



## KNOWLEDGE, ATTITUDE AND AWARENESS TOWARDS INFANT ORAL HEALTHCARE AMONG THE PAEDIATRICIAN OF CENTRAL INDIA REGION

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### **Introduction:**

According to the Centres for Disease Control and Prevention and the National Institute of Health, early childhood caries (ECC) is the most common infectious disease and a major danger to dental health in newborns and children.<sup>1</sup> Paediatric dentists, as primary health care professionals, have the ability and capacity to play a significant role in the formation of appropriate food habits and the promotion of good health in children. It has been observed that "after the age of two or three years, dentists see children more frequently than primary care medical providers."<sup>2</sup> In order to assist ensure good oral health throughout childhood, the infant oral health care visit should be viewed as the foundation upon which a lifetime of preventative education and dental care can be constructed. Oral examination, anticipatory guidance, including preventative education, and appropriate therapeutic action for the child can improve the infant's chances of living a lifetime free of preventable oral disease.<sup>3</sup> Following the emergence of primary teeth, *S.mutans*, the main bacterial component implicated in the

development of dental caries, colonises the oral cavity of infants/children. This colonisation of *S. mutans* in newborns occurs through their mothers around the age of 2 years; the median age is 26 months, which is the window of infectivity.<sup>1,2</sup> Early *S. mutans* establishment impacts not just caries prevalence but, to a greater extent, the amount of caries experience (deft) in children.<sup>4</sup> Oral health promotion and preventative dental treatment are essential principles in paediatric dentistry. Paediatric dentistry today has a body of scientific knowledge and technology to help parents raise caries-free children. Early screening of children under the age of one year is a wonderful chance for risk factor detection.<sup>1</sup> Severe early childhood caries is one of the most severe types of dental caries that affects children under the age of three.<sup>6</sup> The frequency of ECC among different states ranges from 47.5 to 78.57 according to the National Oral Health Survey done throughout India.<sup>7</sup> Despite the fact that dental caries is avoidable, the disease burden. Children under the age of three are at risk of getting oral illness since they do not see a dentist on a regular basis. Paediatricians who meet a child as part of a well-baby visit programme from birth are in the best position to diagnose early dental problems and educate parents on early oral preventative healthcare.<sup>1</sup> Mothers' knowledge of newborn oral health care will be advantageous in minimising the burden of dental caries in children.<sup>4</sup> According to the recommendations, the dentist should take a medical and dental history, perform an oral examination and risk assessment, and offer preventive advice on dental and oral development, fluoride status, oral habits, injury prevention, oral hygiene, and food.<sup>3</sup> As paediatric dentists, it is critical that we adopt the medical paradigm that early preventative care and parental counselling can minimise the degree of tooth decay in these young children. Because not all children are equally vulnerable to dental illness, the goal of baby oral health examinations is to identify disease and/or risk factors in these very young children, lowering the severity and/or preventing the development of future dental disease.<sup>3</sup>

The American Academy of Paediatric Dentistry (AAPD) suggests utilising a validated questionnaire to assess mothers' knowledge and attitudes in order to develop an effective child oral health promotion programme. As a result, a study was carried out to assess the mother's knowledge, attitude, and practise about infant oral health care.<sup>4</sup> The American Academy of Paediatric Dentistry suggests in their newborn oral health care guidelines that "an initial oral evaluation visit should occur within 6 months of the eruption of the first primary tooth and no later than 12 months of age."<sup>2</sup> A crucial component of comprehensive care for children is hence the coordination of services between medical and dental practitioners so that relevant services can be provided at the appropriate ages.<sup>1</sup> The American Academy of Paediatrics supports

breast-feeding as the best way of baby feeding.<sup>2</sup> The American Academy of Paediatric Dentistry (AAPD) suggests assessing mothers' knowledge and attitudes using a validated questionnaire to help develop an effective child oral health promotion programme. As a result, a study was done to assess the mother's knowledge, attitude, and practise about infant oral health care.<sup>4</sup>The AAPD recommends in their baby oral health care guideline that "an initial oral evaluation visit should occur within 6 months of the eruption of the first primary tooth and no later than 12 months of age."<sup>2</sup> Coordination of services between medical and dental practitioners is thus a critical component of comprehensive care for children, allowing them to give relevant services at the proper ages.<sup>1</sup>Breast-feeding is recommended by the AAP as the best way of infant feeding.<sup>2</sup>

## **MATERIALS AND METHODS**

The current survey was done among Central India-based paediatricians who are members of the Indian Academy of Paediatrics (IAP). A detailed questionnaire was developed based on the findings. The questionnaire has 20 questions. The questionnaire's reliability and validity were evaluated in a pilot research with 10 paediatricians. The results were statistically examined. Once the questions were determined to be trustworthy, they were delivered via "Google Forms" to all paediatricians who agreed to participate in the survey. The collected results were examined in the statistical package for social science (SPSS) programme utilising descriptive and inferential statistical tests.

## **Results**

The questionnaire was completed by 97 of the 120 paediatricians listed in central India, yielding an 80.83% response rate. The study's findings are summarised and discussed.

## **DISCUSSION**

The survey received responses from 80.83% of the 120 paediatricians listed by the IAP Central India chapter. The AAPD, AAP, and ADA all agree that early dental screening is essential for improving infant oral healthcare and preventing ECC. Community organisations and related healthcare professionals must collaborate to accomplish this. A survey found that paediatricians do not recommend that their patients visit the dentist before the age of one.

Historically, the AAP recommended scheduling a dental appointment by 36 months of age. The AAP recently changed and expanded its oral health recommendations in order to build a dental home for children by the age of one through the introduction of an oral health risk assessment at six months of age. The policy recommends scheduling an oral health check for a kid no later than 12 months of age, but no earlier than 6 months after the first primary tooth appears. The policy also emphasises specific preventive actions, such as food guidance, making the best use of fluoride, and providing proactive counselling. Children's dental care Paediatricians' knowledge of ECC is clouded by uncertainty.

As a result, the purpose of this study was to learn more about paediatricians' awareness, attitudes, and practises regarding newborn oral healthcare.

Table 1 displays the demographic statistics of the paediatricians polled. Males made up 67% of the paediatricians polled, while females made up 33%. Because the questionnaire responses were qualitative, the correct answers were assigned numerical values, and a mean score was produced. The mean score was higher in practitioners with more than 10 years of experience than in those with less than ten years of experience. The mean score difference was found to be statistically significant ( $p < 0.001$ ), showing that the doctor with more experience knew more about newborn oral healthcare.

(Table 1A).

#### Respondent demographic information

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		Year of experience					
		<10 Years	> 10 years	Total			
			–				
Gender	N	%	n	%	n	%	
Male	37	60	28	80	65	67	
Female	25	40	7	20	32	33	
Total	62	100	35	100	97	100	

Table 1A: Total mean score based on years of experience

Experience [years]	n	Mean	Std. Deviation	Mean difference	t	P- Value
<10	62	13.18	3.52	-2.937	-3.924	<0.001
>_ 10	35	16.11	3.57			

Despite the fact that all paediatricians are aware of dentists, just 52% use them. Despite the fact that 93.8% of paediatricians were aware of the speciality of paediatric dentistry, only 48% referred to a paediatric dentist (Table 2). Nonreferral could be owing to a paediatric dentist shortage. Mysore has 77,988 children aged 0 to 6 years, resulting in a child to paediatric dentist ratio of 1:3,900, which is highly worrying.

In this study, more than 60% of paediatricians were informed about the number of primary teeth and the age of first tooth eruption (Table 3).

Table 2: Paediatricians' awareness about dentistry and its specialty branches

Awareness about Dentistry	97 (100%)
Awareness about Paediatric Dentist as speciality	91
Referral to paediatric 47(48%) dentist	Referred to dentist (50%)

Paediatrician awareness about primary dentition

Number of Primary teeth	18	20	28	No response (12%)
Age of 1 <sup>st</sup> Tooth eruption	4-6	6-9	9-12	No response (0%)

Approximately 79% of paediatricians examine the oral cavities of babies. Despite the fact that 82% of paediatricians believe it is important to perform dental examinations before the age of one, only 43% of paediatricians were aware of the AAPD/recommendation AAP's for the first dental visit, and only 13% of them advised parents to bring their child in before the age of one (Table 4). This could be because many of them are unaware of the most recent AAPD/AAP recommendations for paediatric preventative dental care. Since the AAP originally

recommended that children have their first dental visit when they are 36 months old, several paediatricians are sceptical of the referral for babies. It is critical that you visit the dentist.

Table 4: Paediatricians' awareness about first dental visit

AAP/AAPD recommended age for 1 <sup>st</sup> Dental visit	At birth (13%)	After the eruption of first primary teeth	After the eruption of all primary teeth (18%)	No response (24%)
Is it important to do Dental examination for children <1 year	Disagree (5%)	Neither agree nor disagree 13 (13%)	Agree 79 (82%)	
Advice parents for 1 <sup>st</sup> Dental visit	Never (17%)	Occasionally/ Sometimes 76 (75%)	Almost every time 16 (11%)	
Examination of oral cavity of infants at birth	Rarely (2%)	Sometimes 19 (10%)	Often (10%)	Always 75 (77%)

The paediatricians did not appear to understand the importance of beginning an oral hygiene routine before the eruption of the newborn tooth. Only 24% of them advised cleaning the mouth after each feeding, and 47% advised waiting until all primary teeth had emerged before brushing the teeth with a toothbrush and paste.

Table 5: Recommendation of oral hygiene practice for infants

Initiation of cleaning of oral cavity	From the time of birth after every feed (24%)	When the first tooth erupts (47%)	After all the primary teeth erupts (20%)	No response (9%)
Use of tooth paste	When the first tooth	After all the primary	After 5 years of age	No response

and brush to clean the teeth	erupts (33%)	teeth erupt (42%)	(14%)	(10%)
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98.9% of paediatricians routinely examine children for signs of dental caries. Only 47.6% of paediatricians recommended patients to paediatric dentists in our study, despite the fact that 77% of paediatricians were aware of paediatric dentistry as a speciality and the dental issues associated with newborns, such as eruption cyst, Bohn's nodules, and ECC (Table 1). According to the findings of the current study, paediatricians are aware of the causes of ECC. Overall, 88% of paediatricians discuss ECC with parents, and 94% check ECC in babies. Despite the fact that 95% of paediatricians advise against it, only 75% of paediatricians felt that bottle feeding causes ECC. If a kid must be bottle-fed at night, 61% of paediatricians prefer plain water to sugared milk. However, 71% of paediatricians disagree that even extended midnight nursing can result in ECC. Only 33% of paediatricians employ dietary advice in their practises, despite the fact that 95% believe it is an important component of neonatal oral health care to avoid ECC (Table 6).

Table 6: Awareness, attitude and practice toward ECC in infants

Do you advise bottle feeding for infants	Yes 3 %	No 90 (95%)			
Do you exam ECC in Infants	Yes 89 (92%)	No 4 (4%)			
Do you discuss ECC with parents	Yes 79 (86%)	No 10 (9%)			
If bottle fed at night, contents advised in	Plain water 62 (60%)	Sweetened water 1 (2%)	Fruit juice 2 (2%)	Milk with sugar 19	No response 21 (21%)

the bottle				(19%)	
Bottle feeding at night leads to dental caries	Strongly disagree 0 (0%)	Disagree 9(9%)	Neither agree nor disagree 29 (19%)	Agree 32 (39%)	Strongly agree 39 (36%)
Prolonged breastfeeding leads to dental caries	Strongly disagree 29 (33%)	Disagree 34 (32%)	Neither agree nor disagree 17 (19%)		

Dentists rarely visit children under the age of one year, whereas paediatricians see them at least five times before the child reaches one. As a result, paediatricians are authorised to advice parents on oral health and, if necessary, send them to a dentist. According to studies, highly informed paediatricians can identify patients who require referral and educate their parents. In the current study, 94% of paediatricians agreed that medical and dental professionals should collaborate to ensure newborn oral health (Table 7). They should work together to adequately educate and train themselves in order to provide risk assessment and preventative dental health treatments.

Table 7: Who is responsible for infant oral healthcare?

Paediatrician	0
Paediatric dentist	3 (1%)
Both	94 (99%)

## CONCLUSION

According to the study's findings, the majority of paediatricians do not recommend that parents take their children to the dentist before the age of one. Many paediatricians consider that medical school education is insufficient for newborn oral health. To educate everyone about infant oral healthcare, regular health education initiatives are required. More interactions

between paediatricians and paediatric dentists would be advantageous when dealing with infants and providing them with comprehensive overall health.

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