

# Assessment of knowledge, attitude, and practice about first aid among male school teachers and administrators in Riyadh, Saudi Arabia

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## ABSTRACT

**Background:** Children are more exposed to harm and have a higher risk. Teachers are facing many circumstances of students in schools, and this needs medical attention and perception of what to do. **Aim:** To assess the levels of knowledge of teachers and school instructors that live in the city of Riyadh related to basic first-aid practices and some variables which influenced these levels of information. **Material and Methods:** In this cross-sectional study which was conducted on teachers and school instructors in Riyadh, a questionnaire containing sociodemographic properties and the level of knowledge related to first-aid practices was applied under supervision. The level of perception was evaluated on a 25-point scale. This study was approved by the King Saud University School of Medicine. **Results:** The mean score of knowledge about the first aid of the population was found to be 10.36. It was found that teachers who have good knowledge of first aid ( $\geq 15$  out of 25 points) are 14.9% ( $N = 65$ ). Also, it was found that first-aid scores of knowledge showed a significant difference in age and having received first-aid training. **Conclusions:** We concluded that most of the teachers show weak knowledge of first aid and inappropriate response for common emergency scenarios. Also, the teachers who have training for first aid has a higher likelihood to respond better in those given scenarios, but the majority of the sample have not received any training to deal with those scenarios. We recommend that teachers must undergo a first-aid training program.

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

## Introduction

Involuntary harms happening as a result of accidents faced in the blooming period are an international public health issue, and it is one of the significant causes of death and

disabled living. In the United States, especially among children, with 70% of injury deaths occurring in school-aged youth (5–19 years of age).<sup>[1]</sup> It is estimated that 10–25% of injuries to children occur while they are in school<sup>[2]</sup> because of unintentional injuries yearly.

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Children are more exposed to harm and have a higher risk because of developmental and behavioral properties including ignorance of threats and being active as well as physical properties including smaller body mass and thinner, and more vulnerable skin.<sup>[3]</sup>

In the accidental school injuries, teachers and school instructors are the primary people who can help the students and perform first aid on them, so that they can prevent the complications and sometimes prevent death. The best time to deal with emergency situation is in the early minutes. So with an excellent background of first-aid knowledge and practices could save a student's life. Therefore, teachers and school instructors are the primary individuals who need to have first-aid knowledge and experience.<sup>[4]</sup>

This study aimed to evaluate the levels of knowledge of first aid among teachers and school instructors in the schools located in Riyadh, the capital city of Saudi Arabia.

## Material and Methods

This cross-sectional study was conducted between November 6<sup>th</sup>, 2015 to April 25<sup>th</sup>, 2016. About 436 teachers and school instructors working in the city of Riyadh constituted the population.

Ethics committee approval was obtained from the King Saud University School of Medicine. Verbal consents were obtained from teachers. Afterward, a questionnaire composed of 48 questions was applied. The knowledge status of the teachers and school instructors connected with basic first-aid practices was evaluated with 25 questions (13 multiple choices and 12 exact/false questions)<sup>[3,4]</sup> 1 point was given for each item answered correctly. The score was between 0 and 25. After the application of the questionnaire, a visually weighted information paper containing the answers to the questions were given to the teachers. The source of the knowledge of first aid was observed, and the groups who did and did not receive a planned education were compared regarding knowledge scores.

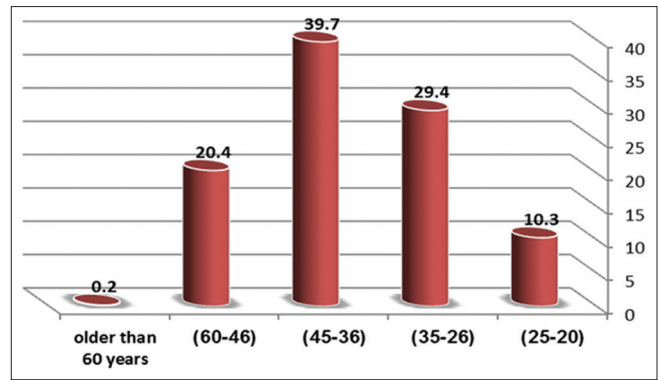
## Statistical method

The data were entered and analyzed using the statistical package for the social sciences (SPSS, SPSS Inc. acquired by IBM) 22 system, the *P* value was considered to be significant if it is <0.05.

## Results

This study was done on 436 participants, 39.7% of the total study sample age (36–45 years) [Figure 1], while it was found that 29.4% of the total study sample age individuals (26–35 years). The vast majority of the study sample were married, were accounted for 85.8% while 13.1% of the total study sample was singles.

The majority of the study sample educational levels are bachelor degree, where they accounted for 72.5% of the total



**Figure 1:** Distribution of age groups of the participant

study sample, while 19% of the total study sample was masters degree, while it was found that 6.4% of the total study sample was diploma and, finally, found that 2.1% of them have Ph.D. degree.

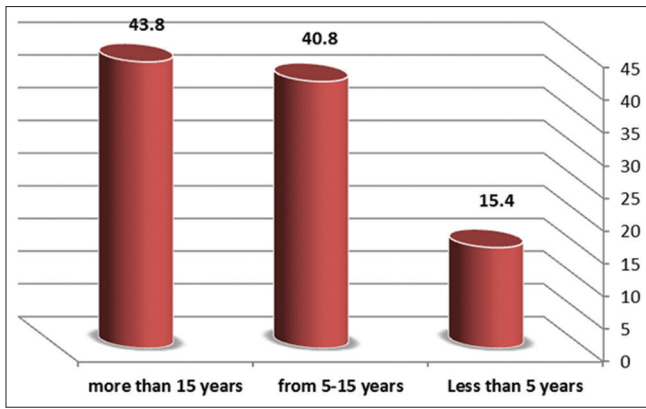
It is declared that 43.8% of the total study sample, worked in a school for >15 years, while it was found that 40.8% of them worked in a school for 5–15 years and, finally, it found that 15.4% of the total study sample their years of experience <5 years) [Figure 2].

About 36% of the total study sample, teaching materials (Islamic or social), while it was found that 16.7% of the total study sample teach science, also found that 14.7% of total sample study teaching languages.

About 47% of the total study sample, the number of lectures they teach in the week, ranging from 16 to 24 lectures, while it was found that 28.4% of the total study sample number of lectures they teach in a week ranges between 6 to 15 lectures, also found that 21.1% of the total study sample number of lectures they study per week <5 lectures, and finally found that 3.4% of the total study sample number of lectures they teach per week >24 lectures.

About 60.1% of the total study sample, they have information on first aid, while it was found that 39.9% of the total study sample had no information on first aid. About 21.6% of the total sample reported to have received information about first aid from the internet and social media, 17% of them reported to have received information about first aid from the health personnel, while 14.2% of them reported to have received information about first aid through literature, and finally found that 8.9% of the total study sample reported to have received the information from friends and relatives, while it was found that 38.3% of the total study sample reported obtained information on first aid from other sources.

Majority of the sample (73.6%), has not attended seminars or training courses on first aid, while it was found that 26.4% of the total study sample attended seminars or training courses on first aid. About 14.7% of them have attended seminars or



**Figure 2:** The working experience of the study participants

training courses about first aid >3 years ago, while 6.4% of them have attended seminars or training courses about first aid since 12 months ago, and finally found that 5.3% of the total study sample have attended seminars or training courses about first aid before 2–3 years ago.

About 54.6% of the total study, sample have no previous experience in dealing with injured children in school, while 45.4% of them have previous experience in dealing with children in the school.

More than half the sample (50.7%) of the total study did not face any cases during the last 12 months, while 39.9% of them faced between 1–5 cases in the last 12 months, while 6.7% of them faced 6–15 case during the last 12 months, and finally found that 0.7% of the total study sample faced >30 cases during the last 12 months.

The study sample individuals strongly agree on the importance of learning about first aid in the daily life with mean (68.4), also strongly agree on the importance of public education of first aid with mean (68.4), but they disagree that learning first aid is very difficult and complicated with mean (98.4), and finally they strongly agree that having knowledge about first aid will encourage them to perform first aid to student in need with mean (68.6).

There are differences in the level of knowledge about first aid among the study sample related to the age variable as the value of ( $P = 0.022$ ). The teachers in the age group of (46–60) had significantly higher scores compared to the other age groups.

Although the scores of the teachers who were found to have attended seminars or courses about first aids were higher compared to the ones who did not attend seminars or courses about first aid. The difference was highly statistically significant with the value of (0.000). This was shown in Table 1.

As it can be seen from the results, it was found that there was a weak relation between education level and knowledge about

**Table 1: Distribution of the scores obtained by the teachers from the questions related to basic first-aid practices according to some variables**

Variables	n	Mean	Standard deviation	P
Age (years)				
20-25	45	8.96	4.452	0.022*
26-35	128	10.23	5.000	
36-45	173	10.88	4.425	
46-60	89	11.54	5.112	
Older than 60	1	11.00	.	
Years of experience				
<5 years	67	9.67	4.737	0.104
From 5-15 years	178	10.48	4.994	
More than 15 years	191	11.09	4.556	
Have you attended seminars or course about first aid				
Yes	115	13.43	3.805	0.0001
No	321	9.62	4.698	

\*Significant as P value <0.05

first aid, however, this relation was not statistically significant with a value of ( $P = 0.188$ ). Although it was found that there is a relation between years of experience and the score of knowledge about first aid, as the years of experience increased the score of knowledge increased. However, this relation was not statistically significant reaching value of ( $P = 0.104$ ).

### Final results

The mean score about first-aid knowledge of the total data is 10.63 ( $n = 436$ ). The percentage of the teachers who score >15 is 14.9% ( $n = 65$ ).

### Discussion

In this study which aimed to determine the level of first-aid knowledge of teachers and school instructors working in the city of Riyadh, most teachers reported that they had information about first-aid practices (60.1%). The most commonly reported source of knowledge was the internet and social media (21.6%). When asked about attending seminars for first-aid only 26.4% have attended first-aid seminars and the vast majority of them had attended the seminars >3 years ago. In a study conducted in Isparta 73.6% of their school teachers' sample had the first-aid education.<sup>[3]</sup> We believed the reason there was a high percentage of teachers having a first-aid education is because it was mandatory. While in 2014, the International Journal of Medicine and Public Health published an article that found "Majority of primary school teachers ( $n = 50$ , most of them were female) (86%) did not attend any specific seminar or workshop related to first-aid management of minor injuries. However, the majority (74%) of school teachers had appropriate information about first-aid management through literature like health newspapers, magazines, health-related articles and from friends, relatives, and health professional."<sup>[5]</sup>

A study in Vadodara City in India titled by "Assessment of Knowledge and Practices of First Aid among the School

Teachers' showed that the knowledge of first aid among teachers is quite low, for example, 85.16% ( $n = 472$ ) of teachers have low knowledge and practice about first aid.<sup>[6]</sup>

A questionnaire is distributed to 1067 pre-school teachers and staff members in Shanghai, China aiming to assess a baseline level of first-aid knowledge and attitude regarding first aid among them. They found that only 39 individuals achieved the passing score using the PedFACTs textbook. Moreover, most of the sample 69.2% had not taken any first-aid training course before. That is reflected in the better scores noted among healthcare providers in the schools which is related to pre-existing knowledge that they have.<sup>[7]</sup>

Choking is a common cause of morbidity and mortality in children, and rapid administration of first aid may help to decrease this morbidity and mortality. Nurses and physicians are not present at the schools in Riyadh. Because rapid administration of first aid may minimize morbidity and mortality, teachers should be proficient in basic first-aid skills.

The reasons that about 84.1% of the teachers in this study showed lack of knowledge regarding first aid are most probably because of the absence of the training session, educational posters, or movies that illustrate how to give first aid and highlight its importance in dealing with injuries and accidents and the decrement in morbidity and mortality of these accidents after dealing with it using proper first-aid procedure.

It was found that 71.6% of the teachers knew the phone number of the local Red Crescent. It was concluded that the majority knew the number which is a good indicator for having some information on handling emergencies.

Question 3 was the most wrongly answered question, although it was about the order in how to handle an unconscious child (81.4%) even though it is the first thing a teacher and school instructors should assess.

Question 7 was one of the most wrongly answered despite the dangerous complications that can result from the wrong actions when dealing with a child who has been exposed to a sun stroke (81.2%), which is one of the commonest incidences in school children. This disappointing result is probably due to the deficit in general knowledge that would set the basis for the teachers' commonsense.

When asked what will you do if a child has epistaxis, 62.2% answered incorrectly. Although it was about the position of the child when having a nose bleed which is one of the commonest incidences in primary school children but still the old misconception of the right position has not changed proving the lack of knowledge.

When comparing the mean score of first-aid knowledge about years of experience, we found that teachers with >15 years of

experience have scored higher than less experienced teachers. However, there is no statistically significant ( $P = 0.104$ ). In contrast, the age of teachers is statistically significant ( $P = 0.022$ ).

We asked the teachers at the end of the survey about their attitude toward first aid. The majority of the teachers believed it is crucial to learn first aid. When we asked them, 89.2% strongly agree on the importance of first aid. They also believed if they have adequate knowledge of first aid and skills they can help and save their students' lives.

In Iraq, a study conducted to evaluate the level of knowledge about first aid among Iraqi society on the example of secondary school students and teachers, and it shows that the knowledge of secondary school students and teachers appears to be insufficient to perform basic life support.<sup>[5]</sup>

In Madinah, Saudi Arabia a group of researchers investigated "the prevalence of first-aid knowledge among school instructors," and that showed 44.76% was the percentage of good first-aid knowledge of overall school instructors. They also measured 60.55% ( $n = 341$ ) of school instructors have a positive attitude toward first-aid training.<sup>[8]</sup> Education programs in secondary school should be initiated regarding extending the social safety.

## Conclusions

We concluded that most of the teachers show weak knowledge of first aid and inappropriate response for common emergency scenarios. Also, the teachers who have training for first aid have a higher likelihood to respond better in those given scenarios, but the majority of the sample have not received any training to deal with those scenarios. We recommend that teachers must undergo a first-aid training program.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. Hazinski MF, Markenson D, Neish S, Gerardi M, Hootman J, Nichol G, et al. Response to cardiac arrest and selected life-threatening medical emergencies: The medical emergency response plan for schools. A statement for healthcare providers, policymakers, school administrators, and community leaders. *Pediatrics* 2004;113:155-68.
2. Sapien RE, Allen A. Emergency preparation in schools: A snapshot of a rural state. *Pediatr Emerg Care* 2001;17:329-33.
3. Sönmez Y, Uskun E, Pehlivan A. Knowledge levels of pre-school teachers related with basic first-aid practices, Isparta sample. *Turk Pediatri Ars* 2014;49:238-46.
4. (HKRC) HKRC. Survey on Public Knowledge and Attitude on First Aid, 2011.

5. Masih S, Sharma R, Kumar A. Knowledge and practice of primary school teachers about first aid management of selected minor injuries among children. *Int J Med Public Health* 2014;4:458-62.
6. Devashish AR, Gaurav JD, Bharat B. Assessment of knowledge and practices of first aid among the school teachers of Vadodara city. *Indian J Res Rep Med Sci* 2013;3:21-3.
7. Li F, Jiang F, Jin X, Qiu Y, Shen X. Pediatric first aid knowledge and attitudes among staff in the preschools of Shanghai, China. *BMC Pediatrics* 2012;12:121.
8. Al-Robaiaay YK. Knowledge of primary school teachers regarding first aid in Baghdad Al-Rusafa. *Al-Kindy Col Med J* 2013;9:59.