**Awareness of Basic Life Support among Students and Teaching Faculty in a Dental College in Coorg, Karnataka**

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**Abstract**

**Introduction:** Basic life support (BLS) is a core skill in which all healthcare professionals should be proficient. It is logical to provide BLS training during undergraduate years ensuring basic competence in all graduating healthcare students. Previous surveys of medical and dental schools have highlighted deficiencies in BLS training. This survey sought to assess awareness of BLS among students and teaching faculty in a dental college in Coorg, Karnataka. **Materials and Methods:** The study was carried out among a convenience sample of 250 dental students (IIIrd BDS, IVth BDS, Interns, and Post-graduates) and teaching faculty at the Coorg Institute of Dental Sciences, Coorg, Karnataka. The Closed – ended questionnaire containing selected basic multiple choice questions regarding various aspects of BLS was used to assess the awareness. **Results:** 60% of the responders scored less than 50% marks, 15.6% of the responders scored between 50-59% marks, 14% of the responders scored 60-69% marks, 4.8% scored marks between 70-79% marks, only 5.6% of the responders scored between 80-89% marks, and no responder scored above 90% marks. **Conclusion:** Awareness of BLS among dental students and teaching faculty needs to be improved and updated.

**Key words:** Awareness, Basic Cardiac Life Support, Questionnaire, Emergencies

**Introduction**

Life-threatening emergencies can occur anytime, anywhere and to anyone. Such situations are somewhat more likely to occur within the confines of the dental office due to increased level of stress which is often present. For example, Fear and anxiety may make these patients prone to medical emergencies such as syncope and hyperventilation.¹

Effective management of an emergency situation in the dental office is ultimately the dentist’s responsibility. The lack of training and inability to cope with medical emergencies can lead to tragic consequences and sometimes legal complications. For this reason, all health professionals, including dentists must be well prepared to attend to medical emergencies.

Providing basic life support (BLS) is the dentist’s most important contribution until definitive treatment for a medical emergency can be given. Basic Life Support (BLS) includes recognition of signs of sudden cardiac arrest (SCA), heart attack, stroke and foreign-body airway obstruction (FBAO); cardiopulmonary resuscitation (CPR); and defibrillation with an automated external defibrillator (AED).²
The purpose of BLS is to prevent inadequate circulation or respiration through prompt recognition of the problem and intervention and/or early entry into the emergency medical service system, as well as to support a victim’s circulation and respiration through CPR.  

The extent of treatment by the dentist requires preparation, prevention and then management, as necessary. Preparation is accomplished by conducting a thorough medical history with appropriate alterations to dental treatment as required. The most important aspect of nearly all medical emergencies in the dental office is to prevent, or correct, insufficient oxygenation of the brain and heart. Therefore, the management of all medical emergencies should include ensuring that oxygenated blood is being delivered to these critical organs.

This is consistent with basic cardiopulmonary resuscitation, with which the dentist must be competent. This provides the skills to manage most medical emergencies, which begin with the assessment, and if necessary the treatment of airway, breathing and circulation (the ABCs of CPR). Usually, only after these ABCs are addressed should the dentist consider the use of emergency drugs.

BLS is a core skill in which all health care professionals should be proficient, but there is a great deal of variation in the training provided at the undergraduate level. Bearing in mind that dental students have little understanding of medical emergency management and that there is very little in-depth data about the importance dental students place on acquiring competence in this area of patient care, the purpose of this study was to assess the awareness of Basic Life Support among Students and Teaching Faculty in a Dental College in Coorg, Karnataka.

**Materials and Methods**

The study was carried out among dental students (IIIrd BDS, IVth BDS, Interns, and Postgraduates) and teaching faculty In Coorg Institute of Dental Sciences, Coorg, Karnataka. Students and Teaching faculty who were present during the study period were included in the study.

Training and calibration of the examiner was done in the Department of Public Health Dentistry, Coorg Institute of Dental Sciences, Virajpet. Investigator was trained and standardized through a series of training exercises including a series of theoretical overviews and discussing issues that might be encountered during the study period.

The aspects on which they were tested were about the abbreviation of BLS, AED and EMS, sequential steps in basic life support, assessment and resuscitation techniques with regard to airway, breathing, circulation in unresponsive victims of different age groups, techniques regarding removal of foreign body obstruction, recognition of early signs of stroke and acute coronary syndrome.

A specially designed Performa was used to assess the awareness on basic life support. This was followed by qualitative interview with the focus group of 20 participants which was conducted to establish a conceptual equivalence and content validity of the present questionnaire.

The difficulties encountered during the pilot study were overcome during the main study. Those who participated in the pilot study were excluded from the main study. A convenience sample of 250 participants was chosen to participate in the study. The study was conducted during the first week of November 2010. Prior to the study, ethical approval was obtained from the Institutional Ethical Committee and written informed consent was obtained from each participant.

The results were analyzed using an answer key prepared with the help of standard textbooks on Medical emergencies in dentistry and textbook on General Medicine.

**Results**

Figure 1 shows overview of responders. Of the total responders (n = 250), 205 were dental students which included 45 IIIrd BDS students, 45 IVth BDS students, 40 Interns, and 75 Postgraduates and 45 were Teaching faculty.

Graph 1 shows the level of awareness of basic life support among the responders and it was seen that IIIrd BDS students scored 34.60%, IVth BDS students had an average score of 39.60%, Interns scored 46.70%, and Postgraduates scored an average of 51.50%. The Teaching faculty scored the highest with an average score of 67.80%. It was observed that the level of awareness increased with increased exposure in the practical field.

Figure 2 describes the level of awareness among the students as a whole and the teaching faculty. It was observed that when students scored an average of 43.10%, where the BDS students scored 40.30% and Post-Graduates averaged 51.50%. The teaching faculty scored the highest with an average of 67.80%. It was observed and concluded that the teaching faculty had an higher level of awareness.
when compared to BDS students, interns and post-graduates.

Graph 2 compares the awareness among the graduates and under-graduates. It was evident that the graduates had a higher level of knowledge when compared to the undergraduates, the graduate’s average score was 59.70% but at the same time under-graduates scored only 40.30%. The observed reason behind this difference in scores can be attributed to increased exposure in the practical field. Again the level of awareness increased with increased exposure in the practical field.

Figure 3 describes the scores of responders, it was noted that 60% of the responders scored less than 50% marks, 15.6% of the responders scored between 50-59% marks, 14% of the responders scored 60-69% marks, 4.8% scored marks between 70-79% marks, only 5.6% of the responders scored between 80-89% marks, where as none of the responders were able to score above 90% marks.

Discussion

From the above results it was concluded that awareness of basic life support was found to be poor in all the student groups when compared with the teaching faculty.

Amirchaghmaghi M, Sarabadani J and Delavarian Z (2010), Chapman PJ (1997), Franco Arsati et al (2010), Gupta T, Aradhya MR, Nagaraj A (2008), Girdler NM, Smith DG (2007), Heron Fernando de Sousa Gonzaga. The above authors conducted similar studies among specialist dentists about medical emergencies in the dental office. From the results they came to a conclusion that preparedness of the specialist dentist was not favourable. Thus, more focus should be placed on the improvement of management of medical emergencies.

Shanta Chadrasekaran et al (2010) conducted a study on medical, dental, nursing students and doctors and reported that only 0.19% had secured 80-89% marks versus 5.6% in the present study and 84.82% had secured less than 50% marks versus 60% in the present study.²

Dentistry is a health science profession that should focus on the whole patient instead of being limited to the oral cavity, medical emergencies do occur in the dental office, but students minimal knowledge about these incidents and their aetiology causes feelings of insecurity, dissatisfaction, and a limited appreciation of the dentists responsibility, and the inability to perform proper basic life support (BLS) technique in the dental office is the ultimate consequence.³

The results of the study confirmed that undergraduate dental students require more intensive education in medical emergencies. Undergraduate health courses need to develop strategies to teach professionals and student’s appropriate behaviour and attitudes when facing life-threatening emergencies. I would also like to add that theoretical information with demonstrations but without practice, s probably is not enough to ensure CPR competence.

Reliability and validity

Internal reliability of the questionnaire was pretested using Cronbach’s alpha on a pilot sample of 20 participants and the α values was found to be 0.71.

Limitation of the study

- Practical skills of basic life support could not be assessed in the study.
- Attitude towards BLS and medical emergencies of students and teaching faculty could not be assessed in the present study.

Conclusion

- Awareness of basic life support among dental students and teaching faculty needs to be improved and updated.
- Dentistry in India has made tremendous progress in different sub-specialties of dentistry.
- A better knowledge of medical emergencies is essential for further development of dentistry in India. This will ensure provision of better and safer dental healthcare services for the population.

Recommendations and Suggestions

- This study should be carried out in various other medical, dental and paramedical institutions and the awareness on basic life support among the students and faculty should be assessed.
- The participation of educational institutions to improve the training of students and professionals for CPR and other medical emergencies that can occur in the dental office is also necessary.
- Also steps need to be taken to create awareness in almost all corners and sectors of our society, with the intention of creating numerous basic life support responder
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