

“Evaluation of Knowledge, Attitude and Awareness of Pediatricians regarding Rampant Caries”

Dr. Birva Patel. MDS¹, Dr. Bhumi Sarvaiya. MDS², Dr. Tarulatha R Shyagali. MDS, DCE, DNHE, PhD^{3*}, Dr. Deepak P Bhayya. MDS, PhD, DNHE⁴, Dr. Jay Soni. MDS⁵, Dr. Hinal Thakkar, MDS⁶

¹Senior Lecturer, Department of Pedodontics and Preventive Dentistry, Ahmedabad Dental College and Hospital, Ahmedabad India

²Reader, Department of Pedodontics and Preventive Dentistry, Ahmedabad Dental College and Hospital, Ahmedabad India

³Professor and Head, Department of Orthodontics and Dentofacial Orthopedics, Hitkarini Dental College and Hospital, Jabalpur, MP, India

⁴Professor and Head, Department of Pediatric and Preventive Dentistry, Hitkarini Dental College and Hospital, Jabalpur, MP, India

⁵Reader, Department of Orthodontics and Dentofacial Orthopedics, Ahmedabad Dental College and Hospital, Ahmedabad

⁶Private Practitioner, Porbander, Gujarat India

DOI: [10.36347/sjds.2021.v08i01.009](https://doi.org/10.36347/sjds.2021.v08i01.009)

| Received: 10.01.2021 | Accepted: 21.01.2021 | Published: 26.01.2021

*Corresponding author: Dr. Tarulatha R Shyagali. MDS, DCE, DNHE, PhD

Abstract

Original Research Article

The study was aimed to evaluate the knowledge, attitude and awareness of pediatricians in Ahmedabad city regarding rampant caries. A cross sectional survey was undertaken among 70 pediatricians of Ahmedabad city. A self-administered questionnaire was personally handed over to all the pediatricians and collected on the same day. It comprised a series of questions pertaining to personal and demographic characteristics, knowledge regarding the risk factors/etiology, clinical features of rampant caries, attitude towards its prevention and management. The data was collected and statistically analyzed. Around 72.80% of the pediatrician had average knowledge about the rampant caries. Only 11.40% of pediatricians exhibited good attitude towards Rampant caries treatment and referral to dentist and around 10% of the pediatrician had good awareness about the rampant caries. The study revealed that majority of pediatricians did not have sufficient knowledge, attitude and awareness regarding caries. As a health care professional, pediatricians are responsible for the overall health of children. Knowledge regarding rampant caries is important for pediatricians so that they could early diagnose and refer these patients to the pedodontist in order to avoid further spread of the disease and prevent its future complications.

Keywords: Rampant caries, knowledge, awareness, pediatricians.

Copyright © 2021 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Rampant caries has been defined by Massler as “a suddenly appearing, widespread, rapid burrowing type of caries, resulting in early involvement of the pulp and affecting those teeth usually regarded as immune to ordinary decay [1].” Its predominant occurrence in young teenagers with a rare predilection for children and adults has been observed. Pre-etiological factors have been attributed to emotional imbalance leading to excessive craving for sweets and snacks that is quite common in adolescents, reduced salivary flow, and a reduced tooth remineralization response.

Although the AAPD calls for every child to have a dental visit by the time the first primary tooth erupts and to have access to preventive dental care throughout childhood, the reality is different, especially

for children in low-income families [2]. Pediatricians are the first to observe any dental disease in the child as they are usually approached by the parents for any illness [3]. Many pediatric oral diseases are preventable if pediatrician recognize and encourage preventive care and refer patients to pediatric dentist whenever necessary. Rampant caries is a clinical condition defined by rapidly advancing dental caries on a majority of the teeth affecting children and teenagers. Hence appropriate knowledge of pediatricians regarding rampant caries can lead to early diagnosis, timely referral and proper management of the same. With this as a background, current study was undertaken with the aim to evaluate the knowledge, attitude and awareness of the pediatricians of Ahmedabad city pertaining to rampant caries.

MATERIALS AND METHODS

A cross sectional survey was undertaken amongst the 70 pediatricians of Ahmedabad city. A simple random method of sampling was executed to select the pediatrician practicing across the Ahmedabad city. A self-administered questionnaire was personally handed over to all the pediatricians and collected on the same day. It comprised a series of questions pertaining to personal and demographic characteristics, knowledge regarding the risk factors/etiology, clinical features of rampant caries, attitude toward its prevention and management. Ethical clearance was obtained from institutional ethical committee. The purpose of the study was explained to all the participants, and the signed informed consent was obtained for their willing participation.

The data was collected and descriptive statistical analysis was done using SPSS software version 22.

RESULT

Attitude of the pediatric dentist towards the rampant caries is depicted in Table 2. About 97.1% of the pediatricians knew that brushing baby's teeth is important for oral health. Sixty percent of pediatricians believed that parents should take their baby to dentist as soon as first tooth erupts for preventive dental health examination and 61.4% agree that effective cleaning of teeth can be achieved by 3-4 years old child. Around 51.4% of the pediatricians disagreed that infants mouth prior to tooth eruption, needs to be clean. Eighty percent of the pediatricians agreed that parents should be educated to reduce the frequency of sucrose consumption by their child, especially in between meals. Figure 2 represents the overall attitude of the pediatricians towards rampant caries. Around 11.40% of pediatricians had good attitude towards the Rampant caries.

Table 1. showed the knowledge related to rampant caries amongst the pediatricians. About 95.7% of the pediatricians were aware of the fact first baby tooth appears in the child's mouth at the age of 6 months. Around 74.3% of pediatricians didn't know that tooth decay is caused by bacteria that are transmitted by sharing utensils. Sixty percent reported that disease of primary teeth can affect the permanent teeth and around 54% reported that the early childhood caries and rampant caries are the same.

About 74.3% reported that rampant caries is of slowly progressing type. Only 12.9% knew that rampant caries shows appearance of more than 5 carious lesions in a year in an individual of any age. Around 52.9% of the pediatricians reported that rampant caries does not involve the teeth which are immune to decay and 62.9% of the pediatricians reported that rampant caries involves both primary and permanent dentition. Figure 1, shows that over 72% of the pediatrician had average knowledge pertaining to rampant caries and only 8.66% had good knowledge about the same.

Table 3. shows the details related to how much awareness does the pediatrician have regarding the rampant caries. Maximum number of pediatricians (92.9%) agreed that balance diet is essential for the healthy growth of a baby's teeth. And 57.1% disagreed with weaning from a baby bottle to a sipping cup should be plan when the baby is 6-month-old. More than half of the number of pediatrician (61.4%) disagreed that night time bottle/at will breast feeding can cause tooth decay and 62.9% of the pediatricians agreed that child's teeth should be cleaned as soon as the teeth erupts. About 67.1% reported that fluoride in tooth paste is important for preventing tooth decay. Figure 3. shows the overall awareness of pediatrician related to rampant caries. Only 10% of the pediatricians were well oriented towards the rampant caries related questions.

Table-1: Knowledge about rampant caries

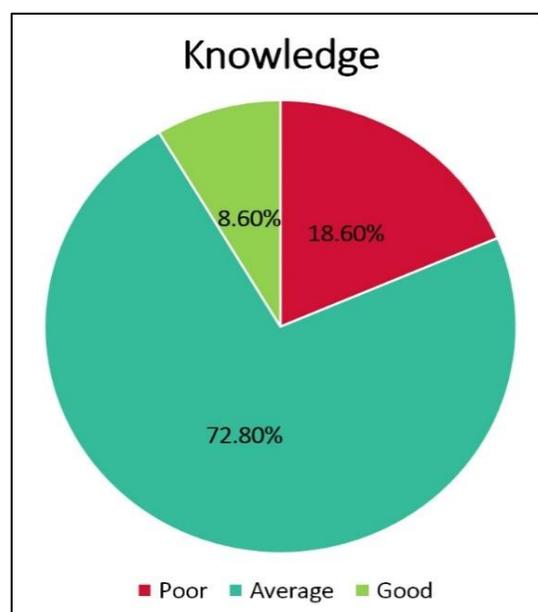
Questions	True	False	Don't know
The first baby tooth appears in the child's mouth at the age of 6 months	95.7%	2.9%	1.4%
Tooth decay is caused by bacteria that are transmitted by sharing feeding utensils (eg:spoon)	7.1%	74.3%	18.6%
Disease of primary teeth can affect the permanent teeth	60%	34.3%	5.7%
Rampant caries is preventable disease	64.3%	10.0%	25.7%
Rampant caries and early childhood caries are the same	54.3%	20.0%	25.7%
Rampant caries is of slowly progressing type	74.3%	18.6%	7.1%
Rampant caries shows appearance of more than 5 carious lesions in a year in an individual of any age	12.9%	35.7%	51.4%
Rampant caries does not involve the teeth which are immune to decay	52.9%	18.6%	28.6%
Rampant caries involves both primary and permanent dentition	62.9%	31.4%	5.7%

Table 2: Attitude about rampant caries

Questions	True	False	Don't know
Brushing your baby's teeth is important for oral health.	97.1%	2.9%	
Parents should take their baby to dentist as soon as first tooth erupt for preventive dental health examination	60.0%	30.0%	10.0%
Effective cleaning of teeth can be achieved by 3-4 years old child	61.4%	7.1%	31.4%
Infants mouth prior to tooth eruption, needs to be cleansed. Especially, Gums with soft cloth	20.0%	51.4%	28.6%
Mottling, tooth decay, discoloration of upper front teeth: it is a serious issue to caution parents and refer to dentist	74.3%	15.7%	10.0%
In rampant caries parents should be educated to reduce the frequency of sucrose consumption by their child, especially between meals	80.0%	8.6%	11.4%
Successful management of rampant caries depends on a coordinated team approach amongst the paediatrician, pediatric dentist, parents and child.	90.0%	7.1%	2.9%

Table-3: Awareness about rampant caries

Questions	True	False	Don't know
A balanced diet is essential for the healthy growth of a baby's teeth	92.9%	4.3%	2.9%
Weaning from a baby bottle to a sipping cup should be planned when the child is 6-month old	38.6%	57.1%	4.3%
Frequent and prolonged breast/bottle feeding in the day time can cause tooth decay	27.1%	68.6%	4.3%
Night time bottle/night time breast feeding can cause tooth decay	27.1%	61.4%	11.4%
Tooth decay can affect infants below 2 years of age	60.0%	24.3%	15.7%
A child's teeth should be cleaned/brushed as soon as the teeth erupt	62.9%	34.3%	2.9%
Fluoride in toothpaste is important for preventing tooth decay.	67.1%	5.7%	27.1%
Fluoride tablets are beneficial for control of decay in children	12.9%	12.9%	74.3%
Low fluoride tooth paste, marketed as kid's tooth paste has 1000ppm of fluoride, in India	12.9%	4.3%	82.9%
Initial treatment includes provisional restorations, diet assessment, oral hygiene instruction, and home and professional fluoride treatments.	71.4%	10.0%	18.6%

**Fig-1: Knowledge of pediatricians about rampant caries**

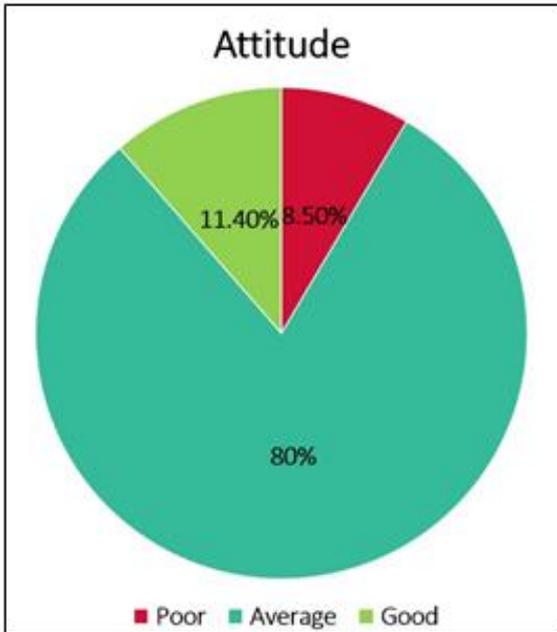


Fig-2: Attitude about rampant caries

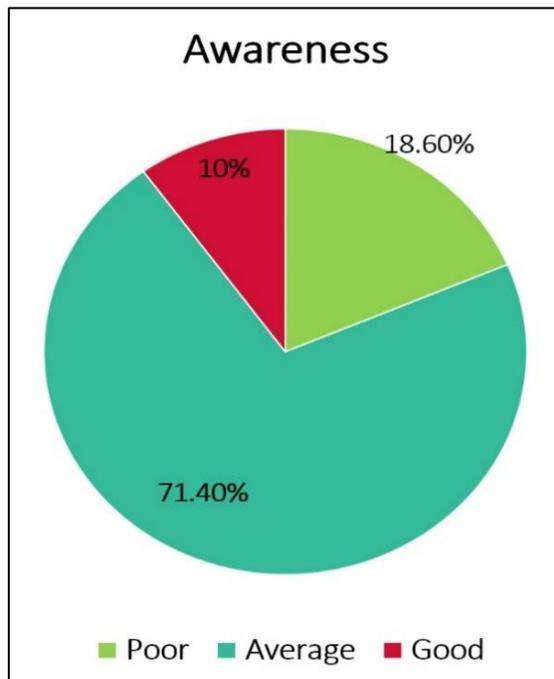


Fig-3: Awareness of pediatricians about rampant caries

DISCUSSION

Oral health and overall general health of a child are equally in the hands of pediatricians and pediatric dentists. First and regular contact that most young children have with pediatricians, presents a unique opportunity for them to evaluate their oral condition and ensure that the dental treatment is initiated before the disease becomes extensive. Dental disease is one of the most common chronic disease affecting children throughout the world so, an interdisciplinary approach to oral health involving pediatricians is necessary [4]. In the present study 64.3% of the pediatricians believed that rampant caries

is a preventable disease which is similar to a study done by Faizal *et al.* [5]. Maximum of the pediatricians (100%) believed that dental caries may be preventable. In our study 52.9% of the pediatricians were not aware that in rampant caries teeth become pigmented to light yellow in color in initial period which is similar to study done by Sham S Bhat in that 50% of the pediatricians agree that first signs of dental caries are white lines or spots on tooth surfaces [6]. In this study 51.4% of pediatricians didn't know that the infants mouth prior to tooth eruption, needs to be cleaned, Gums with soft cloth which is same as in the study done by MD Indira in which 26% of pediatricians did not believe that the initiation of cleaning of oral cavity should be started from the time of birth after every feed [7]. In present study 61.4% of pediatricians didn't know that night time bottle/at will breast feeding can cause dental caries which is contraindicated to the study done by Seema Lochib in which 95.3% of pediatricians discuss baby bottle tooth decay with the parents [8]. In our study 67.1% of pediatricians didn't know that dental caries is transmissible disease but they knew that fluoride is beneficial for controlling the decay in children, this is in accordance to the study done by Murthy GA *et al.* in which 84% of pediatricians believed that Dental Caries is not transmitted disease and they also knew that fluoride supplements will help to prevent decay [9]. A knowledgeable pediatrician understands the need of treatment and preservation of primary teeth for a healthy permanent dentition [9], which goes well with our findings where 60% pediatricians agree that disease of primary teeth can affect the permanent teeth.

Pediatricians should be well informed about their important role in rampant caries by conducting some educating programs especially related to dental needs of a child.

CONCLUSION

Based on this study, it may be concluded that pediatricians are knowledgeable about some aspect of rampant caries but they don't know about the appearance, type, the role of bottle feeding in caries. Thus, there is a need to spread awareness related to rampant caries among these pediatricians. To achieve this objective, the following recommendations can be made to improve the pediatrician's knowledge about rampant caries and treatment needs in children.

- Association between medical and dental societies and educating pediatricians about children's oral health practices
- Conducting regular continuing dental education programs for pediatricians
- Publishing dental articles in the medical journals regarding infant oral health care and preventive guidelines.

REFERENCES

1. Massler JN. Tee-age caries. *J Dent Child.* 1945; 12:57-64.
2. American Academy of Pediatric Dentistry reference manual 2009-2010. *Pediatr Dent.* 2009; 31:1-302.
3. US preventive services task force recommendation. *Am J Prev Med.* 2004; 26:326-9.
4. American academy of pediatric dentistry clinical affairs committee. American academy on pediatric dentistry council on clinical affairs. Guideline on periodicity of examination, preventive dental services, anticipatory guidance/counseling and oral treatment for infants, children and adolescents. *Pediatr Dent.* 2008-2009; 30 suppl 7:112-8.
5. Faizal C, Kottayi S, Vaibhav K. Knowledge, Attitude and Practices of Pediatricians regarding prevention of Dental Caries. *Health Scie.* 2013;2(2):1-10.
6. Sham S, sundeep K, Vidya S, Chinchu M. Knowledge, Attitude and Practices among Pediatricians on early childhood caries and infant oral health care in Mangaluru. *Ind J Appl Res.* 2016;6(6):368-71.
7. MD Indira. Knowledge, Attitude and Practice toward Infant Oral Healthcare among the Pediatricians of Mysore: A Questionnaire survey. *Int J clin Ped dent.* 2015;8(3):211-4.
8. Seema Lochib, KR Indushekar, Bhavna G, Neha SH, Divesh S. Knowledge, Attitude and Practices of Pediatricians in Faridabad towards infant oral health care. *Univ res j dent.* 2014;4(2):97-100.
9. Murthy GA, Mohandas U. The Knowledge, Attitude and Practice in Prevention of Dental Caries amongst Pediatricians in Bangalore: A cross – Sectional study. *J Indian Soc Pedod Prevent Dent.* 2010;2(28):100-3.