

ORIGINAL ARTICLE

Perception of Dental House Officers Regarding the Management of Medical Emergencies in CMH Lahore Medical College & IOD

MEMOONA JAVED¹, SARIA KHALID², SARAH ALI³, AYESHA ASIM⁴, ARHAM NAWAZ CHOCHAN⁵, MUHAMMAD AFZAL⁶, JUNAID SARFRAZ KHAN⁷

¹BDS, Demonstrator in Department of Pediatric Dentistry, CMH LMC & IOD, Lahore

²BDS, Demonstrator in Department of Dental Education & Research, CMH LMC & IOD, Lahore

³BDS, Clinical attachment in Dental OPD at Shaykh Zayed medical complex

⁴BDS, Dental House Officer at CMH LMC & IOD

⁵Associate Professor in Pediatric Dentistry Department at CMH LMC & IOD

⁶Associate Professor BDS, FCPS (Prosthodontics), CHPE Institute of Dentistry, CMH Lahore Medical College, National University of Medical Sciences (NUMS)

⁷PhD Medical Education, Dean School of Health Professions' Education at CMH LMC & IOD

Corresponding author: Saria Khalid, Email: sariakhalid@hotmail.com

ABSTRACT

Objective: The main purpose of this study is to assess the knowledge, attitude, experience, and perception about the management of medical emergencies in dental clinics amongst house officers at CMH LMC & IOD.

Study Duration: This questionnaire-based descriptive cross-sectional study was conducted between May 2022 and June 2022 at CMH Lahore Medical College and Institute of Dentistry.

Material & Methods: A previously tested questionnaire comprised of three parts was used for data collection. A total of 62 house officers were present. All of them responded to the questionnaire. The questionnaire consists of three sections; Section A: Contains the questions related to the understanding of the dental house officers in managing medical emergencies. Section B: Includes the evaluation of experiences and skills they have in managing medical emergencies if it occurs in dental clinics. Section C: Includes their perceptions related to the betterment of emergency management was evaluated. Data was analyzed using IBM SPSS Version 24. Data was analyzed using IBM SPSS Version 24.

Results: Concerning Basic life support training, 64.5% had been given training during house job only. At least 67.7% of House officers came across 1-5 medical emergencies during their house job. Syncope was one of the most common (62.9%). Hypoglycemia was the second most common (35.5%) and asthma was reportedly the third most common medical emergency (1.6%). When facing a medical emergency, 90.3% report that they seek help. 96.8% reported that they can take a patient's blood pressure, 72.4% can take a patient's pulse, 27.4% can measure blood sugar level, only 38.7% can maintain an IV line, 41.9% can perform the Heimlich maneuver, 53.2% can carry out ventilation through a bag or mask and 35.5% are capable of performing CPR. Only 3.2% of house officers believe that their undergraduate training is sufficient to prepare them to manage medical emergencies. Though, 71.0 % think that house officers should undertake medical emergency training before starting their house job.

Practical implication: There is scarcity of literature on how prepared dental house surgeons are to deal with medical emergencies so this study give future directions to dental house surgeons.

Conclusion: It was concluded that practical training is lacking among dental house officers in managing medical emergencies and that there is a need to not only include medical emergency training at the undergraduate level but also allot a rotation to medical emergencies at the start of the house job.

Keywords: Dental house officers, medical emergencies, management, training

INTRODUCTION

Medical emergencies are a frequent occurrence in dental clinics.¹ The dental staff has the responsibility to provide necessary and harmless dental services to the patients. The performance in a medical emergency in dental clinics has been prevalent regarding dental training, equipment, and management of possible risks.²

It is stated by the General Dental Council; that there are chances that a patient could collapse at any moment on any occasion, whether or not the treatment is provided. So, all the dental staff must be skilled enough to deal with any medical emergency, including resuscitation.³ Before starting any treatment, the dentist must know about various medical emergencies and how to deal with them.⁴

Studies done globally have discovered that syncope is one of the most frequently occurring medical emergencies in dental clinics – almost 50%. However, mild allergies are the least common accounting for about just 8%. Besides syncope, other medical emergencies that are most likely to happen include hypersensitivity reactions, myocardial infarction, seizures, cardiac arrest, bronchospasm, postural hypotension, and hypoglycemia.⁵ It has been recognized, in a study conducted in Peshawar, that dental students have very limited knowledge and awareness about medical emergencies and most of them do not seem to be confident in dealing with such situations because these topics are being taught limitedly.⁶

It is essential to cope with these situations in dental teaching institutes and should be handled efficiently. Such awareness

should include understanding and effective skills of the clinician, trained dental staff, and availability of various emergency equipment and drugs in the dental teaching hospital settings.^{7,8} Literature from the past 30 years regarding medical emergencies and hostile events in dental settings yields a constant and repeated call for higher medical education and emergency preparedness across the dental practice.^{9,10,11,12}

Various studies proposed the need to give proper training to dental staff in the management of any medical emergency in a dental setting.^{13,14} Numerous research focused on the most frequently happening medical emergencies in dental clinics and the ability of the practitioners to deal with them.¹⁵

The literature lacks information on how prepared dental house surgeons are to deal with medical emergencies. The purpose of conducting this study is to assess the knowledge, attitude, experience, and perception of managing medical emergencies in dental clinics among dental house officers at the Institute of Dentistry, CMH Lahore Medical College.

METHODOLOGY

A questionnaire-based descriptive cross-sectional study was conducted between May 2022 and June 2022 at CMH Lahore Medical College and Institute of Dentistry. Registration and ethical approval were obtained from the Research Committee and Institutional Review Board (IRB) of ORIC in CMH Lahore Medical College and Institute of Dentistry. A pre-validated and pretested close-ended questionnaire taken from a study was used to collect

the data.⁴A pilot study was conducted on 10 participants (excluding the study sample). The reliability of the questionnaire was also determined by Cronbach Alpha which was 0.8. A total of 62 house officers were present. All of them responded to the questionnaire. Written consent was obtained from every participant before filling out the questionnaire. The data was collected by using the purposive sampling technique. The questionnaire consists of three sections; **Section A:** Contains the questions related to the understanding of the dental house officers in managing medical emergencies. **Section B:** Includes the evaluation of experiences and skills they have in managing medical emergencies if it occurs in dental clinics. **Section C:** Includes their perceptions related to the betterment of emergency management was evaluated. Data was analyzed using IBM SPSS Version 24.

RESULTS

A total of 62 House officers filled out the questionnaire, 79% were females and 21% were males. Most of the house surgeons have gained insight regarding emergencies by attending workshops, seminars, and by going through textbooks. Concerning Basic Life Support training, only 64.5% had been given training during house job while 35.5% had not been trained. The frequency of incidence of any medical emergency was also very low. At least 67.7% of House officers came across 1-5 medical emergencies in their house job, 14.5% encountered 6-10 emergencies, only 8.1% reported to have encountered 10, while 9.7% did not come across any medical emergencies (see Figure 1).

Regarding the different medical emergencies that are encountered in an outpatient department (Figure 2), Syncope was found to be the most common (62.9%). Hypoglycemia was the second most common (35.5%) and asthma was reportedly the third most common medical emergency (1.6%). When facing a medical emergency, 90.3% report that they seek help while 9.7% do not.

In response to questions regarding the evaluation skills of house officers, 96.8% reported that they can take a patient's blood pressure, 74.2% can take a patient's pulse, 27.4% can measure blood sugar level, only 38.7% can maintain an IV line, 41.9% can perform the Heimlich maneuver, 53.2% can carry out ventilation through a bag or mask and 35.5% are capable of performing CPR (Table 1).

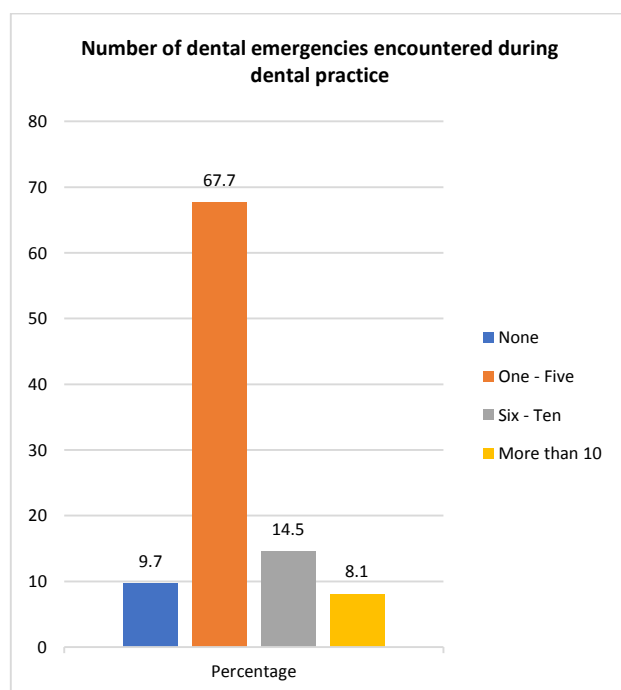


Figure 1: Frequency Of Incidence Of Medical Emergencies In Outpatient Department

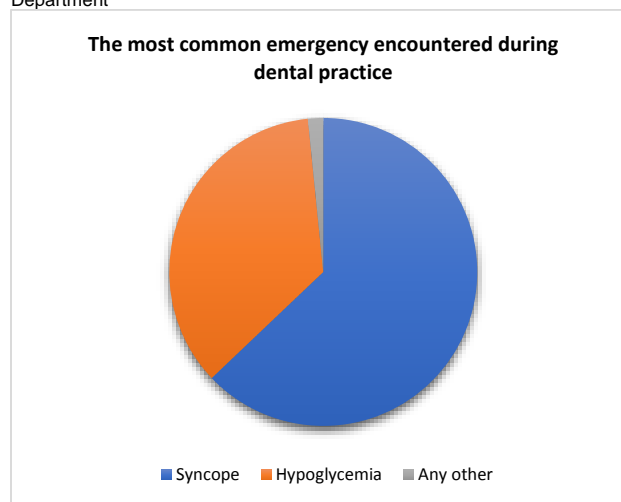


Figure 2: Most Predominant Medical Emergencies Seen In Outpatient Department

Table 1: Evaluation Of Skills Of House Officers (N=62) Working In The Outpatient Department

Evaluation of Skills of House Officers					
Practice of House Officers	Yes %	No %	df	CI	p-value
Taking patients' blood pressure	96.8	3.2	1	0.99-1.08	.000
Taking patients pulse	74.2	25.8	1	1.15-1.37	.000
Measuring blood sugar	27.4	72.6	1	1.61-1.84	.000
Maintaining IV line	38.7	61.3	1	1.49-1.74	.000
Performing Heimlich maneuver	41.9	58.1	1	1.45-1.71	.000
Carrying out ventilation through a bag or mask	53.2	46.8	1	1.34-1.60	.000
Performing CPR	35.5	64.5	1	1.52-1.77	.000

DISCUSSION

This study indicates knowledge and perception of Dental house officers regarding the management of medical emergencies at CMH LMC and IOD. In a study conducted in Karachi, about 45% of house officers received BLS program training.²¹ Similar results with the studies conducted by Plessas A et. Al., which was 57%.¹⁶ In this individual study conducted at one institute, 64.5% had been given training during house job. House officers working in dental OPDs depend entirely on postgraduate trainees or senior faculty members whenever any emergency occurs. Though, the majority of the house officers encountered only 1 to 5 medical emergencies in their clinical practice. Only 8.1% reported having encountered more than 10 medical emergencies. The smaller number of medical emergencies encountered by dental house officers is probably because of not taking history properly and negligence in taking precautions before starting any dental procedure. 50.0% of the house officers received medical emergencies knowledge by attending workshops, 11.3% through seminars, and 38.7% through textbooks. Whereas the studies were done by Gupta H, i.e. 72% received knowledge through lectures and 41% through role-playing and simulations.¹⁷ A study done in Karachi confirms that the most common life-threatening clinical situation found was syncope (67.2%), followed by hypoglycemia that was (29%)²¹The results are also quite the same in this study where syncope was found to be the most common medical emergency about (62.9%). Hypoglycemia was found to be the second most common (35.5%) and asthma was reportedly the third most common medical emergency (1.6%). The majority of the dental house officers can take a patient's blood pressure and pulse. Whereas, only 27.4% can measure sugar levels, and 38.7% can maintain an IV line in

case of any emergency. Keeping in mind that maintaining an IV line is not included in the Basic Life Support course, 53.2% responded they can carry out bag/mask ventilation. A study completed by Cotrin P, where 67% established that they can perform CPR.¹⁸ The dentists affirmed they could perform mouth-to-mouth breathing and chest compressions about 35.2%.¹⁹ In this study, 35.5% of dental house officers believe they can perform CPR. A study in Karachi confirms that only 16.03% of dental house officers agreed their undergraduate training is adequate to prepare them for dealing with medical emergencies.²¹ More than half of the respondents were discontented with their training received as undergraduate students.²⁰ Conferring to the current study, it was found that dental house officers strongly believe there is a solemn need for training in cases of emergencies. As only 3.2% of house officers think their undergraduate training is enough 90.3% strongly agreed that they should have practical training in managing medical emergencies.

CONCLUSION

It was concluded that practical training is lacking among dental house officers for the management of any medical emergency and that there is a need to not only include medical emergency training at the undergraduate level but also allot a rotation to medical emergencies at the start of the house job. Most of them encountered very few medical emergencies and to manage any emergency, they seek help from their seniors. The reason is, that they do not take history properly and show negligence in taking precautions before starting any dental procedure. There are a limited number of seminars and workshops conducted on the management of medical emergencies. They lack skills in many things e.g., measuring blood sugar levels, maintaining IV lines, and even performing CPR. Hence, there is a serious need to include medical emergency training at the undergraduate level.

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