

# KNOWLEDGE AND ATTITUDE OF PRIMARY SCHOOL TEACHERS REGARDING CHOKING'S FIRST AID IN ERBIL CITY- KURDISTAN REGION - IRAQ

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## ABSTRACT

To provide urgent first aid correct knowledge is required along with appropriate attitude that will increase the chance of saving the victims. The study aimed to evaluate the teachers' knowledge and attitudes toward first aid of choking. A cross sectional descriptive design study was conducted in ten primary schools, which were randomly selected from Erbil city, during the period 29<sup>th</sup> of December, 2014; to 3<sup>rd</sup> of February, 2015. The study recruited 113 teachers. A special questionnaire was constructed, which consisted of three parts. Chi square test of association (Fisher's test) was used to compare proportions. A  $p$  value  $\leq 0.05$  was considered as statistically significant. The study found that there were incorrect knowledge among study samples as most of teachers had moderate to low level of knowledge with significant association between years of experience and level of knowledge. Moreover teacher's attitude was significantly associated with their age, marital status, educational background and levels of experience. The study concluded that the most of teachers had low to poor knowledge regarding first aid, and their attitude toward first aid was good. A special training course to improve teacher's knowledge and attitude regarding choking and first aid has been recommended.

**Keywords :** *Knowledge and Attitude of Primary School Teacher, Choking's first aid, Primary school Teacher*

## INTRODUCTION

Children are exposed to many hazards and risks as they grow and develop into adulthood, and unintentional injuries are the leading cause of death and disability for children and teenagers in the United States (US) (AAP, 2010). The physical, social, cultural, political and economic environments in which they live can significantly increase or decrease their injury risks (CDCP, 2012). Due to their small size, growth and development, inexperience, and natural curiosity, children and teenagers are particularly vulnerable to injury (Frieden *et al.*, 2012). In this manner choking occurs among children when foreign bodies like foods or small objects block the airway and prevents oxygen from getting to the lungs and the brain. Brain damage or

even death may occur if brain remains without oxygen for more than four minutes. Many children die from choking each year (AAP, 1998; NSC, 2015)

Unintentional injuries occurring in the childhood are the leading cause of death among children of age group 1 to 19 years, representing nearly 40% of all deaths in this age group. Each year, an estimated 8.7 million children and teens from birth to age 19 years are treated in the emergency departments (EDs) for unintentional injuries and more than 9,000 die as a result of their injuries—one every hour (Frieden *et al.*, 2012; Mark *et al.*, 2008). Thus accidents is a more precise term that refers to any injury that results from unintended exposure to physical agents including heat, mechanical energy, chemicals or electricity (Abd El-

Aty, 2005). Apart from that most deaths of children in the age group of 5–19 years can also occur due to traffic injuries, as occupants, pedestrians, bicyclists, or motorcyclists (Frieden *et al.*, 2012). Choking is hazardous for all ages. It is the fourth leading cause of unintentional injury or deaths in the year 2011, followed by poisonings, motor vehicle crashes and falls (NSC, 2015). The majority of choking-related cases to incidents of injury and death among children are associated with food, coins and toys. Certain characteristics, including shape, size, and consistency, of certain toys and foods increase their potential to cause choking among children. Childhood choking hazards should be addressed through comprehensive and coordinated prevention activities (AAP, 2010).

During school hours, school teachers are actually the first-respondent in cases of disasters or emergencies. The main choking's signs and symptoms include clutching at the throat, coughing, wheezing and a red face. Procedures are different for adults and children (NSC, 2015). Since children at the age of primary school teachers (PST) are liable for accidents and lack knowledge and are incapable of good judgment when emergencies occur or even in the case of simpler incidences (Werner *et al.*, 2014). Al-Samghan *et al.*, (2015) stated that Teachers are the main caregivers and the first line of protection for school children. Their role complements that of parents. Therefore training the teachers to deal with accidents is of obvious importance since some simple steps of first aid can prevent dangerous consequences caused due to lack of alertness or acting wrongly (Werner *et al.*, 2014). In the developed countries, people are well informed to call specific numbers; however the situation is different in many developing countries like Iraq, awareness among the community members is not appropriate. As children spend considerable time at school when they are not with their families, situations requiring first aid are often encountered by them, so teachers here play a vital role (Mobarak *et al.*, 2015).

As per researchers' knowledge, no previous study had been carried out in Erbil related to assessment of knowledge and attitudes of Primary School Teachers (PST) regarding first aids.

## RESEARCH METHODOLOGY

### Study design and setting

A cross sectional study was carried out at ten primary schools in Erbil city. Erbil city is divided into five geographic areas; two primary schools in each quarter were randomly selected. This city is a capital of Kurdistan region- Iraq; in the northern of Iraq.

### Ethical Approval

The study has been approved by scientific and ethical committee in the college of nursing/ Hawler Medical University. Official permission was obtained from directorate of teaching in Erbil city and all primary school principals. Verbal agreement was obtained from all participants. The researchers kept the confidentiality and anonymity of the samples. The questionnaire does not include any personal information such as mobile number, names. All the primary school teachers from the selected school were asked to participate in the study as a sample and population for the study. The study was conducted during the period of 29<sup>th</sup> of December, 2014 to 3<sup>rd</sup> of February, 2015.

### Questionnaire design

Self report method was used with a special questionnaire which was designed by the researchers, after reviewing related literatures and articles. A special form of questionnaire has been built. The questionnaire was composed of three parts; part one related to socio-demographic characteristics of the teachers (age, gender, marital status, educational background, levels of experiences). Part two involved general information (Knowledge) related to first aid of choking; which was composed of twelve multiple choice questions. The teachers were asked to answer the questions in the correct manner and the scores were given as follow; (1 for correct answer and 0 for incorrect answer). The total score was between 0 to 24 scores, which were divided into three categories: low (0-8), medium (9-16), and high knowledge (17-24). Part three included seven questions on the teacher's attitude on first aid, using three likert scale which is as follow; 1 score for agree, 2 for do not agree and 3 for not sure. So the total scores was between 7 to 21 scores which was divided into three categories (7–11) bad attitude, (12-16) low attitude, and (17–21) good attitude. The validity of the study instrument was

initially assessed through the panel of 7 experts of specialty related to the field of the present study. The alpha correlation coefficient was = 0.89.

**Data Collection**

Ten primary schools in Erbil city was involved in the study, the researchers included 113 PST (47 male and 66 female) in the study as follow; 13 PST in Karnaval and 10 teachers in Renas primary school, which are located between Mosul and Karachogh main road, 10 PST in Dana and 12 PST in Khwakurk primary school, which are located between Karachugh and Kirkuk main road, 12 PST in Nali and 10 PST in Tabayee primary school; which are located between Kirkuk and Kesnezan main road, 13 PST in Hawliri nwi and 9 PST in Kudo primary school, which are located between Kesnezan and Shaqlawa main road, and finally 12 PST in Hakari and 14 PST in Lawan primary school which are located between Shorsh street and Mosul main road. The questionnaires were distributed and collected by the researchers. The teachers were given fifteen minutes to complete the questionnaire according to their space of time. It was expected that teachers would complete the questionnaire without further help such as access to textbooks, internet or using mobile and other information sources.

**Data Analysis**

The Statistical Package for Social Sciences (SPSS, version 20) was used for data entry and analysis. Chi square test of association was used to find out the association between variables. Fisher's exact test was used (instead of Chi square test) when the expected count was more than 20% of the cells. The *p* value ≤ 0.05 was considered as statistically significant for association between variables.

**RESULTS**

Current results of the study showed that the highest percentage 38.9% of study sample was aged between 34 to 43 years. The proportions of females were 58.4% of study sample, more than two third (76.1%) of teachers were married, the highest percentage (74.3%) of teachers were institutional graduate, and more than half (51.3%) of them have teaching experiences between 11 to 20 years Table 1.

**Table 1: Socio-demographic characteristics of the study sample**

Items	N0. = 113	Percentage
<b>Age by years</b>		
24-33	34	30.1
34-43	44	38.9
44-53	21	18.6
54+	14	12.4
<b>Gender</b>		
Male	47	41.6
Female	66	58.4
<b>Marital status</b>		
Married	86	76.1
Single	27	23.9
<b>Educational background</b>		
College	21	18.6
Institute	84	74.3
Others	8	7.1
<b>Experience</b>		
1-10	38	33.6
11-20	58	51.3
20+	17	15.0

The result revealed that 41.6% of study sample answered that they have general information related to first aid, more than two third (73.5%) of sample were provided training course related to first aid. The table showed that more than half (57.5%) of study sample responded that there is no first aid team in the school, more than two third (68.1%) of sample said that the choking had occurred in presence of teachers. Only 34.5% of sample mentioned that the choking occurred in front of them inside the school, and 60.2% of teachers answered that the first aid was given by them immediately (Table 2).

**Table 2: Level of Knowledge of the study sample**

	Knowledge item	Correct F. (%)	Falls F. (%)
1.	Choking is an obstruction of airway.	74 (65.5)	39 (34.5)
2.	Obstruction of airway can causes death?	53 (46.9)	60 (53.1)
3.	Items can cause chocking.	40 (35.4)	73 (64.6)
4.	The ways can by prevent child from chocking.	45 (39.8)	68 (60.2)

5.	The main symptom of choking.	52 (46.01)	61 (53.99)
6.	The partially symptoms of obstructed airway.	84 (74.3)	29 (25.7)
7.	The completely symptoms of obstructed of airway.	77 (68.1)	36 (31.9)
8.	The golden minutes.	20 (17.7)	93 (82.3)
9.	Action when child is unable to speak and cough.	43 (38.1)	70 (61.9)
10.	Provide first aid in the first minutes for choiced.	13 (11.5)	100 (88.5)
11.	Area you should take when you provide the first aid action.	32 (28.3)	81(71.7)
12.	Correct procedure of chest compression.	60 (53.1)	53 (46.9)

The highest percentage (65.5%) of the study sample answered that the choking is an obstruction of airway, around half (53.1%) of teachers answered that choking didn't lead to death in all cases. Nearly two third (64.6%) of teachers were unaware of the factors that may lead to choking, around two third (60.2%) of the respondents didn't knew the ways of preventing choking, half (53.99%) of samples group answered incorrectly regarding the symptoms of choking, while two third (74.3% and 68.1%) of samples had correct knowledge regarding partial and complete symptoms of choking, majority (82.3%) of teachers didn't knew the golden minutes for providing first aid, two third (61.9%) didn't knew the first symptoms that occur during choking, majority (88.5%) of responded didn't knew the action to be taken in the first minutes, most (71.7) of the teachers didn't knew the correct area for the providing first aid. But more than half (53.1%) of the respondents gave correct answers regarding the procedure for applying chest compression (Table 2).

**Table 3: Attitudes of study sample regarding choking.**

Attitudes Questions	Agree		Don't agree		Don't sure	
	F	%	F	%	F	%
1. Choking occurs mostly between ages 1-18 years	74	65.5	9	8.0	30	26.5
2. If the first aid didn't provide within first 4 minutes may lead to death.	70	61.9	12	10.6	31	27.4

3. You must don't provide first aid without knowledge	82	72.6	16	14.2	15	13.3
4. First Aid isn't only done at the hospital.	100	88.5	11	9.7	2	1.8
5. Need another person for doing for help.	88	77.9	15	13.3	10	8.8
6. The First Aid can provide out of the hospital.	89	78.8	17	15.0	7	6.2
7. Call first aid team (or emergency team No. 122) before you doing first aid	77	68.1	30	26.5	6	5.3

The current study found that 65.5% of study samples agreed that choking mostly occur between the age 1-19 years, less than two third (61.9%) agreed that choking without first aid can causes death within 4 minutes, two third of samples agreed that first aid cannot be provided without knowledge, majority (88.5%) agreed that teachers can provide first aid outside the hospital, two third (77.9%) reported that to provide first aid another person's help is needed, most (78.8%) of teachers stated that beside providing first aid to the student, the victim should be transferred to hospital rapidly, and 68.1% stated that calling emergency number 122 should be followed before giving first aid (Table 3).

**Table 4: Association between socio-demographic characteristics and knowledge of the study sample**

Variables	Information scores ( Knowledge)						P-value
	Low		Medium		High		
	F	%	F	%	F	%	
<b>Age categories</b>							
24-33	12	33.3	19	27.9	3	33.3	0.546
34-43	13	36.1	27	39.7	4	44.5	
44-53	5	13.9	14	20.6	2	22.2	
54+	6	16.7	8	11.8	0	0.0	
<b>Gender</b>							
Male	18	50	25	36.8	4	44.4	0.421
Female	18	50	43	63.2	5	55.6	
<b>Marital status</b>							
Married	29	80.6	51	75.0	6	66.7	0.644
Single	7	19.5	17	25.0	3	33.3	
<b>Educational background</b>							0.546
College	8	22.2	11	16.2	2	22.2	0.0001
Institute	24	66.7	53	77.9	7	77.8	
Other (specify)	4	11.1	4	5.9	0	0.0	
<b>Levels of experience</b>							
1-10 years		80.6	6	8.8	3	33.3	0.0001
11-20 years	3	8.3	54	79.4	0	.0	
21+	4	11.1	8	11.8	6	66.7	

The study found that there were no significant association between socio-demographic characteristics such as age, gender, marital status, education level and level of knowledge. Moreover there was significant association between years of experiences and level of education with a  $p$ -value = 0.001 (Table 4).

**Table 5: Association between socio-demographic characteristics and attitudes of study sample regarding choking**

Attitudes	Agree		Don't agree		Don't' sure		P-value
<b>Chocking occurs mostly between ages 1-18</b>							
Age categories							0.004
24-33 years	15	20.2	4	44.5	15	50.0	
34-43	29	39.2	2	22.2	13	43.4	
44-53	19	25.7	1	11.1	1	3.3	
54+	11	14.9	2	22.2	1	3.3	
<b>First aid isn't done within 4 minutes may lead to death of the child?</b>							
Age categories							0.049
24-33 years	14	20	8	66.7	12	38.7	
34-43	31	44.3	2	16.7	11	35.5	
44-53	14	20.0	1	8.3	6	19.4	
54+	11	15.7	1	8.3	2	6.4	
<b>You must not do first aid without knowledge</b>							
Marital status							0.045
Married	63	76.8	9	56.2	14	93.3	
Single	19	23.2	7	43.8	1	6.7	
<b>You must not do first aid without knowledge</b>							
Level of education							0.046
College	15	18.3	5	31.3	1	6.6	
Institute	64	78.0	10	62.5	10	66.7	
Others	3	3.7	1	6.2	4	26.7	
<b>Need another person for help.</b>							
Level of education							0.039
College	13	14.8	3	20.0	5	50.0	
Institute	70	79.5	9	60.0	5	5.0	
Others	5	5.7	3	20.0	0	0	
<b>Call first aid team 122 be for you do First Aid</b>							
Level of education							0.014
College	17	22.1	1	3.3	3	50	
Institute	53	68.8	28	33.4	3	50	
Others	7	9.1	1	3.3	0	.0	
<b>Chocking occurs mostly between ages 1-18</b>							
Experience							0.045
1-10 years	23	31.1	6	66.7	9	30.0	
11-20 years	36	48.6	3	33.3	19	63.3	
21 +	15	20.3	0	0.0	2	6.7	

The present study revealed that there were significant association between socio-demographic characteristics such as age, marital status, level of education, and level of experiences and questions related to attitude at  $p$ -value 0.004, 0.049, 0.045, 0.046, 0.039, 0.014, and 0.045 respectively (Table 5).

## DISCUSSION

In the present study it was found that most of teachers age were between 43-43 years old, female, married, with high diploma. More than half (51.3%) of them have had 11 to 20 years of teaching experiences. In another study in Saudi Arabia including 187 teachers it was found that teachers aged between 25 and 58 years with a mean of  $41.5 \pm 7.4$  years, 84.5% of teachers had bachelor or higher degree, 49.2% had more than 20 years of teaching experiences. (AL-Samghan *et al*, 2015). Abdella *et al*, (2015) found that the mean age of teachers were  $25.5 \pm 3.5$  years, and 66% had bachelor degree in education. The teacher's age in Nigera ranged between 17 and 55 yeras with a median age of 26 years (Owolab *et al*, 2014).

The current study found that most of teachers had answered nine questions wrongly in 12 questions regarding knowledge of choking. In other studies it was found that half of the teachers (52.4%) had satisfactory knowledge about bleeding, and 31% had satisfactory knowledge about poisoning (AL-Samghan *et al*, 2015). Most (77%) of teachers in Baghdad had poor knowledge regarding providing first aid for different accidents (Al-Robaiaay, 2013). Knowledge about first aid is not satisfactory among teachers of primary schools for boys in Abha, Saudi Arabia kingdom (KSA) (Al-Samghan *et al*, 2015).

This study found that there was no significant association between socio-demographic characteristics such as age, gender, marital status, education level and level o knowledge. Moreover the study also indicated significant association between years of experiences and level of education.

Young children are more likely than adults or older children to suffer choking because their airways are narrower, their chewing and swallowing coordination is not fully developed, and they often put non-food items in their mouths (Frieden *et al*, 2012). Al-Robaiaay (2103) found no significant association between socio-demographic characteristics and the knowledge of the teachers ( $p$ -value=0.41). Abdella *et al*, (2015) Examining the relation between teachers' socio demographic data and their knowledge regarding pediatric first aid, a statistically significant association was found with the years of teachers experiences ( $p < 0.050$ ).

Results of present study indicated that less than half of PST knew the general information regarding first aid. Results of many studies conducted in different countries indicated that the knowledge of teachers was poor regarding first aid and knowledge need to be improved through training courses (Al-Robaiyaay, 2013; Al-Samghan *et al.*, 2015). Priyangika and Hettiarachchi, (2015) emphasized that teachers in Sri Lanak have had poor knowledge concerning providing first aid at the school. In Iraq there are no physicians and nurses working in schools.

Therefore it is necessary for teachers to be proficient in principles of first aid to decrease morbidity and mortality from injuries and accidents among students when these incidents occur in the school. Rapid intervention in emergency problems and administration of first aid in correct manner increases the chances of prevention of deaths (Al-Robaiyaay, 2013). Trained persons can recognize emergency cases that occur in different places and give basic first aid until professional helper arrives (YCHR, 2015). The present study indicated that less than half of the study sample answered that there was no first aid team present inside their schools.

In a study done by Al-Robaiyaay, (2013) involving 100 teachers' concerning general first aid such as bleeding, choking, fracture and others, found that the score was 38 (the maximum score is 100), only 4% had good knowledge, 19% had fair knowledge and 77% had poor knowledge. Results of present study indicated that some teachers answered incorrectly about some questions related to choking' knowledge and its first aid (like choking causes, symptoms, and methods of first aid providing).

According to study conducted in Shanghai (China) by Li *et al.*, (2012) among 1067 teachers, indicated that there was lack of knowledge regarding first aid of choking and coughing. Results of Başer *et al.* (2007) study indicated that teachers did not have enough knowledge about first aid. About 66.7% of teachers with 21 years of experience have high level of

knowledge and 79.4% of teachers with 11 to 20 years of experience obtained medium level of knowledge. Study of Al-Robaiyaay (2013) revealed that there was no significant differences between numbers of years spend in teaching and the knowledge gained regarding first aid.

Present study indicated that the teachers' attitudes about first aid of choking were good in general. There was significant association between PST socio-demographic characteristics and level of attitudes, such as age, level of education, marital status, and experiences.

There was positive attitude among PSTs in Sri Lanka concerning first aid (Priyangika and Hettiarachchi, 2015). Present study indicated that there were statistically significant differences between some socio-demographic variables of study group along with their attitudes. Results of two studies carried out in Turkey concluded that most of the teachers do not have correct attitudes about first aid in general (Başher *et al.*, 2007).

## CONCLUSION

Thus the study concluded that there was incorrect knowledge related to choking first aid. There was statistically significantly difference between teacher experience and knowledge. There were statistically significant differences between some socio-demographic data like age, marital status educational background, and levels of teaching experience and attitudes of teachers regarding choking and consequently its first aid procedures.

## RECOMMENDATION

The study recommended that there is necessity of improving teacher's knowledge and also towards attitude regarding choking. This can be achieved through health education programmes. The mass media and teaching directorate should provide comprehensive program regarding choking at the beginning of new academic year.

## REFERENCES

- Abd El-Aty, N, S. Moftah F, M. Ibrahim H, D, F. & Hassanen R, H. (2005). Assessment of knowledge and practice of mothers toward home accidents among children under six years in rural areas in Assiut governorate. Assiut University Bulletin For Environmental Researches. 8(2), pp 11-30.

- Abdella, A. N, H., Abu-Elenen, N. R., Elkazaz, R. H. & Moussa, M.(2015). Intervention program for the kindergarten teachers about pediatrics first aids. *American Journal of Research Communication*. 3(5), pp 178-94.
- Al-Robaiaay Y. K. H (2013). Knowledge of Primary School Teachers Regarding First Aid In Baghdad Al-Rusafa. *Al-Kindy College Medical Journal*. 9(1), 54-60.
- Al-Samghan, A, S . and Al-Shahrani, F (2015). Primary School Teachers' Knowledge about First-Aid. *The Medical Journal of Cairo University*. 83(1), pp 541-547.
- American Academy of Pediatrics (2010). Prevention of Choking Among Children. Committee on Injury, Violence, and Poison Prevention. *Pediatrics*. 125(3), pp 601-610.
- American Academy of Pediatrics (AAP) (1998). Choking prevention and first aid for infants and children. Guideline for parents. Available at: <http://www.aap.org>
- Baser, M., Çoban, S., Taşci, S., Sungur, G. & Bayat, M (2007). Evaluating First-aid Knowledge and Attitudes of a Sample of Turkish Primary School Teachers. *Elsevier Journal*. 33(5), pp 428–32.
- Centers for Disease Control and Prevention (CDCP) (2012). Protects the ones you love: child injuries are preventable. Clifton Road Atlanta. Available at: <http://www.cdc.gov>.
- Frieden, T. R., Degutis, L. C. & Baldwin, G. T.(2012). National action plan for child injury prevention; An Agenda to Prevent Injuries and Promote the Safety of Children and Adolescents in the United States. *National Action Plan for Child Injury Prevention*; 1-92.
- Li, F. Jiang, F. Jin, X. Qiu, Y. & Shen, X. (2012). Pediatric first aid knowledge and attitudes among staff in the preschools of Shanghai, China. *BMC Pediatrics*. 12(1), pp 121.
- Mercurio, M. R., Maxwell, M. A., Mears, B. J., Ross, L. F., Silber, T. J.(2008). Policy Statement- Prevention of Choking Among Children. *Detect of health for all children. American Academy of Pediatrics: Pediatrics in Review*. 29(3), pp 75-85.
- Mobarak, A.S., Afifi, R.M. and Qulali, A. (2015) First Aid Knowledge and Attitude of Secondary School Students in Saudi Arabia. *Health*, 7, pp 1366-1378.
- National Safety Council (NSC) (2015). Choking Prevention and Safety Tips. National Safety Council Mission. Available from: <http://www.nsc.org>.
- Owolabi, L. F., Shehu, N. M. & Owolabi, S. D. (2014). Epilepsy and Education in developing countries: a survey of school teachers' knowledge about epilepsy and their attitude towards students with epilepsy in Northwestern Nigeria. *Pan African Medical Journal*. 18, pp 255
- Priyangika, K. G. G. & Hettiarachchi, M.(2015). Knowledge, Attitudes and Practices on First Aid Measures among Senior School Prefects in Galle Education Division, Sri Lanka. *Proceedings of 8th International Research Conference, KDU*, pp 36-41.
- Werner, D., Thuman, C. & Maxwell, J (2010). *First Aid Made Easy By Nigel Barraclough SR Para CertEd, Where There is No Doctor a village health care handbook*, Eleventh printing. Available at: <http://ctxh.hcmussh.edu>.
- Youth Central, Health and Relationship ( YCHR) (2015). *First Aid*. State Government of Victoria. Available at: <http://www.youthcentral.vic.gov.au/health-relationships/first-aid>.