

AN ASSESSMENT OF DENTISTS' KNOWLEDGE ABOUT MEDICAL EMERGENCIES

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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 enhance 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 the twin cities, Rawalpindi and Islamabad in 2015. The questionnaire comprised of three sections to assess dentists' perception and dentists' knowledge on the commonly faced medical emergencies along with dentists' confidence in performing Basic Life Support (BLS). 215 questionnaires were distributed out of which 192 were returned. The study sample included 122 female and 70 male dentists with a minimum clinical experience of one year.

The results showed 71.4% received a formal BLS training while 84.4% wanted to receive the 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.

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

INTRODUCTION

Medical emergency when encountered in a dental practice is not a surprise and should not be dealt like one either.^{1,2} Dental practitioners should ideally be pre-

pared to handle such situations. Medical emergencies can commonly occur on the dental chair but fortunately serious complications have not been associated.^{3,4} 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.^{5,6,7}

Although necessary knowledge is given at undergraduate level but to maintain and update knowledge about recent advances periodic Basic Life Support (BLS) courses should be made mandatory.¹

In Pakistan, no previous published study has been indexed in PubMed or PakMediNet data base regarding the need of BLS in a dental set up. 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.

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Received for Publication: November 11, 2015

Revised: December 3, 2015

Approved: December 4, 2015

METHODOLOGY

A questionnaire based study was carried out in the dental teaching hospitals of the twin cities of Rawalpindi and Islamabad in 2015. The questionnaire was approved by the Ethical Review Board of Riphah International University, Pakistan. It 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.

The questionnaire comprised of 3 sections.

- The first section had general questions about dentists' 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 7 teaching hospitals of the twin cities namely Islamic International Dental Hospital, Margalla Institute of Health Sciences, Rawal Institute of Health Sciences, Islamabad Medical & Dental College, Pakistan Institute of Medical Sciences, Armed Forces Institute of Dentistry and Fauji Foundation University Dental College. 215 questionnaires were distributed out of which 192 were returned (89%). These included 122 females and 70 males.

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 and fig 1 and 2.

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.⁶ As healthcare professionals, dentists are primarily responsible to sustain life by effective and efficient management if such an emergency arises.^{8,9}

TABLE 1: DENTISTS WHO HAVE RECEIVED FORMAL BLS TRAINING

		Frequency	Percent
Valid	No	55	28.6
	Yes	137	71.4
	Total	192	100.0

TABLE 2: DO YOU WANT TO RECEIVE BLS TRAINING?

		Frequency	Percent
Valid	No	30	15.6
	Yes	162	84.4
	Total	192	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	15	7.8	7.8	7.8
	very important	177	92.2	92.2	100.0
	Total	192	100.0	100.0	

TABLE 4: MEDICAL EMERGENCIES KNOWLEDGE SCORE

N	Valid	192
	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	55	5.02 ± 2.156	
Medical Emergency Knowledge Score of dentists who have received formal BLS	137	5.39 ± 2.139	0.29*

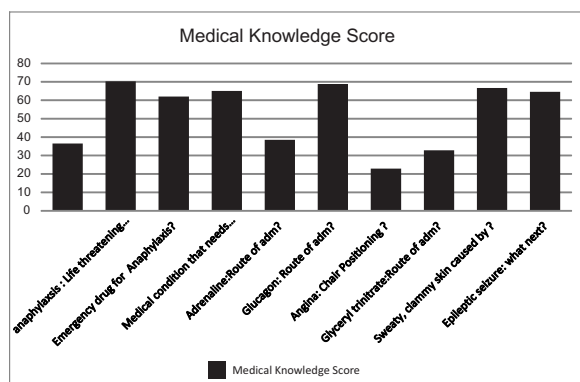


Fig 1: The results of the individual questions

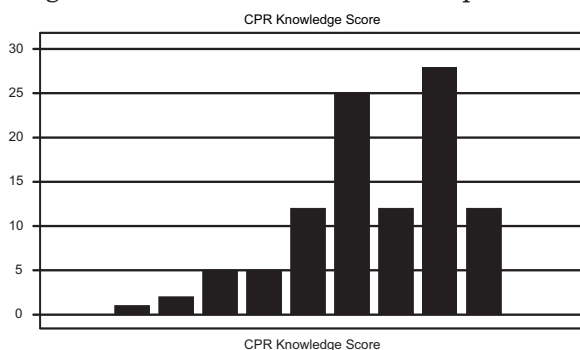


Fig 2: CPR Knowledge Score

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

Many countries include BLS training as a part of their curriculum to aid dental students.^{5,7} Similarly in Pakistan, preventing and managing medical emergencies is a part of the curriculum prepared by the Curriculum Revision Committee of Higher Education Commission which is duly approved by Pakistan Medical & Dental Council at undergraduate level.

Out of the 192 dental practitioners, 71.4% received a formal BLS training while 92.2% considered it important to receive formal BLS training. This is in contrast to the results of a study carried out in Brazil by S. Elanchezhian where 42% have received the training.⁵

According to this study 84.4% 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 prepared.¹⁰⁻¹⁵ 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%)^{1,5,15,16,17,18,19} 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.

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.

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