

## Awareness of oral health among Pediatricians: A preliminary study in Indore

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### Abstract:

Prevention and education are the best ways of promoting oral health. Early childhood caries (ECC) still exists to be one of the most prevalent oral diseases of childhood. The present study was conducted amongst the Pediatricians of Indore city to know about their views towards oral health care of children. The present preliminary study has been initiated by drawing a random sample of 60 Pediatricians and the data was collected using a questionnaire comprising of 30 questions. This survey indicates that though the Pediatricians have the basic knowledge about oral health of the child, their knowledge regarding fluoride, weaning and different dental treatment options for the children need to be improved further. There exists a need to improve communication between the two fields- Medical & Dental and Include oral health in under graduate and post graduate medical curriculum so that the oral health status of the child can be taken care.

**Key words** : oral health, pediatricians, health care givers.

### Introduction

Early childhood caries (ECC) can be a particularly virulent form of caries, beginning soon after tooth eruption, developing as smooth surface caries, progressing rapidly, and having a lasting detrimental impact on the dentition. The prevalence of ECC (Early Childhood Caries) reported in the literature ranges from 36 to 85%<sup>1-6</sup>. In India a prevalence of 44% has been reported<sup>7</sup> while in the city of Indore a high prevalence rate of 64% has been recently reported.<sup>8</sup> Since 1986, the American Academy of Pediatric Dentistry (AAPD) has recommended that the first dental visit should occur within six months of the eruption of the first tooth and no later than twelve months of age. In contrast, the American Academy of Pediatrics (AAP) previously recommended the first dental visit to be by age three, but changed the guideline in 2006 as to

establish a “dental home” by age one for children.

AAPD and AAP, both recommend weaning by the age of 12 months.<sup>9</sup> When the weaning period is prolonged it will lead to the single most common chronic childhood disease - dental caries. The American Academy of Pediatrics (AAP) published a policy statement in May 2003 addressing the role that pediatricians can play in the oral health risk assessment of children. child's dental health can be influenced by members of the primary medical care team specially pediatrician who are in an excellent position as they are the first health professionals whom the child visits.

Thus, the present study was conducted amongst the pediatricians of Indore city to know about their knowledge and views towards oral health care of children.

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**MATERIALS AND METHODS:**

The present preliminary study was thus initiated by drawing random sample of Pediatricians in Indore city. Of the total population of 240 pediatricians in Indore, 25% of them i.e. 60 were considered to be fairly representative sample which was drawn randomly. The sample interval thus calculated was 4 where each pediatrician had equal chance to fall in the sample. In case the selected respondent was absent or refused to give interview, replacement of the sample was taken as the next name in the sample list in the circular manner.

The tool was prepared with the consent and help of the researchers involved in this study. The questionnaire had 30 questions. Some of the questions were derived from an earlier study<sup>10</sup> and the rest of them were designed by the authors. Previous permission was obtained from the head of the institution (Modern Dental College and Research Centre, Indore) to conduct the survey. After the formal consent provided by the FSU (final sampling unit) and the ethical committee, the schedule of research was personally administered by an author and average time calculated in filling the forms was 20-30 minutes.

**RESULTS:**

Although 90% of the pediatricians were aware of pediatric dentistry as a specialty, 70% of them referred their patients for routine dental check up. 15% only referred if the patient asked for it. Regarding the number of primary teeth, only 75% knew they were 20 in number, 15% answered as 16, 5% answered as 18 and 5% as 32 (Figure 1). 80% of them were of the opinion that, the first tooth erupts in the mouth at the age of 6-8 months whereas 20% thought it to be 3-5 months (Figure 2).

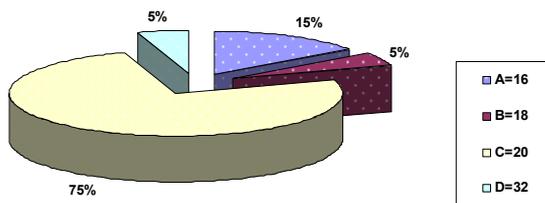


Fig 1 - Correct number of milk teeth

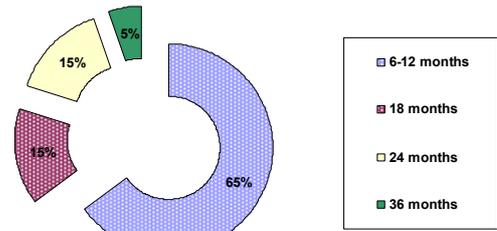


Fig. 2 - Age of eruption of first tooth in the mouth

Only 30% considered early dental examination to be very important whereas 65% considered it to be important and 5% felt it not at all important. 65% of the Pediatricians considered this initial visit should be at 6-12 months and 15% each believed 18 months and 24 months to be appropriate. 5% felt 36 months and above as appropriate age for the first visit.

Natal teeth were a rare observation for nearly 65% of them. Only 15% frequently observed natal teeth in their clinical situation whereas 10% had never come across such a situation (Figure 3). 20% of them would leave them as such while 20% advised extraction and 60% referred them to dentist. 45% advised cleaning of teeth from day one, when firsttooth erupts whereas 45% preferred after all the milk teeth had erupted. And only 10% suggested brushing after every meal while the rest of them suggested teeth to be cleaned both at day time and night. All of them prescribed toothpaste for brushing teeth. 80% of them advised using pea size tooth paste whereas 20% recommended full ribbon. 50% recommended regular tooth paste and 30% recommended fluoridated paste (Figure 4).

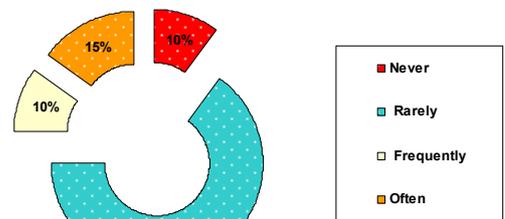


Fig.3 - Observation of natal teeth in the mouth

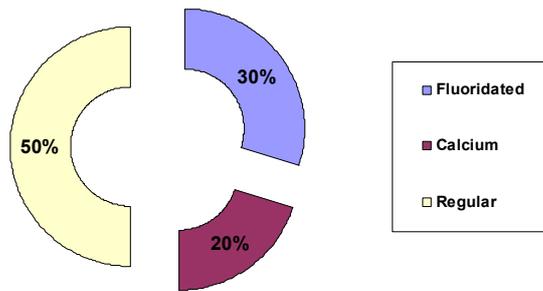


Fig. 4- Type of toothpaste advised

50% advised breast feeding to be continued beyond 12 months of age. 35% advised it to be stopped by the age of 12 months and 15% felt that it should be stopped by 6 months of age. None of them recommended bottle feeding or night time bottle feeding. If it is being practiced 10% advised it to be stopped by the age of 12 months whereas 5% felt it may be continued till the age of 36 months. 80% of them advised plain water to be given to the child before going to sleep whereas 20% preferred milk. None of them preferred other things like fruit juice.

Only 30% of them recommended infant formula whereas 70% were a strict no to it. With regards to diet counseling, 70% of them considered it to be very effective in reducing dental caries and 15% considered it to be moderately effective. But only 35% of them advised it for all age groups while 55% recommended it only for children below 3 years and 10% for the age group 6-12 years. 30% of them advised limiting high sugar intake in the form of snacks, 25% prescribed vitamin intake, 20% advised limiting sugar items between meals and 10% advised limiting high sugar drinks (Figure 5). All of them were aware of the fact that syrups contain high sugar. 30% did not prescribe medicated syrups to their patients. 50% prescribed them only if the patients were ill and 20% prescribed them as nutritional supplements. All of the pediatricians preferred oral route for administration of antibiotics and none of them preferred IV, IM or rectal route for the same. 80% of them believed that antibiotics can affect the dentition while 20% did not believe.

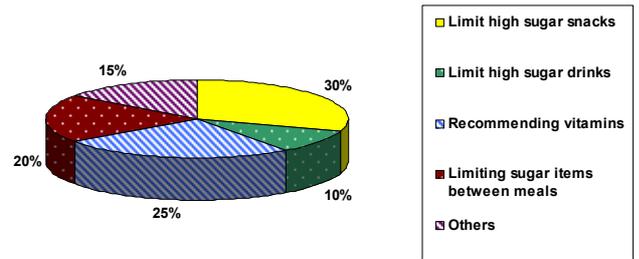


Fig. 5- Type of counseling offered

The occurrence of tooth surface defects and discoloration was thought to be the most common effect of antibiotics on dentition as responded by 50% of the respondents. 70% were aware that milk teeth require specialized treatment. But only 15% knew that dentures can be given to the children while 40% refused of any such possibility.

#### DISCUSSION:

Dental awareness of medical practitioners may be inadequate with regards to knowledge about oral diseases and oral hygiene practice. There are very few studies reported in literature on the oral health awareness of pediatricians. It is unclear to what degree these specialists are knowledgeable about oral health and the extent to which they may already be participating in prevention of oral diseases. Also, little is known about the incidence of dental problems in their practice. Pediatricians are considered to be in a unique position to contribute to the dental health of their young patients because of the early age at which children are brought to their offices and parents will accept their recommendations.<sup>[11]</sup>

The American Academy of Pediatric dentistry (AAPD) emphasizes the importance of prevention, diagnosis and treatment necessary to restore and maintain the oral health of infants, children and adolescents. Comprehensive health care cannot be achieved unless dental care is a strong priority in health service programs.<sup>[12]</sup>

<b><i>AWARENESS INDICATORS</i></b>	<b><i>PERCENTAGE OF RESPONDENTS</i></b>
Aware of existence of pediatric dentistry	90%
Referral of patients for routine dental check up	70%
Correct number of milk teeth	75%
Age of eruption of first tooth in oral cavity	80%
Correct age of first dental visit	65%
Management of natal teeth	80%
Correct age for cleaning milk teeth	45%
Correct quantity of toothpaste	80%
Importance of fluoridated toothpaste	30%
Hazards of bottle feeding	100%
Appropriate age for diet counselling	35%
Sugar content of medicated syrups	100%
Ill effects of antibiotics on dentition	80%
Milk teeth require specialized treatment	70%

TABLE 1- Awareness amongst the pediatricians regarding oral health of child

Therefore this study was undertaken to know the awareness and attitude of pediatricians towards oral health care of children. The advantages of a questionnaire study are that, it allows information to be collected and analyzed easily.

In our study it was observed that most of the pediatricians are aware of pediatric dentistry as a specialty. And adequate percentage of them referred their patients for routine dental check up. A study by Sanchez *et al*<sup>[13]</sup> also reported that most pediatricians recommended a pediatric dentist.

Most pediatricians were observed to have adequate knowledge regarding number of primary teeth and age of first tooth eruption. But there is a diverse opinion among them regarding the ideal age for the first dental visit and the importance of an early-dental examination. These differences could be attributed to the fact that many of them are not familiar with AAPD recommendations for pediatric preventive dental care.

AAP has identified pediatricians as capable of providing "basic dental care for children under the age of three" <sup>[14]</sup> so some pediatricians may not refer these young

children for specialized dental treatment rendered by pedodontists. But taking in consideration the prevalence of ECC, the first dental visit should be before 12 months of age.

Natal and neonatal teeth were a rare observation for most of the practitioners. And more than half of them referred such cases to the pediatric dentists. However some of them even left the teeth as such which may have created problems such as difficulty in feeding. So there exists a need to make them aware regarding the problems associated with such teeth.

Guidelines on health supervision for children advise pediatricians to counsel families on basic oral hygiene practices.<sup>[12]</sup> The importance of initiating oral hygiene practices before and/or during the eruption of the first tooth was not seen to be prevalent among all pediatricians. Most of them gave the routine advice of brushing twice a day, while only 10% pediatricians suggested brushing after every meal. This is similar to observations made in children and adolescents in China.<sup>[15]</sup>

As expected, all of them recommended toothpaste for cleaning teeth and a large number suggested the use of pea size toothpaste. However, what is of concern is that more number of pediatricians recommended regular tooth paste rather than fluoridated paste thereby compromising the beneficial effects of fluoridated dentifrice usage.

According to AAP, pediatricians should advise parents to begin bottle or breast weaning when the child is approx 9 months of age and stop it completely soon after their first birthday.<sup>[9]</sup> Following the guidelines, none of them recommended bottle feeding or night time bottle feeding and if at all such feeding is practiced it should be stopped by the age of 12 months.

However, considering the multiple benefits of mothers milk, most of them tended to recommend later dates for stopping breast feeding and as many as 50% of them advised it to be continued beyond the age of 12 months.

Putting a child to bed with a bottle containing anything other than water or giving the child milk during sleep hours will lead to ECC. This was a known fact amongst most of the pediatricians and 80% of them advised plain water to be given to the child before going to sleep.

Diet counseling has proved to be very effective measure in reducing dental caries. Children with high rate of dental caries have been counseled successfully to bring down the prevalence of tooth decay. Most of them considered it to be very effective in reducing dental caries.

Diet counseling can be done for all the children regardless of their age groups. This was felt by nearly 1/3<sup>rd</sup> of the respondents while most of them considered it to be beneficial only for 0-3 years age group.

Pediatric formulations are frequently sweetened to make them more palatable

and are preferred in syrup form for the ease of intake. This could contribute to the development of dental caries. All the pediatricians knew about the presence of sugar in medicated syrups and did not prescribe them routinely. Most of them prescribed them only if the patients were ill and some even prescribed them as nutritional supplements.

All of the pediatricians preferred oral route for administration of antibiotics but some of them did not believe that antibiotics can affect the dentition. The occurrence of tooth surface defects and discoloration was thought to be the most common effect of antibiotics on dentition.

Here it is important to note that tetracycline is the only group of antibiotics that affect the dentition and causes intrinsic staining of the clinical crown when used during the tooth formation stage and it does not makes the teeth more susceptible to caries as thought by some of the respondents.

In spite of the fact that most of the pediatricians had the knowledge that primary teeth require specialized treatment, only few of them knew that dentures can be given to the children. This is of concern as they may come across some edentulous patients, as in the case of some syndromes or anomalies, in their practice and may oversee the possibility of replacing these teeth due to their lack of knowledge.

## **CONCLUSION:**

By increasing their involvement in oral health care during the child's routine visit, pediatricians can play an important role in improving the dental health of their patients. Pediatricians must ensure that all their patients receive timely dental care.

This survey indicates that though the pediatricians are aware that the basic knowledge about oral health of the child, knowledge regarding beneficial effects of fluoride and importance of early weaning

was not adequate. Also knowledge regarding availability of different treatment options for the children with missing teeth was poor.

Therefore, there exists a need to implement the following measures to improve the oral health status of the children-

1. Improve communication between the two fields- Medical and Dental
2. Inclusion of oral health in under graduate and post graduate medical curriculum.

The pediatricians should provide some necessary instructions to the parents accompanying the child-

1. Explain the importance of oral health care and its relation to general health.
2. Advise them to begin bottle or breast weaning when the child is approx 9 months of age and stop it completely soon after their first birthday.
3. After the first tooth erupts, wipe the baby's teeth after feeding with a soft cloth or soft-bristled toothbrush.
4. Avoid the baby to sleep with a bottle.
5. Schedule the child's first dental visit between 6 and 12 months of age.

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