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KNOWLEDGE, ATTITUDE AND AWARENESS OF THE PEDIATRICIANS IN PREVENTING DENTAL CARIES IN CHILDREN OF ERNAKULUM DISTRICT

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ABSTRACT: Aim: To assess the knowledge, attitude and awareness of the pediatricians in preventing dental caries in the children of Ernakulum district, as the first step towards educating parents about the preventive health strategies and implementation of these should begin at the pediatrician's office. **Methods:** A questionnaire survey was conducted among 50 private and 50 institution based pediatricians of Ernakulam district. Their knowledge was assessed about dental caries, fluoride supplement and spread of caries. Their attitude toward prevention of dental caries was assessed based on queries about their role in promoting oral health, assessment of dental caries during routine examination. The collected data was tabulated and percent frequency distributions for responses to each questions were calculated. **Results**: A majority (72.9%) of the pediatricians routinely examined the oral cavity of the patients for caries. However, 62.5% diagnosed caries as frank cavities on teeth before referral to the dentist. About 71.8% of them felt that they are committed towards upholding the oral health of a child, but constrained knowledge hampers their counselling process. About 54.5% of the practitioners gave credence to 1 year as an ideal age for the first dental checkup for the child. **Conclusion**: As the results of this study clearly revealed that, 71.8% of the pediatricians felt that they have the obligation towards the maintenance of a child's oral health. Therefore, a well informed and perceptive pediatrician can improve the oral health of a child by carrying out dental examination along with physical examination at his office.

Key words: **Knowledge, attitude, pediatricians, prevention, dental caries**

INTRODUCTION

Dental caries is a multifactorial disease affecting every strata of the society irrespective of their socioeconomic status. It is classified as a single most chronic disease affecting children. Dental caries has a rate of incidence 5 times more common than asthma and 7 times more common than hay fever in children[1,2]. Decay of the primary teeth can: (1) affect children's physical development; (2) lead to malocclusion; and (3) result in significant pain and potentially life threatening facial swellings[3].Though the incidence of caries has reduced markedly in the last 50 years owing to the use of fluoride and non-fluoridated remineralizing agents; dental caries still remains an important issue for the pediatric age. Limited knowledge about the importance of oral health and inability to avail preventive health services act as a contributory factor to the disparity in the occurrence of caries in the minority and low income groups[4].

Prevention of caries and maintenance of good oral health are one of the major challenges before a dental professional. Early intervention is mandatory as eruption of the pioneer tooth, colonization of the oral cavity by disease causing organisms and the commencement of healthy and harmful habits occur in the early years of life[5,6].

Medical health professionals, especially pediatricians are involved in child health care. Pediatricians are the first to maintain contact with the child since the time of birth. This unique responsibility gives them the privilege to inform parents with regard to habits, attitudes and actions for a healthy life[7,8].

The American Academy of Pediatric Dentistry ascertains that the first step towards educating parents about the preventive health strategies and implementation of these should begin at the pediatrician's office[7]. Hence, the aim of this study was to assess the knowledge, attitude and awareness of the pediatricians in preventing dental caries in the children of Ernakulum district.

METHOD

A questionnaire survey was conducted among 50 private and 50 institution based pediatricians of Ernakulam district as per the registered list acquired from the Indian

Medical Association. Data acquisition was done from the month of June to September, 2015. An objective questionnaire was distributed among them and the participants were requested to fill out the questionnaire regarding their knowledge, attitude and practices regarding oral health.

Queries about their personal details included questions on number of years in practice and the type of practice. Their knowledge was assessed based on questions about dental caries, fluoride supplement and spread of caries. Their attitude toward prevention of dental caries was assessed based on queries about their role in promoting oral health, assessment of dental caries during routine examination.

The collected data was then tabulated and percent frequency distributions for responses to each questions were calculated.

RESULTS

A total of 100 pediatricians were surveyed. Out of these, 97 of them responded thereby giving a success rate of 99.5%. The sample of pediatricians comprised of both genders- Males (73%), Females (27%). The age of the participants ranged from 30 – 60 years. Most of the practitioners (93.5%) had both private and institution based practice. A majority of 72.9% of the pediatricians routinely examined the oral cavity of the patients for caries. However 62.5% diagnosed caries as frank cavities on teeth before referral to the dentist. 71.8% of the pediatricians felt that they are committed towards upholding the oral health of a child but constrained knowledge about the various mien and prospects of dentistry hampers their counselling process. About 54.5% of the practitioners gave credence to 1 year as an ideal age for the first dental checkup for the child. Direct colloquy with the pediatricians gave us an insight that majority of them wanted to ameliorate their knowledge on dental caries (69.3%), oral hygiene (55.3%), fluorides (76.4%), deleterious habits (60.2%) and dental trauma (40.5%). The following table displays the main findings in the questionnaire **(Table-1)**

DISCUSSION

This study analyzed the data collected from reputed practitioners associated with hospitals and also owning a private practice in Ernakulam district. It was aimed to assess the attitude, knowledge and awareness of the pediatricians towards the infant oral health care. The results of the study entails the strategies to be implemented for educating about the oral health services to the personnel working with children.

An astonishing figure of 72.9% of the participants did routine checkup for the oral cavity for their patients. This is comparatively lower than the figures reported by Lewis at al[4]who reported a total of 87.9% and Giuseppe *et al*[3] who reported a total of 98.9%. A satisfactory number of 75.3% of the respondents emphasized the need for an early dental checkup. In the study it was found that 77.7% believed that bacteria can be transmitted from mother to the child. Amongst the cited factors responsible for causing dental decay, 59.7% believed that the amount of intake of sweets is the plausible reason whilst another 20.8% said that it's the time of intake of sweets which actually matters. Majority of the respondents (51%) reported to educate their patients to avoid the intake of sticky sweets and only 19.9% of them recommended complete avoidance of sweets; this percentage was lower than that reported by Subramaniam *et al*[2] as 58.7%.

Pediatricians have an inevitable role in the oral health of children through early identification of carious lesions. Only a meagre number of pediatricians (20.4%) identified white spot lesions as the commencement of dental caries and this is substantiated by the study conducted by Balban *et al*[1,5] who reported about 17.9%. Early recognition is therefore important for the success of reversing the carious process.

A reasonable number of the participants (66.5%) depicted satisfactory knowledge in highlighting the importance of oral health to the parents by emphasizing the need for toothbrushing, however only 22.8% them demonstrated the need after the eruption of the first primary tooth. 78.3% of the pediatricians affirmed that fluorides have a role in preventing dental caries which is contrary to the study results given by Subramaniam *et al*[2]; however Brickhouse *et al*[5] reported 100% knowledge in his study thereby justifying our results.

More than half of the respondents(54.5%) stated that children require dental checkup by the age of 1 year eliciting that they conform to the recommendations put forth by AAPD. Similar results were obtained in studies conducted by Subramaniam *et al*[2] and Lewis *et al*[4]. Early visits to the dentist is important for timely diagnosis, implementation of preventive measures, orientation for a proper diet and maintenance of good oral hygiene. However, there should be an interdisciplinary reference and counter-reference system among the health professionals in the field of medicine and dentistry to assure good care of the pediatric patients[7,8].

An important facet that is generally surpassed is the knowledge of pediatricians regarding the issue of non-nutritive sucking habit. The statistics of this study revealed that only 14.5% suggested the use of a pacifier. The respondents were aware about the consequences of non-nutritive sucking habits and their effect on dento-alveolar structures. The use of pacifier still remains controversial. If a pacifier needs to be used it should be done only after the neonatal period and the habit should be discontinued at the end of first year of life[9,10].

The pediatricians surveyed reported that their knowledge in the field of child oral health needed refinement. They were interested to know more about caries, fluorides and preventive measures, dental trauma, oral hygiene and

Table-1: Results of the questionnaire

	YES	NO	DON'T KNOW
Do you examine teeth for dental caries?	72.9%	27.1%	
How do you diagnose caries? White spots on tooth Cavities on tooth Dark spots on tooth	 20.4% 62.5% 17.1%		
Do you emphasize the need for an early dental checkup?	75.3%	24.7%	
Are you aware about natal and neonatal teeth?	62.1%	37.9%	
When should be the first dental check up for a pediatric patient? 6 months 1 year 2 years and above	 20.2% 54.5% 25.3%		
Do you restrict the intake of chocolates and other sugary foods?	78%	22%	
What kind of restriction do you recommend? Complete avoidance In between meals Avoid sticky sweets	 19.9% 29.1% 51%		
What is more important in causing caries? Amount of intake of sweets Frequency of intake of sweets Time of intake of sweets	 59.7% 19.5% 20.8%		
Do you think night time feeding can cause dental caries?	81.9%	18.1%	
Do you think bacteria can be transmitted between mother and child?	77.7%	22.3%	
Do you counsel parents and children regarding the importance of tooth brushing?	66.5%	33.5%	
When should tooth brushing commence in a child? After the eruption of first tooth After eruption of some of the primary teeth After eruption of all the primary teeth	 22.8% 53.6% 23.6%		
When should dentifrice be introduced to the child? 1-2 years 3-6 years	 51.3% 48.7%		
Do you recommend pacifier use?	14.5%	85.5%	
Do you think fluorides have a role in preventing dental caries?	78.3%	21.7%	
Do you think pediatricians have a role in preventing dental caries?	71.8%	28.2%	
Whom do you refer your patients to? General dentist Pedodontist	 52.2% 47.8%		

deleterious habits[9,11]. With this scenario, there should be more of publications that emphasizes oral health protocols for routine use by pediatricians. A number of barriers have been cited in the involvement of the pediatricians. One most important one is lack of sufficient time. Conversations with the practitioners yielded this as most of them acquainted with hospitals have a limited amount of time to interact with the patients. As a result most of the preventive measures are exempted from discussion. Since verbal mode is used by most of the pediatricians a valid solution will be use of good quality printed materials and educational videos which would allow saving time and reducing variability in the content of the information received[13,14].

Lack of synergy between the health professionals in dentistry and medical field proves to be an impediment in the development of strategies for child welfare[15,16]. Intercommunications are required to motivate the pediatricians with regard to considering the significance of oral health and their willingness to take up additional activities aimed at improving oral health of the children.

CONCLUSION

The results of this study clearly revealed that a bewildering number of 71.8% of the pediatricians felt that they have the obligation towards the maintenance of a child's oral health. Therefore, a well informed and perceptive pediatrician can improve the oral health of a child by carrying out dental examination alongwith physical examination at his office.

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