

# Awareness of Basic Life Support among Dental Interns and Postgraduate Students in Davangere City- A cross Sectional Survey

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## ABSTRACT

**Introduction:** Awareness of basic life support is considered very low in the dental professionals so the present study was planned to assess and compare the awareness of basic life support among dental interns and postgraduate students in Davangere city

**Materials and methods:** Descriptive cross sectional survey was carried out among the dental internees (139) and post-graduates (156) of two dental colleges in Davangere city. A self-designed questionnaire comprising of 23 multiple choice questions covering varied aspects of basic life support of child and adult and 2 questions regarding training on BLS. Ethical clearance was obtained from institutional review board of Bapuji Dental College and Hospital. Descriptive statistics was generated in terms of frequencies and percentages. Chi square test was employed to find the association between qualification and awareness of basic life support.

**Results:** Among the participants 54% had poor awareness, 28.4% had moderate awareness and only 3% had very good awareness about basic life support. 90% of the participants in the study agreed that structured resuscitation training should be added in the curriculum. Post graduates had comparatively superior knowledge than the interns which was statistically significant at  $p=0.0001$ .

**Conclusion:** The results of the study showed that there is a lack of awareness regarding BLS among postgraduate students and interns. This is a serious issue needs to be promptly visualized and resuscitation skills should be a part of the undergraduate curriculum and regular reassessment would increase awareness and application of this valuable life-saving skill set.

**Keyword:** Dental Interns, Basic Life Support

or respiratory arrests are a very common emergency in not just the adult group but also in the neonatal period.

The term Basic Life Support (BLS) refers to maintaining an airway and supporting breathing and the circulation. It is a level of medical care which is used for patients with life threatening illness until the patient can be given full medical care.<sup>1</sup> These emergencies can be easily managed by knowledge and practice of resuscitation skills.<sup>2</sup> It can be provided by trained medical personnel, including emergency medical technicians, paramedics, and by laypersons who have received BLS training. BLS is generally used in the pre-hospital setting and can be provided without medical equipment.

As a dental profession we are offering more advanced and extensive treatments to our patients. Life-threatening emergencies are more likely to occur within the confines of the dental office because of fear and anxiety which may make these patients prone to medical emergencies. The dental profession cannot turn a blind eye to these facts that make an emergency in their offices. In order to possibly prevent a medical emergency, one must prepare the entire dental office. BLS training is one of the fundamentals of good preparation. Hence, it is important for the dentists to have knowledge of Basic Life Support. But, the fact that many especially junior doctors are not competent in carrying out effective Basic Life Support. As a result, many may find it difficult when they come across an emergency situation.

There are not many studies to assess the knowledge of interns and post graduates of dentistry regarding awareness of basic life support especially in Davangere. Hence, this study was conducted with an aim to assess and compare the resuscitation knowledge among interns and post-graduates of Davangere city.

## MATERIALS AND METHODS

A cross-sectional survey was conducted to assess the awareness of basic life support among interns and post-graduates of two dental colleges (Bapuji Dental College and Hospital and College Of Dental Sciences) in Davangere city. Permission for conducting the survey was obtained from

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## INTRODUCTION

Ronald Reagan said, "Failing to prepare is preparing to fail." This philosophy is nowhere more evident than during a medical crisis, when minutes can be the difference between life and death.

Emergencies can happen unexpectedly to anyone and everyday every human being is at a threat of life at any time and may require immediate medical treatment. If the treatment is not available, the emergency could result in weakened bodily functions, serious and lasting damage to organs, limbs or other body parts or even death.

Cardiac arrests, Cerebrovascular accidents, Respiratory failure, Myocardial Infarction and accidents are the most common emergencies with grave consequences but the high mortality associated with them can be easily prevented most of the times by some very simple maneuvers and skills. Cardiac

the principal of Bapuji Dental College and Hospital and all the Heads of the departments after appraising them about the study. Ethical clearance was obtained from institutional review board of Bapuji Dental College and Hospital. A written voluntary informed consent was obtained from the study participants before the start of the study. The study

was conducted during the college hours between 9 am to 5 pm, with a timespan of one month starting from October 2014 to November 2014. The survey instrument employed was a self-designed questionnaire comprising 23 multiple choice questions which focused on expansions of commonly used abbreviations of SCA (Sudden Cardiac Arrest), EMS (Emergency Medical System) and AED (Automated External Defibrillator) sequential steps in BLS, assessment and resuscitation technique with regard to airway, circulation, breathing in unresponsive victims of different age groups. 4 questions (Q22 and Q25) were directed towards training on BLS. Pilot study was conducted to know the reliability and validity (face and content validity) of the questionnaire

		Number	Percentage
Sex	Females	188	63.7
	Males	107	36.3
Qualification	Post graduates	156	52.9
	Interns	139	47.1

**Table-1:** Demographic details of the study population

Serial No.	Responses	Number of correct respondents	Percentage
1	The correct expansion of the abbreviation		
	SCA- Sudden cardiac arrest	225	76.3
	EMS-Emergency medical service	55	18.6
	AED- Automated electronic defibrillator	8	2.7
	CPR- Cardiopulmonary resuscitation	239	81
2	Look for safety should be the first response when you find someone unresponsive in the middle of the road.	71	24.1
3	Circulation- Airway - Breathing is the new sequence of BLS modification	102	34.6
4	Location of chest compression in infant during CPR is above the left side of the chest	76	25.8
5	Location of chest compression in adult is mid chest	64	21.7
6	Location of chest compression in pregnant woman is slightly higher on the sternum	108	36.6
7	100 / min is the rate of chest compression during CPR	108	36.6
8	Depth of chest compression in adult should be less than 2 inches	70	23.7
9	Depth of chest compression in children is in between 1/2 of depth of chest -1/3rd of depth of chest	27	9.2
10	The ratio of compressions to ventilations during CPR (single rescuer) is 30 to 2	50	16.9
11	Position of pregnant woman during CPR is best in supine position with firm wedge to support right side of the pelvis and thorax	53	18
12	When performing chest compressions in infant either two thumb encircling lower one third of sternum or middle and index fingers can be used	111	37.6
13	When performing chest compressions in adult the heel of one hand is used	168	56.9
14	Mouth to mouth and nose is used to perform rescue breathing in infants	75	25
15	If you do not want to give mouth to mouth breathing other alternatives should be carried out but the patient cannot be deprived from CPR	94	31.9
16	One can stop performing CPR When relieved by another trained in CPR or When you are exhausted or When the casualty is pronounced dead	105	35.6
17	The universal recognized distress signal for choking is clutching at the throat with one or both hands	170	57.6
18	If a person is alone and choking he should lean forward and press abdomen over a chair/ table with an edge or self-induction of vomiting should be carried out	134	45.4
19	You are witnessing an infant who started suddenly choking while he was playing with the toy, you have confirmed that he is unable to cry (or) cough- first perform Back blows and chest compression of five cycles each and then open the mouth to remove the foreign body	138	46.8
20	A 50 year old gentleman with retrosternal chest discomfort, profuse sweating and vomiting might suggest you of myocardial infarction, hence activate EMS, give an aspirin tablet and allow him to rest.	159	53.9
21	You are witnessing an adult unresponsive victim who has been submerged in fresh water and just removed from the water. He has spontaneous breathing but he is unresponsive the first step in CPR is to put him in recovery position	23	7.8

**Table-2:** Distribution of the respondents based on the correct responses to the questionnaire

and internal consistency of the questionnaire was checked by subjecting the data to Cronbach's test (Cronbach's alpha of 0.7).

The investigator distributed the survey questionnaire to all the interns and post graduate students at their respective clinical departments. The completed forms were collected back on the same day.

## STATISTICAL ANALYSIS

Statistical Package for Social Sciences software (SPSS version 17.0) was used to analyse the statistical data. The level of significance was set at 5%. Following the generation of descriptive statistics, Chi square test was run to find the association between qualification and awareness of basic life support.

## RESULTS

The present study was conducted to assess the awareness about basic life support among the interns and post graduate students of Dental colleges in Davangere city. The study population comprised of 295 dentists. Table 1 shows the demographic details of the study participants, among which 156 (52.9%) were postgraduate students and 139 (47.1%) interns. Table 2 shows the responses of the study population to the questionnaire. Information regarding experience of attending a workshop on BLS, rating of oneself on BLS knowledge, reason for lack of knowledge about performing BLS and necessity of BLS to be a part of the training curriculum is graphically represented (Table 3). Table 4 shows the distribution of the study subjects according to their scores. The scoring criteria was obtained from the study done by Avabratha KS.<sup>1</sup> Almost 53% of the dentists had poor awareness about BLS. Only 3% of the dentists had very good awareness. The difference in the responses between postgraduate students and interns was statistically significant ( $p < 0.005$ )

## DISCUSSION

Today healthcare reforms are focusing mainly on the availability of the medical care for all people. As the new health reforms are emerging, the role of oral health professionals in the overall health and wellbeing of their patients is expanding. In order to possibly prevent a medical emergency, one must prepare the entire dental office. They should be confident to assess a victim and deliver effective basic medical emergency treatment when it is indicated.

Many dentists lack the knowledge of simple concepts of CPR because they are not practicing medical emergency preparedness on a regular basis. Dentists are of the opinion that medical emergencies are rare in dental clinics. Unfortunately, an unthinkable event can occur in dental setting. Hence preparation is the key to saving lives.<sup>3</sup> Thus the survey emphasized on the cognitive approach to general perception on the skills of BLS among budding dentists.

The study was conducted on the parent population as it was feasible. A whole sample is free of sampling bias, selection bias and the results can be generalized. The results of our

Whether they had attended any workshop on BLS		
	No.	%
Yes	80	27.1
No	215	72.9
Rating their awareness regarding BLS		
Poor	79	26.8
Below average	74	25.1
Average	112	38.0
Good	25	8.5
excellent	5	1.7
Probable reasons for lack of awareness regarding BLS		
Busy curriculum	46	15.6
Lack of interest	39	13.2
No professional training available	205	69.5
Need for incorporation of BLS course in undergraduate curriculum		
Yes	265	89.8
No	30	20.2

**Table-3:** Distribution of the respondents based on the responses to the open ended questions in the questionnaire

Grades	Scores	N=295	%
Very poor	Less than 4	9	3
Poor	4-8	158	53.6
Moderate	9-12	84	28.4
Good	13-16	35	12
Very good	More than 16	9	3.0

**Table-4:** Distribution of participants according to the scores

survey showed that majority of the subjects had poor awareness about Basic Life Support. The results of the survey are in line with the study conducted by K. Shreedhara Avabratha et al.<sup>1</sup> and Chandrashekar et al.<sup>4</sup>

The poor awareness can be attributed to lack of structured teaching of BLS in the curriculum. Dental school training moulds the dental graduates' opinions of their professional roles and duties and influences their future practice pattern. A survey by David Henzi<sup>5</sup> reported that the dental school clinic was often an inefficient learning environment that hindered their opportunity to develop clinical competency. The knowledge gained in dental institutions is more theoretical. There is a need for translation of the theory into practice.

Among the subjects, the post graduate students had a comparatively superior knowledge than the interns and this can be attributed to the fact that the postgraduate students are exposed to wide arena of literature making them more knowledgeable. Majority of subjects rated themselves as having average knowledge regarding BLS which is reflected by responses to the questionnaire. Almost 90% of subjects were of the opinion that BLS should be a part of undergraduate curriculum. The results are similar to the study conducted by Hassan Zaheer et al.<sup>6</sup> This can be credited to the fact that after graduation training of resuscitation skills is difficult. Busy residency schedules and lack of resources acts as a barriers. Only limitation of this study was that the practical skills of BLS could not be assessed in this study.

## CONCLUSIONS

There is a lack of awareness regarding BLS among post-graduate students and interns. Postgraduate students had comparatively better knowledge than the interns. This is a serious issue needs to be promptly visualized. Hence, hands on courses on basic life support should be encouraged so as to translate theory into practice. Scientific laboratory should be established in all colleges to teach CPR and motivate students to learn and teach these skills to laypersons.

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