Teachers, Knowledge and Attitudes Regarding Basic life support atprimary Schools in Erbil city

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Abstract

Background: Every day, numerous accident or illness, situations,the safety of individuals, families, and communities globally, over 2000 die dailydue to unintentional injuries. Cardiac arrests in schools are associated with physical exertion, sports participation, or other injuries related to trauma or airway obstruction. A million cardiac arrests occur every year in the US and Europe. This studyassesses school teachers' knowledge, and attitudesregarding basic life support at primary schools in Erbil City.

Methods: Across-sectional study with a self-administered questionnaire was carried out to assess the knowledge and, attitudes, among 470 teachers at primary schools in six municipalities of Erbil City from 20 January 2021 to 15 May 2022.

Results: Themajority of participants were female (74%),more than half had diplomas (52.3%), and themean age was 43.85±8.27, most teachers were married (86.4%), and had not attended basic life support training courses (86.4%). Most relied on safety information form tradition media (79.6%), and less than half used information form social media (44.7%). Most participants had poor level of knowledge (98.3%), alongside positive attitudes (936%). The main identified barrier to training course attendance was the absence of such courses.

Conclusion: Most teachers havepoor knowledge regarding basic life support, but their positive attitudes indicate willingness to undertake training if it is provided. There were no significant associations between socio-demographic variables and knowledge scores whilehigher educational qualifications,type of training course, and social media were positively associated with attitudes

Keywords: Knowledge, Attitudes,basic life support, school teachers, Erbil.

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Introduction

Emergency situations can occur anywhere and anytime, whether on the street, at home or even in the school environment. School students are especially at the risk of unintentional injuries because of theirvigorous activities duringactive hours, especiallyduring play breaks between lessons. Injuries can also take place during school sporting events and extracurricular activities [1]. Injuries and accidents are the leading causes ofdeath among children worldwide, including over2000 every day worldwide [2]. An estimated 17.5 million people have died each year from cardiovascular diseases (CVD) such as stroke and heart attack, known to be the world's leading cause of death[3]. Cardiac arrests in schools are associated with physical exertion, sports participation, or other injuries related to trauma or airway obstruction. Although approximately 1 million cardiac arrests occur every year in the US and Europe, cardiac arrest remains a clinical condition that is still characterized by poor prognosis, especially among

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children [4]. Consequently, there is a need for people who work regularly with children to have knowledge and skills in basic life support (BLS). It is defined as "maintaining airway patency and supporting breathing and the circulation without the use of equipment other than a protective device" [5].BLS is a set of emergency procedures applied to a patients, it comprising a number of techniques like cardiopulmonary resuscitation (CPR), chocking response and basic treatments to sustain patients' lives until paramedic care can arrive (or the patient can otherwise be transportedto emergency medical facilities[5].The American Academy of Pediatrics and American Heart Association (AHA) have issued guidelines that stress the need for school teachers to be knowledgeable about emergency response measures to address life threatening emergencies.Injuries, accidents, and severe conditions occurring in school environments require immediate and appropriate life-saving care before affected people receiveprofessional medicaltreatment [6].The European Resuscitation Council recommends that BLS should be included in the curriculum, and school teachers should be trained to teach BLS, imparting CPR knowledge and skills to school children [7].However,a study insouthern India revealed that a thirdof school teachers demonstrate lack of awareness in pre-hospital care, and 87% agree that pre-hospital care should be included in their program [8]. Teachers are often designated first aid providers and should be prepared to deal with such emergencies [9]. Recent studies have approved that school teachers who have good knowledge and skills (for example who receiveappropriate training) can provide excellent BLS to rescue children during emergency [7].

Significance of the study

Thisstudy illustrates knowledge, and attitudesconcerning CPR, chokingresponse and recovery position among teachers in basic schools in Erbil, seeking to explore barriers and supportive factors for teachers to deliver emergency care. It can inform evidence-based practice interventions tosave student lives in cases of cardiac arrest,(e.g., when foreignbodies are lodged in the throat), and putting victims in the recovery position. The study contributes to awareness of emergency condition in the school among the school teachers and staff of school administration to decrease emergency problems bypromoting the skills of teachers to apply suitable interventions for the purpose of saving the lives of emergency patients in schools. BLS is of high importance when an individual is at risk and learningskills are is essential for effectiveresuscitation, life-saving, and prevention of complications in emergency situations in both the school environment and the community [10].

The aim of this study is to assess teachers' knowledge, and attitudesregarding BLS at primary schools in Erbil City.

Subject and Methods

Research design: The current cross-sectional study was carried out for assessment of the knowledge and attitudes of school teachers regardingBLS.

Duration of the study: The study was conducted (over a four month period) (from 20 January to 15 May 2021) to assess teachers' knowledge and attitudes concerning BLS.

Setting of the study:

In primary schools in Erbil City (North-Central Iraq), which consists of 6 six municipality.Randomsampling from all six municipalities resulted in the followingstudy sites being selected. The primary schools were selected randomly utilizing simple random sampling according to six municipalitiesas reflecting the geographical distribution of the area of Erbil City. All municipalities were included in the study, with five 5 primary schools from eachmunicipality beingselected, according to the list of all primary schools affiliated with the Erbil City General Directorate of

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Education consequently, a total of 30primary schools were chosen out of 242 total schools in Erbil City.

Table1: Distribution of Erbil City according to 6 municipalities [11].

Municipality	Address of site municipality
Municipality 1	Located 60 m from the city center
Municipality2	located along the from roadways of Erbil-Mosel to roadway of Erbil-Shaqlawa.
Municipality 3	Locatedalong the roadways of Erbil-Saqlawa toErbil-KoyaStreet.
Municipality 4	Located along the roadways ofEskan toErbil-MahmurStreet.
Municipality 5	Locatedalong the roadwaysof Erbil-Koya to roadway of Eskan Street.
Municipality 6	Located alongthe roadways of Erbil-Mahmur to Erbil-Mosel Street.

The sample size: The sample size estimation was based onthe total number of teachers in Erbil City. (n = 10,445), requiring 385 teachers for this study based on calculations usingthe Taro Yamane formulan = N / (1 + Ne^2) [5].However, to improve the representativeness of the sample,and increase the statistical power and accuracy of the results,470 teacherswere included in this study.

Sampling method:

A sample is a portion which is taken from the population target to represent the whole population for inference. The studied population in this paper comprises all primary school teachers in Erbil City (n = 10,445).Probability cluster sampling wasapplied to select study sites from the list of primary schoolsobtained from theGeneralDirectorate ofEducation in Erbil City. From each of thesix municipality clusters470 teachers were selected. The number of teachers needed from each school was calculated inproportion to the total sample size (using theformula all total number of teachers (per school)multiplied by sample size (470) divided by overall total of teachers across After signing the informed consent form, participants completed the paper questionnaire distributed via school administrators. If a randomly invited teacher did not agree to participate, another one from the same school was randomly recruited as a replacement.

Method of data collection:

An existing BLS assessment questionnaire was translated into the Kurdish language by expert translators. The translated questionnaire was reviewed after merging and confirmed by faculty members who teach BLS and emergencies in the college of nursing at Hawler Medical University. The confirmed questionnaire was then back-translated into English to check for any possible differences between the questionnaire and its last translated version. The questionnaires were self-administered; paper forms were disseminated via the school administrators then participants completed them at their own time and place of convenience, and returned forms for collection. The questionnaires were designed to assess the knowledge and attitudes of participants. The data were collected either at during the morning or evening shiftsof school duty, at 8:00 AM to 12:00 PM, and1:00 PM to 4:00 PM, respectively). Teachers typically completed the instruments during their breaks; the forms took20–-25 minutes

The data collection tools

The questionnaire for teachers' knowledge and, attitudes consisted of 5 five parts as adumbrated below.

eISSN 1303-515

Part 1: Socio-demographic characteristic questions concerning age, gender, educational qualifications, marital status, number of the children, years of experience, and previous participation in educational program about BLS (CPR, choking response, and recovery position).

Part 2: Educational program and course experience, (type and number), desire to participate and barriers to participation.

Part 3: Sources of information about BLS, formal learning, (university education) Informal learning (seminars, webinars, workshops, and training courses). Social media (Facebook, Instagram, Snapchat, WhatsApp, Telegram, YouTube). Traditional media (TV programs, reading books, magazines, newspapers, listening to the radio).

Part 4: Theoretical knowledge assessment, spanning 25 multiple choice questions with four possible answers; (of which only one is correct). Each correct answer is scored 1, while each incorrect answer is scored. The maximum sum score is 25 According to the scoring system computed by coding correct answers, the level of overall knowledge is categorized into one of three knowledge levels good (>75 %). Fair (50-75) %). Poor(<50%). Sum knowledge scores divided by 25 (all total scores) multiplied by 100 give the knowledge percentage, as in the formula: (Score knowledge) ÷ (25) × 100 = (score knowledge) [12,13]. The mean of the knowledge score was 4.59±2.79, with less than half of the questions answered correctly. The first questions CPR knowledge, followed by questions for choking response, and the last five questions for concerned the recovery position.

Part 5: Five questions assessedattitudes towardBLSusing five-pointLikertscale responses (ranging from 1 = stronglydisagree to stronglyAgreementconsideredto indicate a positive attitude, thus strongly agree and agree were scored 5 and 4, respectively. A neutral response scored 3while responses of disagree and strongly disagree were scored2 and 1(respectively), indicatingnegative attitudes.Sum scoreswere divided intothreecategoriespositive attitude (16-25),a fair attitude (11-15), and a negative attitude (1-10) for each question, andthe overall attitude, ranging from 1 to 25 the following statements were used to assay teachers' attitudesregardingBLS.

1. It is crucial for basic school teachers to have knowledge and skillsregarding BLS.
2. Training aboutBLS skills is very important for teachersto save students' lives.
3. I think compulsory education and training regardingBLS is necessary in school.
4. Giving care teacheris a teaching responsibility.
5. I would be happy if I could save students' lives.

Ethical consideration:

The initial study was approved by the Ethics Committee, of the Faculty of theCollege of Nursing, Hawler Medical University (Registration No. 96, - 13 December 2020).Official permission was sought from General Directorate in Erbil City, and then permission was obtained fromschool managers, following which consent was taken from each school teacher orally. All school teachers who participated in this study did so entirelyvoluntarily and anonymously, with the right to refuse and to drop out prior to returning the anonymous forms. Those who agreed to participatesigned the written informed

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consent forms attachedthe study questionnaire.

Statistical analysis:

The data wastranscribed from paper forms and was input into SPSS version 26. for analysis usingfrequencies and percentagesto describestudy itemsChi-square test was used to find out association between socio-demographic variables like age, sex, qualifications, years of experience, and source of information with overall knowledge,and attitudes. All statistical testsassumed a significance level of $p<0.05$ with 95% confidence level.

Results

From a total of 500 questionnaires initially distributed among school teachers.30 returned questionnaires were incomplete and were excluded,thus a total of 470 questionnaires were ultimately included (a response rate of94%).teachers were relatively distributed through the six municipalities. The largest proportion taught inmunicipality 6(20.2%).While the smallestwere in municipality 4 (12.6%).Over half (53%) of participantswere aged37-48 years, and the mean age was 43.85±8.283.In terms of qualifications, 52.3% were institutes, and47.7 % of colleges.The largest group taughtLanguages (42.1%), while the smallest cohort taughtphysical education (3.4%).Over half (54%) had 15-26 years of teaching experience.The majority of participants were female (74%), andwere married(86.4%) A total of 53.6.1% of the respondents had 1-3 children, with a mean number of 19.09±8.53.

Table 2: Socio-demographic date of participants

Socio-demographic characteristic		F	%
Municipality	Municipality 1	76	16.2
	Municipality 2	75	16
	Municipality 3	83	17.7
	municipality 4	59	12.6
	municipality 5	82	17.4
	municipality 6	95	20.2
Age Group	25-36	85	18.1
	37-48	249	53
	49-60	136	28.9
Mean and standard deviation	43.82±8.31		
Gender	Male	122	26
	Female	348	74
Education	college	224	47.7
	institute	246	52.3
Class Subject	science	97	20.6
	Language(Kurdish, Arabic and English)	198	42.1
	Math	68	14.5
	sociality	68	14.5
	Physical education	16	3.4
	Art	23	4.9

eISSN 1303-515

Years of experience	3-14 years	130	27.7
	15-26 years	254	54
	27-38 years	86	18.3
Mean and standard deviation	19.09±8.25		
Marital Status	Married	406	86.4
	Single	56	11.9
	Divorced	5	1.1
	Widowed	3	0.6
Number of child	0	83	17.7
	1-3 child	252	53.6
	4-6 child	125	26.6
	7-9 child	10	2.1
Mean and standard deviation	2.7±1.81		

Table 3 shows that majority of participantshave a desire to participate inBLS training courses (76.6%), but have not hadanyopportunities to attendprevious ones (86.8 %). 82.3% had not attendedany training courses.

Table 3: BLS training course experience and desire

BLS training course experience and desire		F	%
Do you have a desire to participate intraining course?	No	110	23.4
	Yes	360	76.6
Have you attended a previous courseon BLS	No	408	86.8
	Yes	62	13.2
How many BLS courses have you attended?	0	387	82.3
	1	36	7.7
	2	22	4.7
	3	25	5.3
Type of training course?	Not	387	82.3
	theory	29	6.2
	practices	15	3.2
	both theory and practices	39	8.3

Table 4: shows that the majority of teachers derive their knowledge of BLS fromtraditional media (79.6%),followed byinformal learning (62.6%),while almost half learn from social media (44.7%), only 13.4% had derived knowledge fromformal learning.

Table 4: Source of information

No.	Source of information	Yes	
		F	%

1	Formal learning (study in formal University education)	63	13.4
2	In formal learning (seminar, webinar, workshop, training course)	294	62.6
3	Social media (Facebook, Insata-gram, Snap-chat, whats-up, telegram, You-Tub)	210	44.7
4	Traditional media (TV-program , reading book, magazine, newspaper and listen to the radio)	374	79.6

Table 5: shows of that over half ofteachers reportedthat theyneeds to learn about the management of nasal bleeding (62.1 %). Less than half felt that they needed to learn about fever (43.8%), loss of consciousness (41.3%), and abdominal pain (41.3 %). Negligible amount felt that they needed to learn about insect bites(10.2%) and skin dehydration (6.6%).

Table5: BLS topics that basic school teachers need to learn

No.	Topics needs	Yes	
		F	%
1	Nasal bleeding	292	62.1
2	Height fever	206	43.8
3	loss of conscious	194	41.3
4	Abdominal pain	188	40.0
5	Fracture	175	37.2
6	Bleeding and wound	155	33.0
7	Shortness of breathing	144	30.6
8	Vomiting	144	30.6
9	Food poison	139	29.6
10	Epilepsy	133	28.3
11	Diarrhea	129	27.4
12	cardiopulmonary resuscitation	126	26.8
13	Choking response by foreign body	107	22.8
14	Diabetic coma	105	22.3
15	Teeth injury	87	18.5
16	Electrical shock	81	17.3
17	Eye injury	78	16.6
18	Burn	74	15.7
19	Scorpion bite	69	14.7
20	Sun burn	67	14.3
21	Allergy reaction	61	13.0
22	snake bite	61	13.0
23	Bite a fly	48	10.2
24	skin dehydration	31	6.6

Table 6: Reveals that themost commonly identifiedbarriers to BLS training were the absence of not professional training coursesfor school teachers (40%),a lack of time (33.2%), andnot

knowing the time and place ofopen training courses (32.6%).Small amounts reported fear of causing further harm (8.2%), a lack of self-confidence (6.4%), prohibitive costs (6.2%), and a lack ofinterest (3.8%).

Table 6: Barriersto participation in training courses

No.	Barriers to BLS training	Yes	
		F	%
1	Busy with work	133	28.3
2	High costs	29	6.2
3	Don't know where and when open training courses are	153	32.6
4	Fear of causing further harm	40	8.5
5	Fear acquiring infection or infection or communicative disease	47	10.0
6	Fear of responsibility	50	10.6
7	Lack of interest	18	3.8
8	Lack of time	156	33.2
9	No self-confidence	30	6.4
10	No professional training course present for school teachers	188	40.0
11	No common emergency happed	57	12.1
12	No compulsory training course in school	109	23.2
13	Not required in school curriculum	137	29.1

Table 7 shows that the highest percentages of school teachers have poor knowledge regardingBLS (98.3%), while 1.7 % has fair knowledge. None of teachers have good knowledge. The mean and standard deviation of overall knowledge scores were 4.59±2.69.

Table 7: Over all knowledge BLS

knowledge levels	F	%
Good knowledge	0	0
Fair knowledge	8	1.7
Poor knowledge	462	98.3
Total	470	100.0

Table 8 shows the association between socio-demographic data with overall knowledge (with mean, and standard deviationfor overall knowledge scoresis of 4.59±2.69).There wasno significant association between levels of overall knowledgeand allin socio-demographic.

Table 8: Association between socio-demographic variablesand overall knowledge

eISSN 1303-515

Association between socio-demographic variables and overall knowledge	Knowledge group (no.)			Chi-square	P-value
	Poor	Fair	Good		
Age group					
25-36	83	2	0	0.146	0.929
37-48	242	7	0		
49-60	133	3	0		
Gender					
Female	120	2	0	0.553	0.457
Male	338	10	0		
Education					
College	221	3	0	2.535	0.111
Institute	237	9	0		
Class subject					
Science	93	4	0	2.805	0.730
Language	192	6	0		
Math	67	1	0		
Sociology	67	1	0		
Physical education	16	0	0		
Art	23	0	0		
Years of experience					
3-14	127	3	0	0.091	0.955
15-26	247	7	0		
27-38	84	2	0		
Marital status					
Married	395	11	0	0.382	0.944
Single	55	1	0		
Divorced	5	0	0		
Widowed	3	0	0		

eISSN 1303-515

Association between socio-demographic variables and overall knowledge		Knowledge group (no.)			Chi-square	P-value
		Poor	Fair	Good		
Number of children						
0		83	0	0	3.038	0.386
1-3		244	8	0		
4-6		121	4	0		
7-9		10	0	0		
Desire to attend basic life support training courses						
No		108	2	0	0.312	0.577
Yes		350	10	0		
Previous attendance of basic life support training courses						
No		375	12	0	2.641	0.104
Yes		83	0	0		
Number of courses						
0		375	12	0	2.641	0.450
1		36	0	0		
2		22	0	0		
3		25	0	0		
Type of training course						
0		375	12	0	2.641	0.450
Theory		29	0	0		
Practice		15	0	0		
Both		39	0	0		
Source of information						
Informal learning	Y	287	7	0	0.094	0.760
	N	171	5	0		
Formal learning	Y	61	2	0	0.113	0.737
	N	397	10	0		
Social media	Y	202	8	0	2.408	0.121
	N	256	4	0		
Traditional media	Y	366	8	0	1.262	0.261
	N	92	4	0		

eISSN 1303-515

It is obvious from table 9 that majority of the school teachers had positive attitudes regarding BLS (93.6%), whilesmall amounts expressed attitudes that were negative (4.3%) and fair (2.1%),

Table 9: Overall attitudes toward' BLS

Over all attitude	F	%
Negative attitude	20	4.3
Fair attitude	10	2.1
Positive attitude	440	93.6
Total	470	100.0

Table 10 shows that most of the socio-demographic variables had nosignificant associations with overall attitudes,except concerningsocial media, type of course, and levels of education.

Table 10: association between socio-demographic data and overall attitude of teacher regarding BLS.

Association between socio-demographic variables and overall knowledge	Knowledge group (no.)			Chi-square	P-value
	Poor	Fair	Good		
Age group					
25-36	2	2	81	5.610	0.230
37-48	9	3	237		
49-60	9	5	122		
Gender					
Female	2	1	119	4.246	0.120
Male	18	9	321		
Education					
College	4	2	218	9.828	0.007
Institute	16	8	222		

Association between socio-demographic variables and overall knowledge	Knowledge group (no.)			Chi-square	P-value
	Poor	Fair	Good		
Class subject					
Science	2	5	90	13.149	0.215
Language	10	3	185		
Math	4	0	64		
Sociology	4	0	64		
Physical education	0	1	15		
Art	0	1	22		
Years of experience					
3-14	4	2	124	6.912	0.141
15-26	8	6	240		
27-38	8	2	76		
Marital status					
Married	18	9	379	4.252	0.643
Single	1	1	54		
Divorced	1	0	4		
Widowed	0	0	3		
Number of children					
0	3	2	78	2.492	0.869
1-3	10	4	238		
4-6	7	4	114		
7-9	0	0	10		
Desire to attend basic life support training courses					
No	6	5	99	4.632	0.099
Yes	14	5	341		
Previous attendance of basic life support training courses					
No	14	7	366	3.356	0.187
Yes	6	3	74		

eISSN 1303-515

Association between socio-demographic variables and overall knowledge		Knowledge group (no.)			Chi-square	P-value
		Poor	Fair	Good		
Number of courses						
0		14	7	366	7.473	0.279
1		2	2	32		
2		1	0	21		
3		3	1	21		
Type of training course						
0		14	7	366	18.495	0.005
Theory		0	0	29		
Practice		0	1	14		
Both		6	2	31		
Source of information						
Informal learning	Y	9	6	279	2.796	0.247
	N	11	4	161		
Formal learning	Y	0	0	63	4.960	0.084
	N	20	10	377		
Social media	Y	4	2	204	7.898	0.019
	N	16	8	236		
Traditional media	Y	14	7	353	1.807	0.405
	N	6	3	87		

Discussion

To our knowledge, thisis the first studyundertaken inIraqiKurdistan to assessknowledge and attitudes regarding BLS, among teachers. The findings reflect thelack of training courses or educational programs provided in a schools, including the lack of dearth ofinstructors or guide posters and postcards for basic emergency first aid, and noTV campaignshave been developed in order to show how to provideBLS and immediate care for sudden cardiac arrest,choking response, loss of consciousness, and injurythat may occur in schools. Teachers are entrusted with the care of potentially vulnerable children, and it is essential that they are able to respond toinjuries and accidents that can be foreseen to occur in school contexts. BLS training can effectivelyreducemorbidity and mortality rates associated with ofaccidentsby the application of using proper first aid procedures. Community health nurses or other health care providers are unfortunately not present in schools for the purpose of performing immediate emergency

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health care services.In the present study among 470 school teachers, 26 % were males and 47.7% were graduated from college, these features are differ from a similar study conducted in Iraq (in Karbala), which had a similarmean and standard deviation for age (40.4+8.7),with participations agedbetween 23-62 years,most of whom were married [14].The findings of the present study was consistent withthose of a study done in Turkey (Anatolia)which foundthat more than half of school teachers were femalewere married, and had children, ; however, the majority of their participants had attendedtraining courses [15]. The latter difference is probably attributable to the inclusion of BLS training in the teaching curriculum (although refresher sessions should still be conducted periodically in such cases).The results of the current study regarding the barriers to participating in training courses concerning fearof exacerbating harm to the victim and fear of transferring communicable disease when in contact with victims' in breath and body fluids arein agreement with the outcomes of a study done in Malaysia. Moreover, the current study is in agreement with the mean score of knowledge (6.59±2.21 in 20 points) and sources of information that come from social media and TV. Program programs, while differing concerning course participation, as over half of Malaysian teachers had attendeda BLS training course regarding [16].Regarding the barriers that faced teachers' participation in to share in training courses 153 (32.6%) participants in this study did not know of the existence ofBLS courses, similar to . Similarly, study done in a study conducted in Spain (2020), which reported that 65 (32.2%)did not know where and when training courses were held [17]. The outcome of the present study indicates that the majority of the teachershad a low score in knowledge, and there was no significant association between knowledge levels withsocio-demographic variables and positive attitudes. These findings are consistent with studies conducted in Saudi Arabia, one of which reported a low shows that the mean score of knowledge(5.63±1.49) for a sample mostly aged between (41-50 years' old, which also found a majoritarian desire to participate in BLS training and positive attitudes towards it), [18]. Another study inSaudi Arabiafound that more than half of participants had not participated in BLS training courses, but hada desire to participate incoursethem (87%); it also reported, that most of teachers use social media assource of information (while almost half did in the current study), and differed with our findings in reporting that most teachers had good knowledge, which was significantly associated withage, sex, and marital status [19].The finding of a very low proportion of teachers who had BLS training sessions in the present studyreflects a general lack of teachers experienced in such training worldwide, consistent with extensive studies conducted in many diverse contexts, includingSpain (50%) [17], Saudi Arabia (30%) [18].Greece (40%) [20],8.9% in South Africa [21],Ethiopia (32%), Palestine (42%), Palestine [23], and Indonesia (24.2 %) [24].The current findingsrevealedno significant relationship between attendance oftraining courses and BLS knowledge, contrary to a studyin Greece which revealed higher knowledge among trained teachers[20].A variety of programs of varying qualities can lead to highly divergent results in this regard, and the general dearth of BLS training in Iraqi is likely associated with the implicitly low quality of the limited existing provision that does exist, as manifest in low knowledge scores among those who have attended such training.BLS education involve is not included in the teacher training or a curriculums in Iraq, , and is not mandatory, unlike in manycountries. Most teachers in this study got BLS information from informal learning methods like seminars, webinars, workshops, and training courses, followed by social media. A study inin Saudi Arabia found that most teachers got related knowledge from social media, and the least proportion

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from informal learning[25].The current study uncoveredlow scores in overall knowledge levels of CPR and choking response among school teachers, which is directly related tomost of themparticipating in any educational program or training course, and not having the opportunity to participate in workshops and seminars. In addition,the lack of ancillary supports to improve the knowledge and skill of teachers regardingBLS in schools was noted. The school teachers faced many barriers in their lives thatpreventedthem from to participating in BLS educational programs or training courses, which could be related to personal in addition to professional and institutional factors (e.g., teachers' personalities or school situationsas well as formal policy implications pertaining to theGeneralDirectorate ofEducation in Erbil.Diverse factorsresulted in school teachershaving poor knowledge and practices regardingBLS.The results of the current study are in agreement with the results of a studies done In in Iraq -Baghdad and Karbala (also in Iraq) concerninglevels of knowledge of school teachers about the administration of first aid, which it illustrated that majority of them have poor knowledge [14,26]. Indeed,poor knowledgehas been consistently reported in many diverse settings, like Turkya [12],Malaysia [16],Saudi Arabia [27] , and Ethiopia[28].Most teachersdo not attend any training courses in schools, and educational program content in the school curriculum does not present any subject of basic first aid, . Consequently, if teachers do not receiveBLS during their in teachers training they may never be instructed in basic techniques. In the current study,even graduates ofcolleges of science and physical activity had poor BLS knowledge and skills. In present study overall knowledge of basic school teachers were represents poor knowledge, positive attitude and poor practices, similar to findings from Karbala city [14].This study's finding that the overwhelmingmajority ofschool teachershave positive attitudes towards BLS training are in accord with studies worldwide, but this issue is more pertinent in some cultures such asGreece, where teachers felt they that legal obligationsconcerning emergency care is provided inschool were pertinent. They felt that and teachers should provide basic care and not be limited tocalling for an the ambulanceand informing schoolmanager ment andthe child's parents [20].In Saudi Arabia most teachers want to participate in training courses if they are available inschools, and mostagreed that BLS training should be mandatory, although some feared exacerbating the condition or harmingvictims , as well asfearinginfection by communicable disease, especially during mouth- to- mouth resuscitation [25].Given the importance of BLS for those working with children, and the poor knowledge and skills concerning it in Erbil identified in this study, it is imperative that educational systems (particularly in the Kurdistan Federal Region) design and deliver effective BLS training programs for university graduates undergoing teacher training, and on-the-job training sessions for existing teachers. This would meet with eager acceptance among the positively disposed teaching workforce, and provide an invaluable knowledge bank of clinical knowledge to help children (and others) during emergency situations, thereby improving patient condition and alleviating the burden on paramedic and emergency care.

Abbreviation: (BLS) basic life support. (CPR) cardiopulmonary resuscitation. (M) meter

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Reference:

1. Merchant RM, Topjian AA, Panchal AR, Cheng A, Aziz K, Berg KM, Lavonas EJ, Magid DJ, Adult Basic and Advanced Life Support, Pediatric Basic and Advanced Life Support, Neonatal Life Support, Resuscitation Education Science, and Systems of Care Writing Groups. Part 1: executive summary: 2020 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Circulation. 2020 Oct 20;142(16_Suppl_2):S337-57.https://www.ahajournals.org/doi/full/10.1161/CIR.0000000000000918
2. Habeeb KA, Alarfaj G. Saudi parents awareness regarding burn, choking, and drowning first aid in children. Journal of family medicine and primary care. 2020 Mar;9(3):1370.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7266219/
3. Alhejaili AS, Alghamdi RA, Al-Dubai SA. Knowledge and attitude of basic life support skills among female school teacher in Al-Madinah, Saudi Arabia. Journal of Family Medicine and Primary Care. 2020 May;9(5):2281.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7380791/
4. Abelairas-Gómez C, Carballo-Fazanes A, Martínez-Isasi S, López-García S, Rico-Díaz J, Rodríguez-Núnez A. Knowledge and attitudes on first aid and basic life support of pre-and elementary school teachers and parents. Anales de Pediatría (English Edition). 2020 May 1;92(5):268-76.https://reader.elsevier.com/reader/sd/pii/S2341287920300594?token=5EB3861193C8824C004B0166E2DD0B765B7DC1B2789A4DA7B295D52BBFD506C49FB9C416543A2D745E5AF2CCF0D32C0C&originRegion=eu-west-1&originCreation=20220909080025
5. Kayumba JD. Effectiveness of video teaching on basic life support knowledge, attitude among non-health proffessional students at the university of Rwanda (Doctoral dissertation, University of Rwanda).http://dr.ur.ac.rw/bitstream/handle/123456789/999/KAYUMBA%20Jean%20de%20Dieu.pdf?sequence=1
6. Alshammari KO. Assessment of knowledge, attitude, and practice about first aid among male school teachers in Hail city. Journal of Family Medicine and Primary Care. 2021

Jan;10(1):138https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6436304/

7. Abelairas-Gómez C, Carballo-Fazanes A, Martínez-Isasi S, López-García S, Rico-Díaz J, Rodríguez-Núnez A. Knowledge and attitudes on first aid and basic life support of pre-and elementary school teachers and parents. Anales de Pediatría (English Edition). 2020 May 1;92(5):268-76.https://reader.elsevier.com/reader/sd/pii/S2341287920300594?token=5EB3861193C8824C004B0166E2DD0B765B7DC1B2789A4DA7B295D52BBFD506C49FB9C416543A2D745E5AF2CCF0D32C0C&originRegion=eu-west-1&originCreation=20220909080025
8. Jindal A, Holla R, Khan NK, Basak S, Jaswanth K, Radhakrishnan J, Bhagawan D, Unnikrishnan B, Kulkarni V, Kumar N, Thapar R. Are our teachers knowledgeable towards pre hospital emergency care: A study from South India. Clinical Epidemiology and Global Health. 2020 Dec 1;8(4):1213-6https://cegh.net/action/showPdf?pii=S2213-3984%2820%2930112-3
9. Patsaki A, Pantazopoulos I, Dontas I, Passali C, Papadimitriou L, Xanthos T. Evaluation of Greek high school teachers' knowledge in basic life support, automated external defibrillation, and foreign body airway obstruction: implications for nursing interventions. Journal of Emergency Nursing. 2012 Mar 1;38(2):176-81.https://www.jenonline.org/article/S0099-1767(10)00424-1/fulltext
10. Charalambous C. Investigation of the Teacher's Knowledge and Attitude towards Providing First Aid in the School Environment. International Journal of Caring Sciences. 2021 May 1;14(2):1468-72.https://www.researchgate.net/profile/Dimos-Mastrogiannis/publication/357535074_Investigation_of_the_Teacher's_Knowledge_and_Attitude_towards_Providing_First_Aid_in_the_School_Environment/links/61d2fea0e669ee0f5c8368a1/Investigation-of-the-Teachers-Knowledge-and-Attitude-towards-Providing-First-Aid-in-the-School-Environment.pdf
11. Baker JM, shreen Al-Doski NA. Health risk behaviors among male students in secondary schools in Erbil city. Zanco Journal of Medical Sciences (Zanco J Med Sci). 2016 Apr 3;20(1):1199_1205-.https://zjms.hmu.edu.krd/index.php/zjms/article/view/191/16
12. Sönmez Y, Uskun E, Pehlivan A. Knowledge levels of pre-school teachers related with basic first-aid practices, Isparta sample. Turkish Archives of Pediatrics/TürkPediatriArşivi. 2014 Sep;49(3):238. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4462306/
13. Jacob OM, Goswami A, Ahamed F, Dubey M, Goswami K, Gupta N. A training program on first aid and basic life support skills among teachers of a school in South Delhi: a feasibility assessment. International Journal of Community Medicine and Public Health. 2018 Oct;5(10):4345. https://d1wqtxts1xzle7.cloudfront.

net/71140070/2447-with-cover-page-v2.pdf?Expires=1662567095&Signature=fBGXlqWPxcaAfxpYov0vCqAaa5JqzYLxx00WP5A4eiLl82MX0Aqub3IiaGGrbicDdYl0phl9tKC5UCoavy6CKoQRF-HU5vLJ5RWJXMf3o1EP50FPXwNkW0amJ9C3nPqZ8ivA97zNLZIs00E3l-8f7RxTOxfP0FU82tAWHtiFZbetz7cMRGnf1WqWrLt5jEK4y0-rskjwXJ0cMHSCDsM-eAOyrsBgz0b5t9LE5f2PLkwupJHKty~Q9htCjNh6wCR2t7Q6CtwBSuBY8pZt3XVQj9MzXBz1l6nUB-3cAAxF0pfkHTnYeNyPItu-v5IwHUzsLfuP6mexeCTOVRKda~WuzA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

14. Al-Aaragi AN, MaythamSalim AL, Mohammed AA. ASSESSMENT OF PRIMARY SCHOOL TEACHERS'KNOWLEDGE, ATTITUDE AND REPORTED PRACTICE TOWARD FIRST–AID IN HOLY KARBALA–IRAQ" A CROSS-SECTIONAL STUDY. Turkish Journal of Physiotherapy and Rehabilitation.2019;32:3.https://www.researchgate.net/publication/354652352_ASSESSMENT_OF_PRIMARY_SCHOOL_TEACHERS'_KNOWLEDGE_ATTITUDE_AND_REPORTED_PRACTICE_TOWARD_FIRST_-AID_IN_HOLY_KARBALA_-IRAQ_A_CROSS-SECTIONAL_STUDY
15. Faydalı S, Küçük S, Yeşilyurt M. Incidents That Require First Aid in Schools: Can Teachers Give First Aid?. Disaster Medicine and public health preparedness. 2019 Jun;13(3):456-62.https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/abs/incidents-that-require-first-aid-in-schools-can-teachers-give-first aid/98B50F0D98FC4C08CD13A6367EE8DAF3
16. Fariduddina MN, Siau CS. Knowledge, Attitude and Perceptions towards Basic Life Support Training among Student Teachers in a Malaysian University. The European Journal of Social &Behavioural Sciences. 2021 Apr 30.https://www.europeanpublisher.com/ru/article/10.15405/ejsbs.295
17. Abelairas-Gómez C, Carballo-Fazanes A, Martínez-Isasi S, López-García S, Rico-Díaz J, Rodríguez-Núnez A. Knowledge and attitudes on first aid and basic life support of pre-and elementary school teachers and parents. Anales de Pediatría (English Edition). 2020 May 1;92(5):268-76.https://www.sciencedirect.com/science/article/pii/S2341287920300594?via%3Dihub
18. Alhejaili AS, Alghamdi RA, Al-Dubai SA. Knowledge and attitude of basic life support skills among female school teacher in Al-Madinah, Saudi Arabia. Journal of Family Medicine and Primary Care. 2020 May;9(5):2281.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7380791/
19. Alshammari KO. Assessment of knowledge, attitude, and practice about first aid among male school teachers in Hail city. Journal of Family Medicine and Primary Care. 2021 Jan;10(1):138https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6436304/

20. Charalambous C. Investigation of the Teacher's Knowledge and Attitude towards Providing First Aid in the School Environment. International Journal of Caring Sciences. 2021 May 1;14(2):1468-72.Charalambous C. Investigation of the Teacher's Knowledge and Attitude towards Providing First Aid in the School Environment. International Journal of Caring Sciences. 2021 May 1;14(2):1468-72. https://www.researchgate.net/profile/Dimos-Mastrogiannis/publication/357535074_Investigation_of_the_Teacher's_Knowledge_and_Attitude_towards_Providing_First_Aid_in_the_School_Environment/links/61d2fea0e669ee0f5c8368a1/Investigation-of-the-Teachers-Knowledge-and-Attitude-towards-Providing-First-Aid-in-the-School-Environment.pdf
21. Ojifinni K, Motara F, Laher AE. Knowledge, attitudes and perceptions regarding basic life support among teachers in training. Cureus. 2019 Dec 6;11(12).https://www.cureus.com/articles/25582-knowledge-attitudes-and-perceptions-regarding-basic-life-support-among-teachers-in-training
22. Ganfure G, Ameya G, Tamirat A, Lencha B, Bikila D. First aid knowledge, attitude, practice, and associated factors among kindergarten teachers of Lideta sub-city Addis Ababa, Ethiopia. PloS one. 2018 Mar 13;13(3):e0194263.https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0194263
23. Ghrayeb FA, Amro NR, Rahseed O, Yagi H, Amro R, Amro B. Knowledge and attitude of basic life support (BLS) among school teachers in Hebron, Palestine. Int J Res Med Sci. 2017 Jun;5(6):2477-82.https://www.researchgate.net/profile/Farid-Ghrayeb-3/publication/317178894_Knowledge_and_attitude_of_basic_life_support_BLS_among_school_teachers_in_Hebron_Palestine/links/59d3ec32a6fdcc181ad94a44/Knowledge-and-attitude-of-basic-life-support-BLS-among-school-teachers-in-Hebron-Palestine.pdf
24. Mirwanti R. Attitude and knowledge of elementary school teachers towards first aid on emergency condition in children. InInternational Conference on Disaster Management & Infection Control 2017 Oct 14 (Vol. 1, No. 1, p. 1 http://conference.stikep-ppnijabar.ac.id/index.php/icdmic/article/view/11/11
25. Althawadi AN, AL-mutairi BG, Alharbi RA, Tork HM. A cross-sectional assessment of Knowledge and attitudes of primary schools' teachers towards first aid of children: A step for injuries prevention in Qassim, Saudi Arabia.https://www.noveltyjournals.com/upload/paper/A%20cross-sectional%20assessment.pdf
26. Al-Robaiaay YK. Knowledge of primary school teachers regarding first aid in Baghdad Al-Rusafa. Al-Kindy College Medical Journal. 2013 Jan 30;9(1):54 file:///C:/Users/HC/Downloads/jkmc,+2013+issue1(54-59).pdf

27. Alfakey M, Alkarani A. Students' Knowledge and Attitudes toward Basic Life Support. International Journal of Evaluation and Research in Education. 2021 Sep;10(3):871-7.https://files.eric.ed.gov/fulltext/EJ1312829.pdf
28. Ganfure G, Ameya G, Tamirat A, Lencha B, Bikila D. First aid knowledge, attitude, practice, and associated factors among kindergarten teachers of Lideta sub-city Addis Ababa, Ethiopia. PloS one. 2018 Mar 13;13(3):e0194263. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0194263
29.