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RESEARCH ARTICLE

KNOWLEDGE AMONG GENERAL DENTAL PRACTITIONER IN THE TREATMENT OF TRAUMATIC INJURIES IN PRIMARY TEETH – A QUESTIONNAIRE STUDY.

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Abstract

Dental trauma is a common emergency in dental practice, especially in children and adolescents. Deciduous and permanent anterior teeth are not only important for aesthetic reason but are also necessary for phonetics, mastication integrity of supporting tissues, psychological and mental well being of children. This study was planned to explore the knowledge of 227 general dental practitioners regarding the management of dental traumatic injuries of primary teeth by a structured questionnaire. Analyzing the questionnaire for knowledge 47% of dentists answered accurately regarding avulsed primary teeth, 39% of dentists answered appropriately regarding crown and root fractures and 57% of dentists gave appropriate answers regarding luxation injuries. The results show the lack of knowledge among general dental practitioners regarding injuries of primary teeth and need to increase awareness and the knowledge of the treatment of traumatic injuries in primary teeth.

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Introduction:-

Traumatic injuries to the primary dentition present special problems and the management is often different as compared with the permanent dentition. An appropriate emergency treatment plan is important for good prognosis. Guidelines are useful for delivering the best care possible in an efficient manner. The international association of dental traumatology (IADT) has developed a consensus statement after a review of the dental literature and group discussion.¹

Trauma to the oral region occurs frequently and comprises 5% of all injuries for which people seek treatment. In preschool injuries, head injuries make up as much as 40% of all somatic injuries. Among all facial injuries, dental injuries are the most common one. Dental injuries can vary from simple concussion to a severe damage involving the surrounding structures of the tooth. These traumatic injuries to the primary dentition present with special challenge to the dentist as it creates panic among the parents and the dentists and create anxiety and fear to the young child. In addition to causing pain, traumatic injuries to primary teeth can result in functional and esthetic problem and can affect the developing tooth germ.^{2,3}

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The main objectives of diagnosis and treatment of traumatic injuries affecting children with primary dentition are pain management and presentation of possible damage to the developing tooth germ. During this period, calcification of incisal and medium third of enamel matrix of the permanent tooth germ takes place. The traumatic displacement of the root of the primary tooth may affect the development of the permanent tooth germ, by altering the secretory phase of the ameloblast leaving defect known as circular enamel hypoplasia.⁴ Traumatic dental injuries involving anterior teeth may not only lead to restriction in biting, phonetics and esthetics, but may have an important on a child's personality and quality of life. Techniques that speed and simplify treatment, restore esthetics and improve long term success rates are therefore of potential value and should be considered.⁵

The aim of the present study is to assess the level of knowledge of general dental practitioners in treating traumatized primary teeth.

Materials And Methods:-

The present cross sectioned study has carried out after obtaining ethical approval from the Institutional review board of Adhiparasakthi Dental College and Hospital. A sample of 227 general practitioners in and around Melmaruvathur was included in the study. The study was under taken in two stages, stage I comprised for mutating, designing and validating the questionnaire, whereas stage 2 tested the validated questionnaire among 227 general practitioners. A standardized self-constructed questionnaire was formulated based on clinical scenario which includes questions regarding the treatment strategies for primary tooth crown fracture, crown-root fracture, root fractures and avulsion to assess the clinical knowledge of general practitioners along with their years of clinical experience. The questionnaire was distributed and collected from 227 general dentists. Data were collected and entered into SPSS software and Chi-square test was used.

Results:-

A total of 224 questionnaires were distributed. All the questionnaire were filled with 100% response rate. The questionnaire was divided into 3 scenarios, such as questions regarding crown and fractures and questions based on luxation injuries.

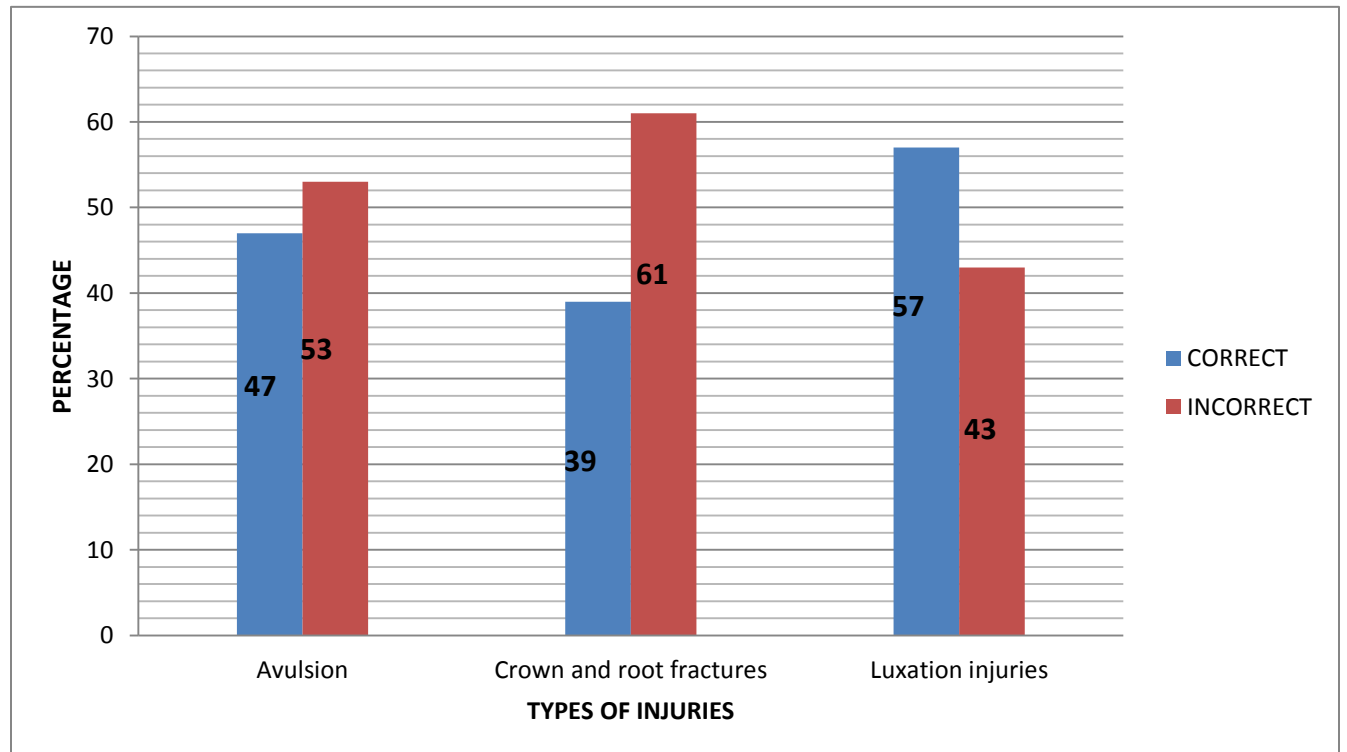


Fig 1:-Percentage Of Correct And Incorrect Answers

The percentage of correct and incorrect answers given by the dentist is illustrated in fig 1. Analyzing the questionnaire for knowledge regarding avulsed primary teeth 47% of dentists answered accurately and 53% of dentists answered irrelevantly. Analysis of the questionnaire regarding crown and root fractures only 39% dentists answered appropriately regarding crown and root fractures. Knowledge regarding luxation injuries 57% of dentists gave appropriate answers.

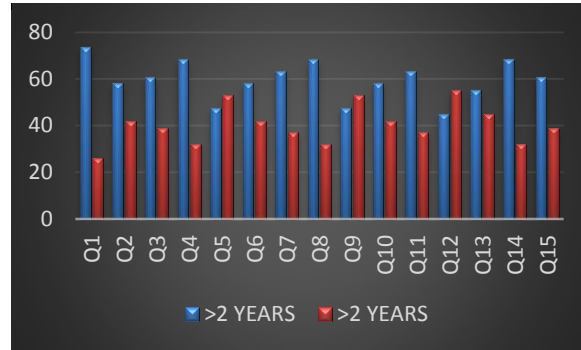


Fig 2:-Experience Of General Practitioners

Fig 2 shows the years of experience and the correct answers provided by the dentist. Chi square test showed a statistically significant difference only in relation to the dentist’s years of experience.

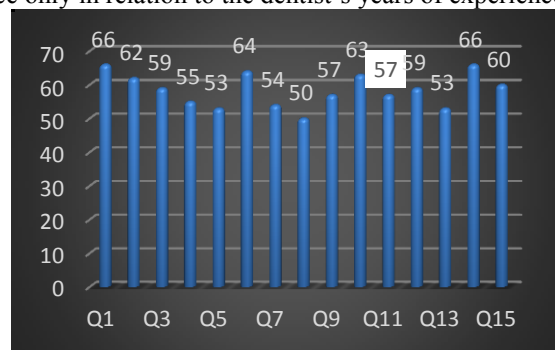


Fig 3:-Group Distribution

Fig 3 represents the gender breakdown between the answers given for all the questions

Discussion:-

The greatest incidence of fracture to the primary teeth occurs between 2 and 3 years of age and the treatment strategy should be dictated by the concern for the safety of the permanent dentition. The result of the present study suggests that there was a lack of adequate knowledge about traumatized primary teeth among general dentists.⁶

The selected dental population had a minimal knowledge regarding management of fractured tooth with displaced fragments essentially involving root fracture.⁷

Avulsion is more common in primary teeth due to the resilient alveolar bone and the prevalence has been reported to be 5.8%. A few case reports have suggested the success and failure of replacement of avulsed teeth. Replantation of an avulsed primary tooth is not yet accepted as a treatment option in the guidelines formulated by AAPD or International association of dental traumatology.⁸

The incidence of crown fractures in primary dentition accounts 1-3% and the crown fracture was the most prevalent type of fracture and the primary reason was due to fall. Though cvek's pulpotomy is one of the treatment modalities for partial pulp exposure, its application is rarely encountered in primary dentition.⁹ A conservative partial pulpotomy as a successful treatment protocol for primary teeth with crown fracture and pulp exposure. According to AAPD guidelines pulpotomy and calcium hydroxide dressing are the ideal treatment options.^{10,11}

Teeth with crown-root fractures and root fracture always present with higher frequency of premature loss due to poor prognosis and left untreated due to anticipated risk for permanent teeth. AAPD had dictated treatment protocol for crown-root fractures depending on the extent of the fracture. Only 39% of dentists answered correctly in the study indicating that the knowledge regarding the crown and root fractures remains unsatisfactory.^{12,13}

Luxation injury is the most common type in primary dentition and AAPD suggested different treatment option depending on the degree of displacement.¹⁴

In the present study the statistically significant answers provided, are the questions regarding avulsion and extrusion of primary teeth. It may be due to dentist's years of experience. Avulsed tooth and luxation injuries are the most common type of traumatic injuries encountered in this study.¹⁵

There is no statistically significant difference encountered between the years of experience and the correct answers for most of the questions. The present study suggests that years of experience has no influential role in the treatment modalities and more awareness and knowledge is required for general practitioners in treating traumatized primary teeth.¹⁶

Based on the findings of the present study, there is a need to improve the knowledge of emergency treatment of traumatic injuries in primary teeth among general dental practitioners. Trauma prevention and further education regarding the management of traumatic dental injuries is an essential requirement of a lifelong learning process for improving their knowledge and clinical skills. In addition the general dental practitioners should utilize the National clinical practice guideline to gain appropriate information regarding the optimal prevention and treatment modalities of traumatized primary teeth.¹⁷

Conclusion:-

There is a need to improve the knowledge of oral health professionals in the current guidelines for emergency treatment of traumatized primary teeth. Educational opportunities should focus on the importance of appropriate management of dental injuries and on specific gaps in knowledge. Oral health professional should use all means to enhance their knowledge of existing treatment strategies and consequently improve patients quality of life following dental trauma.

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