KNOWLEDGE,ATTITUDE AND PRACTICE REGARDING ANAPHYLAXIS AMONG DENTAL STUDENTS

Running Title: Awareness on Anaphylaxis among dental students

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Background: Anaphylaxis is a serious, life-threatening allergic reaction.The most common anaphylactic reactions are to food, insect stings, medications and latex.Anaphylaxis is the result of E-mediated mast cell degranulation.Incase of any allergy, our immune system overreacts to this allergen by releasing chemicals that cause allergy symptoms such as rashes, wheezing etc.Anaphylactic reactions due to local anaesthetics and associated agents used during dental procedures are more common.

Aim: To create awareness among dental students about Anaphylaxis.

Materials And Methods:A questionnaire survey was designed forDental students. The questionnaire had 10questions about knowledge and awareness on Anaphylaxis. The subjects involved were Dental Students(n=100). Questionnaires were distributed to the Dental students of various dental colleges in Chennai city and Data analysis was done using SPSS software.

Result:Only 38% of the dental students were aware about the effects of anaphylaxis and 62% of the dental students were unaware of the effects and the complications of anaphylaxis.49%of the dental students encountered patients with anaphylactic reactions due to LA and 57% of the dental students ask the patients for drug allergy before the treatment.

Conclusion: The present study found that the awareness regarding Anaphylaxis among the dental students was inadequate.Further awareness would enhance the efficacy their knowledgeand overcome the difficulties faced while practicing. Therefore it is necessary to increase the awareness among dental students about the complications And the preventive measures of Anaphylaxis.
Keywords:Anaphylaxis, Local anaesthesia, Drug allergy.

INTRODUCTION

Anaphylaxis is defined as a serious allergic reaction that is rapid in onset and may cause death.The prevalence of anaphylaxis is estimated to be as high as 2%, and appears to be rising, particularly in the younger age group[1].Most episodes of anaphylaxis are triggered through an immunologic mechanism involving immunoglobulin E (IgE) which leads to mast cell and basophil activation and the subsequent release of inflammatory mediators such as histamine, leukotrienes, tryptase and prostaglandins[2].Since anaphylaxis is a generalized reaction, a wide variety of clinical signs and symptoms involving the skin, gastrointestinal and respiratory tracts, and cardiovascular system can be observed. The most common clinical manifestations are cutaneous symptoms, including urticaria and angioedema, erythema (flushing), and pruritus (itching)[3]. Patients also often describe an impending sense of death (angor animi). Death due to anaphylaxis usually occurs as a result of respiratory obstruction or cardiovascular collapse, or both. Evidence suggests that there is a direct correlation between the immediacy of symptom onset and the severity of the episode, with the more rapid the onset, the more severe the event [4].The oral cavity is always prone to exposure to a variety of potentially sensitizing substances or irritants. There is a high chance for different substances like topical medications, synthetic resins, disinfecting agents, metals, etc. to come into contact with the oral mucosa during routine dental treatment[5].It is important to note that the signs and symptoms of anaphylaxis are unpredictable and may vary from patient to patient and from one reaction to another. Anaphylactic reactions to local anaesthetics and associated agents used during dental procedures have been reported with increasing frequency in most developed countries. The incidence of anaphylaxis is, however, very rare and the incidence[6].Misdiagnosis of LA hypersensitivity leads to substantial unnecessary costs and puts patients at risk.

MATERIALS AND METHODS

A questionnaire survey was designed for Dental students (Table 1). The questionnaire had 10 questions about knowledge and awareness on Anaphylaxis. The subjects involved were Dental Students(n=100). Questionnaires were distributed to the Dental students of various dental colleges in Chennai city and Data analysis was done using SPSS software.

RESULT:

The study was conducted on 100 dental students.Only 38% of the dental students were aware about the effects of anaphylaxis whereas, 62% of the dental students were unaware of the effects and the complications of anaphylaxis.49%of the dental students encountered patients with anaphylactic reactions due to LA.76% of the dental students use lidocaine as their preferred LA.69% of the dental students use epinephrine as their first choice in the management of anaphylactic reactions and 63% of the dental students are aware of the use of corticosteroids after the administration of epinephrine.**(Figure 1-5).**

DISCUSSION

This study examined the knowledge,attitude and practice regarding Anaphylaxis among the dental students was inadequate.Only 38% of dental students are aware of the efffects of Anaphylaxis.A study has stated thatAnaphylaxis is one of the most urgent clinical pictures in daily medical practice. Manifestations from the skin to the cardiovascular and respiratory systems are present simultaneously in approximately 70% of patients[7]. Since anaphylaxis may also be encountered by dentists, although not common-in their routine practice, they should also be aware of the symptoms and signs of anaphylaxis, and treat the severe reactions in the light of recent advances[8]. Contrary to other study[9],our study shows that most of the dental students are unaware of this fact. In contrast to other research[10], our study show that about 69%of the dental students use epinephrine as their first choice of drug in the management of Anaphylaxis. Additional agents mentioned frequently in dental literature for managing asthma, allergic, or anaphylactic reactions include aminophylline and corticosteroids[11]. A study stated that it is important to note that only 4% of the dentists and dental staff chose oral steroids as medication for adverse anaphylactic reactions which indicates that 94% are possibly unaware of its use after the use of epinephrine. According to Eskandari et al (2014) most dentists who encounter patients with anaphylaxis in their clinics do not seem to be aware of the urgency of this condition, this increased in this field in the last few years[12].But on contrary to this,our study show that 63% of the dental students are aware of the use of corticosteroids after the administration of epinephrine. Systemic corticosteroids and antihistamine may also be used to treat severe systemic reactions, but should never be given prior to or as a substitute for epinephrine in the treatment of anaphylaxis[13].In the present study 76% of the dental students use lidocaine as their preferred LA in their daily practice.Lidocaine is the local anesthetic most commonly used by dentists in India, followed by mepivacaine and articaine. Lignocaine also remains the most commonly used local anesthetic in the United States[14].Nearly 49% of the dental students questioned in this study encountered patients with anaphylactic reactions due to LA. The complications encountered by dental students in their practice were mainly due to their inability to understand and manipulate such important issues concerning the patients wellbeing[15].

CONCLUSION

Within the limitations of the study,the awareness regarding Anaphylaxis among the dental students was inadequate.Further awareness would enhance the efficacy their knowledgeand overcome the difficulties faced while practicing. Therefore it is necessary to increase the awareness among dental students about the complications And the preventive measures of Anaphylaxis.

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FIGURE LEGENDS

Figure 1: Awareness About The effects of Anaphylaxis

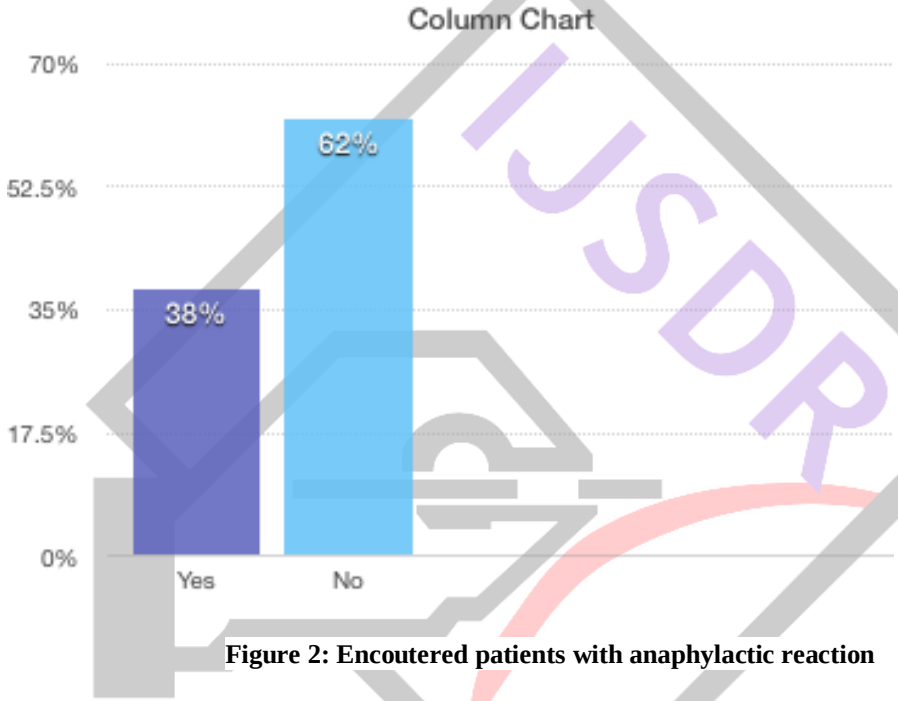

Figure 2: Encoutered patients with anaphylactic reaction

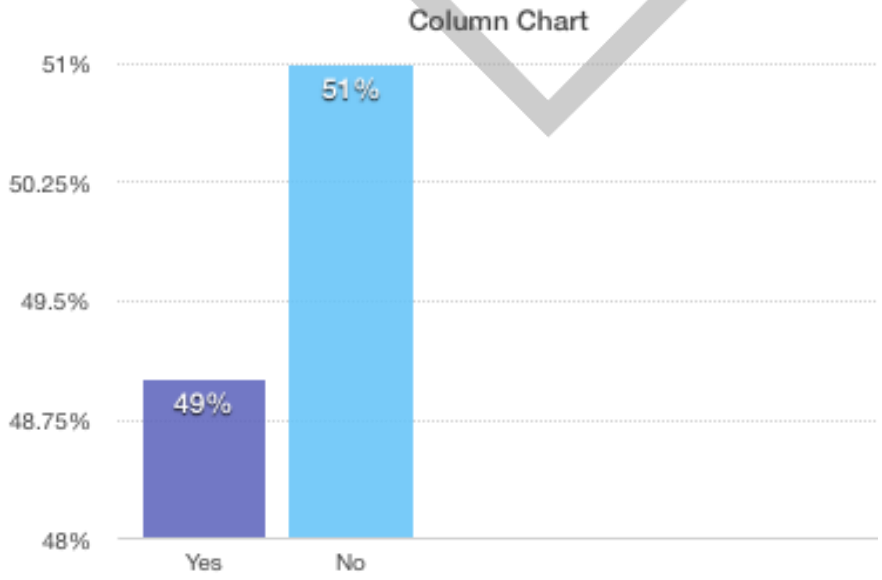

Figure 3: Use of lidocaine as their preferred LA

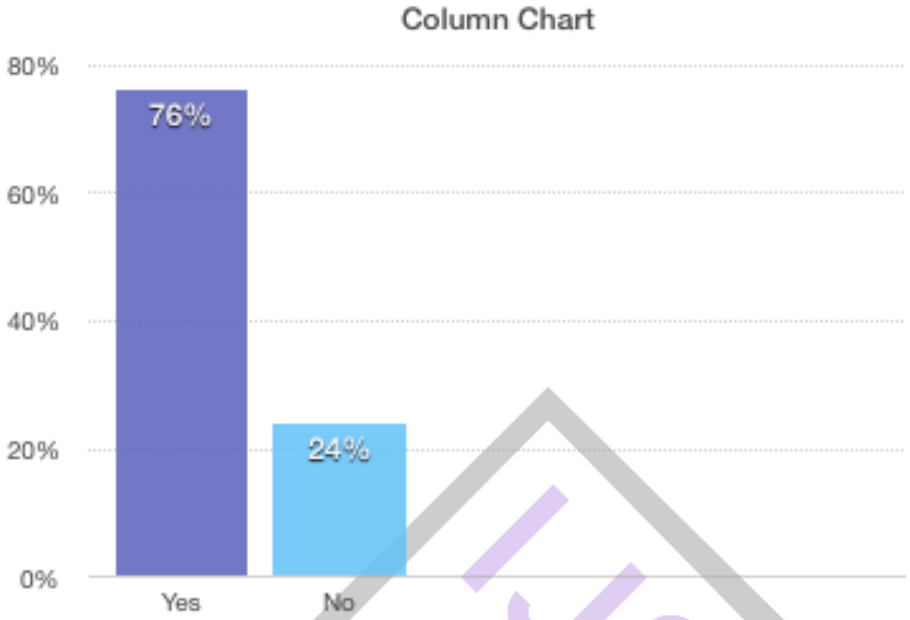

Figure 4: Epinephrine as their first choice of drug

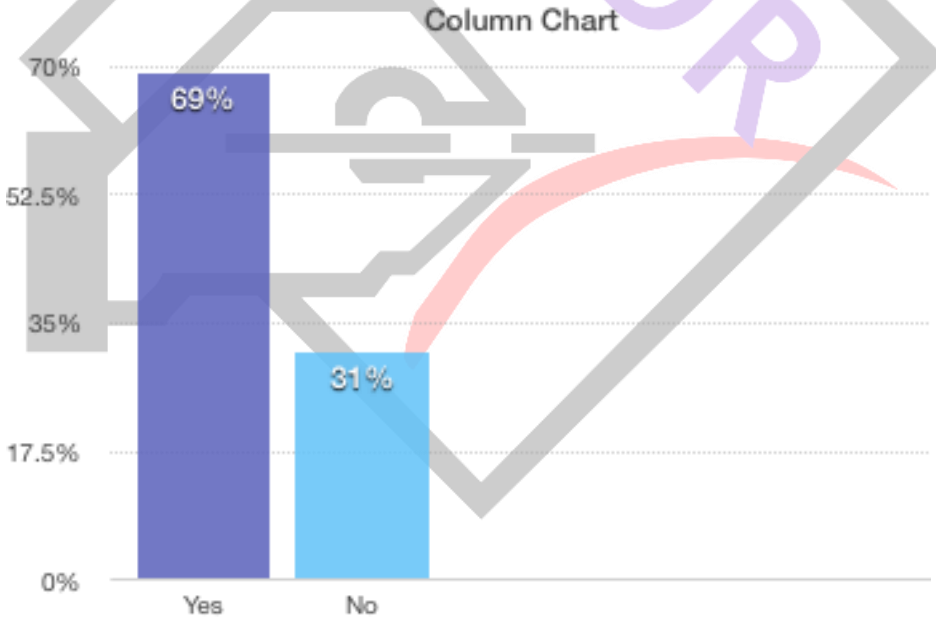

Figure 5: Knowledge About The use of corticosteroids after epinephrine

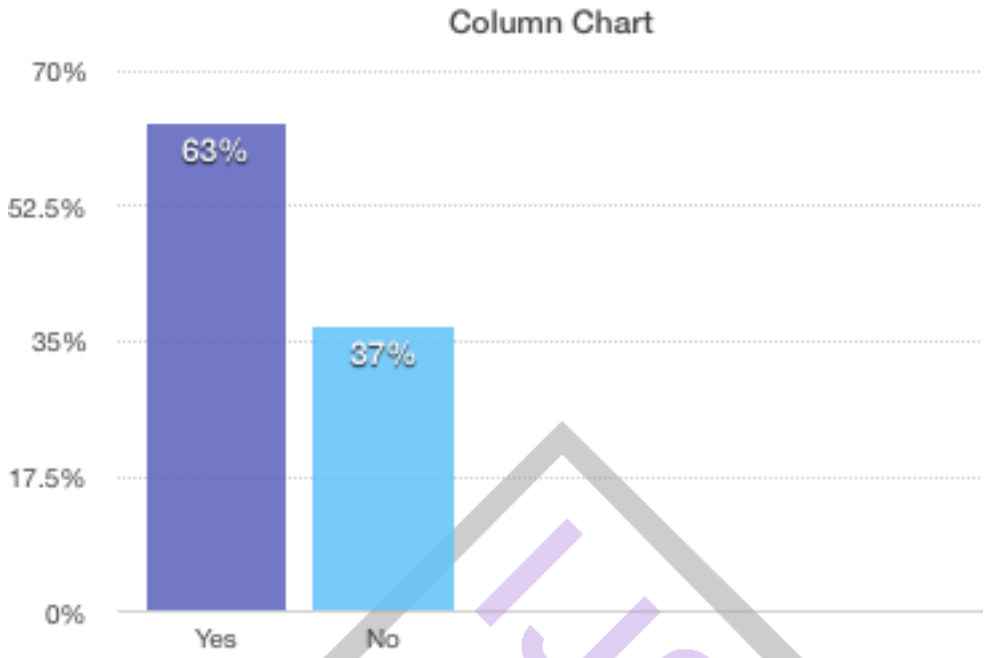

Table 1: Sample Questionnaire on awareness regarding Anaphylaxis

S.No	Questions	Options:	
1	Year of Study	III	IV
2	Gender	Male	Female
3	Are you aware of the effects of Anaphylaxis?	Yes	No
4	Do you ask for the patients drug allergy before the treatment?	Yes	No
5	Have you are encountered patients with anaphylactic reaction due to LA?	Yes	No
6	Do you refer the patient to an allergy specialist when you encounter a patient with suspected LA allergy?	Yes	No
7	Will you commence the treatment without LA (if the patient is allergic to LA)?	Yes	No
8	Do you use Lidocaine as your preference in your daily practice?	Yes	No
9	Do you use epinephrine as your first choice in the management of Anaphylaxis?	Yes	No
10	Are you aware of the use of corticosteroids after the administration of epinephrine?	Yes	No