

# An Assessment of Dentist's Knowledge about Medical Emergencies in Punjab

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**Abstract:** Medical emergency when occurs in a dental environment should be handled efficiently and effectively in order to sustain life until medical help arrives. This study aimed to assess knowledge amongst dental practitioners about the possible risks of a medical emergency to improve patient care.

A questionnaire based study was conducted in the dental teaching hospitals of Punjab, India in 2016. The questionnaire comprised of three sections to assess dentist's perception and knowledge on the commonly faced medical emergencies along with dentist's confidence in performing Basic Life Support (BLS). 220 questionnaires were distributed out of which 198 were returned. The study sample included 128 female and 70 male dentists with a minimum clinical experience of one year.

The results showed 71.7% received a formal BLS training while 28.3% had not received any training. Moreover, the mean medical emergency score obtained was 5.28 out of a maximum of 10. 55.2% of the dental practitioners felt confident in performing Cardio Pulmonary Resuscitation (CPR), out of which, 80.5 % had the correct knowledge of performing a CPR according to this study.

The most significant finding was almost half of the dentists lack the knowledge and necessary training. Hence, in order to improve quality of patient care annual BLS courses should be made mandatory.

**Keywords:** Basic Life Support, BLS, Cardio Pulmonary Resuscitation, CPR, Medical Emergency, Dental Hospital.

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## 1. INTRODUCTION

Medical emergency when encountered in a dental practice is not a surprise and should not be dealt like one either.<sup>1, 2</sup> Dental practitioners should ideally be prepared to handle such situations. Medical emergencies can commonly occur on the dental chair but fortunately serious complications have not been associated.<sup>3,4</sup> It is the utmost duty of dental practitioners including specialists to sustain life until medical help arrives in order to reduce chances of mortality and morbidity.<sup>5,6,7</sup>

Although necessary knowledge is given at under-graduate level but to maintain and update knowledge about recent advances periodic Basic Life Support (BLS) courses should be made mandatory.<sup>1</sup>

It is essential for all dentists, be it in public or private sector, to be equipped with the required knowledge, apparatus and drugs. The aim of this study was to create awareness amongst dental practitioners about the possible risks of a medical emergency and also to emphasize the importance of quality patient care and minimize any negative outcomes because of lack of knowledge.

## 2. METHODOLOGY

A questionnaire based study was carried out in the dental teaching hospitals of Punjab, India. The questionnaire was based on the guidelines of Resuscitation Council, United Kingdom. Complete anonymity and confidentiality was maintained. The dentists were advised to refrain from consulting any reading material and discussing with their colleagues while filling out the questionnaire.

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The questionnaire comprised of 3 sections.

- The first section had general questions about dentist’s perception and attitude towards medical emergencies.
- The second section consisted of 10 multiple choice questions regarding clinical scenarios about the most common medical emergencies faced during dental treatment namely syncope, anaphylaxis, angina, myocardial infarction, hypoglycemia and epilepsy. The score obtained out of 10 was named as the “Medical Emergency Knowledge Score”.
- The third section was optional for the dentists who felt confident in performing BLS. It contained 13 questions and was named the ‘CPR Knowledge Score’.
- Every correct answer was scored 1 and incorrect answer was scored as zero.

The questionnaire was distributed to all dentists, with at least one year of clinical experience, employed in the clinical departments of the 6 teaching hospitals. 220 questionnaires were distributed out of which 198 were returned (90%). These included 128 females and 70 males.

**3. RESULTS**

Completed questionnaires were collected personally and subjected to data analysis using Statistical Package for the Social Sciences version 19.0 (IBM, USA). Descriptive analytical study included frequencies, means and t-test for statistical comparisons of means. The results are summarized in tables 1 to 5.

**TABLE 1: DENTISTS WHO HAVE RECEIVED FORMAL BLS TRAINING**

		Frequency	Percent
Valid	No	56	28.3
	Yes	142	71.7
	Total	198	100.0

**TABLE 2: DO YOU WANT TO RECEIVE BLS TRAINING?**

		Frequency	Percent
Valid	No	32	16.2
	Yes	166	83.8
	Total	198	100.0

**TABLE 3: DO YOU THINK IT IS IMPORTANT TO HAVE KNOWLEDGE TO DEAL WITH MEDICAL EMERGENCIES?**

	Frequency	Percent	Valid percent	Cumulative percent
Valid important	16	8.1	8.1	8.1
very important	182	91.9	91.9	100.0
Total	198	100.0	100.0	

**TABLE 4: MEDICAL EMERGENCIES KNOWLEDGE SCORE**

N	Valid	198
	Missing	0
Mean		5.28
Std. Error of Mean		.155
Std. Deviation		2.145

**TABLE 5: COMPARISON OF MEDICAL KNOWLEDGE SCORE VS BLS TRAINING**

	N	Mean	P-Value
Medical Emergency Knowledge Score of dentists who have not received formal BLS	56	5.02 ± 2.156	
Medical Emergency Knowledge Score of dentists who have received formal BLS	142	5.39 ± 2.139	0.29*

#### 4. DISCUSSION

Medical emergencies occur commonly in the dental environment. Since the number of elderly and medically compromised patients is increasing, the frequency of medical emergencies faced in the dental practice is also increasing.<sup>6</sup> As healthcare professionals, dentists are primarily responsible to sustain life by effective and efficient management if such an emergency arises.<sup>8,9</sup>

This is only possible if they actively attend BLS courses to enhance their skills and knowledge in accordance to recent advancements made over time.

Out of the 198 dental practitioners, 71.7% received a formal BLS training while 91.9% considered it important to receive formal BLS training. This is in contrast to the results of a previous study, in which 42% had received the training.<sup>5</sup>

According to this study 83.8% of the dental practitioners wanted to receive a formal BLS training, which shows a positive outcome on behalf of the dental practitioners as majority are interested in gaining required level of training and knowledge. Hence, frequent BLS courses should be held denoting all dental specialists realize the noteworthiness.

BLS training forms the basis of healthcare but the results found in this study are similar to those found in previous studies, concluding that dental practitioners are not well versed.<sup>10-15</sup> Mean medical emergency knowledge score of 5.28 denoting almost half of the dentists participating in this study had insufficient knowledge on handling clinical situations, even when 25% dental practitioners were either surgeons or trainee surgeons.

As concluded by the previous studies, the most common medical emergency encountered in these dental hospitals was syncope (80.7%)<sup>16,17,18,19</sup> followed by hypoglycemia and cardiovascular episodes. It has been observed that 43.8% were confident in dealing a medical emergency themselves whereas the remainders were dependent on others to sustain life in such situations.

Moreover, the results of this study show that only 23% of the dentists know how to position the chair in case of angina. Angina is rare during dental treatment but there is always a possibility. Hence, it is important for the dental practitioners to have sufficient knowledge on how to handle such situations if they arise.

Only 39% knew the route of administration of adrenaline; principal drug in case of anaphylaxis as well as life threatening asthma. This knowledge is fairly low especially for dentists in clinical departments of teaching hospitals.

#### 5. CONCLUSION

The most significant finding was almost half of the dentists lack the knowledge and necessary training. Hence, in order to improve quality of patient care annual BLS courses should be made mandatory.

#### REFERENCES

- [1] Fast TB, Martin MD, Ellis TM. Emergency preparedness: A survey of dental practitioners. J Am Dent Assoc. 1986; 112: 499-501.
- [2] Malamed SF. Managing medical emergencies. J Am Dent Assoc. 1993; 124: 40-53.
- [3] Greenwood M. Medical emergencies in the dental practice. Periodontol 2000. 2008; 46: 27-41.

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- [4] Coulthard P, Bridgman CM, Larkin A, Worthington HV. Appropriateness of a Resuscitation Council (UK) advanced life support course for primary care dentists. *Br Dent J*. 2000; 188: 507-12.
- [5] S. Elanchezhian, Awareness of Dental Office Medical Emergencies Among Dental Interns in Southern India: An Analytical Study *J Dent Educ*. March 2013; 77(3): 364-69.
- [6] Carvalho RM, Costa LR, Marcelo VC. Brazilian dental students' perceptions about medical emergencies: a qualitative explorative study. *J Dent Educ* 2008; 72(11): 1343-49.
- [7] Gonzaga HF, Buso L, Jorge MA, Gonzaga LH, Chaves MD, Almedia OP. Evaluation of knowledge and experience of dentists of São Paulo State, Brazil about cardiopulmonary resuscitation. *Braz Dent J*. 2003; 14: 220-22.
- [8] Chapman PJ. Medical emergencies in dental practice and choice of emergency drugs and equipment: a survey of Australian dentists. *Aust Dent J* 1997; 42(2): 103-8.
- [9] Malamed SF. Emergency medicine in pediatric dentistry: preparedness and management. *J Calif Dent Assoc* 2003; 31(10): 749-55.
- [10] Laurent F, Augustin P, Nabet C, Ackers S, Zamaroczy D, Maman L. Managing a cardiac arrest: evaluation of final-year predoctoral dental students. *J Dent Educ*. 2009 Feb; 73(2): 211-17.
- [11] Chapman PJ. A questionnaire survey of dentists regarding knowledge and perceived competence in resuscitation and occurrence of resuscitation emergencies. *Aust Dent J*. 1995 Apr; 40(2): 98-103.
- [12] Arsati F, Montalli VA, Flório FM, Ramacciato JC, Cunha FL, Cecanho R, et al. Brazilian dentists' attitudes about medical emergencies during dental treatment. *J Dent Educ*. 2010 Jun; 74(6): 661-66.
- [13] Skapetis T, Gerzina T, Hu W. Management of dental emergencies by medical practitioners: recommendations for Australian education and training. *Emerg Med Australas*. 2011 Apr; 23(2): 142-52.
- [14] McCann PJ, Sweeney MP, Gibson J, Bagg J. Training in oral disease, diagnosis and treatment for medical students and doctors in the United Kingdom. *Br J Oral Maxillofac Surg*. 2005 Feb; 43(1): 61-64.
- [15] Girdler NM, Smith DG. Prevalence of emergency events in British dental practice and emergency management skills of British dentists. *Resuscitation*. 1999 Jul; 41(2): 159-67.
- [16] Atherton GJ, Pemberton MN, Thornhill MH. Medical emergencies: the experience of staff of a UK dental teaching hospital. *Br Dent J* 2000; 188(6): 320-24.
- [17] Müller MP, Hänsel M, Stehr SN, Weber S, Koch T. A statewide survey of medical emergency management in dental practices: incidence of emergencies and training experience. *Emerg Med J* 2008; 25(5): 296-300.
- [18] Santos JC, Rumel D. Medical emergency in dental practice in the state of Santa Catarina: occurrence, equipments and drugs, professional expertise, and training of the clinicians. *Ciênc Saúde Coletiva* 2006; 11(1): 183-90.
- [19] Malamed SF. Managing medical emergencies. *J Am Dent Assoc* 1993; 124(8): 40-53.