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Objectives: To assess the knowledge, confidence and skills of House Officers regarding chair side management of common medical emergencies in dental teaching hospitals of Peshawar.

Methodology: A Cross Sectional study design was conducted and self-administered questionnaire which included closed ended questions regarding knowledge ,clinical skills and confidence to deal with medical emergencies were distributed among the participants after taking written consent in three different institutions of Peshawar, SBDC; Sardar Begum Dental College, PDC; Peshawar Dental College, KCD; Khyber College Of Dentistry.

Results: Out of 140 house officers (majority females) from different dental teaching hospitals in Peshawar. Most of them responded correctly to the dental scenarios. Some of the house officers (44.3%) were not confident enough to deal with medical emergencies in their dental practice due to lack of skills in dealing with such scenario.

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Assessment of House Officers in Management of Common Medical Emergencies in Teaching Dental Hospitals of Peshawar

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Conclusion: House Officers in dental teaching hospitals of Peshawar have enough knowledge about dealing with common medical scenarios that occur on dental chair during routine dental procedures.

I. Introduction

A medical emergency is a medical condition that requires immediate treatment. During practice, dentists face many emergency events especially medical emergencies. These emergencies should be treated and avoided because it puts the life of a patient at risk. These episodes usually occur due to lack of appropriate knowledge.[1]

As people age, the systematic conditions upsurge and with that, the dentists' are increasingly responsible for treating a growing number of elderly and medically compromised patients. Diseases that compromise the health lead to medical emergencies, which hinders the dental treatment.[2]

Fortunately, most of the medical emergencies encountered are not life-threatening .These medical emergencies usually occur during or after local anesthesia administration, mainly during tooth extraction and root canal treatment. Syncope was the most common medical emergency in eastern region of Saudi Arabia followed by Hypoglycemia. Dentists have the responsibility and are responsible for recognizing medical emergencies when they arise, along with being competent in managing them optimally.[2] However dental professionals' expertise and skills and the availability of essential emergency drugs and equipment can reduce the morbidity or mortality associated with medical emergencies. The Resuscitation Council, United Kingdom (UK), requires all dental clinics in the UK to have minimal emergency equipment that includes portable oxygen cylinder, oxygen face mask, set of oropharyngeal airways, device for inhaled bronchodilators, blood glucose measuring apparatus, defibrillator, suction and sterile syringes and needles. Similarly, oxygen, epinephrine, nitroglycerin, diphenhydramine, bronchodilators, aspirin, glucose, and aromatic ammonia are the basic drugs, which should be available in dental clinics.[3]

In the UK and New Zealand, studies have reported that almost 20% of dentists were not adequately prepared to manage the emergencies and that basic emergency drugs and equipment were not available in their clinics. Patients receiving dental treatment can experience syncope, allergic reaction,

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[1] Evaluation of Dentist Knowledge On Medical Urgency and Emergency. Tassia Carnia, Staflizza, CFC Carrara, FV Oliveira, CF Santos Aug 18, 2014

[2] Knowledge, Attitude, and Perceived Confidence in the Management of Medical Emergencies in the Dental Office: A Survey among the Dental Students and Interns, Haifa Fahad Albelaihi,[1] Athar Ibrahim Alweneen,[1] Abeer Ettish,[1] and Faleh Ali Alshahrani, Nov-Dec 2017 qassim province

[3] Medical emergencies encountered in dental clinics: A study from the Eastern Province of Saudi Arabia,Mostafa Alhamad, Talib Alnahwi, Hassan Alshayeb, Ali Alzayer, Omran Aldawood, Adeeb Almarzouq, and Muhammad A. Nazir Dec 2015

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angina pectoris, cardiac arrest, fits and seizures, diabetic crisis, asthmatic attack, orthostatic hypotension, hypertensive crisis, and ingestion of a foreign body. Studies that have evaluated the prevalence of different medical emergencies indicate that syncope is the most common occurrence.[3]

There is a significant need for increased awareness among dental professionals about emergency medicine. Every dental professional should be trained in emergencies which may be life-threatening and should be able to deal with anywhere and any situation. Dental professionals should be aware of protocols for initial stabilization of the patient in the dental office. Emergency can occur in any dental office without any warnings. There is an increased number of medico legal cases due to rise in the number of deaths in the dental chair.[4] Therefore, there is need to ensure that effective undergraduate training is available to have better preparation for future dental practice. Such preparedness would include knowledge and skills of practioner, training of clinical staff, and availability of emergency drugs and equipment's in the dental setup.

II. Objectives

To assess the knowledge, confidence and skills of House Officers regarding chair side management of common medical emergencies in dental teaching hospitals of Peshawar.

III. Methodology

A Cross Sectional study design was conducted and self-administered questionnaire which included closed ended questions regarding knowledge ,clinical skills and confidence to deal with medical emergencies were distributed among the participants after taking written consent in three different institutions of Peshawar, SBDC; Sardar Begum Dental College, PDC; Peshawar Dental College, KCD; Khyber College Of Dentistry. All the house officers of these institutions were included which were present during the time of study.

a) Statistical analysis

Data was analyzed using SPSS 16. Frequency charts and tables were analyzed using descriptive statistics.

IV. Results

Out of 140 house officers (majority females) from different dental teaching hospitals in Peshawar. Most of them responded correctly to the dental scenarios. Some of the house officers (44.3%) were not confident enough to deal with medical emergencies in their dental practice due to lack of skills in dealing with such scenario. About (67.9%) have never attended any workshop on medical emergencies. However 94.9% of house officers are in need of further training in dealing with medical emergencies.

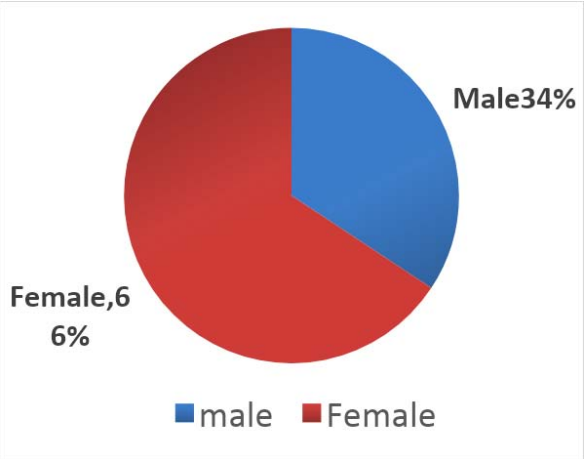


Figure 1: Gender distribution of participants

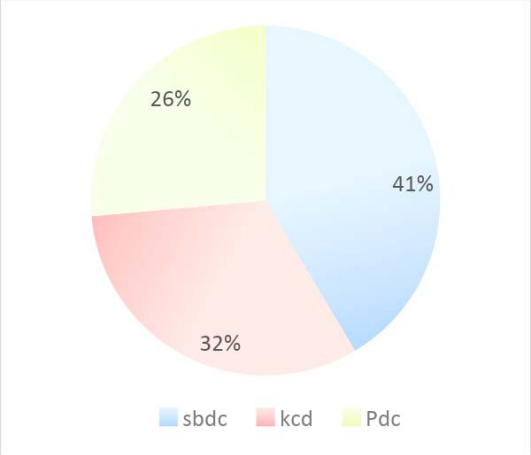


Figure 2: Frequency of Participants from different institutions

Table 01: Do you feel confident enough to deal with medical emergencies?

	Name of Institution			Total	P Value
	SBDC	KCD	PDC		
Yes	30(51.7%)	20(44.4%)	28(75.7%)	78(55.7%)	.013
No	28(48.3%)	25(55.6%)	9(24.3%)	62(44.3%)	

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Table 02: A 27 year old female comes to the oral surgery department for extraction of her grossly carious tooth. After giving local anesthesia she went into state of syncope. How will you manage such case?

	Name of Institution			Total
	SBDC	KCD	PDC	
Start I.V line	0(0%)	0(0%)	1(2.7%)	1(07%)
Positioning patient in supine position with legs raised above the level of head	46(79.3%)	40(88.9)	32(86.5%)	118(84.3%)
Crush ammonia ampule under nose	12(20.7%)	5(11.1%)	4(10.8%)	21(15.0%)
Total	58(100.0%)	45(100.0%)	37(100.0%)	140(100.0%)

Table 03: How do you plan for extraction of a tooth in patient with prosthetic heart valve?

	Name of Institution			Total
	SBDC	KCD	PDC	
Administer plane anesthesia	6(10.3%)	5(11.1%)	3(8.1%)	14(10%)
Antibiotic prophylaxis	20(34.5%)	25(55.6%)	15(40.5%)	60(42.9%)
Administer nitroglycerine	2(3.4%)	2(4.4%)	0(0%)	4(2.9%)
All of the above	30(51.7%)	13(28.9%)	19(51.4%)	62(44.3%)
Total	58(100%)	45(100%)	37(100%)	140(100%)

V. Discussion

Similar studies were done on knowledge, skills and confidence of dentists in dealing with medical emergencies. In *IRAN* a similar study was performed, the result was not that satisfactory, the level of knowledge of 23% dentist was poor, 37% average, 39% Good. Most of the participants showed enough knowledge about diagnosis and management of syncope/ faint (97.7%) and seizure 82 (95.5%). The level of knowledge of the respondents about other medical emergencies management were as follow: heart attack 77 (79.1%), orthostatic hypotension 60 (69.8%), hypoglycemic shock 58 (67.4%) supine hypotension of pregnancy 14 (16.3%), angioneurotic edema 14 (16.3%), hyperventilation syndrome 20 (23.3%), asthma attack 22 (25.6%) and thyroid storm 24 (27.9%).[4]

In *Qassim Province, Saudi Arabia,* Out of 350 questionnaires that were distributed among dental students 201 questionnaires were received and response rate was 57%. Numbers of valid cases for analysis were 153, 76 female and 77 male with age ranging 20 to 30 years.89% of participated inquired about Medical history involving medication and Allergy history before dental treatment. Among these participant 29.4% of them checked the vital signs and 37% participant were confident to handle any medical emergency in dental office. Almost 60% of participant knew about availability of emergency kit in their hospitals.[2]

A study in *PAKISTAN* showed most common medical emergency encountered in dental hospital was syncope (80.7%) followed hypoglycemia and cardiovascular episodes. It was observed that 43.8% were confident in dealing a medical emergency by themselves whereas the remaining was dependent on others to cope such situations. Moreover the result of the study shows that only 23% of dentists know how to position the chair in case of angina. Only 39% knew the route of administration of adrenaline, a principle drug in case of anaphylaxis as well as life threatening asthma.[5]

VI. Conclusion

House Officers in dental teaching hospitals of Peshawar have enough knowledge about dealing with common medical scenarios that occur on dental chair during routine dental procedures. But they lack skills and dexterity to handle such medical scenarios. Are in need of further training to deal with such medical emergencies more efficiently.

[4] Dentists Awareness About Management Of Medical Emergencies In Dental Offices Birjand Iran-2014 Narjes Akbari, Vajehallah Raeesi, Sediqe Ebrahimipour, Khaironnesa Ramezanzadeh.

[5] An Assessment of Dentists' Knowledge About Medical Emergencies. Owais Khalid Durranil, Kamran Khan, Sundish E Ahmed, Sundus Khan Hira Arshad, Ulfat Bashir; Pakistan Oral and Dental Journal, December 2015.

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