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Basic life support, Do medical students familiar with?

A research project submitted to Al-Kindy Medical College / Department of pathology in Partial Fulfillment for the Project Module / 3rd stage

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بسم الله الرحمن الرحيم

يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ ۚ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ

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Dedication

We praise and thank God for enabling us to complete this research. We also extend our gratitude to everyone who contributed and helped us reach our goals, especially our family and friends. In conclusion, we ask God Almighty to accept this work as a good deed and to benefit all those who read it. We dedicate this work to the Messenger of Mercy, Muhammad, and his pure family, especially our Mawlana, the owner of the era of time, Imam Al-Mahdi , may God hasten the Sheriff's reappearance

Abstract

Background: Basic life support (BLS) remains an essential lifesaving skill that every healthcare provider must have. The outcome of a cardiac arrest improves significantly if it is promptly and properly instituted. Basic life support sessions are done regularly for the doctors to improve the knowledge and skills.

Objective: to determine the knowledge of BLS and related skills among undergraduate medical students from various Iraqi medical colleges.

Methodology: A cross sectional prospective survey based on questionnaire was conducted among medical students from different Iraqi medical colleges between 1st November 2022 and 28th February 2023. The inclusion criteria include Iraqi medical students between 2nd and 6th stage and the exclusion criteria include only students of first stage. The survey was voluntary and anonymous. The completion and submission of the questionnaire served as consent to participate in the study. The survey was conducted either as an online using social media or through an in-person interviews by distributing the questionnaire questions on paper. The sample size of this study was 441, as for the Al-Kindy College of Medicine, it collected part of the samples in an in-person interview, which include 103 participants.

Results: A total (441) students participated in the research . The number of females (277) and the number of males (164). completed the questionnaire (302 in preclinical years and 139 in clinical years). The majority of participants (87.7%) had insufficient awareness of BLS skills and only (12%) of participants had good knowledge of BLS. (95%) of participants support for the inclusion of first aid in the curricula of medical colleges, theoretically and practically

Conclusion: According to the study, the medical students have insufficient knowledge about BLS and require significant improvements to effectively save lives.

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Abbreviations	Mean
BLS	Basic life support
CPR	Cardiopulmonary Resuscitation
AED	Automated External Defibrillators
AHA	American Heart Association
ILCOR	International Liaison Committee on Resuscitation
WHO	World Health Organization
COPD	Chronic Obstructive Pulmonary Disease
DM	Diabetes mellitus
CVDs	Cardiovascular diseases
CAD	Coronary artery disease
KSA	Kingdom of Saudi Arabia
EMS	Emergency Medical Service

Chapter 1

Introduction and literature review

Introduction:

What is BLS?

Basic Life Support, or BLS, generally refers to the type of care that first-responders, healthcare providers and public safety professionals provide to anyone who is experiencing cardiac arrest, respiratory distress or an obstructed airway. It requires knowledge and skills in cardiopulmonary resuscitation (CPR), using automated external defibrillators (AED) and relieving airway obstructions in patients of every age [1]. With the advancement of health care facilities, there are a number of lifesaving modalities which can help in reducing mortality and preventing morbidity. However, Basic Life Support (BLS) skill is still one of the most effective tool with potential to save millions of lives worldwide [2]. It is also described as the medical procedures and skills that are employed to save a victim suffering from a life-threatening emergency until he is transported to get medical care at the hospital [3].

The American Heart Association (AHA) recommends key steps in the basic chain of survival which include recognition of cardiac arrest, activation of emergency response system, cardio pulmonary resuscitation (CPR), use of automated external defibrillator and transport to a hospital. The most important step in the sequence of BLS is effective CPR (chest compressions and mouth-to-mouth breathing at a ratio of 30:2 compressions to breaths) which can be done by a lay-person and improve outcome of cardiac arrest [4].

As part of basic life support, it is necessary to recognize signs Of sudden cardiac arrest, heart attacks, strokes, and foreign Bodies obstructing airways [5]. And to perform cardiopulmonary Resuscitation and automated external defibrillation. During Resuscitation, the primary goal is to maintain adequate ventilation And circulation, which is critical to ensuring a patient's survival [6]. Moreover, cardio-respiratory arrest can also be seen in neonates and infants , with slight differences in the BLS algorithm that healthcare providers should be aware of [7]

Cardiovascular diseases deaths

Causes of death can be grouped into three categories: communicable (infectious and parasitic diseases and maternal, perinatal and nutritional conditions), noncommunicable (chronic) and injuries. At a global level, 7 of the 10 leading causes of deaths in 2019 (Ishaemic heart disease, Strok, COPD, Lower respiratory infections, Neonatal conditions, Trachea - bronchus - lung cancer, Alzheimers disease, Diarrhoeal diseases, DM, Kidney diseases) were noncommunicable diseases. These seven causes accounted for 44% of all deaths. The world's biggest killer is ischaemic heart disease, responsible for 16% of the world's total deaths. Since 2000, the largest increase in deaths has been for this disease, rising by more than 2 million to 8.9 million deaths in 2019 [8].

Cardiovascular disease ranks first as a cause of disease-related death in Iraq, and according to the latest WHO data published in 2020 Coronary Heart Disease Deaths in Iraq reached 36,594 death or 24.98% of total deaths[9].

The significance of CPR

Ninety percent individuals who experience an out-of-hospital-cardiac-arrest die, and of those who survive, 45% are the one who got bystander CPR [10].The significance of CPR can be seen in reality that in heart failure, every minute without CPR causes a fall in survival rate by 10 - 15%[11]. Practicing simple cardiopulmonary resuscitation (CPR) techniques as well as knowing BLS improves the chances of survival of the patient until experienced medical help can arrive. In most cases, it is sufficient for survival in itself [12-13].

The majority of victims who experience an out-of-hospital cardiac arrest do not receive adequate resuscitation by health care professionals within the critical time, 3-5 min after onset, thus reducing the chance of survival.[14]

A good CPR can increase the chances of survival, decrease prolonged hospital stay and reduce overall medical cost [15-16] . CPR success is determined mainly by the proficiency level of the individual in basic and advanced life support [17].The prognosis of out-of-hospital cardiac arrest (OHCA) victims strongly depends on the presence of witnesses able and willing to perform Basic Life Support (BLS) manoeuvres [18] . Despite strong expectations among the population, and even though they may also face cardiac arrest situations during their clinical training [19].

Knowledge of BLS among medical schools

Most medical students lack essential BLS knowledge [20]. An individual will be able to effectively resuscitate a victim if they have sufficient knowledge and appropriate awareness of procedures and practices. All employees in the health sector should Have BLS training. In addition, proper practice of the techniques and maneuvers is mandatory to effectively resuscitate a victim, which requires adequate knowledge and training during medical and health colleges' education years. Junior doctors are often the “first line” persons called to attend to patients in cardiac arrest [21]. If the methods have not been instructed to them during their studies, they have next to no opportunity to enhance them in the clinical setting [22].

Historical background

Modern CPR was officially accepted in 1960 when mouth to mouth resuscitation was combined with chest compressions by William Kouwenhoven and Guy Knickerbocker, who were electrical engineers, and James Jude, a physician and surgeon. Their work marked the beginning of modern CPR and was published in the Journal of the American Medical Association [23-24]. In 1962, direct current monophasic waveform defibrillation was described [24]. In 1966, the first guidelines for CPR were developed by AHA. The International Liaison Committee on Resuscitation (ILCOR) was founded in 1992 to promote international collaboration with a goal of endorsing evidence-based resuscitation science that can be adopted by regional councils to formulate resuscitation guidelines [25]. The AHA and the ILCOR included BLS in their guidelines in 2000 [26].

The changes of highlights in CPR from guidelines 2000 to 2015 are shown in Fig. 1-1. The guidelines has been modified several times and its latest update is in 2015 [26]

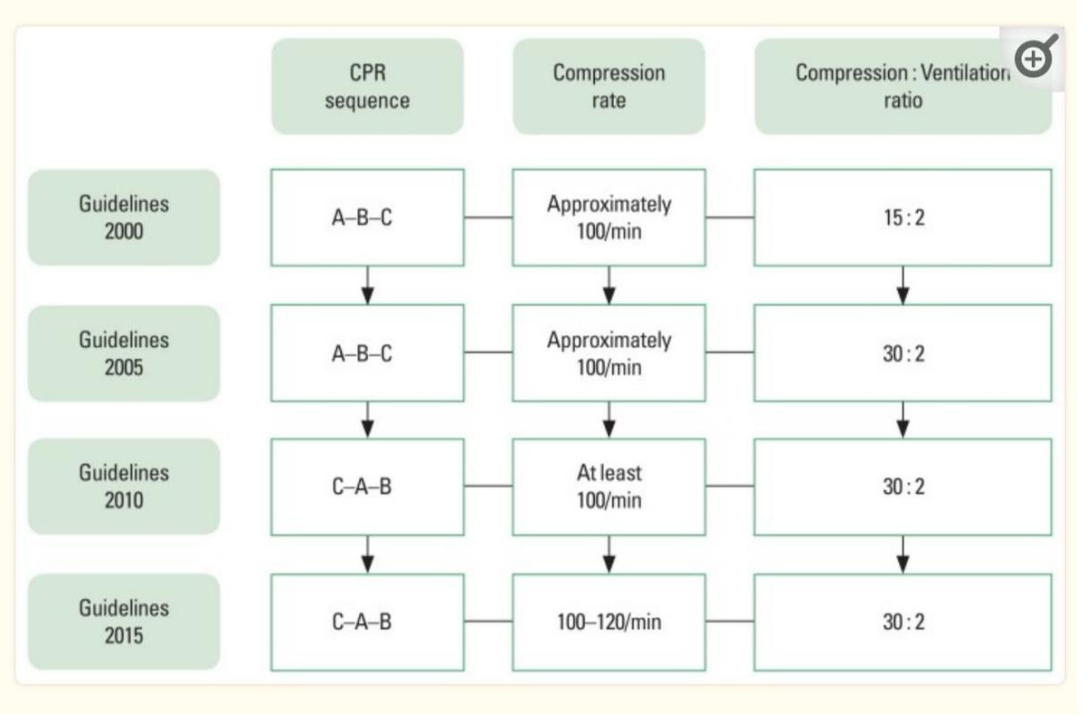


Figure (1-1) : the changes of highlights in CPR from guidelines 2000 to 2015 . CPR = cardiopulmonary resuscitation, A= airway , B = breathing , C= compression [26] .

CPR STEPs according to AHA:

The 6 links in the adult out-of-hospital Chain of Survival are:
1-Recognition of cardiac arrest and activation of the emergency response system (calling 122 in Iraq)
2-Early CPR with an emphasis on chest compressions
3-Rapid defibrillation
4-Advanced resuscitation by Emergency Medical Services and other healthcare providers
5-Post-cardiac arrest care
6-Recovery (including additional treatment, observation, rehabilitation, and psychological support)
A strong Chain of Survival can improve chances of survival and recovery for victims of cardiac arrest [4].

Figure (2-1) : The 6 links in the adult out-of-hospital Chain of Survival [4]

How is CPR Performed?

There are two commonly known versions of CPR:

1- For healthcare providers and those trained: conventional CPR using chest compressions and mouth-to-mouth breathing at a ratio of 30:2 compressions-to-breaths. In adult victims of cardiac arrest, it is reasonable for rescuers to perform chest compressions 100 per minute and to a depth of at least 2 inches (5 cm) for an average adult, while avoiding excessive chest compression depths (greater than 2.4 inches [6 cm]).
2- For the general public or bystanders who witness an adult suddenly collapse: compression-only CPR, or Hands-Only CPR. Hands-Only CPR is CPR without mouth-to-mouth breaths. It is recommended for use by people who see a teen or adult suddenly collapse in an out-of-hospital setting (such as at home, at work, or in a park) [27].

Hands-Only CPR consists of two easy steps:

1- Call 122 (or send someone to do that)
2- Push hard and fast in the center of the chest

Figure (3-1): Hands-Only CPR consists of two easy steps [4].

Objective

To determine the knowledge of BLS and related skills among undergraduate medical students from various Iraqi medical colleges.

Chapter 2

Methodology

Methodology

A cross sectional prospective survey based on questionnaire was conducted among medical students from different Iraqi medical colleges include (Al-Kindy College of Medicine, medical college of Baghdad, AL- Mustansiriyah, Al - Iraqiya , Al – Anbar , Al- Basra , Al-Qadisiyah , Al- Kufa , Al- Muthanna, Al- Mosul , Al- Nahrain ,Thi-Qar, Karbala, Maysan, Summer, Jabir ibn hayyan and Babylon universities between 1st November 2022 and 28th February 2023.

The inclusion criteria include Iraqi medical students between 2nd and 6th stage and the exclusion criteria include only students of first stage.

The survey was voluntary and anonymous. The completion and submission of the questionnaire served as consent to participate in the study. The medical-students from the for mentioned Iraqi medical colleges were invited to participate in the survey. The sample size of this study was 441 and the survey was conducted either as an online using social media or through an in-person interviews by distributing the questionnaire questions on paper, as for the Al-Kindy College of Medicine, which is 103 samples .

The survey contained 10 questions on BLS (Appendix 1) and was prepared using the advanced cardiac life support manual posted in Indian Journal of anesthesia 2010 with modification. The questionnaire has previously been utilized and verified by a research carried out in India with a relatively high number of responses [27].

Statistical analysis : SPSS software and suitable statistical tests were used to analyze the data gathered from the data collection form. A p-value equal to or less than 0.05 was considered as significant level. The data analysis Descriptive statistics were analyzed using SPSS version 26.0. and also Excel 2010, Chi-square test was used to compare different variables and multivariate logistic regression analyses were performed to explore the association of sex, school years, and medical school.

Chapter 3

Results

Results:

441 male and female students participated in the research. The number of females (277) and the number of males (164) were from the second to sixth stages nearly half of the participants were from the third stage. 17 medical colleges participated, and the largest percentage was for Al-Kindy College of Medicine as shown in table (1-3) .

Table (1-3) : **Distribution of students by their Demographic Characteristics**

Variable		**Frequency**	**Percentage**
Gender	Male	164	37.2%
	Female	277	62.8%
	Total	441	100%
Stage	Second	88	20%
	Third	214	48.5%
	Fourth	65	14.7%
	Fifth	38	8.6%
	Sixth	36	8.2
	Total	441	100%
College of Medicine	Al-kindy College of Medicine	246	55.8%
	AL-Mustansiriyah University	91	20.6%
	Al-Nahrain University	24	5.4%
	Thi-Qar University	20	4.5%
	Maysan University	15	3.4%
	Al- Mosul University	13	2.9%
	Baghdad University	12	2.7%
	Others	20	4.5%
	Total	441	100%

The greatest percentage of correct responses was in the fourth stage (73.84%). The percentage of correct responses for all stages was 61.45%, and the mean was 51.8 as shown in table (2-3) .

Table (2-3): The number and percentage of correct , incorrect responses , the mean and the standard deviation according to different stages.

Stage	The correct responses	The incorrect responses	Mean	Standard deviation
Second	49 (55.68 %)	39 (44.32%)	49.77	21.5
Third	128 (59.81 %)	86 (40.19%)	51.82	20.98
Fourth	48 (73.84 %)	17 (26.16%)	55.69	17.3
Fifth	27 (71.05 %)	11 (28.95%)	54.74	18.99
Sixth	19 (52.77 %)	17 (47.23%)	47.22	16.83
All stage	271 (61.45 %)	224 (38.55%)	51.8	20.17

The least answer was to the following two questions: The first What is the correct depth of chest compression for adults it was(20.9 %) and the second what is the correct rate of chest compression for adults and children it was (30.4%) . And the biggest answer to the questions was the share of the question what does the abbreviation BLS stands for it was (77.1%) as shown in table (3-3) .

Table (3-3): the questions and their correct answers to BLS knowledge questions among participating medical students.

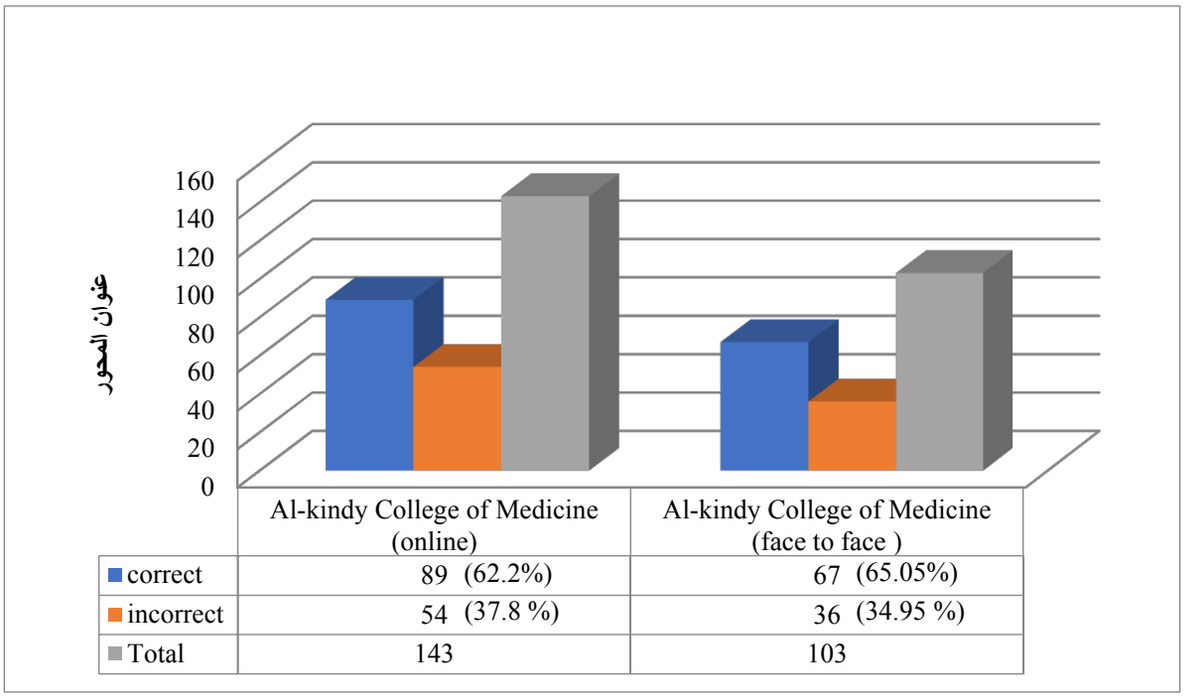
Questions	Correct answer	Number (%)
1-What does the abbreviation BLS stands for?	Basic Life Support	340 (77.1%)
2-When you find someone unresponsive in the middle of the road, what should your first response be? (Note: you are alone)	Look for safety	212 (48.1%)
3-If you confirm somebody is not responding to you even after shaking and shouting at him, what should your immediate action be?	Activate Emergency Medical Services	209 (47.4%)
4-What is the location for chest compression?	Mid chest	256 (58%)
5-What is the correct depth of chest compression for adults?	1 – 1½ inches	92 (20.9)
6-What is the correct rate of chest compression for adults and children?	100/min	134 (30.4%)
7-What is the correct ratio of Cardiopulmonary resuscitation (CPR) for an adult when there is single rescuer?	30:2	216 (49%)
8-You witness an infant who suddenly starts to choke while playing with a toy.You have confirmed that he is unable to cry and/or cough, what should your first response be?	Back blows and chest compression of five cycles each then open the mouth and remove foreign body only when it is seen	286 (64.9%)
9-What is the phone number of ambulances?	122	210 (47.6%)
10-Where should you attempt to perform a pulse check in an adult?	Carotid artery	332 (75.3%)

54 students obtained a score of 80% and above While 169 students scores less than 50% as shown in table (4-3) .

Table (4-3) :Total knowledge score .

	Frequency	Percent
Good (80% and above)	54	12.2 %
Fair (50% to less than 80%)	218	49.4 %
Poor (less than 50%)	169	38.3 %
Total	441	100 %

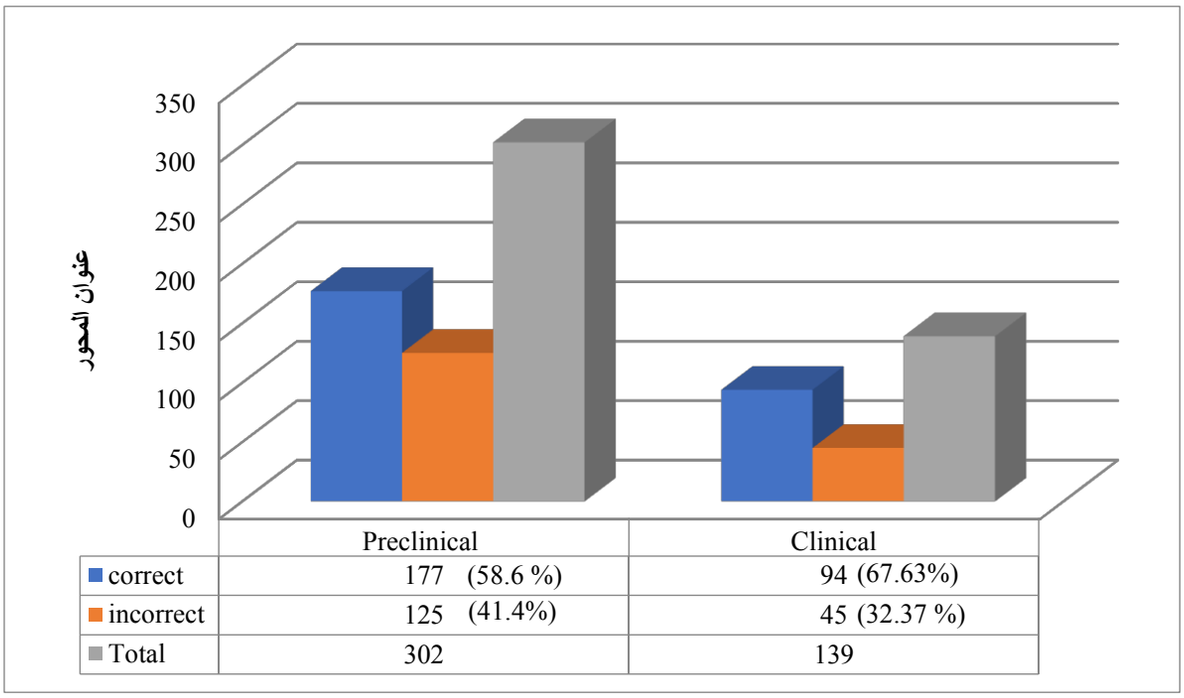
The percentage of correct responses of participants who answered the questionnaire face to face slightly more than those who answered online as shown in Figure (1-3) .



	Al-kindy College of Medicine (online)	Al-kindy College of Medicine (face to face)
correct	89 (62.2%)	67 (65.05%)
incorrect	54 (37.8 %)	36 (34.95 %)
Total	143	103

Figure (1 - 3) : A comparison between the responses of Al-Kindy College of Medicine in the online and face to face , P value is 0.6

The percentage of correct responses for the clinical stages (67.63%) is more than for the preclinical stages (58.6%), as shown in Figure (2-3).



	Preclinical	Clinical
correct	177 (58.6 %)	94 (67.63%)
incorrect	125 (41.4%)	45 (32.37 %)
Total	302	139

Figure (2-3) : Comparing the responses between the preclinical stages and the clinical application stages , P value is 0.07

95% of participants support for the inclusion of first aid in the curricula of medical colleges as shown in figure (3-3).

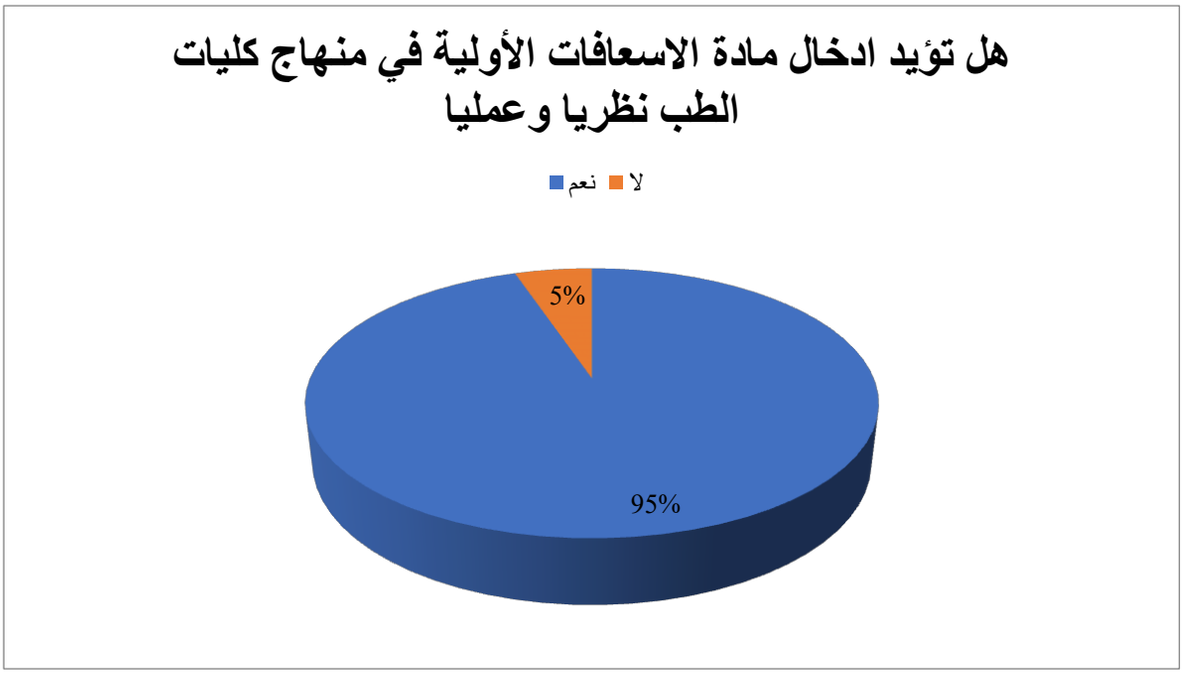


Figure (3-3) : Percentage of support for the inclusion of first aid in the curricula of medical colleges, theoretically and practically

Chapter 4

Discussion and limitations

Discussion

Cardiovascular diseases (CVDs) are diseases that arise from a defect in the heart and blood vessels. Cardiovascular diseases account for most of non communicable diseases deaths. It kill about 17.7 million annually all over the world, particularly in low and middle income countries [28]. Coronary artery disease (CAD) among non-communicable is the leading cause of cardiovascular mortality worldwide, with more than 4.5 million deaths occurring in the developing world [29].

Cardiovascular disease ranks first as a cause of disease-related death in Iraq. According to the latest WHO data published in 2020 Coronary Heart Disease Deaths in Iraq reached 36,594 death or 24.98% of total deaths [30].
In the USA and Europe, the rate of mortality due to out-of hospital cardiac arrest remains high with 276,000 and 350,000 deaths per year, respectively [31]. Therefore, BLS awareness is necessary for all medical staff, including medical students.

This study showed that more than two-thirds of participated students have insufficient awareness of BLS skills and only 12% of participants had good knowledge of BLS (table 4-3), furthermore 23% of the study sample do not even know what the BLS abbreviation is (table 3-3), this findings agree with a previous study in Jazan University- KSA, that found the overall knowledge of BLS/CPR training among its students is not sufficient enough and needs major improvements to save lives in the near future [32].

The lack of structured training courses in first aid in universities can be attributed to the poor BLS and CPR knowledge in our study, In terms of saving time and acting efficiently during resuscitation in emergency cases, activation of EMS is considered to be the first step for initiating the chain of survival [33].
Less than 50% of students in the current study could accurately recognize the first step of initiating the chain of survival, which is activating EMS (table 3-3), Delaying the initiation of the chain of survival will decrease the survival rate by up to 10% for each minute [34], in this regard a recent study in Scandinavia, following BLS training, there was an increased knowledge of BLS skills among participating students with reduced time needed to establish CPR in out-of-hospital cardiac arrest situations [35].
So, CPR techniques and quality play a crucial role in saving a life, especially outside the hospital.

Being aware of the precise location, rate, depth, and ratio of chest compression and ventilation increases the rate of survival [36-37]. Surprisingly, only 49% of participated students in this study know the right chest compression: ventilation ratio for adults. Also 58% of students know the location for chest compression. In addition, 80% failed to identify the precise depth of chest compression for adults. Furthermore, only 30% of the study samples know the correct chest pressure rate for adults and children (table 3-3).

Failing to look for safety in BLS can put the victim and the rescuer in unsafe situations therefore, the fact that a high proportion of the responders failed to identify this correctly is concerning (table 3-3). A study in Egypt among medical students showed the proportion of

knowledge for the same questions was less than that in the current study [38], perhaps the reason for this is that some students in the current study participate in the attendance workshops of some private academies outside the government colleges that are held periodically and annually.

In an emergency, time is of the essence. Ambulance on site can respond quickly to an emergency, providing immediate medical attention and transport to the hospital if necessary. This can greatly increase the chances of survival and recovery in a life-threatening situation [39]. Thus knowing the ambulance number is very important, this study showed that only 47% of the participating students knew the ambulance number (table 3-3) , compared to a study conducted at King Faisal University in Saudi Arabia, which showed that 70% of the participants knew the ambulance number in their country [40].

Comparing the results of students in the preclinical stages with those in the last three years of medical colleges showed that students in clinical stages had better BLS knowledge than preclinical students (figure 2-3) , This result is supported by a similar study conducted in 2010 in India [28]. The reason is likely to be the teaching methods and curriculum in the clinical stage are more effective in conveying basic life support knowledge and skills. There was a sample of the participants who answer the questionnaire face to face (on site) comparing their answers with those answering online, the results were almost equal, with a slight tilting of the correct answers of those on site participants, this may attributed to the sample of the students who participate in the on site, the majority from clinical stages (figure 1-3) .

Limitations

1. Limited sample size: The sample size of a study may be too small to draw accurate conclusions.

2. Time constraints: Studies may be limited by time constraints, which can affect the accuracy and completeness of the results.

3. Generalizability: Results from a study may not be generalizable to all colleges because some colleges had a low participation rate.

Chapter 5

Conclusion and recommendation

Conclusion

The study suggests that students lack knowledge of BLS and need significant improvements to save lives.

Recommendation

1-It is recommended that a Basic Life Support training should be incorporated into the curriculum of undergraduate medical students, as 95 percent of the participants agreed with this , along with periodic training sessions so that the knowledge remains recent.

2-There is a need to conduct BLS programs in almost all corners and sectors of our society, with the intention of creating a high number of people capable of performing BLS.

3- Practical workshops should be established to learn the basics of basic life support for all health care workers, especially medical students, to save as many cases as possible from sudden cardiac arrest.

4- We recommend that there be a study similar to current study, but with larger samples and including more colleges, so that it can be generalized.

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Appendix 1:

Questionnaire:

1.Name of the medical school :

2.Gender :

3.Stage :

4. What does the abbreviation BLS stand for?
a. Best Life Support
b. Basic Life Support
c. Basic Lung Support
d. Basic Life Services

5. When you find someone unresponsive in the middle of the road, what should your first response be? (Note: You are alone)
a. Open airway
b. Start chest compression
c. Look for safety
d. Give two breathings

6. If you confirm somebody is not responding to you even after shaking and shouting at him, what should your immediate action be?
a. Start CPR
b. Activate Emergency Medical Services
c. Put him in recovery position
d. Observe

7.What is the location for chest compressions?
a. Left side of the chest
b. Right side of the chest
c. Mid chest
d. Xiphisternum.

8. What is the correct depth of chest compression for adults?
a. 1½ – 2 inches
b. 2½ – 3 inches
c. 1 – 1½ inches
d. ½ – 1 inch

9. What is the correct rate of chest compression for adults and children?
a. 100 / min
b. 120 / min
c. 80 / min

d. 70 / min

10. The compression to ventilation ratio for single rescuer giving CPR to an Adult is:?
a. 15:2
b. 5:1
c. 30:2
d. 15:1.

11. You witness an infant who suddenly starts to choke while playing with a toy. You have confirmed that he is unable to cry and/or cough. What should your first response be?
a. Start CPR immediately
b. Try to remove the suspected foreign body using a blind finger sweeping technique
c. Back blows and chest compression of five cycles each then open the mouth and remove foreign body only when it is seen
d. Give water to the infant

12.What is the phone number of ambulance
a. 112
b. 122
c. 102
d. 115

13.Where should you attempt to perform a pulse check in an adult
a.Brachial artery
b. Carotid artery
c. Popliteal artery
d. Temporal artery

14. هل تؤيد ادخال مادة الاسعافات الاولية في منهاج كليات الطب نظريا و عمليا
a. نعم
b. لا

الخلاصة

خلفية الموضوع : يظل دعم الحياة الأساسي (BLS) مهارة أساسية منقذة للحياة يجب أن يكون لدى مقدم الرعاية الصحية. تتحسن نتيجة السكتة القلبية بشكل كبير إذا كانت على وجه السرعة وبشكل صحيح. يتم إجراء جلسات دعم الحياة الأساسية بانتظام للأطباء لتحسين المعرفة والمهارات .

الهدف: لتحديد معرفة دعم الحياة الأساسي والمهارات المتعلقة بها بين طلاب الطب الجامعيين من مختلف كليات الطب العراقية.

منهجية البحث : تم إجراء مسح مستقبلي مقطعي قائم على الاستبيان بين طلاب الطب من كليات الطب العراقية المختلفة في الفترة ما بين ١ نوفمبر ٢٠٢٢ و ٢٨ فبراير ٢٠٢٣.تشمل معايير التضمين طلاب الطب العراقيين بين الثانية والمرحلة السادسة ومعايير الاستبعاد تشمل طلاب المرحلة الأولى فقط. كان المسح طوعي ومجهول.استُخدم إكمال الاستبيان وتقديمه الموافقة على المشاركة في الدراسة. تم إجراء الاستطلاع إما عبر الإنترنت باستخدام وسائل التواصل الاجتماعي أو من خلال مقابلة شخصية عن طريق توزيع أسئلة الاستبيان على الورق.بلغ حجم عينة هذه الدراسة ٤٤١ ، أما كلية الطب الكندي فقد جمعت جزء من العينات في مقابلات شخصية ، وهي حوالي ١٠٣ عينة.

النتائج : بلغ عدد المشاركين في البحث ٤٤١ . عدد الاناث (٢٧٧) وعدد الذكور (١٦٤). أكمل الاستبيان (٣٠٢ في سنوات ما قبل السريري و ١٣٩ في السنوات السريرية). غالبية المشاركين (٨٧.٧٪) لم يكن لديه وعي كافٍ بمهارات دعم الحياة الاساسي وكان لدى ١٢٪ فقط من المشاركين معرفة جيدة. ٩٥ % من المشاركين يؤيدون ادراج الاسعافات الاولية في المنهاج الطبي لكليات الطب النظري والعملي.

الاستنتاج : تشير الدراسة إلى أن الطلاب يفتقرون إلى معرفة BLS ويحتاجون إلى تحسينات كبيرة لإنقاذ الأرواح. لذلك ، يجب تضمين تدريب BLS في المناهج الدراسية من السنة الأولى من التعليم.

وزارة التعليم العالي والبحث العلمي
جامعة بغداد
كلية طب الكندي

دعم الحياة الأساسي , هل طلاب الطب على دراية به؟

بواسطة :
حســـن علـــي كـــاظم
ايمـــن رائـــد رحمان
بهاء حســـين ناصر
محمد بـــاقر ســـعود

بإشراف :
ا.م.د. مهـــند منـــذر

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٢٠٢٣ م