

# Knowledge of Primary School Teachers Regarding First Aid In Baghdad Al-Rusafa

Yossra Kalaf Hanoon Al-Robaiaay MBCh B,FICMS

## Abstract

**Background:** A basic knowledge and understanding of first aid can be invaluable for individuals to be able to provide emergency care in the event of an accident, possibly saving lives and minimizing injury. Since injury is the fifth leading cause of death and children at the age of primary school are liable for accidents and lack of knowledge and good judgment of their teachers may lead to dangerous consequences when emergencies occur. Training teachers how to deal with accidents is of obvious importance.

**Objectives:** To estimate the adequacy of primary school teachers' knowledge of first aid concerning external bleeding and fractures and Whether there's a difference in knowledge in regard to years spent in teaching or the teaching subject and to decide whether primary school teachers need training or not.

**Methods:** This study is a cross-sectional Study was done over 5 months (from 01/Dec/2010 to 01/May/2011) in five randomly chosen primary schools in different regions in Baghdad/ Al-Rusafa, carried out on 100 primary school teachers without inclusion or exclusion criteria.

Statistical analysis: Chi-Square was calculated by MiniTab Program to estimate significance. The significance level was set at  $P < 0.05$ .

**Results:** Of the 100 participants, 4% had good knowledge, 19% had fair knowledge and 77% had poor knowledge, 26% were science teachers, 9% were social studies teachers, 43% were literature teachers and 22% were sport/art teachers. No significant difference was found for their knowledge ( $p$  value=0.41). Also participants were classified according to the years they spent in teaching. No significance was found for their knowledge ( $p$  value=0.82).

**Conclusions:** Primary school teachers' knowledge of first aid concerning external bleeding and fractures is poor and certainly inadequate. No difference was found in regard to how many years spent in teaching and difference in teaching subjects also has no effect on their knowledge.

**Keywords:** first aid, primary school teachers, knowledge

Al – Kindy Col Med J 2013; Vol. 9 No. 1 P:54

## Introduction

First aid is the provision of initial care for an illness or injury. It is usually performed by a non-expert person to a sick or injured person until definitive medical treatment can be accessed. Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention.<sup>[1]</sup>

It generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment.<sup>[1]</sup>

A basic knowledge and understanding of first aid can be invaluable for individuals to be able to provide emergency care in the event of an accident, possibly saving lives and minimizing injury. It may on occasion obviate the need to visit a hospital or clinic, not only providing convenience for the individual but lessening demand on medical facilities.<sup>[2]</sup>

Unintentional injuries continue to be the fifth leading cause of death overall, exceeded only by heart disease, cancer, stroke, and chronic obstructive pulmonary diseases. Unintentional injuries rank third in importance behind cancer and heart disease and Unintentional injuries are

the leading cause of death in children between the ages of 1 and 21.<sup>[3]</sup>

In USA, More than 200,000 children are injured each year on playgrounds at child care centers, parks, and schools. Falls onto playground surfaces are a contributing factor in 70 percent of injuries requiring hospital visits.<sup>[4]</sup>

Accidental injury is one of the biggest single causes of death in the UK for children over the age of one. More children die each year as a result of accidents than from illnesses such as leukemia or meningitis.<sup>[5]</sup>

A study in Poland showed that there were in total 3274 school accidents per 293,000 student-years. Accidents during breaks (36.6%) and physical education (33.2%) were most common. Most frequently accidents took place at schoolyard (29.7%), gymnasium (20.2%), and in the corridor and stairs (25.2%).<sup>[6]</sup>

Glendon, McKenna, Blaylock and Hunt (1987) suggest that a bystander trained in cardiopulmonary resuscitation can improve the survival chance of somebody with ventricular fibrillation from 21% to 43%. Also suggest that the teaching of first aid to students is probably cost-effective in terms of saving lives. They also

recommend that first aid be taught within schools.<sup>[7]</sup>

Since children at the age of primary school are liable for accidents and lack knowledge and good judgment when emergencies occur or even simpler incidences. Training teachers how to deal with accidents is of obvious importance since some simple steps of first aid can prevent dangerous consequences caused by not acting or acting wrongly<sup>[8]</sup>

First aid can be given by teachers so that a pupil wouldn't need further medical help or to prevent deterioration of the pupil's health till he's taken to hospital or till medical help arrives. In Iraq transportation is of no negligible concern since traffic jams and unexpected occurrences can interfere with getting to hospital and medical help arrival.

This study focuses on the knowledge of Primary school teachers about first aid of external bleeding and fractures since injury is the fifth leading cause of death and because Bleeding and fractures can be life threatening yet they can be treated with simple steps.

## Methods:

This is a cross sectional study conducted to evaluate the primary school teachers' knowledge of first aid concerning external bleeding and fractures. Sample was 100 primary school teachers. We included all teachers; those who are newly appointed and those who had spent much longer periods teaching regardless of the teaching subject.

The study was done over 5 months (from 01/Dec/2010 to 01/May/ 2011) in five randomly chosen primary schools in different regions in Baghdad/ Al-Rusafa.

A questionnaire was distributed among the teachers. Scientific and ethical approval was taken from scientific and ethical committee in the directorate of education in Al-Rusafa, the questionnaire was manipulated according to the information and procedures explained by Nigel Barraclough and David Worners.<sup>[9]</sup> The questionnaire was made up of 13 multiple choice questions regarding knowledge of first aid in dealing with external bleeding and fractures. For each question there were 4 choices: the right one, 2 wrong ones and "I don't know". Also it had two questions concerning the subject that is taught by the teacher and the years spent in practice. All the participants filled the questionnaire completely.

We calculated the frequencies of right and wrong answers for each question.

As suggested by the experts of the community medicine department in Al-Kindy college of medicine, the respondents were classified according to their scores as having good (scored =>70%) fair (scored 50-69%) and poor knowledge (scored <50%).

We compared the teachers' scores in regard to their teaching subjects. Subjects were classified into 4 categories: science, literature, social studies and sport/art.

Another score comparison was made according to the number of years spent in teaching by categorizing teachers into those who have been teaching for less than 6 years, 6-10 years, 11-15 years, 16-20 years and more than 20 years.

### Limitation of the study:

1. First aid knowledge would be more accurately assessed by practical means rather than a theoretical one.
2. Uncooperativeness of some teachers.

### Statistical analysis:

Frequencies were entered on personal computer and Chi-Square was calculated by MiniTab Program version 13 to estimate significance. The significance level was set at  $P < 0.05$ .

## Results:

The majority of the participants (89%) answered question 3 -concerning dealing with a foreign body embedded in a wound- wrongly. Also 80% of participants answered question 10 - concerning the position that the child should be in when having nose bleed- wrongly. 69% of the participants answered question 2 wrongly, they didn't know that it's wrong to put alcohol or Iodine directly on a wound.

Again 69% of the participants answered question 1 wrongly, thinking it is right to put coffee powder on a wound. 65% of the participants answered question 5 wrongly, not knowing that applying pressure with clean cloth or a dressing is the first step when facing a severe bleeding. 59% of the participants answered question 7 -concerning raising a limb that is bleeding- correctly. 54% of the participants answered question 4 -concerned with major blood vessels bleeding- correctly (see table 1).

The mean of the 100 teachers' score was 38 (the maximum score is 100), of the 100 participants, 4% had good knowledge, 19% had fair knowledge and 77% had poor knowledge (see fig 2) 26% were science teachers, 9% were social studies teachers, 43% were literature teachers and 22% were sport/art teachers (See table 3). No significant difference was found for their knowledge (p value=0.41). Also participants were classified according to the years they spent in teaching (See table 4). No significance was found for their knowledge (p value=0.82)

### Discussion:

Trauma is a common cause of morbidity and mortality in children,<sup>[10]</sup> and rapid administration of first aid may help to decrease this morbidity and mortality. Nurses and physicians are not present at schools in Iraq. Because rapid administration of first aid may minimize morbidity and mortality from injuries, teachers should be proficient in basic first-aid skills.

The reasons that about 77% 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.

The results of present study are consistent with the results of a study done In 2007, which was conducted to determine the knowledge and attitudes of a sample of Turkish teachers regarding the administration of first aid, it shows that most of the teachers do not have correct knowledge and attitudes about first aid.<sup>[11]</sup>

Question 3 was the most wrongly answered despite the dangerous complications that can result from the wrong actions when dealing with a foreign body embedded in a wound, also in Question 1 Coffee is like a foreign body, adding it means adding dirt. This disappointing result is probably due to the deficit in general knowledge that would set the basis for the teachers' common sense. A possible explanation can rise when knowing that in Iraq, it takes graduating middle school then graduating from teachers' institute to be a primary school teacher. While first aid is theoretically taught in high school, thus those who are primary school teachers had

skipped first aid subject when they were students. The low rate of first aid training was also observed in a study conducted on primary caregivers of children in Singapore, where 80% had not attended a first aid course.<sup>[12]</sup>

Question 10 was the second most wrongly answered question 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 hasn't changed proving the lag of knowledge updating if any had occurred. In a study done in UK, it was seen that only 11.3% of the respondents knew the correct first aid management of epistaxis.<sup>[13]</sup>

Also for the non-significant difference among teachers in regard to the time they spent as teachers or their teaching subject is because there is general neglecting of first aid which can be proved by the fact that only 23% of teachers scored more than 50% when answering the questionnaire, A study found that as the age of the teachers increases, appropriate first-aid practice becomes more and more unlikely.<sup>[14]</sup>

Also there are no regular training session and no update for the old fashioned methods in dealing with injuries and fractures. First aid sessions in Iraq are not given in most schools and in some schools it was given only to some teachers and irregularly. In January 2010, a study conducted to assess knowledge, attitude and practices of first aid measures in undergraduate students of Karachi, Pakistan, and it suggested that First aid training programs should be introduced at school and college level in developing countries to decrease the early mortality and morbidity of accidents and emergencies.<sup>[15]</sup>

First aid neglecting can be also demonstrated by the lack of first aid training in the curricula of The Teachers' Institute. Only those prepared to be sport teachers have first aid as a part of their curriculum, nevertheless sport teachers didn't score any better, in fact the majority of them were in the poor category of this study which delivers a message that even when first aid is supposed to be taught, the process of teaching and training isn't in the right terms.

The absence of significance in teachers' knowledge in regard to the time they spent in practice may be attributed to the non-developing curricula for those who are prepared to be teachers, i.e. more than 20 years have passed

and Iraqi curricula have not incorporated first aid training into them.

A research done in 1993 shows that first aid training must be repeated periodically in order to maintain adequate levels of skill and expertise.<sup>[16]</sup>

Another possible explanation for this is that teachers themselves never tried to develop themselves or acquire knowledge about first aid; this is expected from a population that has neither good attitude towards first aid, nor realization of its importance.

In (2002) a study carried out to focus on the implementation of training of first aid to junior high students. The researchers measured the implementation of the program by teachers and the attitudes and knowledge of their students. They discovered that students whose teachers implemented the program enthusiastically had better attitudes toward first aid implementation and were more knowledgeable in first aid. These students also demonstrated higher self-efficacy scores, i.e., a higher degree of confidence that they could be effective in terms of their skills.<sup>[17]</sup>

Another study conducted in (2007) suggested that systemic solutions for improvement of the knowledge of rules of giving the first aid among teachers and pupils are mandatory and propose cyclical training courses for teachers led by medical professionals, and further courses for pupils led by those teachers in collaboration with students of the last year of paramedical studies.<sup>[18]</sup>

In 2002, a study conducted to evaluate the level of knowledge about first aid among Polish 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. Education programs in secondary school should be initiated in terms of extending social safety.<sup>[19]</sup>

### Conclusion:

1. Poor primary school teachers' knowledge of first aid concerning external bleeding and fractures is certainly inadequate.
2. In spite of years spent in teaching. There is no improvement in the scores.
3. difference in teaching subjects also has no effect on their knowledge.

### Recommendation:

1. Primary school teachers need regular training for first aid of external bleeding and fractures
2. add first aid training to the curriculum of the teaching institutes.
- 3.

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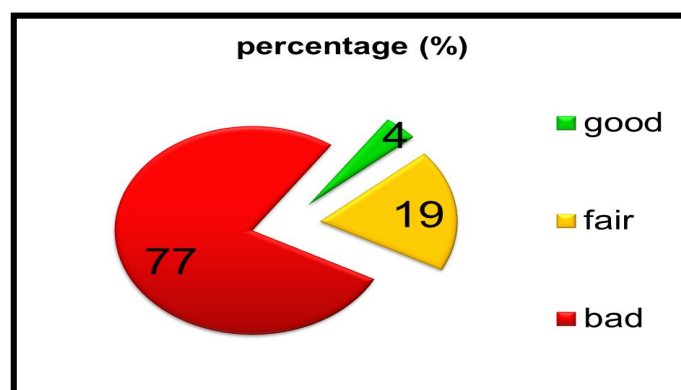
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**Table (1): Questionnaire answers of primary school teachers.**

Question	Right Answers		Wrong Answers	
	Number	Percentage (%)	Number	Percentage (%)
1	31	31	69	69
2	31	31	69	69
3	11	11	89	89
4	54	54	46	46
5	35	35	65	65
6	22	22	78	78
7	59	59	41	41
8	43	43	57	57
9	44	44	56	56
10	20	20	80	80
11	32	32	68	68
12	53	53	47	47
13	58	58	42	42

**Figure 1: Grading of primary school teachers knowledge about first aid according to their scores**



*Table (2): Grading of primary school teachers knowledge about first aid according to their scores in regard to the teaching subject.*

	Science		Social		Literature		Sport/Art	
	Number	PCT (%)	Number	PCT (%)	Number	PCT (%)	Number	PCT (%)
Good	1	1	0	0	2	2	1	1
Fair	7	7	1	1	9	9	2	2
Bad	18	18	8	8	32	32	19	19
Total	26		9		43		22	

p value=0.41

*Table (3): Grading of primary school teachers knowledge about first aid according to their scores in regard to the years spent in practice.*

	<6 years		6--10 years		11--15 years		16--20 years		>20 years	
	Number	PCT (%)	Number	PCT (%)	Number	PCT (%)	Number	PCT (%)	Number	PCT (%)
Good	1	1	0	0	1	1	0	0	2	2
Fair	2	2	6	6	5	5	2	2	4	4
Bad	15	15	17	17	19	19	10	10	16	16
Total	18		23		25		12		22	

p value=0.82

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**Correspondence:**

Lecturer/Department of community medicine /Al-Kindy College of Medicine/University of Baghdad

lecturer/Community Department/

AL-Kindy Collage of Medicine/Baghdad University

E.mail /yossra10 @yahoo.com