00	46.61
Nationality	Saudi	233.00	98.73
	Non-Saudi	3.00	1.27
Experience years	<1	9.00	3.81
	1-5	23.00	9.75
	6-10	46.00	19.49
	>10	158.00	66.95
Type of school	Public school	212.00	89.83
	Private school	24.00	10.17

Table 1: Demographic characteristics of the participants (N=236).

The years of teaching experience will be included in the questionnaire. In SPSS, the demographics as well as the pertinent first-aid questions will be analyzed for statistical significance. This study may assist to emphasize the need of providing first-aid training for teachers, particularly in elementary schools, because children of this age are more likely to suffer accidents or injuries at school that would necessitate prompt attention.

By having appropriate knowledge and practice in first aid, school teachers may significantly reduce complications and mortality in children. They are the key persons who will be confronted with such scenarios that will require prompt action to save children’s lives. 70 percent of injury deaths in school-aged kids (5-19 years of age) occur in the United States, particularly among youngsters.

According to estimates, 10–25% of all accidents to children occur while they are in school [2]. The purpose of this study is to determine the exact level of knowledge about first aid among teachers and to demonstrate the importance of first aid practice, particularly in primary schools, because children of this age are more likely to have accidents or injuries in school that will require rapid intervention from teachers.

Our goal is to help teachers not only feel confident in doing first aid when it’s needed, but also to know when to take a kid to the hospital in such instances to avoid significant complications that might lead to death.

Statistical Analysis

Statistical Package for Social Studies was used to examine the data (SPSS 22; IBM Corp., New York, NY, USA). Categorical variables were reported as percentages, whereas continuous variables were expressed as mean standard deviation. For continuous variables with a non-normal distribution, the Kruskal-Wallis test and the Mann-Whitney test were utilized. The Shapiro-Wilk test was performed to determine the variables' normality distribution. Statistical significance was defined as a p-value of less than 0.05 (Table 2).

Questions	Distribution of answers		
	Number (n=236)	%	
1-How do you assess if a child is breathing?	Look, listen, feel	147.00	62.29
	check the pulse	48.00	20.34
	check body temperature	5.00	2.12
	asking (are you ok)	28.00	11.86
	I don't know	8.00	3.39
	I would get back and apply pressure on the abdomen	68.00	28.81
2-What would you do for a child with open consciousness whose airway is fully obstructed (ingested foreign body) and who cannot cough?	I would perform cardiac massage	2.00	0.85
	I would lie him/her face downwards, hit the back	154.00	65.25
	I would lie him/her back	3.00	1.27
	I don't know	9.00	3.81
3-Which one is true for animal and insect bites?	The area of wound is washed with soap and cold water for at least 5 minutes in dog bites	76.00	32.20
	Heat should be applied on the injured area in cases of bee and scorpion stings	19.00	8.05
	Tourniquets is applied around the wound if the animal bite is in the head and neck region	12.00	5.08
	The wound is cut with knife and the venom is sucked and spit in cases of snake bite	46.00	19.49
	I don't know	83.00	35.17
	Ice should be applied on the injured area	25.00	10.59
4-What should be done primarily in burns due to pouring of hot water4	The burned area should be kept under running tap water for at least 5–10 minutes	109.00	46.19
	Burn cream should be applied on the burned area	87.00	36.86
	Yogurt or toothpaste should be applied on the burned area	9.00	3.81
	I don't know	6.00	2.54

Questions	Distribution of answers		
	Number (n=236)	%	
5-In case of fracture, the ends of fractured bone should be pushed inside, if they are out.	True	35.00	14.83
	False	149.00	63.14
	I don't know	52.00	22.03
6- A child who has ingested cleaning material including bleacher, detergent should be immediately regurgitated.	True	185.00	78.39
	False	28.00	11.86
	I don't know	23.00	9.75
7- A child with head trauma should be kept awake.	True	204.00	86.44
	False	13.00	5.51
	I don't know	19.00	8.05
8- A child who has fainted should be laid down on a flat background and the feet should be elevated.	True	158.00	66.95
	False	26.00	11.02
	I don't know	52.00	22.03
9- The organ with pain should be forced to move to understand if there is fracture in a child who has been injured after falling.	True	44.00	18.64
	False	168.00	71.19
	I don't know	24.00	10.17
10- A child who has been struck by electricity would not be contacted directly.	True	164.00	69.49
	False	24.00	10.17
	I don't know	48.00	20.34
11- A child who has been struck by electricity who has open consciousness does not need to be taken to hospital	True	78.00	33.05
	False	58.00	24.58
	I don't know	100.00	42.37
12- A child who has fallen from a high level should be laid down in the supine position and the head should be turned sideways	True	191.00	80.93
	False	23.00	9.75
	I don't know	22.00	9.32
13- When foreign body including knife, iron is stuck in a child's hand should be taken to the nearest healthcare institution without pulling out the foreign body	True	193.00	81.78
	False	17.00	7.20
	I don't know	26.00	11.02
14- Direct pressure should be applied on the injured area in case of injury with bleeding.	True	69.00	29.24
	False	143.00	60.59
	I don't know	24.00	10.17
15- The head of a child who has epistaxis should be laid down backwards.	True	126.00	53.39
	False	57.00	24.15
	I don't know	53.00	22.46
16- Cold should be applied in cases of sprain with resting the sprained organ	True	78.00	33.05
	False	89.00	37.71
	I don't know	69.00	29.24
17- If the jaw of a child with seizure (epileptic attack) is locked, it should be forced to be opened by placing objects including fork, spoon.	True	66.00	27.97
	False	170.00	72.03

Table 2: Distribution of the answers of the questions about the knowledge of basic first-aid practices among the teachers.

Results

The bulk of participants are between the ages of 30-45; 117 (49.58%) of them fall into this category. Of the teachers, 59 (or 25%) were between the ages of 46 and 50. 18 (7.63%) of the population is under 30 years old, while 42 (17.80%) are above the age of 50. The majority of participants in this study-126, or 53.39 percent-are men, while the remaining 110 are women (46.61 percent) (Figure 1).

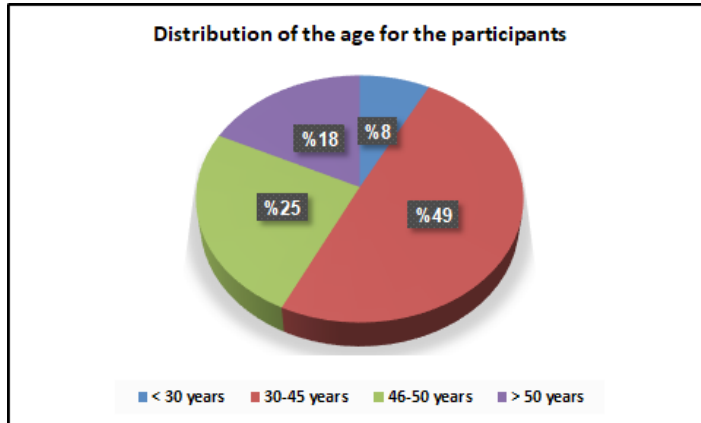


Figure 1: Distribution of the age for the participants.

About 233 (98.73%) of the participants are Saudi citizens, while the remaining 3 (1.27%) are not. The majority of the teachers have more than ten years of experience in the field; 158 (66.95 percent). 46 participants (19.49%) have 6 to 10 years of experience. Nine (3.81 percent) have less than one year of experience, while 23 (9.75%) have between one and five years. About 212 (89.83 percent) of the teachers have experience working in public schools, whereas just 24 (10.17 percent) have worked in private schools.

164 participants in this research, or around 69.5 percent, agreed that a kid electrocuted shouldn't be contacted directly. A child struck by electricity and in full awareness, according to 24.6 percent (58) of the instructors, does not need to be sent to the hospital. Less than 10%, or 9.7% of the 23 survey participants, are aware that a kid who has fallen from a high elevation should be placed in the supine position with the head turned sideways. The majority of teachers, 81.8 percent (193), are aware that when a foreign object, such as a knife or iron, is caught in a kid's hand, the child should be sent to the nearest medical facility without having the object removed. In the event of injury bleeding, 29.2 percent (or 69 percent) of teachers believe that direct pressure should be provided to the damaged region. Only 24.2 percent (57) of the participants knew that a kid with epistaxis should have their head placed backwards.

As per Likert scale that was used to score the 17 knowledge items with two points in this study, the p values for age, gender, nationality, years of experience, and kind of school are all 0.300, 0.067, 0.962, and 0.569, respectively. Age-related SDs are (30=2.33, 30-45=2.42, 46-50=2.45, and >50=2.44),

whereas gender-related SDs are (male =2.42 and female=2.41). Nationality's standard deviation is (Saudi=2.42, non-Saudi=3.61). The standard deviation for the number of years of experience is (1=2.51, 1-5=2.07, 6-10=2.79, and >10=2.34). The SD for school type is 2.39 for public schools and 2.76 for private schools.

The survey's final findings are intended to assess the first aid knowledge and awareness of primary school teachers in Riyadh, Saudi Arabia: the main score is 8.13, and the standard deviation is 2.43.

Discussion

According to a review of previous articles on the first aid knowledge assessment among primary school teachers, Dr. Majed algharsan and Dr. Adel alarfaj conducted a cross-sectional study in 2019 using a sample size of 250 teachers (110 males, 140 female) and a self-administered questionnaire and discovered that the majority of the teachers are untrained, only 19.6% were knowledgeable about first aid, and 48.8% faced cases. [3], and only 54.9 percent of them can provide necessary information. [3]. Only 14% of participants in a cross-sectional research of 436 male teachers in Riyadh, Saudi Arabia, in 2015 obtained a score of 15 or higher out of 25 (excellent knowledge of first aid), despite the fact that the mean score was 10.36, showing that the teachers in Riyadh had low understanding of first aid (Table 3). [4]. To find out how well-versed is first aid for seizures; 426 female instructors in Makkah, Saudi Arabia, participated in a cross-sectional research done by Dr. Amal alkhoutani and others. They observed that 85.7% of instructors identified epilepsy as a neurological disorder, 55% of them admitted to putting a child's seizure-inducing object in their mouth, and just 45% knew when to transfer the patient to a medical institution. [5]. Dr. Saidi Alfaydali and colleagues conducted a descriptive study in 2018 with 331 teachers in the Central Anatolia Region to ascertain the frequency of situations requiring first aid in schools and whether or not instructors are capable of doing so. Despite just 23 percent of instructors teaching children ages 6 to 15 having appropriate knowledge, this survey found that 81.0 percent of those teachers were familiar with first aid. They learned through this poll that instructors knew how to administer first aid, but they lacked confidence in their abilities to do so. [6]. Despite the fact that a 2019 cross-sectional study by Dr. Mohsin Adib Haj-Baghery and colleagues in Kashan, Iran to evaluate the knowledge of first aid among 200 Iranian teachers found that only 40.3% of them had finished a first aid course and 48.5% had encountered a situation requiring first aid, but 59.7% of the participants had moderate knowledge of first aid, which is considered insufficient. [7]. Are schools able to appropriately manage first-aid facilities? In Karachi, Pakistan, a cross-sectional study conducted in 2017 by Dr. Farhan Mohammad Quraishi and others among 209 Pakistani teachers in private and public schools found that 68.42 percent of teachers lacked first-aid training despite 91.38 percent of them believing it to be essential to their professional lives, suggesting that teachers lacked sufficient first-aid knowledge. [8]. Another study done by Dr. Nitin Joseph, in 2015 in Mangalore, South India with a sample size of 146 teachers found that only 47% of the

teachers had previously taken first aid courses, 13% had poor knowledge of first aid, and 87% had moderate knowledge, but that 66 % of the teachers stated that they would be willing to give first aid if they were trained. Therefore, there is insufficient competency of first aid among teachers [9]. In a study conducted by Dr. Cristian Gomez and colleagues in 2019 in Spain to evaluate first-aid awareness among teachers and parents with a sample size of 470, 57% stated that they have knowledge of first aid; however, only four participants could perform BLS, and none of them correctly identified CPR. Because of this, even though the bulk of the teachers had first-aid training, none of them could correctly respond to inquiries concerning BLS [10]. There is not enough first aid knowledge among primary school teachers in Turkey, according to a cross-sectional study done in 2006 by Dr. Muruvvet Baser and colleagues with 312 primary school teachers. The results showed that 65.1% of respondents gave incorrect answers regarding epistaxis, 63.5% for bee sting, and 88.5% for abrasion [11]. In 2014, Dr. Yonca Sonmez and colleagues conducted a cross-sectional study in Isparta, Turkey, to assess the knowledge levels of preschool instructors related to basic first aid practice. Out of 110 teachers, the mean score was 11.9 +/- 2.9. Last but not least, preschool teachers lack the necessary first-aid training [12] (Figure 2).

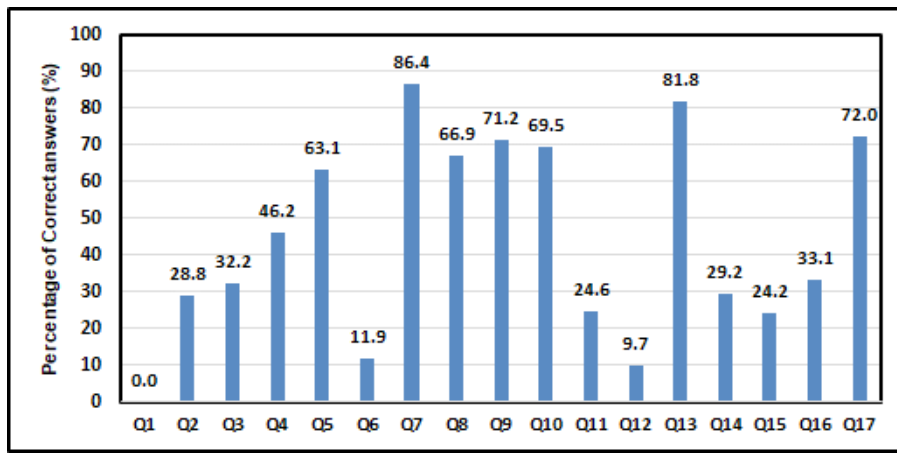


Figure 2: Percentage of Correct answers for the questions about the knowledge of basic first-aid practices among the teachers.

Questions	Correct answers	
	Number	%
1-How do you assess if a child is breathing?	147	62.3
2-What would you do for a child with open consciousness whose airway is fully obstructed (ingested foreign body) and who cannot cough?	68	28.8
3-Which one is true for animal and insect bites?	76	32.2
4-What should be done primarily in burns due to pouring of hot water	109	46.2
5-In case of fracture, the ends of fractured bone should be pushed inside, if they are out.	149	63.1
6- A child who has ingested cleaning material including bleach, detergent should be immediately regurgitated.	28	11.9
7- A child with head trauma should be kept awake.	204	86.4
8- A child who has fainted should be laid down on a flat background and the feet should be elevated.	158	66.9
9- The organ with pain should be forced to move to understand if there is fracture in a child who has been injured after falling.	168	71.2
10- A child who has been struck by electricity would not be contacted directly.	164	69.5
11- A child who has been struck by electricity who has open consciousness does not need to be taken to hospital	58	24.6
12- A child who has fallen from a high level should be laid down in the supine position and the head should be turned sideways	23	9.7
13- When foreign body including knife, iron is stuck in a child's hand should be taken to the nearest healthcare institution without pulling out the foreign body	193	81.8

14- Direct pressure should be applied on the injured area in case of injury with bleeding.	69	29.2
15- The head of a child who has epistaxis should be laid down backwards.	57	24.2
16- Cold should be applied in cases of sprain with resting the sprained organ	78	33.1
17- If the jaw of a child with seizure (epileptic attack) is locked, it should be forced to be opened by placing objects including fork, spoon.	170	72.0

Table 3: Percentage of Correct answers for the questions about the knowledge of basic first-aid practices among the teachers.

The majority of teachers are skilled at determining if a kid is breathing; 147 (62.3 percent). Only 68 people (28.8%) are aware that if a kid has open consciousness and their airway is completely blocked (due to ingesting a foreign body) and they are unable to cough. Only 32.2 percent (76) of the teachers understood how to handle bites from animals and insects. About 109 (46.2%) of the participants in this research are aware of how to handle a child who has been burned by hot water being poured on them.

63.1 percent (149), or more than half, of teachers are aware that in cases of fracture, the ends of the broken bone should be forced within, if they are outside. Only 11.9 percent (28) were aware that bleach and other cleaning products should be immediately regurgitated in order to treat a kid who has consumed them. 204 (86.4 percent) of the caregivers are aware that a kid who has suffered head trauma should be kept awake.

A little one who has fainted should, according to 158 respondents (66.9%), be placed down on a level surface with their feet up. 168 people (71.2%) are aware that a kid who has been hurt after falling should have the affected organ made to move in order to determine whether there is a fracture. Of the applicants, 164 (69.5%) are aware that the electrocuted child won't be reached directly. The knowledge about children who have been electrocuted and are conscious not needing to be sent to the hospital is known by little over 58 (24.6%) individuals.

The fact that a child who has fallen from a high height has to be laid down in the supine position with their head turned to the side is unknown to 23 teachers (9.7%). Among the participants, more than 80% (193) are aware that if a child has a foreign item in their hand, such as a knife or an iron, they should be taken to the nearest hospital without having the thing removed.

Only 29.2 percent (69) of the teachers are aware that, in the event of an accident with bleeding, direct pressure should be provided to the affected region. About 57 (24.2%) of the participants were aware that a kid with epistaxis should have their head placed backwards. Of them, 78 (33.1%) were aware that cold should be given in the event of a sprain while the injured organs were rested. 170 (72%) of the candidates are aware that if a kid is having a seizure and their jaw is locked, they should be pushed to open their mouth by inserting a fork or spoon.

The likert scale's total score is 2.43 and 8.13 (SD score) (Mean score). According to our assessment, the distribution of the teachers' responses to the questions concerning their familiarity with fundamental first aid procedures is as follows: The ends of

a shattered bone should be pushed inside if they are outside in case of fracture (True= 14.83%, False= 63.14%, I don't know= 22.03%). A child who has ingested cleaning products, such as bleach or detergent, has to be regurgitated right away (True= 78.39%, False= 11.86%, I don't know= 9.75%).

A child with head trauma should be kept awake (True= 86.44%, False = 5.51%, I don't know = 8.05%). A child who has fainted should be laid down on a flat background and the feet should be elevated (True= 66.95%, False = 11.02%, I don't know = 22.03%). The organ with pain should be forced to move to understand if there is fracture in a child who has been injured after falling (True= 18.64%, False = 71.19%, I don't know = 10.17%). A child who has been struck by electricity would not be contacted directly (True= 69.49%, False = 10.17%, I don't know = 20.34%).

A child who has been struck by electricity who has open consciousness does not need to be taken to hospital (True= 33.05%, False = 24.58%, I don't know = 42.37%). A child who has fallen from a high level should be laid down in the supine position and the head should be turned sideways (True= 80.93%, False = 9.75%, I don't know = 9.32%). When foreign body, including a knife, iron is stuck in a child's hand, it should be taken to the nearest Healthcare institution without pulling out the foreign body (True= 81.78%, False = 7.20%, I don't know = 11.02%).

Direct pressure should be applied on the injured area in case of injury with bleeding (True= 29.24%, False = 60.59%, I don't know = 10.17%). The head of a child who has epistaxis taxes should be laid down backwards (True= 53.39%, False = 24.15%, I don't know = 22.46%). Cold should be applied in case of sprain with resting the sprained organ (True= 33.05%, False = 37.71%, I don't know = 29.24%). If the jaw of a child with seizure (Epileptic attack) is locked, it should be forced to be opened by placing object including fork, spoon. (True= 27.97%, False = 72.03%, I don't know = 0%).

A total of 236 teachers (126 men and 110 women) participated in this study, which was conducted in Riyadh, Saudi Arabia in 2020. Only three of the 233 participants were not Saudi nationals, the majority (233) were Saudi nationals. It had a mean rating of 8.13 on the likert scale (out of 17) and a standard deviation of 2.43. This investigation has led us to the conclusion that most teachers lack enough training in the first aid procedures used on school-aged children. Our evaluation indicates that the teachers' understanding of the first aid that should be administered when a kid consumes a foreign body is lacking (Table 4).

		Mean [#]	SD	P value
Age	< 30	7.67	2.33	0.300
	30-45	7.92	2.42	
	46-50	8.49	2.45	
	> 50	8.40	2.44	
Gender	Male	7.88	2.42	0.067
	Female	8.42	2.41	
Nationality	Saudi	8.13	2.42	0.962
	Non-Saudi	8.00	3.61	
Experience years	<1	8.56	2.51	0.569
	1-5	8.13	2.07	
	6-10	8.80	2.79	
	>10	7.91	2.34	
Type of school	Public school	8.11	2.39	0.559
	Private school	8.33	2.76	
Overall score (out of 17)		8.13	2.43	
# Out of 17				

Likert scale was used the 17 questions of knowledge with two points (correct answer = 1, false answer = 0), The maximum score for overall = 17 and the minimum score for overall =0

Table 4: Mean score of Knowledge about basic first-aid practices among the teachers by the demographic characteristics of the participants.

They are unsure of how to handle a child who has been bitten by an animal or bug. The school’s caretakers are the least knowledgeable on how to treat a child who has swallowed cleaning products like bleach or detergent. The teachers are not equipped to care for the kid who was electrocuted. They lack knowledge on how to treat a child who has fallen from a height in the first place. In cases of bleeding injuries, epistaxis, and sprains, teachers are not trained to treat children with first aid.

On the other hand, it was discovered that the teachers had received adequate training to deal with a child who was having breathing difficulties, a child who had been burned by hot water, a child who had suffered a fracture, a child who had suffered a head injury, a child who had fainted, a child who had an organ sprain, and a child who was having a seizure.

Conclusion

This research of primary school teachers in Riyadh, Saudi Arabia led us to the conclusion that majority of them lacked the necessary training to administer first aid to students in an emergency. The majority of teachers are unqualified to provide

the first aid to children in elementary schools. This study strongly suggests that advanced first aid training programs be made available to primary school teachers. Following the training, the teachers may demonstrate a marked increase in their understanding and use of first aid management in the classroom. Our findings point to the necessity of mandating a first aid training program in order to raise the children’s general health standards. Other improvements that might be implemented include the addition of first aid management courses for severe and small injuries to the bachelor’s degree curriculum, the provision of first aid kits in every classroom, and the organization of first aid training by the school administration.

Ethical Considerations

The research center at PSMCMC-ethics Riyadh’s review committee gave its approval before the study could begin after approved by an ethics review committee. No medicines or interventional procedures are used in this study. All participants provided their written consent after being fully informed. The study maintains the confidentiality and anonymity of the data.

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