

## The knowledge, attitude and awareness of infant oral health care among gynecologists and pediatricians

<sup>1</sup> Sanket Kunte, <sup>2</sup>Gandhali Deshpande, <sup>3</sup>Shweta Zingade, <sup>4</sup>Laxmi Lakade, <sup>5</sup>Amol Kamble, <sup>6</sup>chetna jagtap

<sup>1,4</sup> (Associate Professor, Department of Pedodontics and Preventive Dentistry, Bharati Vidyapeeth Deemed to be University Dental College and Hospital, Pune, India)

<sup>2</sup> (PG Student Department of Pedodontics and Preventive Dentistry, Bharati Vidyapeeth Deemed to be University Dental College and Hospital, Pune, India)

<sup>3,5,6</sup> (Assistant Professor, Department of Pedodontics and Preventive Dentistry, Bharati Vidyapeeth Deemed to be University Dental College and Hospital, Pune, India)

Corresponding Author: Gandhali Deshpande

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**Abstract:** Dental caries comprise the single most chronic disease affecting children today. Evidence increasingly suggests that for successful prevention of dental caries, preventive interactions must begin early. Gynecologists and pediatricians are more likely to see expecting mothers and infants much earlier than the dentist. They counsel mothers on nutrition, feeding practices and immunization. They also evaluate the overall health of expecting mothers. Thus, it is essential for these specialists to be aware of infectious nature of dental caries and its associated risk factors and make appropriate decisions regarding timely and effective intervention. Insufficient information about their role in prevention of dental caries led us to conduct a survey among pediatricians and gynecologists in Pune city to determine their knowledge, attitude and awareness towards oral health care of children.

**Keywords - :** Gynecologists, Pediatricians, infant oral health, awareness.

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### I. Introduction

Oral health is an important part of overall health; good oral health contributes positively to the physical, mental and social well-being of infants and to the full enjoyment of their lives by allowing them to speak, eat and socialize without experiencing pain, discomfort or embarrassment. The preventive oral health process among infants must begin early, i.e. the first year of infancy to ensure a successful oral hygiene.

Gynecologists and pediatricians are specialists who enter a child's life at an early stage. They counsel mothers on nutrition, feeding practices and immunization. They also evaluate the overall health of pregnant mothers and developmental progress of children. However, the influence of maternal oral health on the unborn child frequently overlooked.<sup>1</sup> The American Academy of Pediatrics Dentistry (AAPD) recommends that infants should consult the dentist within 6 months of getting their first tooth or by their first birthday.<sup>2</sup>

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. Both recommend weaning by the age of 12 months.<sup>3</sup> When the weaning period is prolonged it will lead to the single most common chronic childhood disease – dental caries, which is five times more common than asthma and seven times more common than fever.<sup>3</sup>

Gynecologists, pediatricians, and other medical professionals are more likely to see expecting mothers and infants much earlier than dentists. Thus, it is essential for these specialists to be aware of the infectious nature of dental caries and its associated risk factors and make appropriate decisions regarding timely and effective intervention. Hence, this study was conducted to know the awareness and attitude of gynecologists and pediatricians in Pune city, towards oral health care of children.

### II. Materials And Method

A cross sectional survey was conducted among gynecologists and pediatricians of Pune city. 30 Pediatricians and 30 gynecologists, including private practitioners and doctors from government hospitals with minimum experience of 5 years were selected for the survey. After obtaining prior permission from the concerned hospital authorities, the doctors were asked to answer a questionnaire designed to their particular specialty. All answers were treated with utmost confidentiality. The questionnaire pertained to both maternal

and infant/child oral health care and included questions on prenatal counseling, feeding practices, dietary habits, oral hygiene practices and importance of primary dentition.

### III. Results

Table 1. Awareness and attitude among pediatricians

Awareness About Specialized Treatment Of Milk Teeth	Yes (67%)	No (27%)	No opinion (6%)
Awareness About Paediatric Dentist	Yes (82%)	No (12%)	No opinion (6%)
Referral To Paediatric Dentist	Yes (86%)	No (14%)	

Table 2. Knowledge of pediatricians regarding primary dentition

No. Of Milk Teeth	18 (6%)	20 (90%)	32 (4%)
Age Of First Tooth Eruption	3-5 months (7%)	6-8 months (89%)	10-12 months (4%)
Age Of First Dental Visit	6-12 months (37%)	18 months (47%)	24 months (16%)
Age Of Exfoliation Of Milk Teeth	6-7 years (20%)	9-10 years (53%)	11-12 years (27%)
Importance Of Early Dental Visit	Very important (36%)	Important (64%)	Not at all

Table .3 Diet counseling by pediatricians

Appropriate age of diet counseling	0-3 years (26%)	6-12 years (7%)	All of the above (67%)
Effectiveness of diet counseling in caries reduction	Very effective (56%)	Effective (44%)	No effect
Type Of Counseling Offered	Limiting high sugar snacks (44%)	Limiting high sugar drinks (33%)	Recommending vitamins (23%)

Table.4 Recommendation of feeding practices by paediatricians

Age Till Breast Feeding Advised	6 months (26%)	12 months (8%)	>12 months (66%)
Advising Bottle Feeding	Yes (11%)	No (89%)	
Night Time Bottle Feeding Recommendation	Yes (4%)	No (96%)	

Table. 5. Recommendation of oral hygiene practice by pediatricians.

Initiation of cleaning of milk teeth	When first tooth erupts (56%)	When all primary teeth erupt (33%)	Anytime (4%)	3 months (7%)
Time at which brushing should be performed	Daytime	Night	Both (96%)	After every meal (4%)
Advising type of toothpaste to children	Fluoridated (67%)	Calcium (7%)	Non fluoridated (26%)	
Quantity of toothpaste should be used	Pea size (96%)	Full ribbon	Any amount (4%)	

Table.6 Awareness of pediatricians about medicated syrups and their influence on dentition.

PURPOSE OF PRESCRIBING MEDICATED SYRUPS	As a nutritional supplements (30%)	For the ill patients (70%)	Routine
PREFERRED ROUTE OF ADMINISTRATION	Oral (96%)	IM	IV (4%)
DO ANTIBIOTICS AFFECT THE DENTITION?	Yes (78%)	No (22%)	No opinion

Table.7 Answers given by gynecologists

Is a mother's oral health status related to that of her child?	Yes 80%	No 20%	Don't know
Does prenatal counseling reduce dental caries?	Yes 87%	No 13%	Don't know
Forceps delivery and relation to orofacial defects	Yes 43%	No 37%	Don't know 20%
Do maternal alcohol consumption and smoking affect the child's oral health?	Yes 93%	No 7%	Don't know
Whether radiation has the ill effects on unborn child's oral health?	Yes 83%	No 10%	Don't know 7%
Do the drugs prescribed to pregnant mother's affects the child's teeth?	Yes 83%	No 10%	Don't know 7%
Do nutritional supplements given to the pregnant mother have an effect on the child's teeth?	Yes 73%	No 20%	Don't know 7%
Safe period for receiving dental treatment	1-3 months 23%	3-6 months 84%	6-9 months 3%
Can gum disease in mother affect the birth weight of child?	Yes 23%	No 54%	Don't know 13%
Is it safe to use the regular local anesthetic solution containing vasoconstrictor for pregnant woman?	Yes 20%	No 77%	Don't know 13%

Table .8 Awareness and referral to pediatric dentist by gynecologists

Awareness about paediatric dentist	Yes 72.5%
Referral to paediatric dentist	Yes 16%

#### IV. Discussion

Infant oral health care can be defined as foundation on which a lifetime of preventive education and dental care can be built up in order to help acquire optimal oral health into child and adulthood.<sup>2</sup> The allied health professionals as well as various community organizations must be involved for achieving this goal as the dental awareness of medical practitioners many a times will be inadequate regarding the knowledge of the dental diseases, oral hygiene practices as well as various specialty treatment which is rendered by Paediatric dentist.

Dental awareness of qualified medical practitioners may be inadequate with regard to knowledge about dental diseases, oral hygiene practice and specialty treatment rendered by the pediatric dentist. There are very few studies reported in literature on the oral health awareness of medical practitioners particularly, gynecologists and 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 and assessment. Also, little is known about the incidence of dental problems in their practice. Hence this study was undertaken to know the awareness and attitude of pediatricians and gynecologists towards oral health care of children, with the help of a specially designed questionnaire. This study allows the concerned specialist to express freely their perception on oral health care.

In our study it was observed that most pediatricians are aware of pediatric dentistry as a specialty and most of them make referrals to a pediatric dentist. A study by *Sanchez et al* also reported that most pediatricians recommended a pediatric dentist.<sup>4</sup>

In our study most (90%) pediatricians were observed to have adequate knowledge regarding primary teeth and age of first tooth eruption. but there is a diverse opinion among them regarding first dental visit and importance of an early dental examination. 47% of them felt that 18 months age would be the age of first dental visit although AAPD suggest that first dental visit should be within 6 months of eruption of the first tooth. There is disputed opinion regarding the exfoliation of milk teeth.

AAP suggests that pediatricians should advice parents to cease breast feeding after 9 months of age and accomplish it soon after the first birthday.<sup>4</sup> *Koranyi et al* found that most pediatricians tended to recommend later dates for beginning and accomplishment of weaning and were not completely in accordance with AAP guidelines.<sup>5</sup> This was similar to our study where weaning beyond the age of one year was highly recommended. Feeding practices vary with culture and social environment. As in many Asian countries, emphasis is given to breast feeding even in Indian families and also by health professionals, considering the multiple benefits of mother's milk. There is adequate knowledge about night time bottle feeding that can lead to early childhood caries. It was observed that a large percentage of pediatricians believe diet counseling to be effective in reducing caries. Most of them advised mothers/care givers to limit the sugar intake, both in the form of snacks and drinks.

Several guidelines on health supervision for children advise pediatricians to counsel families on basic oral hygiene practices. The importance of initiating oral hygiene practices before and/or during the eruption of the first tooth was seen to be prevalent among all pediatricians. A high number of them give the routine advice of brushing twice a day. It was interesting to observe that a high percentage advice use of pea sized & fluoridated tooth paste. Pediatric formulations are more sweetened to make them more palatable and are preferred to be taken in syrup form. This leads to the development of dental caries mainly because of the frequency of oral route of administration.<sup>6</sup> in our study, majority of the pediatricians knew about the presence of sugar in medicated syrups and did not prescribe them as a routine. They were prescribed only when children were ill and when nutritional supplementation was necessary. However, it is of concern as the oral route was the preferred choice of administration.

It was observed that most of the gynecologists are aware of pediatric dentistry as a specialty. But only a small number of gynecologists refer pregnant mothers to pediatric dentists. There is difference in opinion about forcep delivery that can lead to orofacial defects so there is need to make gynecologists aware that the mode of delivery not only affects orofacial development but also has risk of microbial inoculation into the oral cavity of

newborn. There is known awareness about low birth weight and its effect on dental health among the gynecologist. As expected, a large number of gynecologists were aware of the ill effects of radiation, drugs, maternal consumption of alcohol and smoking on the unborn child.

Most of the gynecologists were unaware of periodontal disease in mother can affect birth weight of child. It may be mediated through translocation of bacteria or bacterial products in the systemic circulation. Transient bacteremias observed in subjects with marginal periodontitis and it is possible that bacteria and their products may reach the placental membranes hematogenously and provide the inflammatory effect to induce preterm labor.<sup>7</sup>

The local anesthetics and vasoconstrictors used in dentistry can be safely administered to the pregnant woman. However, aspiration must always be carried out to minimize the likelihood of intravascular injection. Although high-dose vasoconstrictors used to manage significant hypotension may be a concern for pregnant patients, the doses of epinephrine used in local anesthetic formulations for dentistry are so low that they are unlikely to significantly affect uterine blood flow.<sup>8</sup> in our study most of the gynecologists unaware about the safety of use of regular local anesthetic solution in pregnant women.

## **V. Conclusion**

Oral health is an integral part of the overall health and well being of children. Pediatricians and gynecologists must ensure that all their patients receive timely preventive and restorative dental care. There must be more communication between medical and dental societies. So, there is a need for more active participation and involvement of the allied medical specialists namely, gynecologists, neonatologists, and pediatricians in continuing dental education programs along with pediatric dentists.

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