



## Medical Emergencies in The Dental Clinic: Are We Prepared?

### KEYWORDS

Awareness, Basic life support, Dental clinic, Emergency drugs, Medical Emergencies

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**ABSTRACT** Medical emergencies are uncommon in dental practices but can happen at any instant. But Dentists should be prepared if any such occurrence happens. The Risk of mortality is reduced if basic medical equipment and drugs are present on site. To learn about dealing with medical emergencies in the dental practice and to assess the knowledge and experience of dentists about Basic life support and Cardiac pulmonary resuscitation.

To conduct a survey to find out how prepared dentists are in the case of a medical emergency in the Dental clinics around Chennai. To provide a better understanding about tackling medical emergencies and these emergencies are best managed if mechanisms are in place for dealing with them. Emergencies are not foretold and all the members of the dental team need to be aware in the event of any such incident

### Introduction:

The term "emergency" is defined as a serious, unexpected and often dangerous situation, requiring quick attention. Medical emergencies are a rarity in the dental clinic but can occur at any time. In such incidences, the dental team should be ready to manage and take control of the situation. In the United States and Canada, syncope is considered to be the most common medical emergency seen in dental clinics [1]. These emergencies can occur due to the anxiety of the dental treatment, the fear of pain that could occur due to the procedure and in some cases existing diseases in the patient. Asphyxiation and swallowing of dental instruments can occur in children and mentally retarded patients. Certain drugs used during dental procedures can cause anaphylactic reactions and over dosage of drugs can cause life threatening situations in the dental clinic [2]. A detailed case history of the patient could help in anticipating a medical emergency.

Although the life threatening situations in a dental clinic are infrequent the following factors could increase the chances of them, such as (1) increase in dental care for geriatric patients (2) side effects of advancements in the dental profession (3) increase in drug use (4) longer dental appointments [3].

The aim of this research article is to understand the preparedness of a standalone dental clinic in Chennai.

### Materials and Methods:

A questionnaire on "Awareness of Medical Emergencies in the Dental clinic" was given to 10 random standalone dental clinics around Chennai.

### Results:

The following data was collected.

Based on Awareness of these emergencies that have taken place in the dental clinic:

### Findings:

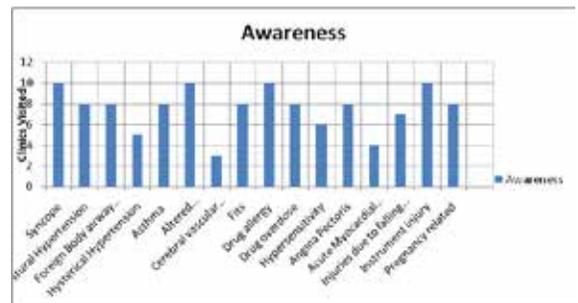
General awareness of medical emergencies happening in a dental clinic was high among dental practitioners.

Medical emergencies most commonly cited were:

- Syncope
- Altered consciousness due to Diabetes mellitus
- Drug allergy
- Instrument injury

Medical emergencies that are unlikely to take place in a clinic or the interviewed dental practitioner was unaware of :

1. Cerebral Vascular accident
2. Acute Myocardial infarction
3. Hysterical Hyperventilation
4. Hypersensitivity
5. Falling from the dental chair

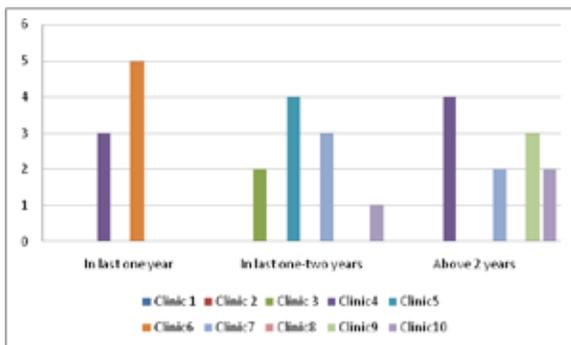


**Fig 1: The Awareness of Medical emergencies having occurred in the Dental clinics**

Based on the Occurrence of the Medical Emergencies:

### Findings were:

- Medical emergencies are extremely rare in dental clinics.
- Emergencies are few in number compared to the total number of patients treated in the clinic.
- 7 clinics had dealt with cases of medical emergencies although frequency of such occurrence was rare
- Dental Clinicians not comfortable in mentioning the number of medical emergencies.
- Dentists felt that increase in medical emergencies would affect the competitive market.



**Fig 2: Frequency of Medical Emergencies in the Dental clinic**

Based on the list of medical emergency equipment available in the dental clinics:

#### Findings:

- None of the clinics have Defibrillators/AED
- All the clinics have basic medical emergency kit with drugs like Ephinephrine, Nitroglycerine, Oral glucose, Aspirin etc and syringes, suction and vasodilators.
- Most of the clinics have oxygen cylinders (8/10) and vasodilators and bronchodilators (6/10)

#### Based on Medical preparedness:

##### Findings:

Only 4 out of the 10 clinics had a tie up with the neighbouring hospitals.

All the clinics had at least one staff with Basic Life support training mainly the dentists.

None had advanced life support training.

#### Discussion:

In Dental clinics, life threatening situations are uncommon but it is always "better to stay safe than sorry". It is essential that all health care professionals including dental practitioners be aware of standard protocols and procedures to face the unwanted situation. These emergencies can be prevented by noticing early signs of distress and discomfort by the patient. The signs such as difficulty in breathing, paleness of the skin, abnormal pulse rate etc. Once the signs are noticed, the procedure must be stopped and emergency protocol should begin. The dentist and his

team should be trained atleast in Basic life support (BLS) and have routine practice sessions and the training should be updated. BLS is provided for initial stabilization of the patient until definitive medical care is given.

Basic life support is an effective technique of cardiopulmonary resuscitation which involves

#### Airway

#### Breathing

#### Circulation/Chest Compressions

It also includes the use of a defibrillator along with CPR. The dental clinic should have a standardized emergency drug box with appropriate medications that have not passed their expiry date. The list of drugs in the emergency kit is given by the Resuscitation Council (UK) is seen in Table 1 [4].

**Table 1: Contents of the Drug Box**

Emergency Drugs	Route of administration
Oxygen	Inhalation
Aspirin	Oral
Oral Glucose solution	Oral
Midazolam	Inhalation
Adrenaline injection	Intramuscular
Glucagon injection	Intramuscular
Anti-Histamine	Intramuscular/Oral

Since it's impossible to know when an emergency can occur, the dental team should have a practiced routine for handling these situations. The neighbouring hospital and ambulance numbers should be posted near every phone line. A communication system between the staff should be established such as "Code Blue" or "flashing lights" for example [5].

#### Conclusion:

The study conducted showed that most of the dental clinics are aware of medical emergencies but lack basic equipment and requirement if such an occurrence happened. The preparedness for any emergencies should be given more importance and be made mandatory. Training should be given to the whole dental team, so that it will help them in their practice and also help in any situation occurring elsewhere.

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