Section: Research Paper

ASSESSMENT OF KNOWLEDGE ABOUT THE EMERGENCY DRUGS AVAILABLE IN DENTAL OFFICE - A CROSS SECTIONAL STUDY.

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Section: Research Paper

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ABSTRACT:

Aim: The aim of this study was to assess the level of **knowledge about the emergency drugs** in order to manage medical emergencies at their dental offices.

Materials and Methods: The cross sectional survey was conducted among 227 dental professionals residing in Tamil Nadu through an online portal. The questionnaire consisted of four sections that addressed the demographic data, knowledge, awareness and practice regarding knowledge, experience and views of medical emergencies to manage medical emergencies at their dental offices.

Result: Among the participants, 64.7% (n=147) were general dental practitioners, 20.2% (n=46) postgraduate students, and 14.9% (n=34) specialty dental practitioners. The response rate to the questionnaire achieved was 100%. There was a statistically insignificant difference between the dental practitioners based on the level of graduation. Among all the participants 173(76.2%) reported that less than 5 cases of medical emergencies have encountered in dental office in a year. About 209(92.1%) reported Dexamethosone, Nitroglycerine, Diphenhydramine, Diazepam considered as mandatory drug and using it in day to day practice.

Conclusion: Management of medical emergencies should be educated at every level of study period so that the efficient patient management is achieved. In addition to that Basic Life Support should go hand in hand for managing critical patients.

Keywords: Medical Emergency, BLS, Syncope, Anaphylactic shock.

INTRODUCTION:

Oral health care professionals have a legal and ethical obligation to offer high-quality care to the public within their scope and to emphasise patient safety at all times. in a dental office, medical emergencies do occur[1]. Early and effective management of a medical emergency appears to be useful and lowers the negative consequences of such an incident. In order to respond with potentially life-threatening illnesses, oral health practitioners must have the necessary skills, training, and equipment[2,]. Oral health professionals have a responsibility to prioritise their patients' needs and to safeguard those needs by practising safely and providing quality care. In order to increase the ability of a practitioner to deal with medical emergencies that happen in the course of their practice. The dental council of India have Established the medical emergencies in dental

practice - practice standard establishes minimum requirements for registered oral health practitioners in terms of resuscitation training, recertification intervals and the equipment and drugs that must be in hand in the event of a medical emergency.

Failure to respond to a medical emergency is a severe departure from the quality of care that oral health practitioners are expected to provide. In an emergency situation immediate decisions may be required and these would be taken into account when determining whether or not the appropriate professional standard had been met. An extensive medical history is essential in the prevention and management of medical emergencies, and all patients' health history must be kept and updated on a regular basis. Patients with severe medical conditions or an increased risk of developing a medical problem should be identified. An evaluation should be performed to see if any additional measures should be taken or if a referral to a more qualified practitioner or a more appropriate medical environment such as a hospital-based dental facility, is required.

The emergency situations range from the mild to the life-threatening, such as the common faint [vaso-vagal syndrome] and hyperventilation. The most frequently occurring medical emergencies that develop during the course of dental treatment are as follows. vasovagal syncope, postural hypotension and additional medical emergencies like allergies/ hypersensititvity reactions, acute adrenal insufficiency, diabetic emergencies, hyperventilation, asthma, myocardial infarction and epilepsy- status epilepticus. Although serious medical situations are uncommon in dental practise, a dentist must be prepared to deal with them[3]. Even if these unfortunate circumstances are beyond one's control, dentists must be prepared and know what to do in order to provide the patient the best chance of recovery. The purpose of this survey was to assess the level of **knowledge about the emergency drugs** in order to manage medical emergencies at their dental offices.

MATERIALS AND METHODS:

A descriptive cross sectional survey was carried to assess the knowledge, experience and views of medical emergencies among dental practitioners. The study was conducted over a period of May 2021 to June 2021.

SAMPLE SIZE ESTIMATION:

The size of the sample was estimated to be about 227 participants. The sampling frame consisted of dental practitioners working in dental colleges and private practice.

ELIGIBILITY CRITERIA:

The eligibility criteria include Dental professionals residing and practicing all over Tamilnadu. Dental auxillaries and Dental Hygienists were excluded from the study.

QUESTIONNAIRE:

A self-structured questionnaire comprised of 15 closed-ended questions was prepared using Google forms. The questionnaire assessed for content validity and internal consistency of questionnaire was found to be good (Cronbach’s alpha = 0.84) and further modifications were done in questionnaire. The questionnaire was designed in English language and was not classified into domains.

DATA COLLECTION:

The confidentiality of information was preserved during the process by keeping it anonymous and the link of the questionnaire along with a consent form was forwarded to the contacts of the researchers using e-mails and various social media platforms. Before the administration of the questionnaire, the aim and the potential benefits of the study were clearly explained to all the study participants. An informed consent was attached to the google forms and sent through email. Informed consent was obtained from all the participants, after they thoroughly understood the contents of the information sheet. Demographic details of the participants were also collected. All the participants were asked to respond each item in the questionnaire by choosing the most appropriate answer.

STATISTICAL ANALYSIS

Data thus collected were entered into Microsoft Excel sheet 2019 to prepare master chart and analyses were performed using a Statistical Package for Social Sciences software (SPSS version 20, USA). Descriptive statistics were performed for demographic variables. For all the qualitative data, Chi square test was used and the P value was set for 0.05 and any value equal to or less than was considered to be significant.

RESULT:

Among the 227 participants who were recruited in the study the age range was between 21 to 50 years with a mean age of 39.87 ± 6.52 years. Among the participants, 64.7% (n=147) were General dental practitioners, 20.2% (n=46) postgraduate students, and 14.9% (n=34) specialty dental practitioners.

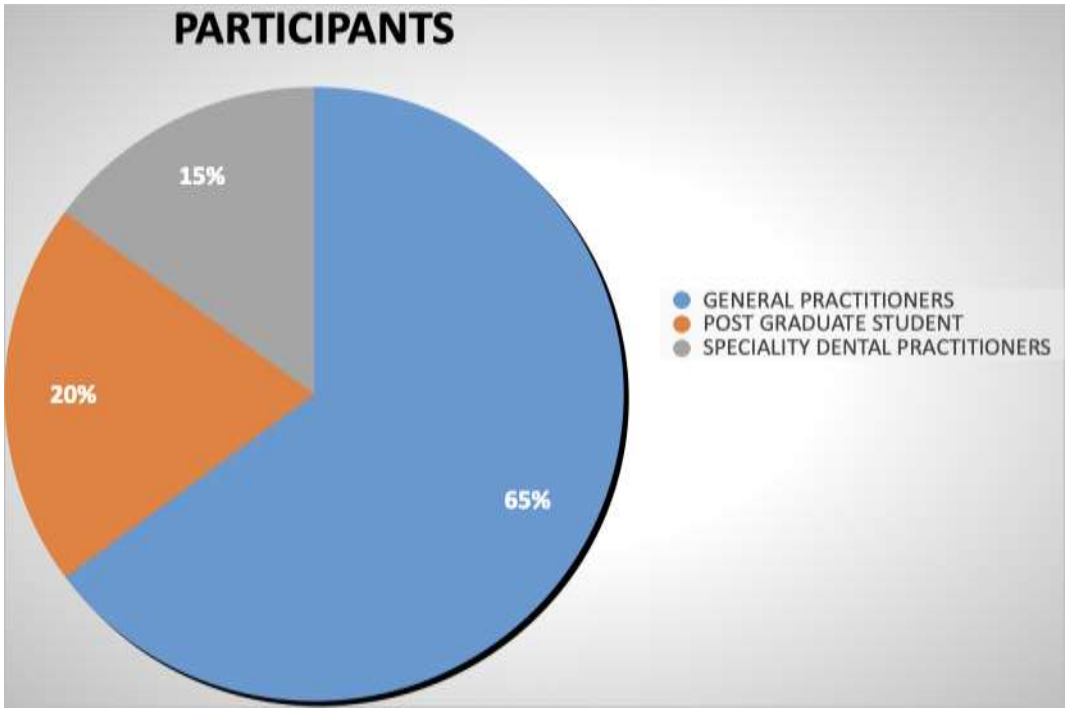

FIGURE 1: Pie diagram depicting the graduation level of the participants

DOMAIN 1:

TABLE 1: Regarding the knowledge about medical emergencies among the 227 participants, there were 7 questions presented to the participants

Questions	Options	BDS n(%)	PG n(%)	MDS n(%)	Responses n(%)	p Value

1. First line drug for a patient having an Episode of Asthma in dental office?	a)Salbutamol inhalation b)Hydrocortisone c)Montelukast d)Cetrizine	127 (85.2%) 12(8.05%) 5(3.3%) 3(2.01%)	43(93.4%) 2(4.3%) 1(2.1%) 0(0%)	25(78.1%) 5(15.6%) 0(0%) 0(0%)	195(85.9%) 19(8.3%) 6(2.64%) 3(1.3%)	0.212
2. How will you manage the patient with angina pectoris after administration of local anesthesia?	a)Nitroglycerine IV b)Nitroglycerine orally c)Nitroglycerine sublingual d)Nitroglycerine IM	10(6.7%) 9(6.04%) 120(80.5%) 10(6.7%)	4(8.69%) 3(6.52%) 37(80.4%) 2(4.34%)	2(6.25%) 0(0%) 28(87.5%) 0(0%)	16(7.04%) 12(5.28%) 185(81.49%) 12(5.28%)	0.031
3. What is the most common syncope that occurs for patients in dental chair?	a)Neurologic syncope b)Vasovagal syncope c)Orthostatic syncope d)Psychogenic syncope	12(8.05%) 95(63.75%) 22(14.75%) 16(10.7%)	5(10.8%) 27(58.6%) 9(19.5%) 5(10.8%)	0(0%) 22(68.75%) 1(3.12%) 6(18.75%)	17(7.4%) 144(63.4%) 32(14.09%) 27(11.89%)	0.074

4. What is the drug of choice for post procedural overdose of Non Steroidal Anti Inflammatory Drugs?	a)IV sodium bicarbonate b)IV calcium carbonate c)IV sodium perborate d)IV calcium bicarbonate	103(69.1%) 6(4.02%) 18(12.08%) 6(4.02%)	32(69.5%) 3(6.52%) 3(6.52%) 6(13.04%)	25(78.1%) 2(6.25%) 1(3.12%) 0(0%)	160(70.48%) 11(4.84%) 22(9.69%) 12(5.28%)e	0.117
5. what is the first line treatment for patients having an Anaphylactic attack after administration of local anesthesia?	a)Adrenaline (1:10000) dilution b)Adrenaline(1:1800) dilution c)Adrenaline (1:1000) dilution d)Adrenaline (1:80000) dilution	39(26.17%) 40(26.8%) 51(34.2%) 14(9.4%)	12(26.1%) 9(19.56%) 21(45.6%) 3(6.5%)	4(12.5%) 2(6.25%) 23(71.8%) 1(3.12%)	55(24.22%) 51(22.46%) 95(41.8%) 18(7.92%)	0.016
6. What do you think is the drug of choice in management of status epilepticus in a dental setting?	a)Lorozepam b)Ephedrine c)Naxlone d)Pethidine	105(70.4%) 25(16.77%) 12(8.05%) 2(1.3%)	34(73.9%) 7(15.2%) 2(4.34%) 2(4.34%)	23(71.8%) 5(15.6%) 2(6.25%) 0(0%)	162(71.3%) 37(16.2%) 16(7.04%) 4(8.69%)	0.836

7. How do you manage a Patient with hypoglycemic coma in the dental office?	a)10% dextrose b)5% dextrose c)25% Dextrose d)75% dextrose	48(32.2%) 47(31.5%) 38(25.5%) 10(6.7%)	7(15.2%) 18(39.1%) 12(26.1%) 6(13.04%)	2(6.25%) 10(31.25%) 15(46.8%) 2(6.25%)	57(25.11%) 75(33.03%) 65(28.6%) 18(7.9%)	0.023

Based on the level of graduation, there was no significant difference present for all the questions

DOMAIN II

TABLE 2: Regarding the Awareness about medical emergencies anamong the 227 participants, there were 7 questions presented to the participants

QUESTIONS	OPTIONS	BDS n(%)	PG n(%)	MDS n(%)	RESPONSES n(%)	p Value
8. What do you think is the need for oxygen cylinders in the dental op?	a)For Syncope b)For all medical emergencies c)For Epilepsy d)For Anaphylatic shock	24(16.1%) 98(65.7%) 5(3.35%) 18(12.08%)	6(13.04%) 34(73.91%) 0(0%) 3(6.52%)	4(12.5%) 24(75%) 1(3.125%) 1(3.125%)	34(14.9%) 156(68.7%) 6(2.64%) 22(9.69%)	0.533

9. Which of the following are the color codes for an Medical grade oxygen cylinder?	a) Black with White Shoulder medical oxygen cylinders b)Blue with White Shoulder medical oxygen cylinders c)White with Black Shoulder medical oxygen cylinders d)Black with Blue Shoulder medical oxygen cylinders	90(60.40%) 19(12.75%) 16(10.7%) 8(5.3%)	31(67.39%) 6(13.04%) 6(13.04%) 0(0%)	21(65.6%) 2(6.25%) 1(3.12%) 3(9.35%)	142(62.5%) 27(11.89%) 23(10.13%) 11(4.84%)	0.388
10.What does CPR stands for?	a)Cardio Pulmonary Resuscitation b)Coronary Pulomonary Resuscitation c)Care Pulmonary Respiration d)Cardio Pulmonary Respiration	141(94.6%) 4(2.6%) 1(0.67%) 1(0.67%)	43(93.47%) 2(4.34%) 1(2.17%) 0(0%)	30(93.75%) 0(0%) 0(0%) 0(0%)	214(94.2%) 6(2.64%) 2(0.88%) 1(0.44%)	0.460

11. What does ABCD in first aid stands for?	a)Airway, Breathing, Circulation, Disability	125(83.8%)	41(89.1%)	22(68.75%)	188(82.8%)	
	b)Angina, Breathing, Circulation Diagnosis	11(7.38%)	3(6.52%)	6(18.75%)	20(8.8%)	0.060
	c)Airway, Bleeding, Circulation, Diagnosis	11(7.38%)	1(2.17%)	2(6.25%)	14(6.16%)	
	d)Airway, Breathlessness, Circulation, Disability	1(0.67%)	1(2.17%)	0(0%)	2(0.88%)	

Based on the level of graduation, there was significant difference for question regarding cardio pulmonary resuscitation (p<0.460) and Airway, circulation, breathing (p<0.060). there was no significant difference present for other questions

DOMAIN 3

TABLE 3: Regarding the experience about medical emergencies and its managemnt among the 227 participants, there were 7 questions presented to the participants

QUESTIONS	OPTIONS	BDS n(%)	PG n(%)	MDS n(%)	RESPONSES n(%)	p Value
12. How many cases of medical emergencies have you encountered in your dental office in a year?	a)Less than 5 b)5 to 10 cases c)10 to 15 cases d)More than 15 cases	118(79.19%) 15(10.06%) 3(2.01%) 4(2.68%)	32(69.5%) 6(13.04%) 2(4.34%) 1(2.17%)	23(71.85%) 5(15.625%) 2(6.25%) 0(0%)	173(76.2%) 26(11.4%) 7(3.08%) 5(2.2%)	0.731
13. If you have encountered any medical emergency in your dental office, when you have encountered?	a)while the patient is sitting in the dental chair b)After administration of local anesthesia c)During the treatment procedure d)Immediately after the completion of the dental treatment	34(22.8%) 46(30.8%) 26(17.44%) 25(16.77%)	11(23.9%) 9(19.5%) 8(17.3%) 14(30.4%)	5(15.625%) 10(31.25%) 7(21.875%) 8(25%)	50(22.02%) 65(28.6%) 41(18.06%) 47(20.70%)	0.514

14. Have you managed a medical emergency in dental office and How?	a)Yes , I have managed by myself b)Yes, i have managed with help of Dental auxillaries c)Yes, i have managed with help of Dental colleagues d)Yes, i have managed with help of Medical colleagues	29(19.46%) 16(10.7%) 70(46.9%) 19(12.75%)	15(32.6%) 3(6.5%) 12(26.08%) 10(21.73%)	14(43.75%) 5(15.625%) 7(21.8%) 4(12.5%)	58(25.5%) 24(10.5%) 89(39.2%) 33(14.5%)	0.019
15. Which of the following drugs should present in a dental clinic?	Dexamethosone Nitroglycerine Diphenhydramine Diazepam All of the above	5(3.3%) 3(2.01%) 1(0.67%) 1(0.67%) 138(92.6%)	1(2.17%) 0(0%) 1(2.17%) 1(2.17%) 43(93.47%)	2(6.25%) 0(0%) 0(0%) 0(0%) 28(87.5%)	7(3.08%) 3(1.32%) 2(0.88%) 2(0.88%) 209(92.1%)	0.285

Based on the level of graduation, there was no significant difference present for all the questions

Table 1: Distribution of participants on the assessment of knowledge, experience and views of medical emergencies among the dental participants.

QUESTIONS	OPTIONS	BDS n(%)	PG n(%)	MDS n(%)	RESPONSES n(%)	p Value
1. First line drug for a patient having an Episode of Asthma in dental office?	a)Salbutamol inhalation b)Hydrocortisone c)Montelukast d)Cetrizine	127 (85.2%) 12(8.05%) 5(3.3%) 3(2.01%)	43(93.4 %) 2(4.3%) 1(2.1%) 0(0%)	25(78.1%) 5(15.6%) 0(0%) 0(0%)	195(85.9%) 19(8.3%) 6(2.64%) 3(1.3%)	0.212

2. How will you manage the patient with angina pectoris after administration of local anesthesia?	a)Nitroglycerine IV b)Nitroglycerine orally c)Nitroglycerine sublingually d)Nitroglycerine IM	10(6.7%) 9(6.04%) 120(80.5%) 10(6.7%)	4(8.69%) 3(6.52%) 37(80.4%) 2(4.34%)	2(6.25%) 0(0%) 28(87.5%) 0(0%)	16(7.04%) 12(5.28%) 185(81.49%) 12(5.28%)	0.031

3. What is the most common syncope that occurs for patients in dental chair?	a)Neurologic syncope b)Vasovagal syncope c)Orthostatic syncope d)Psychogenic syncope	12(8.05%) 95(63.75%) 22(14.75%) 16(10.7%)	5(10.8%) 27(58.6%) 9(19.5%) 5(10.8%)	0(0%) 22(68.75%) 1(3.12%) 6(18.75%)	17(7.4%) *144(63.4%)* 32(14.09%) 27(11.89%)	0.074

4. What is the drug of choice for post procedural overdose of Non Steroidal Anti Inflammatory Drugs?	a)IV sodium bicarbonate b)IV calcium carbonate c)IV sodium perborate d)IV calcium bicarbonate	103(69.1%) 6(4.02%) 18(12.08%) 6(4.02%)	32(69.5%) 3(6.52%) 3(6.52%) 6(13.04%)	25(78.1%) 2(6.25%) 1(3.12%) 0(0%)	160(70.48%) 11(4.84%) 22(9.69%) 12(5.28%)e	0.117

5. what is the first line treatment for patients having an Anaphylactic attack after administration of local anesthesia?	a)Adrenaline (1:10000) dilution b)Adrenaline (1:100000) dilution c)Adrenaline (1:1000) dilution d)Adrenaline (1:80000) dilution	39(26.17%) 40(26.8%) 51(34.2%) 14(9.4%)	12(26.1%) 9(19.56%) 21(45.6%) 3(6.5%)	4(12.5%) 2(6.25%) 23(71.8%) 1(3.12%)	55(24.22%) 51(22.46%) 95(41.8%) 18(7.92%)	0.016

6. What do you think is the drug of choice in management of status epilepticus in a dental setting?	a)Lorozepam b)Ephedrine c)Naxlone d)Pethidine	105(70.4%) 25(16.77%) 12(8.05%) 2(1.3%)	34(73.9%) 7(15.2%) 2(4.34%) 2(4.34%)	23(71.8%) 5(15.6%) 2(6.25%) 0(0%)	162(71.3%) 37(16.2%) 16(7.04%) 4(8.69%)	0.836

7. How do you manage a Patient with hypoglycemic coma in the dental office?	a)10% dextrose b)5% dextrose c)25% Dextrose d)75% dextrose	48(32.2%) 47(31.5%) 38(25.5%) 10(6.7%)	7(15.2%) 18(39.1%) 12(26.1%) 6(13.04%)	2(6.25%) 10(31.25%) 15(46.8%) 2(6.25%)	57(25.11%) 75(33.03%) 65(28.6%) 18(7.9%)	0.023

8. What do you think is the need for oxygen cylinders in the dental op?	a)For Syncope b)For all medical emergencies c)For Epilepsy d)For Anaphylatic shock	24(16.1%) 98(65.7%) 5(3.35%) 18(12.08%)	6(13.04%) 34(73.91%) 0(0%) 3(6.52%)	4(12.5%) 24(75%) 1(3.125%) 1(3.125%)	34(14.9%) 156(68.7%) 6(2.64%) 22(9.69%)	0.533

9. Which of the following are the color codes for an Medical grade oxygen cylinder?	a) Black with White Shoulder medical oxygen cylinders b)Blue with White Shoulder medical oxygen cylinders c)White with Black Shoulder medical oxygen cylinders d)Black with Blue Shoulder medical oxygen cylinders	90(60.40%) 19(12.75%) 16(10.7%) 8(5.3%)	31(67.39%) 6(13.04%) 6(13.04%) 0(0%)	21(65.6%) 2(6.25%) 1(3.12%) 3(9.35%)	142(62.5%) 27(11.89%) 23(10.13%) 11(4.84%)	0.388

10. What does CPR stands for?	a)Cardio Pulmonary Resuscitation b)Coronary Pulomonary Resuscitation c)Care Pulmonary Respiration d)Cardio Pulmonary Respiration	141(94.6%) 4(2.6%) 1(0.67%) 1(0.67%)	43(93.47%) 2(4.34%) 1(2.17%) 0(0%)	30(93.75%) 0(0%) 0(0%) 0(0%)	214(94.2%) 6(2.64%) 2(0.88%) 1(0.44%)	0.460

11. What does ABCD in first aid stands for?	a)Airway, Breathing, Circulation, Disability b)Angina, Breathing, Circulation Diagnosis c)Airway, Bleeding, Circulation, Diagnosis d)Airway, Breathlessness, Circulation, Disability	125(83.8%) 11(7.38%) 11(7.38%) 1(0.67%)	41(89.1%) 3(6.52%) 1(2.17%) 1(2.17%)	22(68.75%) 6(18.75%) 2(6.25%) 0(0%)	188(82.8%) 20(8.8%) 14(6.16%) 2(0.88%)	0.060

12. How many cases of medical emergencies have you encountered in your dental office in a year?	a)Less than 5 b)5 to 10 cases c)10 to 15 cases d)More than 15 cases	118(79.19 %) 15(10.06%) 3(2.01%) 4(2.68%)	32(69.5 %) 6(13.04 %) 2(4.34%) 1(2.17%)	23(71.85%) 5(15.625%) 2(6.25%) 0(0%)	173(76.2%) 26(11.4%) 7(3.08%) 5(2.2%)	0.731

13. If you have encountered any medical emergency in your dental office, when you have encountered?	a)while the patient is sitting in the dental chair b)After administration of local anesthesia c)During the treatment procedure d)Immediately after the completion of the dental treatment	34(22.8%) 46(30.8%) 26(17.44%) 25(16.77%)	11(23.9%) 9(19.5%) 8(17.3%) 14(30.4%)	5(15.625%) 10(31.25%) 7(21.875%) 8(25%)	50(22.02%) 65(28.6%) 41(18.06%) 47(20.70%)	0.514

14. Have you managed a medical emergency in dental office and How?	a)Yes , I have managed by myself b)Yes, i have managed with help of Dental auxillaries c)Yes, i have managed with help of Dental colleagues d)Yes, i have managed with help of Medical colleagues	29(19.46%) 16(10.7%) 70(46.9%) 19(12.75%)	15(32.6%) 3(6.5%) 12(26.08%) 10(21.73%)	14(43.75%) 5(15.625%) 7(21.8%) 4(12.5%)	58(25.5%) 24(10.5%) 89(39.2%) 33(14.5%)	0.019

15. Which of the following drugs should present in a dental clinic?	Dexamethosone Nitroglycerine Diphenhydramine Diazepam All of the above	5(3.3%) 3(2.01%) 1(0.67%) 1(0.67%) 138(92.6%)	1(2.17%) 0(0%) 1(2.17%) 1(2.17%) 43(93.47%)	2(6.25%) 0(0%) 0(0%) 0(0%) 28(87.5%)	7(3.08%) 3(1.32%) 2(0.88%) 2(0.88%) 209(92.1%)	0.285

The results of our study showed that 227 responses were received from the Google form link. The dental experts who participated were in the age range of 21 years to 50 years with a mean of 39.87 ± 6.52 years. Among the participants, 64.7% (n=147) were General dental practitioners, 20.2% (n=46) postgraduate students, and 14.9% (n=34) specialty dental practitioners. The response rate to the questionnaire achieved was 100%.

The distribution of participants regarding the assessment on Knowledge, Experience and views of Medical Emergencies in dental office mentioned in the Table 1.

Among the total participants, 85.9% (n=195) respondents have agreed that salbutamol inhalation was considered as first line drug for a patient having an episode of Asthma in dental office. About of respondents, of which 85.2% (n=127) were general dental practitioners, 93.4%

(n=43) were postgraduate students, and 78.1% (25) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (P>0.212) between the dental practitioners.

Among the total participants, 81.49% (n=185) respondents have agreed that Nitroglycerine sublingually can manage the patient with angina pectoris after administration of local anaesthesia. About of respondents, of which 80.5% (n=120) were general dental practitioners, 80.4% (n=37) were postgraduate students, and 81.49% (n=185) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (P>0.031) between the dental practitioners.

Among the total participants, 63.4% (n=144) accepted that vasovagal syncope is the most common syncope that occurs for patients in dental chair. About of respondents, of which 63.75% (n=95) were general dental practitioners, 58.6% (n=27) were postgraduate students, and were 68.75% (n=22) specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.074) between the dental practitioners.

Among the total participants, 70.48% (n=160) participants accepted that IV sodium bicarbonate is the drug of choice for post procedural overdose of Non Steroidal Anti Inflammatory Drugs. About of respondents, 69.1%(n=103) of which were general dental practitioners, 69.5%(n=32) were postgraduate students and 78.1%(n=25) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.117) between the dental practitioners.

Among the total participants, 41.8% (n=95) dental professionals accepted that adrenaline (1:1000) dilution was the first line treatment for patients having an Anaphylactic attack after administration of local anaesthesia. About of respondents, of which 34.2% (n=51)were general dental practitioners, 45.6%(n=21) were postgraduate students and 71.8%(n=23) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.016**)** between the dental practitioners.

Among the total participants, 71.3% (n=162) dental professionals accepted that lorozepam as drug of choice in management of status epilepticus in a dental setting. About of respondents, of which 70.4%(n=105) were general dental practitioners, 73.9%(n=34) were postgraduate students and 71.8%(n=23) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.836) between the dental practitioners

Among the total participants, 75(33.03%) dental professionals accepted that 5% dextrose can manage a patient with hypoglycemic coma in the dental office. About of respondents, of which 31.5%(n=27) were general dental practitioners, 39.1%(n=18) were postgraduate students and 31.25%(n=10) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.023**)** between the dental practitioners

Among the total participants, 68.7% (n=156) dental professionals accepted that oxygen cylinders in the dental op .About of respondents, of which 65.7%(n=38) were general dental practitioners, 73.91%(n=34) were postgraduate students and 75%(n=24) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.533) between the dental practitioners.
Among the total participants, 62.5% (n=142) dental professionals accepted that colour codes for a Medical grade oxygen cylinder is Black with White Shoulder medical oxygen cylinders. About of respondents, of which 31.5%(n=47) were general dental practitioners, 39.1%(n=18) were postgraduate students and 31.25%(n=10) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.388) between the dental practitioners.
Among the total participants, 94.2% (n=214) dental professionals accepted that CPR stands for Cardio Pulmonary Resuscitation. About of respondents, of which 94.6%(n=141) were general dental practitioners, 93.47%(n=43) were postgraduate students and 93.75%(n=30) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically significant (p>0.0460) between the dental practitioners.

Among the total participants, 82.8%(n=188) dental professionals accepted that ABCD stands for Airway, Breathing, Circulation, Disability. About of respondents, of which 83.8% (n=125) were general dental practitioners, 89.1%(n=41) were postgraduate students and 68.75%(n=22) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically significant (p>0.060) between the dental practitioners.

Among all the participants 76.2% (n=173) dental professionals accepted that less than 5 cases of medical emergencies have encountered in dental office in a year. About of respondents, of which 79.19%(n=118) were general dental practitioners, 69.5%(n=32) were postgraduate students and 71.85%(n=23) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.731) between the dental practitioners.

Among all the participants, 28.6% (n=65) dental professionals encountered medical emergency in your dental office after administration of local anaesthesia. About of respondents, of which 30.8%(n=46) were general dental practitioners, 19.5%(n=9) were postgraduate students and 31.25%(n=10) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically insignificant (p>0.514**)** between the dental practitioners

Among all the participants, 39.2% (n=89) dental professionals managed medical emergencies with help of Dental colleagues. About of respondents, of which 46.9%(n=70) were general dental practitioners, 26.08%(n=12) were postgraduate students and 21.8%(n=7) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically significant (p>0. 0.019) between the dental practitioners

Among all the participants, 92.1% (n=209) dental professionals chosen all drugs such as Dexamethosone, Nitroglycerine, Diphenhydramine, Diazepam should be present in dental office. About of respondents, of which 92.6%(n=138) were general dental practitioners, 93.47%(n=43) were postgraduate students and 87.5%(n=28) were specialty dental practitioners. Based on the level of graduation, it was found to be statistically significant (p>0. 0.285) between the dental practitioners

DISCUSSION:

The present study conducted to evaluate the level of **knowledge, experience and views of medical emergencies** to manage medical emergencies at their dental offices. Overall, 227 respondents were involved in the respective survey. The result of the study showed that 85.9% (n=195) respondents have agreed that salbutamol inhalation was considered as first line drug for a patient having an episode of Asthma in dental office. Even though salbutamol considered as first line drug for a patient, Anxiety in the dental environment is a common trigger for acute asthma attacks, practitioners should follow stress reduction techniques to avert such an attack[4]. Prolonged supine positioning, as well as aerosols from ultrasonic handpieces, tooth enamel dust, and dental substance residues, have been demonstrated to be asthma triggers[5-7]. Elective dental treatment has usually been avoided in individuals with unstable angina pectoris (UAP) and within 6 months of commencement in patients who have had an acute myocardial infarction, with the exception of conservative emergency operations (AMI)[8-10].On considering this, our survey report showed that nitroglycerine sublingually can manage the patient with angina pectoris after administration of local anesthesia. Treatment-related discomfort and tension increase catecholamine release in the blood, resulting in higher heart rate and blood pressure, which can impair the oxygen demand-supply balance in the myocardium and cause myocardial ischemia. Furthermore, increased catecholamine levels in the blood might cause platelet aggregation and coronary spasms, which can lead to myocardial infarction[11]. Every dental practitioner must be able to diagnose and treat common emergent problems such as syncope. The basic principles of emergency situations and a consideration of the management must be objects of the dental education and our study showed that Vasovagal syncope is the most common syncope that occurs for patients in dental chair. Other cause of syncope was Stress and causes increased amounts of catecholines (epinephrine, norepinephrine) to be released into the circulatory system to prepare the individual for increased muscle activity[12]. About 95(41.8%) dental professionals reported that adrenaline (1:1000) dilution was the first line treatment for patients having an Anaphylactic attack after administration of local anesthesia. Although anaphylactic responses to local anaesthesia (LA) in the dental context are uncommon, they have been described. The real rate of

adverse effects from LA is between 0.1 to 1%, with 1% of these cases being proven allergic responses. Immediate hypersensitivity reactions (type I: systemic symptoms) or delayed hypersensitivity reactions are the two types of allergic reactions to LAs (type IV: localised reaction at the injection site, contact dermatitis)[13,14,15]. In order to avoid emergency situation. Nearly 71.3% dental professionals, chosen lorozepam as drug of choice in management of status epilepticus. J. Fiske and C. Boyle advised to approach patient early in the day, therapy sessions should be brief, and unexpected stimulants such as shimmering bright lights and loud noises should be avoided[16]. The survey regarding the management of hypoglycaemia ,5% dextrose was chosen by 33.0% dentist to manage a patient in the dental office. Haas DA reported that to treat hypoglycemia in coma individuals, glucagon must be administered intramuscularly. Glucagon starts to work within 10 minutes of dosing. The recommended dose of glucagon for adults is 1 mg. The dosage for children is 0.5 mg. For severe hypoglycemia, 50 percent IV dextrose (glucose) 50-100 ml is an alternative to glucagon[17]. The color codes for a Medical grade oxygen cylinder is Black with White Shoulder medical oxygen cylinders declared by 142(62.5%). Oxygen is recommended for all emergency situations. Until emergency services arrive, a portable full "E" size cylinder should be readily available for patient oxygenation. A clear full face mask is used to supply oxygen at a flow rate of 10 l/min for spontaneously breathing adults and 3-5 l/min for breathing toddlers. The use of a bag-valve-mask system to administer oxygen to an unconscious or apnoeic patient at a flow rate of 10-15 l/min is required, and if a positive pressure device is used, the flow rate should not exceed 35 l/min for adults[18]. About 214(94.2%) had knowledge about CPR stands for Cardio Pulmonary Resuscitation whereas 188(82.8%) had knowledge about ABCD stands for Airway, Breathing, Circulation, disability. Most of the respondents 65(28.6%) encountered medical emergency in your dental office after administration of local anesthesia. Other study evaluated the risk factors, the type and dosage of local anaesthetic used, the type and length of treatment, and problems connected with the administration of the local anaesthetic were all assessed using a questionnaire. 45.9% of all patients had at least one risk factor in their medical history, the most common of which were cardiovascular illnesses and allergies. Complications occurred in 4.5 percent of the cases. It was significantly higher (5.7%) in high-risk patients than in low-risk patients (3.5 percent)[19]. More than 90 percent of the dentist 209(92.1%) had knowledge about drugs such as Dexamethosone, Nitroglycerine, Diphenhydramine, Diazepam and mentioned that they are using in day-to-day practice. Medical emergencies in dentistry offices are quite infrequent. When a dentist sees such rare occurrences, he or she should undertake emergency procedures to save the patient's life. All members of the clinic's dental staff should be well-trained in recognising and dealing with medical emergencies in the dental office.

CONCLUSION:

Majority of the participants had confidence and was aware about when and where to use the drugs for conditions like Myocardial infarction, Angina pectoris. Although these conditions can be avoided by proper case history and even after that if medical emergencies occurred. The

participants were trained in BLS,CPR & ABC. We would like to conclude that essential drugs were present in all dental offices to avoid mortality. In other words the emergency drugs cannot be neglected as minor component in the dental practice.

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