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Original Research

Retrospective assessment of profile of children undergoing endodontic treatment

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ABSTRACT:

Background: Dental caries still remains a global public health problem, although a substantial decline in prevalence in children in many parts of the world has been observed. The present study was conducted to assess profile of children undergoing endodontic treatment. **Materials & Methods:** 120 children less than 16 years of age who underwent endodontic treatment of both genders were recruited in the study. Parameters such ad type of endodontically treated tooth, reasons for endodontic treatment and type of endodontic treatment given was recorded. **Results:** Out of 120 children, 50 were boys and 70 were girls. Etiology for endodontic treatment was dental caries in 82 and dental trauma in 38 children. Pulpotomy was performed on 15 primary central incisors, 16 primary lateral incisors, 20 primary first molar and 14 primary second molars and pulpectomy was performed on 10 primary central incisors, 20 primary lateral incisors, 15 primary first molar and 10 primary second molars. The difference was non- significant (P> 0.05). **Conclusion:** Most common etiology for endodontic treatment was dental caries. Most common tooth involved was primary lateral incisors and most common procedure performed was pulpotomy.

Key words: Dental caries, Primary lateral incisors, Pulpotomy

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INTRODUCTION

Dental caries still remains a global public health problem, although a substantial decline in prevalence in children in many parts of the world has been observed.[1] This caries decline is characterized by a strong polarization, leaving a considerable group of children with very high levels of dental caries and treatment needs. If left untreated, dental caries can cause pain.[2]

The majority of children with caries can be successfully treated with simple behavior modification techniques such as “tell, show and do” under local analgesia (LA) alone, some children fail to respond and require other modalities for anxiety and pain management for treatment to be successfully delivered.[3] Especially very young children with extensive dental decay as well as highly anxious and children, who are unable to comply with the demand of treatment due to behavioral management problems belong to this group.[4]

Endodontic treatment is a procedure that is designed to maintain the health of all or part of the pulp when the pulp is diseased or injured, thereby preserving the tooth that would have been otherwise extracted due to pulpal pathology.[5] In a study carried out among Danish population, Kirkevang et al[6] reported that endodontic treatment has invariably led to a decline in the tendency amongst dentists to extract diseased teeth. These treatments aim at prevention of progression of infection, preservation of normal peri-radicular tissues and restoration of the treated tooth to its proper form and function in the dental arch. The present study was conducted to assess profile of children undergoing endodontic treatment.

MATERIALS & METHODS

The present study comprised of 120 children less than 16 years of age who underwent endodontic treatment of both genders. Parental consent was obtained. Ethical clearance was also obtained before starting the study.

Data such as name, age, gender etc. was recorded. Parameters such ad type of endodontically treated tooth, reasons for endodontic treatment and type of

endodontic treatment given was recorded. Data obtained were analyzed using SPSS Version 20.0. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 120		
Gender	**Boys**	**Girls**
Number	50	70

Table I shows that out of 120 children, 50 were boys and 70 were girls.

Table II Etiology for endodontic treatment

Etiology	Number	P value
Dental caries	82	0.01
Dental trauma	38	

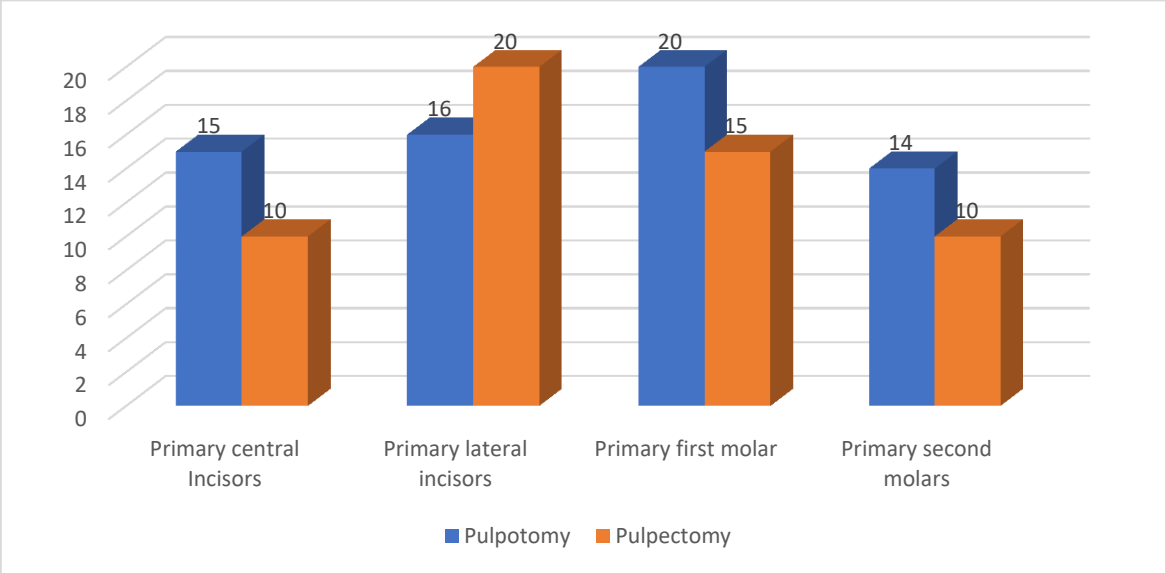
Table II shows that etiology for endodontic treatment was dental caries in 82 and dental trauma in 38 children. The difference was significant (P> 0.05).

Table III Endodontic treatments done on deciduous teeth

Tooth	Pulpotomy	Pulpectomy	P value
Primary central Incisors	15	10	0.12
Primary lateral incisors	16	20	
Primary first molar	20	15	
Primary second molars	14	10	

Table III, graph I shows that pulpotomy was performed on 15 primary central incisors, 16 primary lateral incisors, 20 primary first molar and 14 primary second molars and pulpectomy was performed on 10 primary central incisors, 20 primary lateral incisors, 15 primary first molar and 10 primary second molars. The difference was non- significant (P> 0.05).

Graph I Endodontic treatments done on deciduous teeth



DISCUSSION

Dental caries is defined as a progressive, irreversible microbial disease of multifactorial nature affecting the calcified tissues of the teeth characterized by demineralization of the inorganic portion and destruction of the organic portion of the tooth.[7,8] It is a disease of civilization. Almost all people are affected by dental caries, only the severity differs.[9] There is interplay of three principal factors, the host, the micro flora and the substrate or diet in the occurrence of dental caries. In addition, the fourth factor time must be considered in any discussion regarding etiology of caries. For caries to occur conditions related to each of these factors must be favourable.[10] Dental caries can be prevented by applying suitable measures, hence it is very important to identify those individuals who are most likely to develop dental caries through caries risk assessment, and provide them the required preventive measures to interrupt the disease process.[11,12] The present study was conducted to assess profile of children undergoing endodontic treatment.

In present study, out of 120 children, 50 were boys and 70 were girls. Popoola et al[13] aimed at determining the prevalence and pattern of endodontic treatment in children. This was a retrospective study of all patients below 16 years of age treated for various dental problems in our unit between August, 2010 and July, 2015. The records were reviewed and cases with endodontic treatments selected. Data such as age, gender, endodontically treated teeth, reasons for endodontic treatment and type of endodontic treatment given were retrieved from the patients' dental records. A total of 3,237 children were seen during the period under review, out of which 312 (9.6%) received endodontic treatment. There were 159 males and 153 females with a mean age of 10.2 ± 3.5. Children aged 10-13 years had the highest frequency of endodontic treatment (36.8%) and this was majorly due to dental trauma, followed by those aged 6-9 years (28.6%) who were treated mainly for dental caries. Root canal therapy was the most prevalent endodontic treatment in permanent teeth (central incisor; 32.7% and first permanent molars; 14.6%) while pulpectomy was the most prevalent endodontic treatment in primary teeth.

We observed that etiology for endodontic treatment was dental caries in 82 and dental trauma in 38 children. Pulpotomy was performed on 15 primary central incisors, 16 primary lateral incisors, 20 primary first molar and 14 primary second molars and pulpectomy was performed on 10 primary central incisors, 20 primary lateral incisors, 15 primary first molar and 10 primary second molars. Hebbel et al[14] included hundred children which were interviewed to record any illness, oral hygiene practices and fluoride exposure after obtaining a three days diet diary. Examination was done to record plaque and dental caries status. Stimulated saliva was collected and salivary flow rate, salivary buffering capacity, Streptococcus mutans and Lactobacillus were assessed. The information obtained was scored and Cariogram was created. Differences between mean decayed, missing and filled teeth (DMFT) and Cariogram risk groups were assessed using ANOVA. It was found that 21, 45, 21 and 13 children had 0-20%, 21-40%, 41-60% and 61-100% chance of avoiding caries respectively in future. Significant correlation was observed between cariogram score and DMFT, diet content, diet frequency, plaque scores, Streptococcus mutans counts and fluoride programme. Cariogram model can identify the caries-related factors that could be the reasons for the estimated future caries risk, and therefore help the dentist to plan appropriate preventive measures.

CONCLUSION

Authors found that most common etiology for endodontic treatment was dental caries. Most common tooth involved was primary lateral incisors and most common procedure performed was pulpotomy.

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