



Awareness of chest pain management among Dental Surgeons

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A B S T R A C T

Objective: Chest-related diseases and complications encompass a broad spectrum of conditions, and it is imperative that medical professionals across various specialties are well-versed in these issues. While dentistry primarily focuses on oral health, it is equally essential for dental practitioners to have a fundamental understanding of different chest-related diseases and their basic principles. This knowledge enables them to provide comprehensive care to patients, as systemic conditions can manifest oral symptoms and impact overall health. Interdisciplinary collaboration and a holistic approach to healthcare are vital in ensuring the well-being of individuals.

Objective: The purpose of the study was to assess the awareness of dental practitioners regarding the management of chest pain.

Methodology: The current cross-sectional study was conducted from June 2022 to December 2022 on various dental clinics and dental departments in the hospitals after approval from the institutional review board. A total sample size was 200 participants were included in the study but 178 of the participants responded. The sample size was calculated by using Rao -soft calculator and all the participants were selected through a convenient sampling technique. Data was collected through a well-structured questionnaire and they were insured that privacy and confidentiality will be maintained. All the collected were analyzed through SPSS latest version 24.

Results: A total of 178 participants responded out of which 98 (55.05%) of them were male and 80 (44.94%) were female. The mean age of the participants was 32.56 ± 4.6 . Overall, 128 (71.91%) of the participants had very good knowledge about the cause of chest pain, while 21.34 % of them had good knowledge, 148 (83.14%) of the participants had very good knowledge regarding the use of nitroglycerin, consequently 143 (80.33 %) very good understanding of the route of administration of nitroglycerin during chest pain, moreover, 139 (78.08%) of the individuals had very good knowledge about the delay in dental surgeries due myocardial infarction. 42.69 % of an average understanding of antithrombotic therapy and 10.11 % had very good knowledge.

Conclusion: The present study concluded that the participants had very good knowledge regarding the causes of chest pain and uses of nitroglycerin but in terms of diagnosis, oxygen delivery and proper management as well as antithrombotic therapy they had average knowledge. Therefore, it would be better to arrange a proper session regarding chest pain management in case of emergency cases.

Keywords: Antithrombotic therapy; Chest Pain; Analgesia; Pain management

Introduction

Dentistry is a branch of medicine concerned with patients' physical well-being. Furthermore, dental clinics are common places for healthcare emergencies, as the repercussions of dentists' lack of competence in this area can be painful.¹ The field of dentistry, and specifically the handling of emergency situations at the dental office, has come a long way in the recent past. The prevalence of medical emergencies has been increasing in the past few years, posing a risk to the dental field. Many of the causes of the rise in dentistry practice emergencies are the aged of people in general, the complexities of certain modern treatment methods, the duration of sessions of the therapy, the elevated level of nervousness among numerous clients, greater prescriptions of medicines, along with the neglect of many dental practitioners.²⁻⁴ The ability to recognize, diagnose, and give appropriate care for an individual experiencing a medical emergency is a core competency for dental practitioners.⁵ However, alongside an aging population comes the risk that dental procedures, the application of local anesthesia, including the anxiety related to dental procedures could all lead to new or worsening problems for clients. Therefore, dental professionals must possess a thorough understanding of disease etiology, and the impact of drugs, including the intricate workings of the human anatomy. They need to possess the skills able to accurately diagnose patients, devise effective treatment plans, and keep close tabs on situations of emergency.³ Teaching dentists about life-threatening situations is becoming increasingly important as medical problems, as well as dental treatment, evolve.⁶ The most efficient method to manage and reduce the incidence of health-related emergencies is through preventative measures, dental practitioners are increasingly expected to know how to provide modern cardiovascular lifesaving measures in these situations. That might be accomplished through the medical history of the individual, a physical check-up, and a conversation.⁷ The 2nd most critical component in managing any kind of health emergency is preventive actions, and this is where apparatus, capabilities, and having been prepared come in dental practice.⁸ Through patient history collection, thorough examination, and occasionally adjusting treatment approaches, dentists can avert nearly 90% of medical catastrophes.⁹ Dentists' capacity to make confident treatment choices is bolstered by their familiarity with treating those suffering from potentially fatal medical conditions such as life-threatening asthma, heart disease that is ischemic, poorly controlled diabetes, etc.^{10,11} There were limited studies regarding the management of chest pain only among dental practitioners, therefore, the aim of the current study was to assess the awareness of dental practitioners regarding the management of chest pain during emergency situations.

Objective

The purpose of the study was to assess the awareness of dental practitioners regarding the management of chest pain.

Methodology

The current cross-sectional study was conducted from June 2022 to December 2022 on various dental clinics and dental departments in the hospitals after approval from the institutional review board. A total sample size was 200 participants was included in the study but 178 of the participants responded. The sample size was calculated by using Rao -soft calculator and all the participants were selected through a convenient sampling technique. Data was collected through a well-structured questionnaire and they were insured that privacy and confidentiality will be maintained. Those who have completed their BDS degree and had a valid registration card from PMC and were working as a dental practitioner from than 6 months were included in the study. Dental students and those who had completed their BDS degree but do not have not registration with PMC were excluded from the study. All the collected were analyzed through SPSS latest version 24.

Results

A total of 178 participants responded out of which 98 (55.05%) of them were male and 80 (44.94%) were female. The mean age of the participants was 32.56 ± 4.6 and 68(238.20%) had 1-2 years of experience, 47 (26.40 %) had 3-4 years of experience, moreover, 15.16 % of them had more than 7 years of experience. Table 2 highlights the knowledge of participants about pain management.

Overall, 128 (71.91%) of the participants had very good knowledge about the cause of chest pain, while 21.34 % of them had good knowledge. 108 (60.67%) had awareness regarding airway maintenance. 69 (38.69%) and 55 (30.89%) had average and good knowledge respectively about the nature and cause of pain. 39.88 % of the participants had good knowledge about vital signs monitoring and 35.39 % had very good knowledge regarding them. Moreover, 148 (83.14%) of the participants had very good knowledge regarding the use of nitroglycerin, consequently 143 (80.33 %) very good understanding of the route of administration of nitroglycerin during chest pain, moreover, 139 (78.08%) of the individuals had very good knowledge about the delay in dental surgeries due myocardial infarction. Along with that, 127 (71.34) had a better understanding regarding method of oxygen delivery. 42.69 % of an average understanding of antithrombotic therapy and 10.11 % had very good knowledge. Understanding regarding

referral protocols was 51.12 % average and 27.52 % had good knowledge.

Discussion

It is essential for dentists to be ready for emergencies and to recognize the reality of such situations. Dentists should be well-versed in symptoms, warning signs, and appropriate responses to dental crises, and they should keep emergency supplies, medications, along with medical assistance on hand. Dentists should be well-versed in how to respond in the event of a medical emergency. Dentists, like other medical practitioners, must accept the risks and commitments that come with their work with patients' lives.¹² Dentists everywhere must deal with healthcare issues that vary from relatively minor to potentially fatal, which includes a heart attack.¹³ In the present study overall, 128 (71.91%) of the participants had very good knowledge about the cause of chest pain, while 21.34 % of them had good knowledge. 108 (60.67%) had awareness regarding airway maintenance. 69 (38.69%) and 55 (30.89%) had average and good knowledge respectively about the nature and location of pain. 39.88 % of the participants had good knowledge about vital signs monitoring and 35.39 % had very good knowledge regarding them. While a similar study conducted by Hussein H et al inquiries into patients' medical histories were made by 91.17 percent of individuals, with 80.52 percent filling out paperwork, but only 41.82 % obtaining vital signs. Individuals indicated an average of 48.57% confidence in their capacity to handle an emergency medical situation, 74.29% proficiency in IM injection, and 25.71% proficiency in IV

injection. In contrast, 70.38 percent said they had glucose on hand, and 49.35 percent said they knew what an emergency kit was.¹⁴ In a comparable study by Sheikho MA et al just over fifty percent of those who participated examined their vital signs prior to easy extraction just (47.4%), and just under half assess pre-simple as well as surgical removal (42%). Eighty-four percent of those who take part typically revise the patient's allergy history, whereas only 19.6 percent never do. Even more so, just 65.2% of those who took part have had a collaboration alongside the closest hospital to their medical clinics, while 34.8% apparently do not. When asked about how they plan for and handle referral or emergency instances, 75% of those who took part said they had a contact number ready to be dialed in case of an emergency.¹⁵ A study conducted by Gazal G et al reported that 70.8 % of dentists had knowledge regarding crushed chest pain management and 78 % of dental practitioners had very good knowledge about nitrates and other cardiac medications, moreover, these participants had practiced and they had managed such case with severe chest pain in case of emergencies.¹⁶

Conclusion

The present study concluded that the participants had very good knowledge regarding the causes of chest pain and uses of nitroglycerin but in terms of diagnosis, oxygen delivery and proper management as well as antithrombotic therapy they had average knowledge. Therefore, it would be better to arrange a proper session regarding chest pain management in case of emergency cases.

Table 1. Demographic Characteristics of Participants

Gender	Number	Percentage
Male	98	55.05 %
Female	80	44.94 %
Mean age (years)	32.56 ± 4.6	
Experience (years)		
1-2	68	38.20 %
3-4	47	26.40 %
5-6	36	20.22 %
7 and above	27	15.16 %

Table 2. Knowledge regarding chest pain management

Knowledge	Poor	Average	Good	Very good
Understanding the causes of chest pain	3 1.6 %	9 5.05 %	38 21.34%	128 71.91%
Checking the airway of a patient	5 2.8%	10 5.61%	55 30.89%	108 60.67%
Knowing the nature and location of pain	28 15.73%	69 38.76%	51 28.49%	30 16.85%
Can differentiate between cardiac and non-cardiac chest pain	23 12.92%	47 26.40%	58 32.58%	50 28%
Awareness of vital signs monitoring	17 9.55 %	27 15.16%	71 39.88%	63 35.39 %
Understands the use of nitroglycerin	0 0%	7 3.93%	23 12.92%	148 83.14%
Awareness regarding the route of nitroglycerin administration in chest pain	3 1.68%	5 2.80%	27 15.16%	143 80.33%
Understanding the causes of delay in dental surgeries in myocardial infarction patients	0 0%	8 4.49%	31 17.41%	139 78.08%
Knows how to deliver oxygen in emergency	13 7.30%	17 9.55%	21 11.79%	127 71.34%
Awareness of antithrombotic therapy	53 29.77%	76 42.69%	31 17.41%	18 10.11%
Understanding immediate referral protocols	23 12.92%	91 51.12%	49 27.52%	15 8.42%

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