First-Aid Knowledge and Practice: Sample from Primary-schools' Teachers in Baghdad

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Abstract:

Background: First-Aid is the assessments and interventions that can be performed by medic (or by the injured person) immediately with minimal or no medical equipment. Training is necessary to equip the First-Aid provider with the knowledge, skill and confidence to attend to an emergency.

Objectives:-to assess the knowledge and practices of primary school teachers in Hay Al-Salaam Al-Sakani about the First-Aid.

Method: A Cross section study with analytic element, conducted in Baghdad during the period from February - August 2018. Eight schools were choose randomly, 145 teachers who were work in choosing schools and accept to involve in this study. Questionnaire structured depending on The Iraqi-Red-Crescent guideline for First-Aid, & American college of emergency physician's First-Aid manual.

Result: one hundred and forty five teachers involved in this study, 44.1% aged 40-49y, most of them females (93.8%), graduated institute (63.4%), married (77.9%), had one-three child, (65.5%), had 11-18y teaching experience (30.3%). Only 30.3% applied First-Aid previously, most of the teachers (71%) do not involved in First-Aid training courses. Teachers age had statistically significant with First-Aid general-knowledge, knowledge about poisoning, fractures and burn. Their educational level had statistically significant with knowledge about coma, epilepsy, fractures, mouth injuries and burn.

Conclusion: First-Aid knowledge in general and in each type of school accident was good except knowledge in asphyxia and electric shock were fair knowledge; Most of them not involved in First- Aid training courses, or did it.

Key words: First-Aid**,** primary School, teachers, injury, Baghdad.

Introduction

Professionals working in the school environment, whether they are teachers or employees, should receive formal and ongoing training to deal with emergencies in the school environment, since school children and adolescents are more vulnerable to emergency situations due to developmental, physical and behavioral characteristics, including narrower airways, lower body mass and thinner skin, more susceptible to injuries. [1, 2]

Children and adolescents spend most of their day at school today, where they are liable to suffer accidental injuries due to the large number of group activities.[3] According to national First-Aid science advisory board, First-Aid should be learned by every person, for this it is necessary, that First- Aid training and education should be provided to everyone or universal. [4, 5]

In childhood, school life plays an important role for everyone. It has a great or direct impact on children's physical and mental development. [6]

The children are more prone to get injuries and accidents especially when they are in school going age because at that time they are still maturing physically and mentally.[7] Injuries are a relatively neglected health issue,[8] around 4.7 million people die annually as a result of intentional & unintentional injuries which together account for 8.5% of all deaths globally.[9,10] In 2010, an estimated 11% of the total cause of disability- adjusted life years (DALYs) was attributed to injuries with over 90% of the DALYs lost occurring in low & middle-income countries (LMICs). [11, 12]

Non-fatal injuries occur more often than fatal injuries and have a significant impact on disability, productivity, cost of treatment & rehabilitation. [13-15] It has been forecast that the magnitude of both non-fatal and fatal injuries will decline in high-income countries, but will continue to be a significant cause of death-injury event by trained clinicians and first responders, resulting in better outcomes for injured victims. [8-12] First-Aid should be provided immediately after the event. [16]

Objective:

-To assess the knowledge and practices of primary school teachers of Hay Al-Salaam Al-Sakani about the First-Aid.

Method

Study design

A Cross sectional study with analytic element, conducted in Baghdad during the period February - August 2018.

Sampling technique

There are 23 primary public schools in hay Al-Salaam Al- Sakany, by random technique eight schools were choosing to involve in the study,

Inclusion criteria

all the teachers who were work in the eight choosing schools and accept to participant in this study.

Study tools:

We use a structure questionnaire depending on The Iraqi Red Crescent guideline for First-Aid,

and American college of emergency physician's First-Aid manual 5th edition. It's consisted from first part: the teacher demographic characteristics, second part: information about the First-Aid training course, participant's First-Aid practice, First-Aid box and its contents. Third part consists from (injuries, bleeding, epistaxis, electric shock, Asphyxia, poisoning & chemicals, coma/epilepsy, fractures/teeth, and burns). Forth part about the source of information, need of training courses and their preferable place and any suggestions. Pilot study was done and Expert's opinion taken in consideration (2 community physicians' experts, 2 family physician, and six Red-Cross-First-Aid trainings).

Results:

In the current study the distribution of primary school teachers according to their aged 40-49y is 64(44.1%), females 136(93.8%), education level most of them institute 92(63.4%), married 113(77.9%), had 1-3 child 95(65.5%), teaching only 127(87.6%), and 44(30.3%) had 11-18y experience as shown in table (1).

As it shown in table 2 below, only 44 (30.3%) applied First-Aid previously 30 (77.27%) of them applied once time and 17 (38.63%) applied this First-Aid at school.

As shown in figure 1 most of the teachers (104) do not involved in First-Aid training courses and only 23 teachers involved and 18 teachers did not remember if they were involved in such activity.

The distribution of primary school teachers according to their knowledge in general and in each type of injures can be happened in schools, as shown in table (3) was 83.4% had good knowledge about First-Aid in general & (77.2%, 51.0%, 58.6%, 77.2, 57.2%, 69.7, 75.9%, 79.3%, 53.1%) about injures, epistaxis, coma and epilepsy, burn, electric shock, asphyxia, poisoning, , fracture, and mouth injury respectively, as shown in table 3.

In current study the distribution of the teachers according to their information source is shown in table 4, more than 33.8% of them, their information source from college and institution of years. Table 5 shows the relation between the teachers' age and their knowledge in general and in each type of injures can be happened in schools, this relation was statistically significant. First-Aid general knowledge (P=0.004), poisoning knowledge (P=0.009), fractures (P=0.032), burn (P=0.012), overall knowledge (P=0.002) while in others not significant. The study revealed that there were relation between the teachers' educational level and their knowledge in general and each type of school's injuries, this relation was statistically significant in knowledge about coma and epilepsy, fractures, mouth injuries and burn (P=0.031, P=0.003, P=0.008 and P=0.023) respectively, as found in table (6). Table 7 shows the relation between the teacher's experience and their applied First-Aid previously which was statistically significant (P=0.01). Seventy-five percent of the teachers prefer to have the training courses in their schools as shown in the fig. (2).

Coding technique: we give 3marks for each correct answer, 2 marks for "I m not sure", and one marks for each incorrect answer,

type	Coding of knowledge
First-Aid in general = Q11	good (33-26), fair(25-18), poor=(17-11)
Injuries = Q10	good (30-23), fair =(22-17), poor =(16-10)
Epistaxis = Q6	good =(18-15), fair =(14-10), poor =(10-6)
Electric shock = Q9	Good =(27-21), fair =(20-14), poor= (13-9)
Asphyxia = Q8	Good =(24-19), fair =(18-13), poor =(12-8)
poisoning & chemicals = Q5	Good =(15-12), fair =(11-9), poor =(8-5)
Coma & epilepsy = Q8	Good =(24-19),fair =(18-13), poor =(12-8)
Fractures = Q9	Good = (27-21), fair =(20-14), poor =(13-9)
Teeth = Q6	Good = (18-15), fair =(14-10), poor =(10-6)
Burns = Q9	Good =(27-21), fair =(20-14), poor (13- 9)
Overall =Q81	Good =(243-189), fair=(188-135), poor =(134-81)

Table1: Distribution of the teachers according to their demographic features:

		Frequency(N= 145)	Percent
Age	20-29 yr	4	2.8
	30-39 yr	43	29.7
	40-49 yr	**64**	**44.1**
	50 yrs and above	34	23.4
gender	Male	9	6.2
	Female	**136**	**93.8**
education	**institute**	**92**	**63.4**
	teachers school	21	14.5
	university study	27	18.6
	high education	5	3.4
Marital status	single	18	12.4
	married	**113**	**77.9**
	devoice/ separated	8	5.5
	widow	6	4.1
Children no.	no child	25	17.2
	1-3 child	**95**	**65.5**
	4-6 child	21	14.5
	7 child and above	4	2.8
job	manager	9	6.2
	Associate Director	8	5.5
	guide	1	0.7
	teaching	**127**	**87.6**
experience years	3-10	26	17.9
	11-18	**44**	**30.3**
	19-26	**42**	**29.0**
	27-34	26	17.9
	35-42	7	4.8

Table 2: Distribution of the teachers according to their applying First-Aid, how often, and where:

		F		%
Applied First-Aid previously	N0	101	93	64.1
	Don't remember		8	5.5
	YES	44		30.3
Total		145		100.0%
numbers of First-Aid	once	30		77.27
	two and more	14		31.18
Total		44		100.0
places of First-Aid	House	22		50.00
	School	17		38.63
	Street	5		11.36
Total		44		100.0

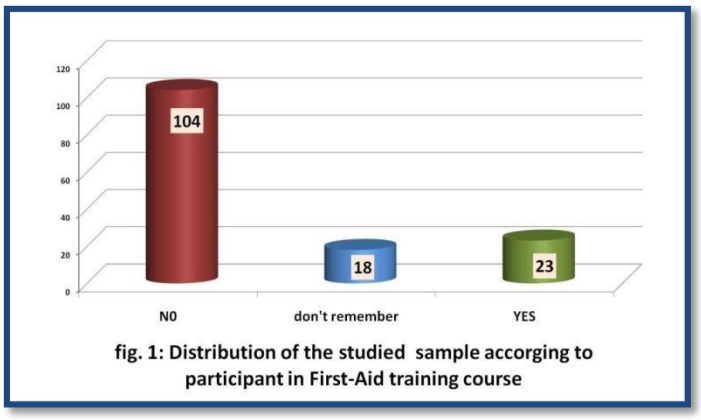

fig. 1: Distribution of the studied sample accorging to participant in First-Aid training course

Table 3: Distribution of the teachers according to their knowledge in general and in each type of injures can be happened in schools:

		f	%			f	%
First-Aid general knowledge	good	**121**	**83.4**	electric shock	good	62	42.8
	fair	24	16.6		fair	**83**	**57.2**
injures	good	**112**	**77.2**	asphyxia	good	38	26.2
	fair	32	22.1		fair	**101**	**69.7**
	poor	1	.7		poor	6	4.1
epistaxis	good	**74**	**51.0**	poisoning	good	**110**	**75.9**
	fair	69	47.6		fair	26	17.9
	poor	2	1.4		poor	9	6.2
coma & epilepsy	good	**85**	**58.6**	fracture	good	**115**	**79.3**
	fair	58	40.0		fair	28	19.3
	poor	2	1.4		poor	2	1.4
burn	good	**112**	**77.2**	mouth injury	good	**77**	**53.1**
	fair	31	21.4		fair	66	45.5
	poor	2	1.4		poor	2	1.4
Overall knowledge	good	121	83.44				
	fair	24	12.56				

Table 4: Distribution of the teachers according to their information's' source:

	F	%
college & institutional years	49	33.8
educational ministry symposium and training courses	34	23.4
internet	25	17.2
Television	12	8.3
Colleagues & friends	10	7.0
Mixed sources	15	10.3

Table 5: Relation between the teacher's age and their knowledge in general and in each type of injures can be happened in schools:

		age				total	p value
		20-29	30-39	40-49	≥50		
First-Aid general knowledge	good	1	33	56	31	121	**0.004**
	fair	3	10	8	3	24	
injures	good	1	32	52	27	112	0.178
	fair	3	11	11	7	32	
	poor	**0**	**0**	**1**	**0**	**1**	
epistaxis	good	2	21	31	20	74	0.783
	fair	2	21	33	13	69	
	poor	**0**	**1**	**0**	**1**	**2**	
asphyxia	good	0	12	17	9	38	0.917
	fair	4	29	44	24	101	
	poor	**0**	**2**	**3**	**1**	**6**	
poisoning	good	1	30	49	30	110	**0.009**
	fair	3	7	12	4	26	
	poor	**0**	**6**	**3**	**0**	**9**	
coma & epilepsy	good	0	23	41	21	85	0.110
	fair	4	20	21	13	58	
	poor	**0**	**0**	**2**	**0**	2	
fracture	good	1	30	56	28	115	**0.032**
	fair	3	12	7	6	28	
	poor	**0**	**1**	**1**	**0**	**2**	
Mouth injures & fracture	good	2	20	39	16	77	0.706
	fair	2	22	24	18	66	
	poor	0	**1**	**1**	**0**	**2**	
burn	good	1	29	55	27	112	**0.012**
	fair	3	14	7	7	31	
	poor	0	0	**2**	**0**	**2**	
electric shock	good	0	14	32	16	62	0.092
	fair	4	29	32	18	83	
overall	good	1	32	57	31	121	**0.002**
	fair	3	11	7	3	24	
total		4	43	64	34	145	

Table no. 6: Relation between the teacher's educational level and their knowledge in general and in each type of injures can be happened in schools:

		education level				total	p value
		teaching school	institute	college	high education		
First-Aid in general knowledge	good	18	72	26	5	121	0.107
	fair	3	20	1	0	24	
injures	good	17	71	20	4	112	0.988
	fair	4	20	7	1	32	
	poor	0	1	0	0	1	
epistaxis	good	10	44	18	2	74	0.489
	fair	10	47	9	3	69	
	poor	1	1	0	0	2	
asphyxia	good	8	24	5	1	38	0.166
	fair	11	65	22	3	101	
	poor	2	3	0	1	6	
poisoning	good	17	69	21	3	110	0.716
	fair	4	16	5	1	26	
	poor	0	7	1	1	9	
coma & epilepsy	good	13	53	17	2	85	**0.031**
	fair	8	38	10	2	58	
	poor	0	1	0	1	2	
fracture	good	20	68	23	4	115	**0.003**
	fair	1	23	4	0	28	
	poor	0	1	0	1	2	
mouth injury	good	13	47	13	4	77	**0.008**
	fair	8	44	14	0	66	
	poor	0	1	0	1	2	
burn	good	17	69	23	3	112	**0.023**
	fair	4	22	4	1	31	
	poor	0	1	0	1	2	
electric shock	good	11	37	13	1	62	0.491
	fair	10	55	14	4	83	
Overall knowledge	good	17	73	27	4	121	0.085
	fair	4	19	0	1	24	
Total		21	92	27	5	145	

Table 7: Relation between the teachers experience and their applied First-Aid previously

		applied First-Aid			Total	P value
		N0	don't know	YES		
experience years	3-10 yrs	16	5	5	26	0.01
	11-18 yrs	31	1	12	44	
	19-26 yrs	30	1	11	42	
	27-34 yrs	14	1	11	26	
	35-42 yrs	2	0	5	7	
Total		93	8	44	145	

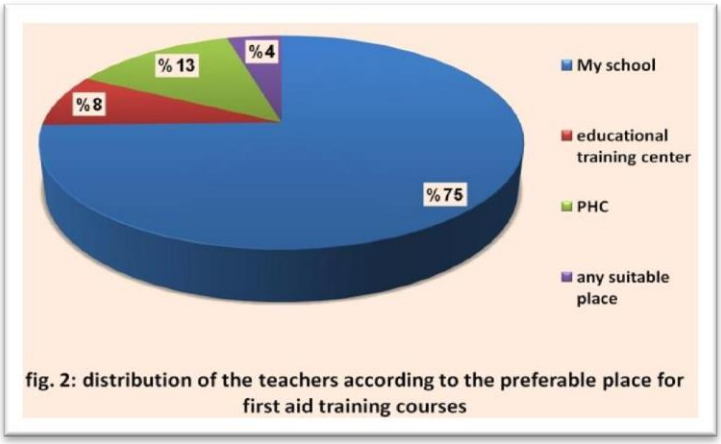

fig. 2: distribution of the teachers according to the preferable place for first aid training courses

Discussion

The present study, in which 145 primary school teachers included, most of them aged more than 40 years, this finding similar to study done by Kummar 2016.[17] Also female was the dominant gender and represent (93.8%) of participants, this because the working time in schools are most appropriate for females in Iraq. This study agreed with the study done in Al-Najaf Al-Ashraf city 2016[18] and Masih study 2014. [19]

Highest percentage of participants in present study had an experience in education (11-18) years (30.3%) and this attributed to reduction in the employment rate by Iraqi Ministry of Education in the last years which lead to reduction in the numbers of recently employed teachers; this similar to study done in Al-Najaf Al-Ashraf city 2016. [18] Concerning previous experience of participants, only 30.3% of primary school teachers had previous training or applied 1st aid; this may reflect deficient interest among teachers toward the importance of receiving training on First-Aid also its may be due to few serious accidents happening in Iraqi schools or due to the absence of records that confirm such situations. This study similar to two studies Al-Samghan 2015 and Al Nassir study 2004.[20, 21] and disagree with study done and in India-Nitin Joseph, 2014[22]; in which (61.9%) and (88%) of teachers had previous training in the First-Aid respectively.

Knowledge assessment of over all teachers on general information about First-Aid, current-finding revealed that 83.4% of the participant had an overall good knowledge; which giving the impression that the teachers having a good general perception and information on First-Aid. This finding is similar to Kumar study 2016. [17] Also in the present study only 51.0% had good knowledge about epistaxis and 75.9% about poisoning, this is close to Awad Al-Samghan study 2015 [20] were knowledge of First-Aid about epistaxis and poisoning (43.3%) and (31.0%) and Feldens study 2010 in Turkey [23] in which the knowledge about poisoning was 31.0%.

In the present study the primary teachers had good knowledge about epilepsy and coma (58.6%), this is similar to Al-Samghan study 2015[20] while many studies demonstrated deficient knowledge about epilepsy among teachers both in developing and developed countries; Thapa study 2017, Slavica Vujisic study 2017, Kumar study 2016, Karimi, 2016. [17, 24- 26]

In present study knowledge of teachers about teeth trauma was good (53.1%) compare to Alsadhan study 2018 in Saudi Arabia which found over half of the sampled participants stated that they did not know how to manage soft-tissue injuries. [27], but disagreed with study done in India, Chandukutty study 2017 which found 90% of teachers has good knowledge. [28]

Concerning previous information on First-Aid among participants, one third of participants had previous information about First-Aid and their source of information was appeared from college and institution, and only (17.2%, 8.3%) from internet and TV respectively, this is against Al- Samghan study, 2015[20] from Saudi Arabia who report that 76.3% of teachers gained their information from TV and mass media.

Regarding internet, the present study showed that only seventeenth percent of participant were obtained information from this sources which is similar to the findings of Abd-Ghay study in 2014[29] who reported that the internet had the low source (14.1%) among all sources of information.

In the present study there was significant relationship between teacher's age and knowledge about First-Aid in general, and that may be due to with the teacher's age, appropriate First-Aid practice and confidence become more and more, this against the finding in Al-

Robaiaay study in Baghdad 2013; who stated that the level of knowledge had no significant associated with age [30] and also in Joseph study 2014. [22]

Finally this study shared significant association between teacher's educational level and knowledge in general, and this is similar to finding in Kumar study 2016. [17]

Conclusion:

In spite of primary school teachers had good knowledge about the First-Aid in general and in each type of accident, (except in asphyxia and electric shock were fair knowledge); Most of them not involve in First-Aid training courses, and didn't applied any of First-Aid**.**

Recommendations:

Involve the teachers in practical training courses of First-Aid to encourage them to apply First-Aid when it's needed. Also enhance First-Aid practice in the school heath symposium not only to the teachers but to the students and other staff.

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