

## Research Article

## Knowledge, Attitude and Awareness of Pediatricians towards Pediatric Dental and Oral Health nearby Durg City in Chhattisgarh State

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**Abstract:** Pediatricians are those health professionals who are in an ideal position to advise families about the prevention and management of oral diseases in children as they treat the child during the first years of their life. The objective of present study was to evaluate knowledge, attitude and awareness of pediatricians in relation to oral health of children in Durg city. A descriptive cross sectional observational study was carried out by randomly selecting 50 Pediatricians. Pediatricians were approached in their workplaces & specially designed questionnaire was used for data collection. The collected data were tabulated, and percentage distributions for responses to every question were assessed. In our study we conclude that there was good knowledge with lack of positive attitude & awareness among pediatricians of Durg city regarding pediatric oral and dental health. To overcome this, Pediatricians and pedodontists should work hand in hand for improving pediatric dental and oral health care as they are the pillars for growth and development of child.

**Keywords:** Oral health, pediatricians, dentists, knowledge, attitude, awareness.

### INTRODUCTION

Importance of maintaining pediatric dental and oral health cannot be neglected. Infants are seen by paediatricians long before they are seen by dentist, there advise are generally accepted by parents (Deepak, V. *et al.*, 2014). They have unique opportunity for emphasizing the importance of oral health practices in the children (Sezer, R.G. *et al.*, 2013). Several studies have indicated the important role of Pediatricians in preventing oral diseases. (Levine MI 1985; Hess, J.W. *et al.*; 1981) Poor oral health can affect children's ability to sleep, eat, speak, play and socialise with other children and society members. If not treated at an early stage, it can affect overall growth of the child and other systemic problems too.

In 2001, The American Academy of Pediatric Dentistry adopted a policy to establish "dental home"

no later than 12 months of age. It is similar to the concept of "medical home" adopted by the American Academy of Pediatrics in 1992. (American academy of pediatric dentistry. *Policy on the dental home*, 2017). Dental home addresses anticipatory guidance and preventive, acute, and comprehensive oral health care and includes referral to dental specialists when appropriate. Guidance to establish a "dental home" for the patients should be prime responsibility of health care providers for proper maintenance of oral and dental health.

There exists recommendations regarding periodicity of examination among preventive dental services and oral treatment for children; but there is scarcity of information regarding the knowledge that Pediatricians have regarding these recommendations (Deepak, V. *et al.*, 2014).

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Knowledge, attitude & awareness of physicians are important factors affecting their performance towards pediatric dental & oral health. Henceforth, the purpose of the study was to evaluate Knowledge, attitude and awareness of pediatricians towards pediatric dental and oral health in Durg city of Chhattisgarh state in India.

**MATERIALS AND METHODS**

A cross-sectional survey was undertaken among the pediatricians in Durg city. Approval for this research was obtained by the ethical committee of Maitri College of Dentistry and Research centre, Durg to assess the knowledge, attitude and awareness of paediatricians towards pediatric oral and dental health. Pediatricians list was obtained from Indian Medical Association (IMA) Durg. Participants who fulfil both the inclusion and exclusion criteria were selected.

**Inclusion Criteria:**

- Pediatricians working in government and private hospitals
- Pediatricians working in private clinic
- Pediatrician working in multi-specialty hospital

**Exclusion Criteria:**

Pediatricians who were subspecialist like pediatric cardiologist, neurologist, and surgeons.

Thereafter, selection of 50 pediatricians was done by using simple random sampling. Both genders, male-60% (30/50) and female-40% (20/50) were registered.

After getting the consent of the pediatricians, they were made to answer the questionnaire. A comprehensive questionnaire was prepared based on studies done by Deepak, V. *et al.*, 2014; Shetty, R.M. *et al.*, 2011; Murthy, G.A. *et al.*, 2010; Subramaniam, P. *et al.*, 2008; Eke, C.B. *et al.*, 2015; Nammalwar, R.B. *et al.*, 2012; Balaban, R. *et al.*, 2012.; Gupta, S.K. *et*

*al.*, 2019; Oge, O.A. *et al.*, 2017; kunte, S. *et al.*, 2018; kumar, P. *et al.*, 2014.

The questionnaire was divided into the following four sections:

- Demographic characteristics of paediatricians (includes gender and type of practice)
- Knowledge of the paediatricians towards oral and dental health
- Attitude of the paediatricians towards oral and dental health
- Awareness of the paediatricians towards oral and dental health

Scores were given to each question in the knowledge, attitude and awareness section. The maximum score was given to the correct answer and the minimum was given to the incorrect answer. Scoring criteria (Murthy, G.A. *et al.*, 2010): The scores are assessed as follows:

- <50%: Poor
- 50-75%: Moderate
- 75%: Good.

Data analysis was done by using ‘SPSS’ software version 16.0 (IBM, United States). Percentages for each item were calculated.

**RESULTS**

**Oral health knowledge**

Majority (74%) of paediatricians doesn’t found to associate eruption of primary teeth with systemic manifestations like fever, diarrhoea, etc. Eighty percent of respondent’s does not associate sweetened medicated syrups to cause dental caries. Knowledge about fluoridated toothpaste was appropriate in 70% of paediatricians. More than two-third (90%) of paediatricians were aware of the negative effects of night time bottle feeding causing dental caries. All (100%) the paediatricians completely agreed that oral health is a part of general health (Table 01).

**TABLE.01: Question to assess Knowledge**

S.No	Inquiry Questions	Yes	No
01.	Do you associate eruption of primary teeth with systemic manifestations (fever, diarrhea, etc.)?	26%	74%
02.	Do you think that sweetened medicated syrup can also be cause of early childhood dental caries?	20%	80%
03.	Do you suggest the use of fluoridated tooth paste?	70%	30%
04.	Do you think night time bottle-feeding can cause dental caries?	90%	10%
05.	“Oral health is a part of general health”. Do you agree?	100%	0%

**Attitudes of Paediatricians**

Great majority of Paediatricians (85%) suggest referring child patients to dentist. 80% of respondents does not recommend pediatric dental treatment neither under General anaesthesia nor in the conscious sedation. Only half (50%) of the paediatricians refer

medically compromised and handicapped children to pedodontist /dentist for oral health care. Added to this 80% of Paediatricians neither refers cleft lip & palate cases nor the traumatic injuries cases to dentist/pedodontist for oral and maxillofacial rehabilitation (Table 02).

**TABLE. 02: Question to assess attitude**

S.No	Inquiry Questions	Yes	No
01.	Do you suggest sending child patients to dentist?	85%	15%
02.	Do you recommend dental treatment for child under G.A or conscious sedation?	20%	80%
03.	Do you refer medically compromised and handicapped children to pedodontist /dentist for oral health care?	50%	50%
04.	Do you refer cleft lip/palate cases to pedodontist/dentist for feeding plate?	20%	80%
05.	Do you refer child patients with traumatic injuries to pedodontist/dentist for oral and maxillofacial rehabilitation?	20%	80%

**Awareness assessment**

Only 16 % of paediatricians were aware that there is pediatric dentist for child dental care. Of the respondents, only 68% understand beneficial effects of fluoride mouthwash after 6 years of age. Majority (80%) of paediatricians does not recommend

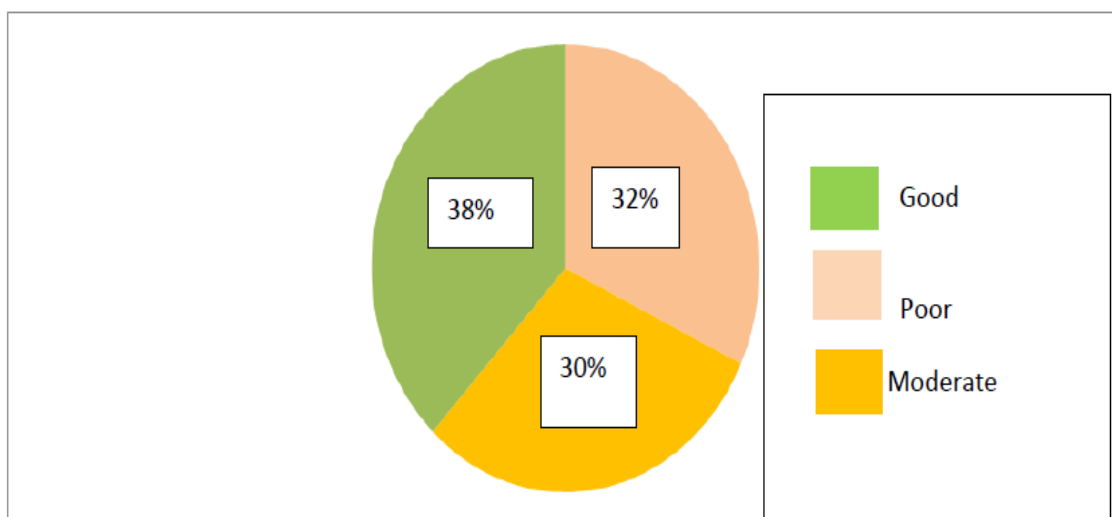
breastfeeding at night after 6 months of age. However, only 44% of paediatricians can associate transmission of bacteria between mother and child causing dental caries. Almost all (92%) of pediatricians were aware of xylitol chewing gums (Table 03).

**TABLE. 03: Question to assess awareness**

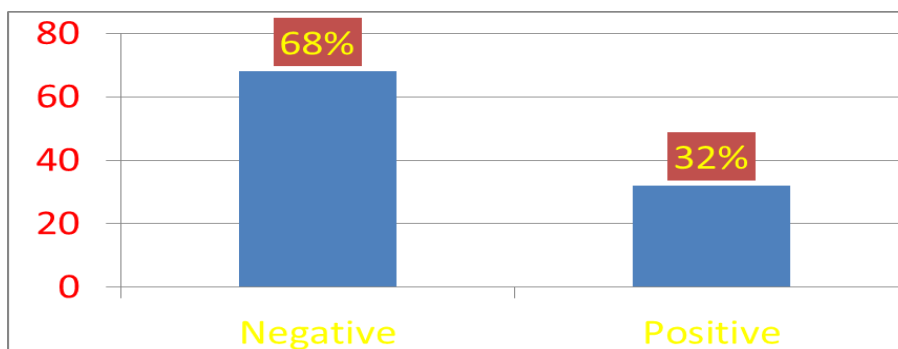
S.No	Inquiry Questions	Yes	No
01.	Are you aware that there is pediatric dentist for child dental care?	16%	84%
02.	Do you recommend fluoride mouthwash after 6 years of age?	68%	32%
03.	Do you have any recommendation for breastfeeding at night after 6 months?	20%	80%
04.	Do you know that cavity causing bacteria are transmitted between mother and child?	44%	56%
05.	Are aware of xylitol chewing gums?	92%	8%

Our study indicates that most of the pediatricians in Durg City had good knowledge (38%), followed by moderate knowledge (30%) and poor knowledge (32%) (Figure 01). Positive and negative attitude of respondents towards oral health was noticed;

32% and 68% respectively. (Graph 01). Awareness assessment of pediatricians in the survey were poor (66%) in about more than half, followed by moderate (24%) and good (10%) (Figure02).



**Figure-01 Distribution of Study Population According To Knowledge of Pediatrician In %**



Graph- 01 Distribution of Study Population According To Attitude of Pediatrician in %

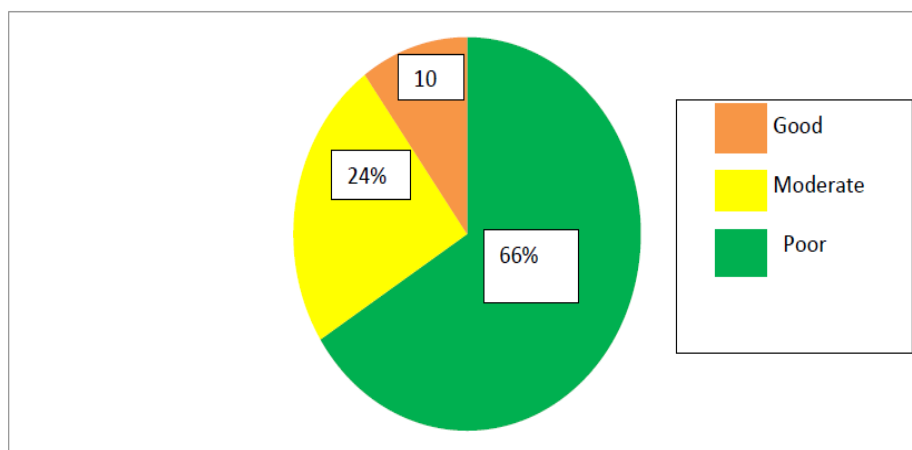


Figure-2 Distribution of Study Population According To Awareness of Pediatrician in %

**DISCUSSION**

Despite the vast array of improvement in the oral and dental status, dental caries is still a prevalent dental disease. The factor, which almost affects the performance in the field of preventive dentistry, is the knowledge and function of the group of health care providers concerning this issue. In the same relation, a cross-sectional survey was completed to evaluate the Knowledge, attitude and awareness of pediatricians towards pediatric dental and oral health in Durg city of Chhattisgarh state in India.

Medicated syrups formulations are mainly sweetened to make them more acceptable to childrens. There exists vast number of studies in the past showing that these sweetened syrups cause dental caries. In our study we found very less (20%) paediatricians were aware of this fact. Also; in a very recent study by Gupta, S.K. *et al.*, (2019) they found similar percentage of respondents to have low knowledge regarding cariogenicity of medicated syrups.

Many authors recommends the use of fluoridated toothpaste as this was found to reduce dental caries by forming fluoroapatite crystals in enamel which are more resistant to solubility. Also fluoride increases remineralisation process and decreases demineralization of tooth enamel (Marinho, V.C.C., *et al.*, 2003; Baysan, A. *et al.*, 2001). In our study almost two third (70%) of paediatricians recommends using fluoride incorporated

toothpaste. These results are comparable to the study conducted by kunte, S. *et al.*, (2018).

There exists enough evidence showing that bottle to bed cause early childhood caries. kunte, S. *et al.*, (2018) in their study found that 96% of paediatricians do not recommend night time bottlefeeding which correlates well with our results where (90%) of paediatricians had knowledge regarding negative effects of night time bottlefeeding.

Our survey indicates that pediatricians (100%) overwhelmingly believe that oral health is a part of general health. In present study most of the pediatricians in Durg city had good knowledge (38%), which is slightly higher than the results obtained by Murthy, G.A. *et al.*, (2010) who reported 10.6% .

We found positive attitude regarding referring normal patients to dentist for treatment but a negative attitude was also noticed regarding referring traumatic injuries cases and CLP (cleft lip & palate cases) to dentists for oral health care. Similar negative attitude they also have in terms of recommending treatment for children under general anaesthesia and conscious sedation. However only half of paediatricians were found referring medically compromised and handicapped children to pedodontist /dentist for oral health care. Result of our study was not in accordance with the study conducted by kumar, P. *et al.*, (2014) in

which they found pediatricians of Ghaziabad has positive attitude regarding pediatric oral health.

Pedodontist are the dentists which particularly deal with pediatric patient's oral and dental health. Many paediatricians are unaware of this separate branch of dentistry. In our study we found only 16% of respondents to be aware of a pediatric dentist which is a very low percentage. In contradictory to results of present study, studies conducted by Shetty, R.M. *et al.*, (2011); Subramaniam, P. *et al.*, (2008); Nammalwar, R.B. *et al.*, (2012) showed that 86%, 91.3%, and 80.3% of paediatricians knew the existence of pediatric dental specialty.

Fluoride incorporated mouthwashes helps to reduce dental caries. We found in our study that more than half (68%) of paediatricians recommends fluoridated mouthwash after 6 years of age. Similar results were noticed by Deepak, V. *et al.*, (2014) in their study.

Less than half (44%) the Paediatricians knew that dental caries causing bacteria can be transmitted from the mother to child ( Davey, A.L. *et al.*, 1984; Berkowitz, R.Z. *et al.*, 1985) which is also cited in the pediatric literature( American Academy of paediatrics. *Policy statement* 2003).This low percentage of knowledge regarding transmission of bacteria from mother to child were also found by Oge, O.A. *et al.*, (2017) in their study. Less literature on pediatric post graduate curriculum regarding this matter can be a attributing reason behind this low knowledge.

Xylitol chewing gums are a predominant source of reduction of early childhood caries as they accelerates process of rinsing away acid and uptake of beneficial calcium phosphate molecules to remineralize tooth enamel (Nayak, P.A. *et al.*, 2014). In our study we found that almost all (92%) of pediatricians were aware of xylitol chewing gums. Our results were consistent with a study conducted by Deepak, V. *et al.*, (2014) in which they found that more than two-third of the respondents were aware of xylitol chewing gums.

Limitation of the present study is the standardized inter group comparison was not performed due to small sample size. It was also noticed that in a study by Kumar, P. *et al.*, (2014) in the past; they had also not carried out intergroup comparison because of the same reasons. We recommend more studies in near future with more number of sample sizes, standardised intergroup comparison studies, and more number of open ended questions which are designed in depth to assess the knowledge, attitude and awareness of paediatricians of Durg city regarding oral and dental health.

## CONCLUSION

Present study concludes that there was good knowledge with lack of positive attitude & awareness among pediatricians of Durg city in Chhattisgarh state regarding pediatric oral and dental health. Hence following measures should be taken to improve attitude and increase awareness of pediatricians of Durg city regarding dental and oral health.

- Better understanding and communication between medical and dental associations.
- Early establishment of "dental home".
- Proper counseling of parents regarding promotion of oral health.
- Referral of special cases like traumatic injuries; cleft lip and palate cases and medically compromised pediatric patients to pediatric dentist regularly.
- Promoting oral examination of child by a pediatric dentist soon after birth.
- Updated articles from the field of preventive dentistry are required to be published in medical journals.
- Continued dental education (CDE) programs for pediatricians regarding oral health.
- Pediatricians and pedodontists should work hand in hand for betterment of pediatric dental and oral health care as they are the pillars for growth and development of child.

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