

# Assessment of First Aid for Emergency Accidents in Primary Schools in Kirkuk City

## تقييم إسعافات الإصابات الطارئة لتلاميذ المدارس الابتدائية لمدينة كركوك

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### الخلاصة:

**الهدف:** تهدف الدراسة إلى التعرف على أنواع الإصابات وتقييم الإسعافات المقدمة لتلاميذ المدارس الابتدائية لمدينة كركوك .  
**المنهجية:** دراسة وصفية أجريت في 10 مدارس ابتدائية للتعرف على الإصابات الطارئة وتقييم الإسعافات الأولية المقدمة لتلاميذ المدارس الابتدائية في مدينة كركوك للفترة من 1/أيلول/2009 لغاية 30 /نيسان/ 2010 . عينة غرضية تكونت من 156 تلميذ وتلميذة من المدارس الابتدائية، تم جمع العينة للفترة من 1/تشرين الأول/2009 لغاية 30/نيسان/2010 باستخدام استمارة الاستبيان أعدت لهذا الغرض، وتم تحليل البيانات باستخدام الطرق الإحصائية (الوصفية ، والتحليلية).

**النتائج:** أظهرت النتائج أن غالبية الإصابات بين التلاميذ كانت في العمر 8 و 9 بنسبة 32 (20.5%) ، 34 (21.8%) بالتعاقب . ومعظم الإصابات كانت بين الذكور بنسبة 99 (63.46%) وان أغلب الإصابات كانت بين تلاميذ الصف الثاني والصف الثالث والرابع وبنسبة 32 (20.52%) ، 30 (19.23%) ، 34 (21.79%) على التوالي . أن أكثر أنواع الإصابات كانت الجروح بأنواعها مع النزف الدموي 73 (46.79%) وان أكثر الإصابات كانت في الأطراف العلوية بنسبة 27 (17.31%) . أغلب الأسباب كانت الهرولة والسقوط أرضاً 27 (17.29%) . إن نسبة 28 (17.95%) من الإصابات تم غسل جروحهم وان نسبة 82 (52.56%) من الإصابات تم إرسالهم إلى البيت .

**الاستنتاج:** أغلب الإصابات كانت في العمر الثامن والتاسع معظمهم في الصف الثاني والصف الثالث والرابع . نسبة الإصابات هي الجروح الناتجة بسبب الهرولة والسقوط وان غالبيتهم أرسلوا إلى البيت دون تلقي الإسعافات المناسبة .

**التوصيات :** الحاجة الضرورية لتعلم الإسعافات الأولية النظرية والتطبيقية لكل من التلميذ والمعلم وتحفيزهم للمشاركة في الدورات التدريبية من أجل تقديم أفضل الإسعافات الأولية اللازمة .

### Abstract:

**Objective:** The main objective of the study is to assess the emergency accident among primary school pupils, and type of managements.

**Methodology:** A descriptive study, was conducted in 10 primary school to identify the emergency accident among primary school pupils of Kirkuk city from 1<sup>st</sup> September 2009 to the 1<sup>st</sup> April 2010. The sample for the study comprised of 156 primary school pupils selected by purposive sampling technique. The data was collected between 1<sup>st</sup> October 2009 to 30<sup>th</sup> April, 2010. Structured questionnaires were used for the data collection. The data of present study was analyzed through the application of descriptive and inferential statistical approaches. Results were determined as significant at ( $P < 0.05$ ) and high significant at ( $P < 0.01$ ).

**Results :** The study finding revealed that the most accident among the pupils at age 8 and 9 years old with 32 (20.5%) , 34 (21.8%) percentage respectively, Majority of the sample were males 99 (63.46%), most incidence among 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup> Class with 32 (20.52%) , 30 (19.23%) , 34 (21.79%) percentage respectively, the study shows that there is high percentage of wounds and bleeding 73 (46.79%) denoted among pupils as a type of incidence most of them denoted in the arm 27 (17.31%) due to of running and fall to ground 27 (17.29%) , high parentages of first aid given to study sample as Wound washing 28 (17.95%) most of them send to home 82 (52.56%).

**Conclusions:** Most accident are among the pupils within age 8 and 9 years old, at 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup> Class, majority of them as wounds and bleeding due to of running and fall to ground and Collision between pupils , most of them send to home without any first aid.

**Recommendation** The findings of this study indicated the need for educating about first aid practices, both pupils and teachers must be motivated to adopt special training, safety measures and practice to promote first aid.

**Keywords:** first aid, emergency, incidents, primary school, pupils.

### INTRODUCTION:

First aid is the provision of initial care for an illness or injury. It is usually performed by non-expert, but trained personnel 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. 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. Many developments in first aid and many other medical techniques have been driven by wars, such as in the case of the American Civil War, which prompted Clara Barton to organize the American Red Cross. Today, there are several groups that promote first aid, such as

the military and the Scouting movement. New techniques and equipment have helped make today's first aid simple and effective<sup>(1)</sup>. The instances of recorded first aid were provided by religious knights, such as the Knights Hospitaller, formed in the 11th century, providing care to pilgrims and knights, and training other knights in how to treat common battlefield injuries<sup>(2)</sup>. The studies related to the first aid showed that consciously and timely first aid applications lowered mortality rates significantly. 15-18 % of deaths as a result of injuries can be prevented by consciously applied first aid practices. For instance, it was reported that giving the patient right position could lower mortality rate as much as 10%<sup>(3)</sup>. First aid is the initial assistance or treatment given at the site of an accident to someone who is injured or suddenly taken ill, before the arrival of an ambulance. A first aid provider should be able to assess the situation quickly and calmly, deal with life-threatening conditions while protecting him/herself from danger, obtain medical aid, and call an ambulance in case of serious injury or illness<sup>(4)</sup>. Accident are also the most common cause of death among children between the ages of seven and 14 years<sup>(5)</sup>. This information indicates that administering appropriate first aid to children just after an accident is important and can be lifesaving. It is apparent that the mental and physical abilities of children, compared to adults, are not developed enough to allow them to protect and defend themselves against injuries and accidents. Since children spend a significant amount of their time at school when they are not with their families, situations requiring first aid are often encountered there. In schools, teachers are often the first aid provider<sup>(5)</sup>. Conditions that often require first aid; Altitude sickness, Battlefield first aid-such as a bomb blast. ,Bone fracture, Burns., Choking ,blockage of the airway ,Cramps in muscles ,Diving disorders, drowning or asphyxiation., Heat stroke, also known as sunstroke or hyperthermia, Heat syncope, another stage in the same process as heat stroke., Heavy bleeding. ,Hyperglycemia (diabetic coma) and Hypoglycemia (insulin shock),Hypothermia, Joint dislocation ,Poisoning, which can occur by injection , inhalation, absorption, or ingestion, Seizures, or a malfunction in the electrical activity in the brain. Stroke, a temporary loss of blood supply to the brain. Wounds and bleeding, including lacerations, incisions and abrasions ,Gastrointestinal bleeding, avulsions and Sucking chest wounds, treated with an occlusive dressing to let air out but not in. Certain skills are considered essential to the provision of first aid and are taught ubiquitously. Particularly the "ABC"s of first aid, which focuses on critical life-saving intervention, must be rendered before treatment of less serious injuries. ABC stands for Airway, Breathing ,and Circulation .Variations on techniques to evaluate and maintain the ABCs depend on the skill level of the first aider. Once the ABCs are secured, first aiders can begin additional treatments, as required. Some organizations teach the same order of priority using the "3Bs": Breathing, Bleeding, and Bones (or "4Bs": Breathing, Bleeding, Brain, and Bones).Training is generally provided by attending a course, typically leading to certification. Due to regular changes in procedures and protocols, based on updated clinical knowledge, and to maintain skill, attendance at regular refresher courses or re-certification is often necessary. It has been found that a high number of injuries are directly related to physical activity, and approximately 20% of all physical activity-related injuries occur during school hours<sup>(6)</sup>.

Health care at school is a team service, and this team includes a doctor, nurse, and teacher. However, because nurses work at only a few schools in Turkey, teachers must do the nurses' duties instead. In addition, in a preceding study, it was determined that only 62.5 % of the teachers who had to do these duties were educated about first aid. Therefore, both teachers and primary school children must be educated in first aid<sup>(7)</sup>. Another study conducted to measure the implementation of the first aid education by teachers and the attitudes and knowledge of their students<sup>(8)</sup>. Discovered that the students whose teachers implemented the program enthusiastically had more positive attitudes toward first aid implementation and were more knowledgeable in first aid<sup>(9)</sup>. A basic knowledge and understanding of first aid can be invaluable for both teachers and students to be able to provide emergency care in the event of an accident, possibly saving lives and minimizing injury in school settings. Administration of first aid must

not delay activation of the emergency medical services system or other medical assistance when required <sup>(10)</sup>. Training is provided typically through the American Red Cross, but may also be completed by local fire departments and the American Heart Association (AHA) in terms of CPR. The American Red Cross, however, offers the following courses: [CPR (CPR-Adult (CPR-A), CPR-Child and Infant (CPR-CI), CPR-Adult and Child (CPR-AC), CPR-Adult, Child, and Infant (CPR-ACI). First Aid (First Aid Basics, Standard First Aid, First Aid - Responding to Emergencies, Wilderness and Remote First Aid, Emergency Medical Response)<sup>(11)</sup>.

## SUBJECTS AND METHODS:

A descriptive study, a cross-sectional survey was conducted in 10 primary school to determine the prevalence of emergency incidence among primary school pupils of Kirkuk city from 1<sup>st</sup> September 2009 to the 1<sup>st</sup> April 2010. The sample for the study comprised of 156 primary school pupils selected by purposive sampling technique. After approval, the dean of nursing college Ethics approval was obtained from the Education Directorate of Kirkuk Conservatism. The data was collected between 1<sup>st</sup> October 2009 to 30<sup>th</sup> April, 2010 Structured questionnaires were used for the data collection. The researcher constructed questionnaire through the review of available literature, previous study, background for investigator and interview with nurses and physicians and used for the data collection. The content validity of the study Questionnaire is determined by the panel of 7 experts, who have more than 5 years experience in their field to investigate the content of the questionnaire about first aid. Those experts are asked to review the instruments for content, clarity, relevancy, and adequacy, some items are excluded, and some others are added after a face-to-face discussion with each expert and the instrument are considered valid after taking all the comments and recommendations in consideration. 100% of experts have agreed upon the final draft. The data of present study were analyzed through the application of Descriptive and an Inferential statistical analysis of quantitative data was initially undertaken using the Statistical Package for the Social Sciences, (SPSS Version 14.0). A descriptive statistical approach that includes Frequency, Percentage,  $\bar{x} \pm S.D$  = Arithmetic Mean ( $\bar{x}$ ) and Std. Dev. (S.D.).

## RESULTS:

**Table 1: Distribution of pupils by Demographic characteristics (n=156)**

	Item	No.	%
Age / Year	7 years	16	10.3
	8 years	32	20.5
	9	34	21.8
	10	30	19.2
	11	26	16.7
	12	18	11.5
	$\bar{x} \pm S.D$	9.461 $\pm$ 1.521	
Gender	Male	99	63.46%
	Female	57	36.54%
Father job	Free job	62	39.75
	Illiterate	12	7.69
	G. employed	58	37.18
	Non employed	24	15.38
Mother job	employed	50	32.05
	House wife	106	67.95
Student's Class	1 <sup>st</sup> class	12	7.69
	2 <sup>nd</sup> class	32	20.52
	3 <sup>rd</sup> class	30	19.23
	4 <sup>th</sup> class	34	21.79
	5 <sup>th</sup> class	26	16.67
	6 <sup>th</sup> class	22	14.10
	Total	156	100%
	$\bar{x} \pm S.D$	26.00 $\pm$ 8.099	

Table 1 shows that the most accident among the pupils at age 8 and 9 years old with 32(20.5%) ,34(21.8%) percentage respectively, the mean and standard division of total sample age group is  $9.461 \pm 1.521$  t .Most of the sample are males 99(63.46%), also the table shows that the most incidence among 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> Class with 32(20.52%), 30(19.23%), 34(21.79%) percentage respectively with mean and standard division of total sample Class group is  $26.00 \pm 8.099$  .

**Table 2: Distribution of Accident types and Location among Primary School pupils of Study Sample (n=156)**

Type of Accident	Item	No.	%
	Wounds and bleeding	73	46.79
	Toothache,	6	3.85
	Seizures	5	3.21
	Poisoning	2	1.28
	Joint dislocation	6	3.85
	Insect and animal bites	6	3.85
	Hypothermia	4	2.56
	Choking	2	1.28
	Burns	6	3.85
	Epistaxis	12	7.69
	Hematoma	8	5.13
	Coma	15	9.61
	Shortness of breathing	11	7.05
	Total	156	100%
	$\bar{x} \pm S.D$	7.142 $\pm$ 11.707	
Location of incidence	Head	21	13.46
	Face	19	12.18
	Nose	16	10.25
	Neck	4	2.57
	Arm	27	17.31
	Knee	8	5.13
	leg	12	7.69
	eye	6	3.85
	Foot	17	10.89
	General	26	16.67
	Total	156	100%
	$\bar{x} \pm S.D$	15.6 $\pm$ 8.01	

Table 2 shows that there is high percentage of wounds and bleeding 73(46.79%) denoted among pupils as a type of accident with the mean and standard division of total sample incidence group is  $7.142 \pm 11.707$ . also the table shows that the high percentage of location of incidence is denoted in the arm 27(17.31%), the mean and standard division of total sample location of incidence group is  $15.6 \pm 8.01$  .

**Table 3: Distribution of Accident among Primary School pupils of Study Sample (n=156)**

Causes	Emergency	Item	No.	%
		Collision between pupils	19	12.17
		Football playing	10	6.43
		Fall from stairs	7	4.48
		Running and Fall to ground	27	17.29
		Class door opening & closing	12	7.69
		Explosion near school	6	3.85
		Insect bite	8	5.13
		Class Furniture collision	13	8.33
		Weather	14	8.96

Table 3 shows that there is high percentage of running and fall to ground 27(17.29%) as emergency causes of accident denoted among study sample while general weakness 12(7.69%) as a diseases causes is reported within the study sample .

**Table 4: Distribution Types of Management (n=156)**

First aids	Item	No.	%	
	Warming	3	1.92	
	Bandaging	5	3.20	
	Ventilation	14	8.97	
	Pressure on wound	20	12.83	
	Covering Wounds by gauze	23	14.74	
	Pressure on nose with head holding	6	3.84	
	Down and face wash by water	10	6.43	
	Wound washing	28	17.95	
	Nothing	47	30.12	
	Total	156	100%	
Accident Referral	Send to health center	47	30.12	
	Send to home	82	52.56	
	Nothing	27	17.32	
	Total	156	100%	

Table 4 shows that theirs high parentages of first aid given to study sample as Pressure on wound 20(12.83%) , Covering Wounds by gauze 23(14.74%) and Wound washing 28 (17.95%) most of them send to home 82(52.56%) .

## DISCUSSION:

Parents totally entrust their children to the childcare schools. They rely on the teachers as their second parents in the institute for learning. They know for a fact that their educators will want no harm to come their way. While they are busy working, they fully believe that their little kids are well cared for. On the other hand, the teachers have the responsibility to keep an eye on their students. They should make sure that they are comfortable and secured within the four walls of their school. This then calls for their ability to handle even the most stressful situations. So much more, the school staff has to be equipped with the first aid training.

The studies related to the first aid showed that consciously and timely first aid applications lowered mortality rates significantly. In addition to life saving results of first aid, effective and timely first aid practices also prevent the disabilities. For these reasons whole community should be trained in a way that everybody can practice first aid.<sup>(3)</sup>

This study revealed that that the most accident were among the pupils at age 8 and 9 years old with 32(20.5%) ,34(21.8%) percentage respectively , the mean and standard division of total sample age group is  $9.461 \pm 1.521$  .Most of the sample are male 99(63.46%), also the study shows that the most incidence among 2nd, 3rd, 4th Class with 32(20.52%), 30(19.23%), 34(21.79%) percentage respectively with mean and standard division of total sample Class group is  $26.00 \pm 8.099$ .<sup>(table 1)</sup> . The study findings are consistent with the study conducted by Elizabeth etal , All children are exposed to injury as part of their everyday lives, but the burden is not evenly spread: injuries disproportionately affect some children more than others. There are great variations in injury mortality and morbidity, reflecting children's age, gender, socio-economic group, cultural or ethnic group, and location. These variations suggest there is considerable scope for improvement and intervention.<sup>(12)</sup>

High percentage of wounds and bleeding 73(46.79%) denoted among pupils as a type of incidence with the mean and standard deviation of total sample incidence group is  $7.142 \pm 11.707$  also the study shows that the high percentage of location of accident is denoted in the arm 27(17.31%),<sup>(table 2)</sup>.

It has been found that a high number of injuries are directly related to physical activity, and approximately 20% of all physical activity-related injuries occur during school hours<sup>7</sup>. During the school year a total of 119 injuries were reported by 104 children, resulting in an overall injury incidence density (ID) of 0.48 per 1,000 hours of exposure (95%CI: 0.38-0.57). Injury ID was lowest for leisure time physical activity, followed by physical education (PE) and sports respectively.<sup>(13)</sup>

The study denoted that there is high percentage of running and fall to ground 27(17.29%) as emergency causes of incidence among study sample while general weakness 12(7.69%) as a diseases causes is reported within the study sample<sup>(table 3)</sup>.

Theirs high parentages of first aid given to study sample as Pressure on wound 20(12.83%) , Covering Wounds by gauze 23(14.74%) and Wound washing 28 (17.95%) most of them send to home 82(52.56%)<sup>(table 4)</sup>

Health care at school is a team service, and this team includes a doctor, nurse, and teacher. However, because nurses work at only a few schools in Turkey, teachers must do the nurses' duties instead. In addition, in a preceding study, it was determined that only 62.5 % of the teachers who had to do these duties were educated about first aid<sup>7</sup>. Both teachers and primary school children must be educated in first aid<sup>(13)</sup>. Of all injuries, 40% required medical treatment and 14% resulted in one or more days of absence from regular school activities. In general for girls a higher injury incidence density (ID) was reported than for boys, mainly caused by a twofold higher risk during leisure time physical activities<sup>(14)</sup>. Accidents are silent epidemic; they are among the top four most frequent causes of death at any age. Children experiencing accidents is nothing new; in today's sophisticated societies, accidents are predominant amongst young children. First aid is the initial treatment given to the casualty of suddenly sick or injured. Knowledge on first aid is used to manage minor injuries at home, school and work place<sup>(15)</sup> Suggest that 4-5-year-old children are able to learn and apply basic first aid. Tested two months after course completion 70% of the children assessed consciousness correctly and knew the correct emergency telephone number; 60% showed correct assessment of breathing and 40% of the participants accomplished the other tasks (giving correct emergency call information, knowledge of correct recovery position, correct airway management) correctly. Many of the children showed their capabilities to do so in a first aid scenario. In an informal group testing most of these children could perform first aid measures, too. Teaching first aid also lead to more active helping behavior and increased empathy in the children.<sup>(16)</sup>

The First Aider should have a positive attitude and be prepared to help the casualty. The First Aider should also have adequate knowledge and skills about what he is doing, and be encouraging and reassuring to the victims.

## CONCLUSIONS:

1. Most accident among the pupils within age 8 and 9 years old, at 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup> Class.
2. Majority of them had wounds and bleeding due to of running and fall to ground and Collision between pupils.
3. Most of them send to home without any first aid.
4. Deficit of knowledge of first aid among head teacher, teachers and pupils

## RECOMMENDATIONS:

1. The findings of this study indicated the need for educating about first aid practices .
2. Both pupils and teachers must be motivated to adopt special training, safety measures and practice to promote first aid.

3. Farther studies with large sample size to assess pupils and teachers knowledges about first aid.

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