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Knowledge and Awareness of Basic Life Support (BLS) among Dental Students

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Abstract

Basic Life Support is an important life skill which should be taught to everyone. An emergency can happen at any time and any place and it is important that the people around the happening are trained to handle the emergency with utmost efficiency. This can be very helpful in reducing the number of deaths that occur. It is a must that all healthcare professionals have access to knowledge about BLS. In our study we aim to find out the knowledge and awareness of BLS among dental students. A well structured, self-prepared questionnaire was circulated among dental students within the university of Saveetha Dental College. The students were split into three groups such as BDS students, Interns and MDS students. The confidence level was 95% and the data was considered statistically significant if P value < 0.05. The results obtained were collected and analysed to find out the awareness levels among the students and to find out which group had the highest knowledge on BLS. The data obtained was analysed and it was found that among the three groups the MDS students(42.86%) had the overall highest knowledge on BLS and CPR. The knowledge and awareness of BLS among dental students was found to be moderate and not sufficient. Knowledge should definitely be improved and more knowledge must be created.

Key words: *Basic Life Support ; emergency; knowledge ; awareness ; dental students.*

Introduction

Basic Life Support (BLS) refers to maintaining airway patency and supporting breathing and the circulation, without the use of equipment other than a protective device[1]. BLS, a key component of the chain of survival decreases the arrest- cardiopulmonary resuscitation interval and increases the rate of hospital discharge[2]. Healthcare professionals are expected to have a knowledge of current basic and advanced life support (BLS/ACLS) guidelines to revive unresponsive patients[3]. Life threatening emergencies can occur at any time, anywhere, to anyone[4]. It is very important that every member of the community be trained in effective BLS technique to save lives. Atleast doctors including medical, dental and paramedical staff should be trained in CPR, as it is a basic medical skill which can save many lives if implemented timely [5].

The theoretical knowledge and practical skills of Basic Life Support and Advanced Life Support are among the important determining factors of Cardiopulmonary Resuscitation success rates [6]. Cardiac arrests and accidents are the most common emergencies with grave consequences but there is high mortality associated with them [7]. For decreasing the mortality rate and increasing the survival ratio it is crucial for a healthcare provider to have a firm grip on basic cardiac life support knowledge and practices. Globally, about

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92% out-of-hospital cardiac arrest subjects lose their lives due to limited availability of CPR facilities [8]. BLS is an important component of CPR, which includes adequate maintenance of ventilation and circulation in case of respiratory/ cardiac arrest [9]. It involves recognition of signs of sudden cardiac arrest (SCA), heart attack, stroke and foreign-body airway obstruction (FBAO), defibrillation with an automated external defibrillator (AED) [10]. Viability is maintained until full CPR can be commenced. Early access to emergency medical care has saved thousands of lives around the world [11]. The European Resuscitation Council (ERC) last issued guidelines for BLS in 1998. These were based on the 'Advisory statements' of International Liaison Committee on Resuscitation (ILCOR) published in 1997 [12].

Previously studies have been conducted among various populations to find out the knowledge and awareness of BLS and responses given were seemingly unsatisfactory. This indicates the need for teaching and training even non-healthcare professionals and laymen to provide effective and safe resuscitation prior to hospital care [13]. Looking into history, early records from Egyptian mythology and Bible suggest that mouth-to-mouth and mouth-to-nose respiration were among the earliest resuscitation efforts using artificial respiration. This technique has also been used by midwives for many centuries to revive apparently still born infants [7]. The life of an individual is influenced by various factors including condition of health, education, occupation, socioeconomic status, etc. However, it is the condition of health which influences life to the greatest extent. Emergencies like these can occur even within the confines of a dental clinic. Effective management is ultimately the dentist's responsibility. Hence, even dentists must be well prepared to manage medical emergencies [4]. Previously our team had conducted numerous original studies [14-20] and surveys [21-28] over the past 5 years. Now we are focussing on epidemiological surveys. The idea for this survey stemmed from the current interest in our community. In this study, we aim to spread as well as find the awareness levels, knowledge and attitude of dental students towards Basic Life Sciences (BLS) among the South Indian population.

Materials And Methods

A questionnaire-based cross sectional study was conducted among dental students within the University. The study was conducted in 2020. Approval was received from the Institutional Review Board. The well structured questionnaire was passed on among 154 participants (sample size). The participants were grouped based on their year of study as BDS, interns and MDS students. The sampling method used was convenient sampling.

The questionnaire was self-structured and modified from previous similar study questionnaires. Other than age, all the questions were closed ended. Data collection software used to collect the responses was Google forms. From Google forms, the data was analysed and cleaned up to excel sheet. The responses were represented using pie charts and bar graphs. The statistical software used was SPSS version 22. The statistical analysis used are descriptive statistics to summarise demographic data and chi-square test to analyse survey data. The confidence level was kept at 95%. P value less than 0.05 was considered statistically significant.

Results and Discussion

The data obtained was analyzed. It was found that 18.18% participants were interns, 38.96% BDS and 42.86% MDS students.

56.49% have heard of BLS previously. When asked what BLS stands for, 57.14% answered correctly with Basic Life Support. 62.34% seemed to have taken up BLS training earlier. When asked whether BLS training should be mandatory in curriculum, 66.88% replied yes. Only 18.83% knew that both 911 and 112 are Indian numbers to be called in case of an emergency. 33.12% were aware of the correct CPR sequence. 27.27% were aware of the correct ratio of chest compression to rescue breaths. 28.57% knew that the carotid artery is to be felt for pulse in adult patients. 42.21% knew that the correct expansion of AED. 46.75% were aware of the immediate action in response to choking. Only 20.78% were aware of the fact that mid-chest is the correct location of chest compression. 31.17% knew the full form of EMS. Only 9.09% were aware of the chest compression to ventilation ratio in newborns. 14.94% knew that both mouth-to-mouth and nose breathing can be used for rescue breathing in infants. 57.14% were

aware of the correct chest compression rate during CPR. 18.18% knew the depth of chest compression in children during CPR. Only 15.58% were aware of the depth of CPR in adults. 64.94% felt that their knowledge on BLS is sufficient. When asked to self-grade their knowledge on BLS ,11.04% rated themselves poor, 24.68% rated themselves good, 51.95% felt themselves average and 12.43% thought they had excellent knowledge. (Table 1)

Upon comparing the levels of awareness among BDS (60), Interns(28) and MDS(66) for all the above questions, the following were the results.

43 MDS students had heard of BLS previously. 41 MDS students knew the correct expansion of BLS. 51 BDS students had BLS training before. 47 MDS students feel that BLS training should be mandatory in the curriculum. 11 MDS students knew that both 911 and 112 could be contacted in case of emergency in India. 19 interns knew the correct sequence of resuscitation. 22 MDS students knew the correct ratio of chest compression to rescue breaths in adults. 19 MDS students knew that the carotid artery has to be felt for pulse in adults. 36 MDS students knew the correct expansion of AED. 41 MDS students knew the correct response to a choking person. 13 MDS students knew that midchest is the correct location of chest compression. 13 BDS students knew the correct expansion of EMS as Emergency Monitoring Services. 11 MDS students knew the correct ratio of chest compression to ventilation ratio in children. 11 MDS students knew that both nose and mouth-to-mouth breathing can be used as rescue breaths in infants. 43 BDS students knew chest compression rate as 100/min during CPR for adults and children. 10 MDS students knew the correct depth of chest compression in children. 14 MDS students knew the correct depth of compression in adults. 44 BDS students felt that their BLS knowledge was sufficient. 8 BDS students and Interns rated their knowledge as excellent. Hence, we can infer from these results that dental students' knowledge on BLS was between poor to moderate. MDS students had maximum awareness upon comparing the three groups.

Table 1: Table showing percentage of responses

1. Have you ever heard of BLS previously?	Yes	56.49%
	No	43.51%
2. What does BLS stand for?	Basic Life Support	57.14%
	Basic Life Sciences	42.86%
3. Have you had previous BLS training?	Yes	62.34%
	No	37.66%
4. Do you think BLS training should be mandatory in the curriculum?	Yes	66.88%
	No	33.12%
5. What is the number to be called in case of an emergency in India?	911	35.06%
	112	46.10%
	Both	18.83%

Cont... **Table 1: Table showing percentage of responses**

6. What is the correct sequence of resuscitation in BLS?	Compressions, Airway, Breathing	33.12%
	Airway, Breathing, Compressions	50.65%
	Breathing, Airway, Compressions	16.23%
7. The correct ratio of chest compression to rescue breaths is	30:2	27.27%
	15:2	38.96%
	30:1	31.17%
	25:2	2.60%
8. Which artery is to be felt for a pulse in an adult patient?	Carotid	28.57%
	Femural	13.64%
	Brachial	57.79%
9. What does abbreviation AED stand for?	Automated External Defibrillator	42.21%
	Arrhythmia Extradural Defibrillator	57.79%
10. Recommended action in response to a choking person.	Start CPR	38.96%
	Attempt abdominal thrusts	46.75%
	Keep patient in Trendelenburg position	14.29%
11. What is the location of chest compression ?	Left chest	25.32%
	Mid chest	20.75%
	Right chest	53.90%
12. Abbreviation EMS stands for	Emergency Medical Services	31.17%
	Electrical Monitoring System	49.35%
	Emergency Monitoring Sciences	19.48%
13. In a newborn, chest compression to ventilation ratio is	2:1	32.47%
	3:2	58.44%
	3:1	9.09%

Cont... **Table 1: Table showing percentage of responses**

14. Types of rescue breathing used for infants	Mouth to mouth	23.38%
	Nose	61.69%
	Both	14.94%
15. Rate of chest compressions in adults and children during CPR	50/min	42.86%
	100/min	57.14%
16. Depth of compression in children during CPR	1-1.5 inches	18.18%
	2-2.5 inches	67.53%
	3 inches	14.29%
17. Depth of CPR in adult	½ to 1/3rd depth of chest	15.58%
	1/4th depth of chest	66.88%
	2/3rd depth of chest	17.53%
18. Do you feel your knowledge about BLS is sufficient?	Yes	64.94%
	No	35.06%
19. What would you grade your knowledge on BLS after taking up this questionnaire ?	Poor	11.04%
	Average	51.95%
	Good	24.68%
	Excellent	12.34%

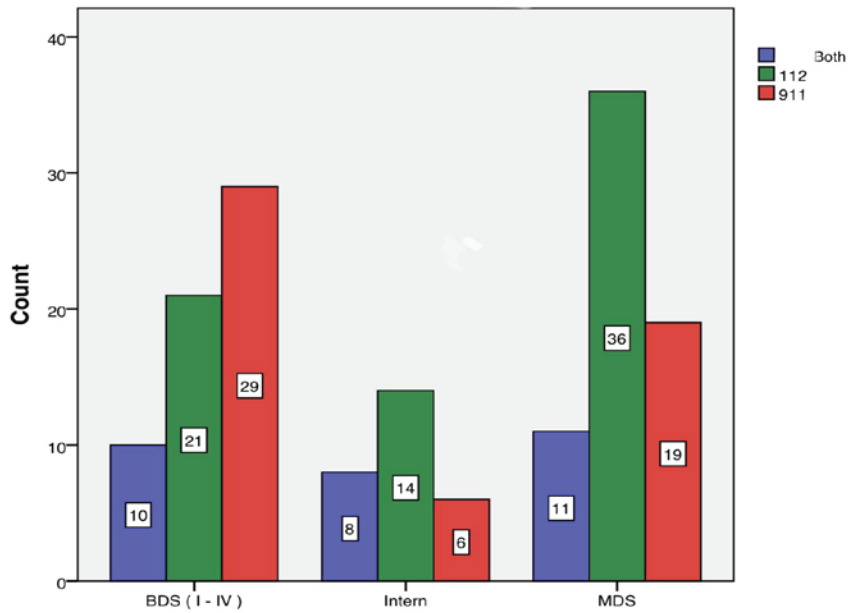

Figure 1: Bar graph showing comparison between course of study of participants and the awareness of emergency phone numbers among students. x-axis represents the course of study of students while y-axis represents the count of students. Red denotes 911, green denotes 112 and blue denotes both. MDS students answered with the right answer 112 highest and this was statistically significant (Chi-square test p=0.046 - indicates statistical significance)

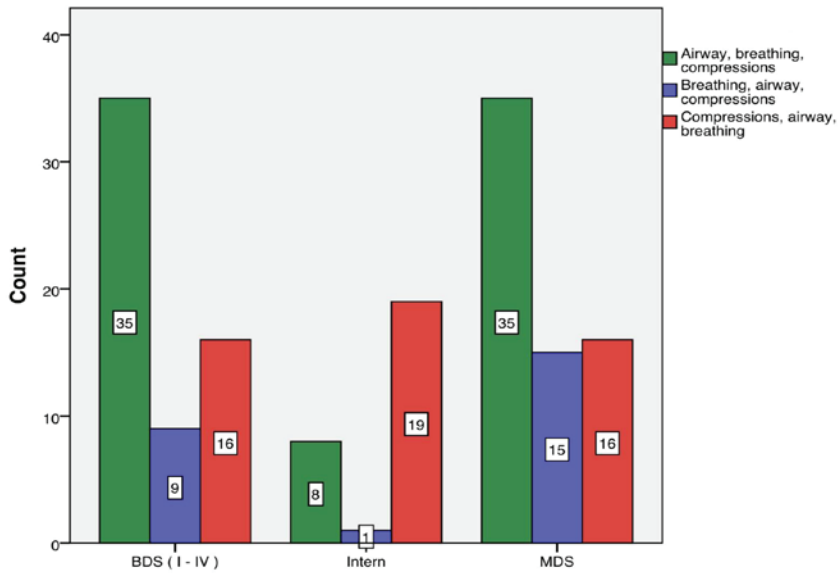

Figure 2: Bar graph showing comparison between course of study of students and their responses to sequence of resuscitation. x-axis represents the course of study of students while y-axis represents the count of students. Blue denotes breathing, airway, compressions. Red denotes compressions, airway, breathing. Green denotes airway, breathing, compression. Interns answered the correct answer highest and this was statistically significant (Chi-square test p=0.000 - indicates statistical significance)

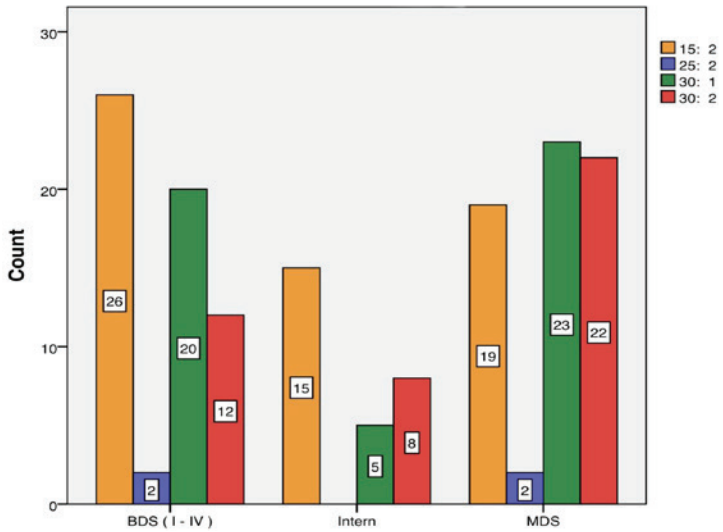

Figure 3: Bar graph showing the comparison between course of study of participants and their answers to ratio of chest compressions to rescue breaths. x-axis represents the course of study of students and y-axis represents the count of students. Blue denotes 25:2, red denotes 30:2, green denotes 30:1 and orange denotes 15:2. MDS students answered correctly 30:1 highest and this was statistically significant. (Chi-square test p=0.202 -indicates statistical insignificance)

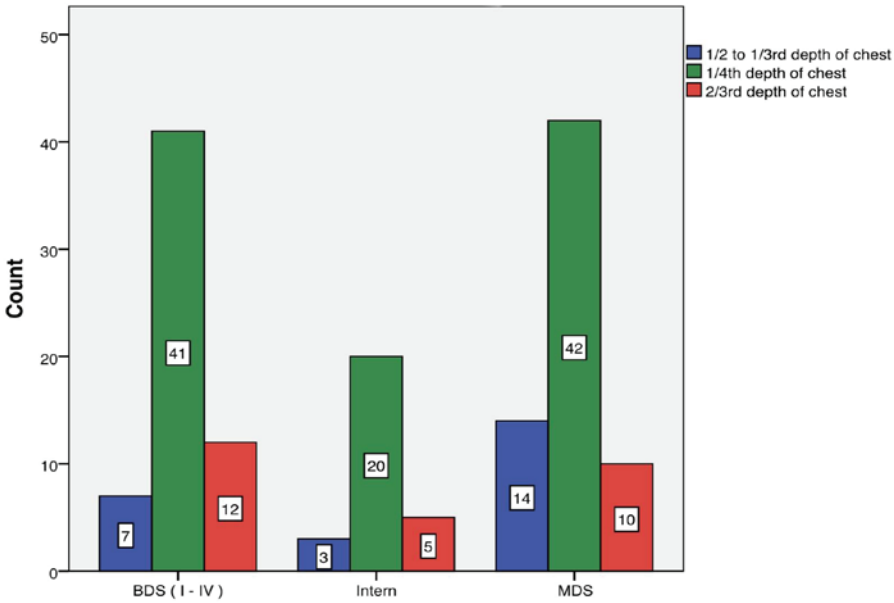

Figure 4: Bar graph showing the comparison of course of study of students and their responses to depth of CPR in adults. x-axis represents the course of study of students and y-axis represents the count of students. Blue denotes ½ to 1/3rd depth of chest, red denoted 2/3rd depth of chest and green denotes 1/4th depth of chest. MDS students answered correctly highest, but this was statistically not significant (Chi-square test p=0.559 - indicating statistically not significant).

In our study, the participants were questioned whether they had heard of BLS previously. It was seen that 56.49% of dental students had heard of BLS before. We find that 27.9% of MDS students had heard of BLS previously, which is the highest among the 3 groups. The p-value was found to be 0.112 indicating statistical insignificance. According to Sahiti Reddy et al,2013 [11], 17.8% interns, 17.2% PG students and 53% BDS students had heard of BDS previously.

57.14% had answered correctly the expansion of BLS as Basic Life Support. MDS students' % of correct response was highest (26.6%). The p-value for data was 0.037 which indicated statistical significance. According to Sahiti Redy et al [11], 53% BDS, 17.7% interns and 15.9% PG answered correctly. This is opposite to our finding. This may be due to the fact that experience and knowledge gained by MDS students has increased with their medical practice.

62.34% of dental students had BLS training previously, the % of BDS students being the highest,i.e, 33.15%. The p-value was found to be 0.000 which indicates statistical significance. According to Nouf Al Harbi et al, 2020 [13], only 10.8% of participants had taken BLS training before. This finding is opposite to our finding. This is because the study population taken was different. It was conducted among female secondary students.

66.88% of participants felt that BLS training should be mandatory in the curriculum. In our study,,MDS students responded positively highest with 30.5%. The p-value was found to be 0.109, indicating statistical insignificance. According to Nouf Al Harbi et al, 2020 [13], 38.5% felt the course should be included. This differs from our study as the study population differs.

18.83% dental students knew that both 911 and 112 could be dialed in case of an emergency . We see that 7.14% MDS students knew this [Figure 1]. The p-value was found to be 0.046 which indicates statistical significance. 70.4% answered correctly according to Shahabe A Squib et al, 2019 [9]. This is because the study was conducted among various healthcare professionals who have expertise in BLS and CPR.

33.12% knew the correct sequence of resuscitation. 12.34% interns were highest to answer correctly [Figure 2]. P-value was found to be 0.000 which indicated statistical significance. According to Shahabe A Saquibe et al, 2019 [9], 28.5% answered correctly. In Avabratha et al, 45.2% interns had inadequate CPR knowledge. Sahithi Reddy et al [11] recorded that only 3% interns had inadequate knowledge on CPR.

We see that 27.27% knew the correct ratio of chest compression to rescue breaths as 30:2 in CPR. 14.28% MDS students answered correctly [Figure 3]. P-value was 0.202 indicating that data is statistically insignificant. According to Raghava Sharma et al, 2012 [29] - 49% answered correctly. In Shanta Chandrasekaran et al,2020 [10], 25.5% answered correctly.

28.57% knew that the carotid artery should be felt for checking pulse in adults. 12.34% MDS students were highest with the answer carotid artery. The p-value was found to be 0.033. Data is statistically significant. According to Shahabe A Saquib et al, 2019 [9], 71% answered correctly. This finding opposes our findings as the study was carried out among a different population (healthcare professionals).

42.21% answered that AED stands for Automated External Defibrillator. 23.38% MDS students answered correctly, which was highest among the 3 groups. The p-value was 0.000 which signified that data was statistically significant. According to Babar Irfan et al, 2019 [8], 49.3% answered correctly.

46.75% knew the recommended action in response to a choking person. 26.62% MDS students answered right. P-value was 0.000 which indicates that the data was statistically significant. In Babar Irfan et al, 2019 [8], 22.1% answered right.

We find that 20.78% knew that midchest was the correct location of chest compression. 8.44% MDS students were highest with the answer midchest]. The p-value was found to be 0.016 indicating statistical significance. According to Sahiti Reddy et al [11], 24.2% MDS students answered right.

31.17% knew the expansion of EMS is Emergency Medical Services. We see that 17.5% BDS students were highest in answering. The p-value was 0.001. Data is statistically significant. According to Shanta Chandrasekaran et al [10], 56.1% know the expansion.

Babar Irfan et al [8] has 65% correct responses and in Sahithi Reddy et al [11] 53% BDS answered right. We have two articles opposing our finding as the study populations taken in each are different.

9.09% dental students knew the correct compression to ventilation ratio as 3:1. 7.14% MDS students were highest in answering correctly. According to Shaithi Reddy et al, 11.2% MDS students answered right. According to Shanta Chandrasekaran et al [10], 25.52% answered right. In present study, p value was 0.000 indicating statistical significance.

14.94% knew that both mouth-to-mouth and nose breathing was used in infants for rescue breathing. 7.14% MDS students were highest in answering with the right option. P-value was found to be 0.005. Hence data is statistically significant. Babar Irfan et al [8] states 22.1% answered correctly.

57.14% knew the correct ratio of chest compression in adults and children during CPR. 27.92% BDS students were highest in answering 100/min. P-value was found to be 0.004. Data is statistically significant. In Shanta Chandrasekaran et al [10], 35.1% answered right. In Sahithi Reddy et al [11], 44.3% BDS students were right with their answers.

18.18% total students knew the depth of chest compression in children during CPR. 6.49% MDS students were highest in answering right. P value was 0.006. Data is hence statistically significant. Sahithi Reddy et al [11], Shanta Chandrasekaran et al [10] and Babar Irfan et al [8] support our findings.

15.58% knew the correct depth of CPR in adults. We see that 9.09% MDS students were highest in answering correctly [Figure 4]. P-value was found to be 0.559% indicating statistical insignificance of data. Babar Irfan et al [8] and Sahithi Reddy et al [11] support our findings while Shanta Chandrasekaran et al [10] opposes them.

We find that 64.94% felt their BLS knowledge was sufficient. 28.57% BDS students gave the highest correct response. P-value was 0.159, indicating that data is statistically insignificant.

12.34% of students self-graded their knowledge on BLS as excellent. 5.19% interns and BDS students were highest in rating themselves as excellent. P-value was found to be 0.025. Hence data is statistically significant. Shahabe A Saquib et al [9] says 15.6% self graded their knowledge as good. Raghava Sharma et al [29] says that 0% graded themselves as excellent.

3.1 Limitations

The limitations of our study include limited sample size, homogenous population and regionalism, overcoming which we can get more accurate results.

3.2 Future Scope

This study creates awareness on BLS and emphasizes the need for knowledge on BLS during emergencies and also setting up awareness programmes.

Conclusion

Knowledge and awareness on BLS among BDS, Interns and MDS students was found to be moderate. The MDS students have a higher knowledge on BLS and its procedures. Interns and BDS students have lesser awareness of BLS. With a greater sample size we can get even more reliable and accurate results. However, we can conclude that there is definitely a need to create more awareness on BLS.

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Ethical Clearance

It is taken from "Saveetha Institute Human Ethical Committee" (Ethical Approval Number- SDC/SIHEC/2020/DIASDATA/0619-0320)

References

1. Handley AJ, Koster R, Monsieurs K, Perkins GD, Davies S, Bossaert L, et al. European Resuscitation Council guidelines for resuscitation 2005. Section 2. Adult basic life support and use of automated external defibrillators. Resuscitation. 2005 Dec;67 Suppl 1:S7–23.
2. Roshana S, Kh B, Rm P, Mw S. Basic life support:

knowledge and attitude of medical/paramedical professionals. World J Emerg Med. 2012;3(2):141–5.

3. Nambiar M, Nedungalaparambil NM, Aslesh OP. Is current training in basic and advanced cardiac life support (BLS & ACLS) effective? A study of BLS & ACLS knowledge amongst healthcare professionals of North-Kerala. World J Emerg Med. 2016;7(4):263–9.
4. Narayan DPR, Biradar SV, Reddy MT, Bk S. Assessment of knowledge and attitude about basic life support among dental interns and postgraduate students in Bangalore city, India. World J Emerg Med. 2015;6(2):118–22.
5. Mohan M, Sharma SM, Shetty T, Gupta P. Awareness of basic life support (BLS) among Dental interns and Dental practitioners. Nitte University Journal of Health Science. 2015;5(3):14.
6. de Lima SG, de Macedo LA, Vidal M, Sá MPB. Permanent Education in BLS and ACLS: impact on the knowledge of nursing professionals. Arq Bras Cardiol. 2009;93(6):582–8.
7. Zaheer H, Haque Z. Students' Corner-Awareness about BLS (CPR) among medical students: Status and requirements. J Pak Med Assoc. 2009;59(1):57.
8. Irfan B, Zahid I, Khan MS, Khan OAA, Zaidi S, Awan S, et al. Current state of knowledge of basic life support in health professionals of the largest city in Pakistan: a cross-sectional study. BMC Health Serv Res. 2019 Nov 21;19(1):865.
9. Saquib SA, Al-Harthi HM, Khoshhal AA, Shaher AA, Al-Shammari AB, Khan A, et al. Knowledge and Attitude about Basic Life Support and Emergency Medical Services amongst Healthcare Interns in University Hospitals: A Cross-Sectional Study. Emerg Med Int. 2019 Mar 3;2019:9342892.
10. Chandrasekaran S, Kumar S, Bhat SA, Others. Awareness of basic life support among medical, dental, nursing students and doctors. Indian J Anaesth. 2010;54(2):121.
11. Reddy S, Doshi D, Reddy P, Kulkarni S, Reddy S. Awareness of basic life support among staff and students in a dental school. J Contemp Dent Pract. 2013 May 1;14(3):511–7.
12. Handley AJ, Monsieurs KG, Bossaert LL. European Resuscitation Council guidelines 2000 for adult basic life support. Resuscitation. 2001;48(3):199–205.
13. Al Harbi N, Afifi A, Alateeq M, Tourkmani A, Alharbi T, Albattal S. Awareness of basic life support and cardiopulmonary resuscitation among female secondary school students in government schools in Riyadh city, KSA. J Family Med Prim Care. 2018 Nov;7(6):1493–500.
14. Shree KH, Ramani P, Sherlin H, Sukumaran G, Jeyaraj G, Don KR, et al. Saliva as a diagnostic tool in oral squamous cell carcinoma--a systematic review with Meta analysis. Pathol Oncol Res. 2019;25(2):447–53.
15. Abitha T, Santhanam A. Correlation between bizygomatic and maxillary central incisor width for gender identification. Brazilian Dental Science. 2019 Oct 31;22(4):458–66.
16. Krishnan RP, Ramani P, Sherlin HJ, Sukumaran G, Ramasubramanian A, Jayaraj G, et al. Surgical Specimen Handover from Operation Theater to Laboratory: A Survey. Ann Maxillofac Surg. 2018 Jul;8(2):234–8.
17. Palati S, Ramani P, Sherlin HJ, Gheena S, Don KR, Jayaraj G, et al. Age Estimation of an Individual Using Olze's Method in Indian Population-A Cross-Sectional Study. Indian J Forensic Med Toxicol. 2019;13(3):121–4.
18. Sarbeen JI, Gheena S. Microbial variation in climatic change and its effect on human health. Research Journal of Pharmacy and Technology. 2016;9(10):1777–81.
19. Harrita S, Santhanam A. Determination of Physical Height Using Clinical Crown Height of Deciduous Teeth. Indian J Forensic Med Toxicol [Internet]. 2019; Available from: http://www.indianjournals.com/ijor.aspx? target= ijor:ijfmt& volume=13& issue=4 & article=005
20. Padavala S, Sukumaran G. Molar Incisor Hypomineralization and Its Prevalence. Contemp Clin Dent. 2018 Sep;9(Suppl 2):S246–50.
21. Palati S, Ramani P, Shrelin HJ, Sukumaran G, Ramasubramanian A, Don KR, et al. Knowledge, Attitude and practice survey on the perspective of oral lesions and dental health in geriatric patients residing in old age homes. Indian J Dent Res. 2020 Jan;31(1):22–5.
22. Guru PE, Gheena S. A study of empathy across students from 4 health disciplines among 1st years and Final years. Research Journal of Pharmacy and Technology. 2016;9(9):1472.

23. Uma PK, Ramani P, Sherlin HJ, Others. Knowledge about Legal Aspects of Medical Negligence in India among Dentists--A Questionnaire Survey. Medico Legal Update. 2020;20(1):111–5.
24. Hannah R, Ramani P, Sherlin HJ, Ranjith G, Ramasubramanian A, Jayaraj G, et al. Awareness about the use, ethics and scope of dental photography among undergraduate dental students dentist behind the lens. Research Journal of Pharmacy and Technology. 2018;11(3):1012–6.
25. Gokul G, Abilasha S. TOOTH SENSITIVITY AMONG RESIDENTIAL UNIVERSITY STUDENTS IN CHENNAI. Asian Journal of Pharmaceutical and Clinical Research. 2016 Oct 1;63–5.
26. Ahad M, Gheena S. Awareness, attitude and knowledge about evidence based dentistry among the dental practitioner in Chennai city. Research Journal of Pharmacy and Technology. 2016;9(11):1863–6.
27. Manohar J, Abilasha R. A Study on the Knowledge of Causes and Prevalance of Pigmentation of Gingiva among Dental Students. Indian Journal of Public Health Research & Development. 2019;10(8):95–100.
28. Sheriff K, Santhanam A. Knowledge and Awareness towards Oral Biopsy among Students of Saveetha Dental College. Research Journal of Pharmacy and Technology. 2018;11(2):543–6.
29. Sharma R, Attar NR. Adult basic life support (BLS) awareness and knowledge among medical and dental interns completing internship from deemed university. Journal of Health and Allied Sciences NU. 2012;2(03):06–13.