DonnishJournals

Donnish Journal of Dentistry and Oral Hygiene
Vol. 5(5) pp. 112-116 December 2019.
http://www.donnishjournals.org/djdoh
ISSN: 2984-8806

Original Research Article

Knowledge, Attitude and Practice of Basic Life Support among Dental Students and Faculty in Riyadh Elm University at Riyadh

Atheer Almughaiseb[1], Ohood Alruwaili[1]*, Sara AlGhannam[1], Doaa Alkhail[1], and Shahzeb Hasan Ansari[2]

[1]General Dental Practitioners, Riyadh, Saudi Arabia.
[2]Faculty Preventive Dentistry, Riyadh Elm University, Saudi Arabia.

Accepted 28th November, 2019.

Introduction: Basic life support (BLS) is an integral life-saving protocol that requires recognition, prevention, and effective management that falls on the shoulders of any health care provider, in case of emergencies. Aim and Objective: the aim of this is analyze the knowledge and attitude of basic life support among dental students and faculty in Riyadh Elm University. Material and methods: the study is a cross-sectional quantitative study that was conducted among dental students and faculty in Riyadh Elm University. The questionnaire consisted of 20 items divided into four main parts (demographic, knowledge, attitude and practice). Data was collected and analyzed by using IBM SPSS version 22. Result: An optimal sample size of 403 was recommended. A total of 414 respondents participated. This study revealed that the average knowledge of BLS among participants was 66.7%. On the other hand, 74% had a positive attitude toward BLS. However, 44.4% don't feel able to practice the BLS. There was no statistically significant association between knowledge and gender, academic level, and clinical experience (p>0.05). Conclusion: awareness about Basic life support (BLS) among dental students and faculty is very high.

Keywords: Basic life support, Knowledge, Attitude, Practice, Dental students.

INTRODUCTION

Basic life support (BLS) is an integral part which involves medical procedures and skills that are used to save the victim from life-threatening emergencies until medical care is provided at the hospital. BLS comprises of the following elements: initial assessment, basic airway management, cardiopulmonary resuscitation (CPR) which restore partial flow of oxygen to the brain and heart, artificial ventilation(rescue breathing: mouth to mouth ventilation), and bleeding control (Sangamesh et al, 2017), (Somaraj et al, 2017).

According to the World Health Organization (WHO), heart disease is the world's largest killer responsible for 17.5 million deaths every year. (Suma et al, 2017). Time is the key element of the fate of a cardiac arrest victim. The first 10 min immediately after an arrest are crucial and are often referred to as the "Golden minutes" or the "golden 10" because if nothing is done within that time, the victim is not likely to survive (Salameh et al, 2018). Administering BLS as early as possible increases a victim's chances of surviving a cardiac arrest although CPR alone cannot restart the heart, it only delays the death of tissues, thereby extending the window of opportunity for the victim until proper medical help arrives (Salameh et al, 2018).

This ultimately is the dentist's and faculty's responsibilities to effectively manage the emergency situation in the dental office. Legal complications and tragic consequences will result due to lack of training and an inability to cope with these situations (Sangamesh et al, 2017).

In most health care professions, CPR/BLS competence is an expectation of the regulating authorities and thus they need to have updated technical knowledge and practical skills developed to contribute more efficiently to cardiac arrest maneuvers and it is usually a component of the curriculum. It is therefore not uncommon for this subject matter to be embedded in the curricula. Indeed, BLS and CPR are a competency required in many undergraduate health care courses (Kitney et al, 2009). Different reports have described the knowledge of BLS among health care professionals.

(Somaraj et al.2017) evaluated the knowledge of BLS among dental intern and found lack of knowledge pertaining to the management of medical emergencies in India.

In Saudi Arabia, the literature is limited in regard to the BLS knowledge among health care professionals (Alotaibiet al, 2015).

Corresponding author: Ohood Alruwaili Email Address: ahood.m.alruwaili@student.riyadh.edu.sa

Recently, (Al-shamiri et al, 2017) reviewed the awareness of the basic life support among Saudi dental students and interns regarding BLS and showed the urgent need for continuous refreshing courses for this critical topic. The study participants included (145 final year and 58 interns). Another study (Alotaibi et al, 2015) showed inadequate basic life support knowledge and attitude among dental students and staff at King Saud University in Saudi Arabia, and it should be included in their curriculum.

Working in dentistry has many risks leading to life-threatening emergencies. Which is related to the use of local anesthesia, dental material with high sensitivity potential, and the fear of unknown surgical operations.

The prevalence of medical emergencies reported by the dentist over a 12-month period are vasovagal syncope, hypoglycemia, angina, epileptic, choking, asthma, unspecified collapse, hypertensive crises, anaphylaxis, myocardial infarction, and cardiac arrest (Girdler et al, 1999).

It is important that every member of our community should be trained in effective BLS technique to save lives. At least doctors, including dental practitioners, and the medical and the paramedical staff, should be trained in high-quality CPR on a regular basis, as it is a basic medical skill, which can save many lives if implemented timely (Baduni et al, 2014).

Hence, the present study was conducted with the aim of assessing the knowledge, attitude, and practice involving basic life support among dental students and faculty.

MATERIALS AND METHODS

A cross-sectional quantitative study was conducted among dental students at the school of Dentistry, Riyadh Elm University in Riyadh, Saudi Arabia. Dental students (four, fifth, intern, and faculty) enrolled in 2018 were eligible to participate (n = 403). This study was approved by the Research Center of Riyadh Elem University.

A self-designed questionnaire which was tested for validity and reliability, a pilot study was conducted (n=10). It was randomly distributed among practitioners, through email, and papers during clinical sessions without discussion for 10 minutes. Informed consent was taken before answering the questionnaire. Confidentiality and anonymity were assured.
The structured questionnaire consists of four sections:

1. Demographic variables of the respondent (gender, academic level, and clinical experience).
2. Knowledge of participants related to BLS consists of 8 statements (non-closed ended questionnaire).
3. Attitude toward BLS (three close-ended questions, one non-closed ended).
4. Practice toward BLS (two close-ended questions, two non-closed ended).

Data was collected and analyzed by using IBM SPSS version 21. Statistical analysis was preformed to view the findings. Pearson Chi-square test was used to find the association between gender, academic level, and clinical experience. A *p-value* <0.05 was considered statistically significant.

RESULTS

The sample size needed (n=403), a total of 414 respondents were received out of 414 participants, 228 (55%) were males, and 186 (45%) were females (graph1). Almost half of the participants' academic level 177 (42.7 %) were *5th-year dental students* (graph 2).

A large number of respondents' clinical experience 315 (76.2) were less than 5 years.

Most of the participants reported that their immediate action is open airway (72.1%) when they find someone unresponsive in the clinic, start basic life support is their management if the patient is having cardiac arrest (64.0%); look, listen, and feel to check the breathing activity of unconscious patients (85.1%); use to breathe into the mouth or nose until the chest rise as artificial ventilation to an unconscious patient (60.4%); use head tilt-chin lift to open airway (71.0%); use mid-chest as the location of chest compression in CPR (71.9%), and 30/min number of chest compressions to be done in adult during CPR (66.4%). The response of how long should the health provider check a pulse in a medical emergency is shown in table 2.

The majority reported that they are interested in knowing more about basic life support (96.3%) and agree that continuous basic life support training should be a part of the dental curriculum (97.7%). Just over a half (53.0%) have been a part of continuous dental/medical education in basic life support. Of the 47.0 % who have not been a part of continuous dental/medical education in basic life support, 87.8% reported that they would like to participate or attend continuing dental/ medical education in basic life support. The response of the participants' opinion with regard to lack of knowledge about basic life support is shown in table 3.

A large number of participants have never seen basic life support done on a patient (76.2%); never witness a patient suffering a cardiac arrest and the patient is in need for your (90.9%); and reported undergraduate program as a source of information about basic life support. The response of the participants to what extent do they feel able to perform basic life support, and what is their source of information about basic life support is shown in table 4. There was no statistically significant association between knowledge and gender, academic level, and clinical experience (p>0.05).

Table 1. Demographics

		Frequency (n)	Percent (%)
Gender	***Male***	154	55.0
	Female	126	45.0
Academic level	*4th-year dental students*	23	8.2
	5th-year dental students	119	42.7
	Dental interns	53	19.0
	Dental residents	53	19.0
	Faculty	15	5.4
Clinical experience	*Less than 5 years*	214	76.2
	Between 5 and 10 years	54	19.2
	More than 10 years	13	4.6

Table 2. Knowledge

		Frequency (n)	Percent (%)
When you find someone unresponsive in the clinic, what is your immediate action?	*Open airway*	165	72.1
	Start chest compression	37	16.2
	Give two breathings	7	3.1
	I don't know	20	8.7
What is your management if the patient having cardiac arrest?	*Wait for rescue workers to arrive*	13	5.7
	Place the person in recovery position and wait for the assistance to arrive	54	23.7
	I start basic life support	146	64.0
	I don't know	15	6.6
How to check the breathing activity of unconscious patient?	*Look, listen and feel*	194	85.1
	By using stethoscope	2	.9
	By the chest movement	25	11.0
	I don't know	7	3.1
Artificial ventilation to an unconscious patient is done by?	*As it is not included in basic life support*	25	11.0
	Two breathe into the mouth or nose until the chest rise	137	60.4
	One breathe into the mouth or nose until the chest rise	29	12.8
	I don't know	36	15.9
Which technique can be used to open airway?	*Sweep finger in mouth*	8	3.7
	Head tilt-chin lift	154	71.0
	Chin tilt-head lift	39	18.0
	I don't know	16	7.4
What is the location of chest compression in CPR	*Left side of the chest*	33	15.2
	Right side of the chest	7	3.2
	Mid chest	156	71.9
	I don't know	21	9.7
Indicate the number of chest compressions to be done in adult during CPR	*30/min*	144	66.4
	50/min	17	7.8
	100/min	20	9.2
	I don't know	36	16.6
How long should the health provider check a pulse in medical emergency?	*5 sec*	57	26.4
	10 sec	78	36.1
	15 sec	42	19.4
	2 sec	39	18.1

Table 3. Attitude

		Frequency (n)	Percent (%)
Are you interested in knowing more about basic life support?	*Yes*	207	96.3
	No	8	3.7
Do you agree that continuous basic life support training should be a part of the dental curriculum?	*Yes*	210	97.7
	No	5	2.3
Have you been apart of continuous dental/medical education in basic life support?	*Yes*	114	53.0
	No	101	47.0
If no, would you like to participate or attend on continuing dental/ medical education in basic life support?	*Yes*	165	87.8
	No	23	12.2
What is your opinion with regard lack of knowledge about basic life support?	*Busy curriculum*	74	34.7
	Lack of interest	54	25.4
	No professional training available	75	35.2
	Other causes	10	4.7

Table 4. Knowledge

		Frequency (n)	Percent (%)
Have you ever seen basic life support done on a patient?	*Yes*	49	23.8
	No	157	76.2
Have you ever witness a patient suffering a cardiac arrest, and the patient is in need for your help?	*Yes*	19	9.1
	No	189	90.9
To what extent do you feel able to perform basic life support?	*I am completely unable*	20	9.8
	I am very uncertain and would probably not able to help	39	19.0
	I know the theory but not what to do in practice	91	44.4
	I feel well prepared and will take action if a person falls over	55	26.8
What is your source of information about basic life support?	*Undergraduate*	144	69.6
	Postgraduate	13	6.3
	Conference	13	6.3
	Self education	37	17.9

DISCUSSION

Dentists and any healthcare provider should be aware of any emergency situation that could occur in the dental office, in terms of patient assessment, how and when to manage them. There are a lot of studies about knowledge and attitude of basic life support BLS, In contrast, we did not find any study that includes the practical part to our knowledge. This study revealed that the average knowledge of BLS among 414 participants was 66.7%. On the other hand, 74% had a positive attitude toward BLS. However, 44.4% did not feel able to practice the BLS.

Overall, dental students and faculty in the present survey showed an adequate level of knowledge of BLS. This result is at variance with other previous studies such as (Alotaibi et al, 2015). (Somaraj et al, 2017), (Al-shamiri et al, 2017), (Mac et al, 2017), (Reddy et al, 2013), (Chandrasekaran et al, 2010), which concluded that dental students' knowledge of BLS was inadequate.

Our result is similar to the study conducted by (Narayan et al, 2015), that showed an adequate level of knowledge among dental interns. A study conducted among dental students and interns in Saudi Arabia, 21.7% of both males and females, respectively knew what to do in case of an unresponsive patient in the clinic, whereas, this study shows a significant knowledge that reached 72.1% (Al-shamiri et al, 2017).

The correct response of participants to the location of chest compression was 71.9% which is comparable to the 44.8% and 63.9% reported by (Somaraj et al, 2017) and (Al-shamiri et al, 2017).

In the study by (Alotaibiet al, 2015), they found that the reason for lack of knowledge about BLS was 48%, almost half of the participant agrees on busy curriculum, and 37% believes that no professional training was available. Whereas, in the current study, the respondent was almost the same 34.7%, and 35.2% agrees in both busy curriculum and no professional training.

In this study, there was no statistically significant association between knowledge and gender, academic level, and clinical experience ($p>0.05$).

The selection bias of the participant may have less concern regarding the BLS which could be one of the limitations. Therefore, the results are not likely to be generalized. Participants' lack of interest to complete the full questionnaire was one of the significant limitation that results in excluding 50 participants, which may not fully reflect students' real knowledge. Despite the limitations, the study delivers some important information about the knowledge, attitude, and practice of BLS in Saudi dental university.

CONCLUSIONS

Awareness about Basic life support (BLS) among dental students and faculty is very high, unfortunately they are not confident enough in practicing this knowledge even though they showed a great level of interest in knowing more. The majority reported that they have never seen basic life support done on a patient**.**

ACKNOWLEDGEMENT

The authors would like to acknowledge the help of Prof. Sulaiman AlShammari, MBBS, MSC, FRCGP, MFPH, Dr Hala Ahmed, M.D Associate professor of anatomy and physiology, vice-chairman-PHS department, Dr Nishath. BDS, MDS, department of diagnostic sciences, Dr Cristallesoman department of OMFS and diagnostic sciences, and also the institutional heads of dental college at Riyadh Elm University for permitting us to carry out this study.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil.

CONFLICTS OF INTEREST

There are no conflicts of interest.

RECOMMENDATION

Improving the practical part among dental students and faculty.

FUTURE DIRECTIONS

Find out the proportion of teaching and training regarding BLS in the undergraduate curriculum of REU. Suggestions may be needed to improve the curriculum in BLS.

REFERENCES

1. Sangamesh N C, Vidya K C, Pathi J, Singh A , 2017 ,Awareness, attitude, and knowledge of basic life support among medical, dental, and nursing faculties and students in the university hospital. J Int Soc Prevent Communit Dent ;7:161-7.
2. Somaraj V, Shenoy RP, Panchmal GS, Jodalli PS, Sonde L, Karkal R, 2017 ,Knowledge, attitude and anxiety pertaining to basic life support and medical emergencies among dental interns in Mangalore City, India,World J Emerg Med;8(2):131-135.
3. Suma Bindu, A & Hirekalmath Sushanth, V & Kumar, P.G.Naveen & Prashant, Gm & Imranulla, Mohamed. (2017). Basic Life Support Knowledge, Awareness, and Attitude among Dental Students in Davangere City, Karnataka, India: A Cross-sectional Study. Journal of Oral Health and Community Dentistry. 11. 23-28.
4. Salameh, Basma & Batran, Ahmad & Ayed, Ahmad & Zapen, Mohammad & Ammash, Ali & Taqatqa, Abdelsalam & Nasar, Mohammad & Naser, Doha. (2018). Comparative assessment of basic life support knowledge between professional nurses and nursing students. Archives of Medicine and Health Sciences. 6. 54.
5. Alotaibi, Ohoud & Alamri, Faizah & Almufleh, Laila & Alsougi, Wedad. (2015). Basic Life Support: Knowledge and Attitude among Dental Students and Staff in the College of Dentistry, King Saud University. The Saudi Journal for Dental Research. 122.10.
6. Baduni N, Prakash P, Srivastava D, Sanwal MK, Singh BP. Awareness of basic life support among dental practitioners. Natl J Maxillofac Surg 2014;5:19-22 .
7. Al-Shamiri, Hashem & Al-Maweri, Sadeq & Shugaa-Addin, Bassam & Alaizari, Nader & Hunaish, Abdulrahman. (2017). Awareness of basic life support among Saudi dental students and interns. European Journal of Dentistry. 11. 521.
8. Bajracharya, Shanti & Nagarkoti, Liza. (2016). Knowledge Regarding Basic Life Support Among Nurses of a Tertiary Level Hospital of Nepal. Medical Journal of Shree Birendra Hospital. 15. 66.
9. Kitney, Patricia & Webb, Michael & Mcgrath, Ian. (2009). Basic Life Support Knowledge of Undergraduate Nursing and Chiropractic Students. Australian journal of advanced nursing : a quarterly publication of the Royal Australian Nursing Federation, The. 26. 58-63.
10. N.M. Girdler , D.G. Smith . (1999) .Prevalence of emergency events in British dental practice and emergency management skills of British dentists . Resuscitation , 41 .159 - 167.