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RESEARCH ARTICLE

EVALUATION OF PARENTS' KNOWLEDGE ATTITUDE AND PRACTICES TOWARDS PREVENTION OF EARLY CHILDHOOD CARIES IN KARAD, INDIA

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INTRODUCTION

Dental caries is still a major oral health problem in most industrialized countries, affecting 60-90% of school children and the vast majority of adults. The dental caries results of a localized demineralization in dental surfaces caused by metabolic events that occur in the dental plaque located in the affected area. Early childhood caries (ECC) is characterized by affecting several teeth, by occurring in areas considered of low risk and by showing rapid progression (Pedrita et al., 2015). Despite credible scientific advances and the fact that caries is preventable, dental decay in the primary dentition of young children continues to pose serious threat to child welfare. Early Childhood Caries (ECC) has been defined as "the presence of one or more decayed, missing due to caries, or filled tooth surfaces in any primary teeth in children under 6 years of age". A variety of terms have been used to describe this condition: (A) baby bottle tooth decay (B) nursing caries (C) nursing bottle syndrome (D) milk bottle syndrome (E) bottle

mouth caries and (F) Early Childhood Caries (ECC). Due to its high prevalence, impact on quality of life, potential for increasing risk of caries in the permanent dentition, and role in oral health inequalities, ECC is recognized as a serious public health problem. Socioeconomic, sociocultural and socio behavioral determinants are believed to influence specific risk factors for ECC such as dietary and feeding practices, oral hygiene and dental behavioral patterns (Santhebachalli et al., 2013). A number of risk factors are associated with ECC, which can be broadly classified into biological and social risk factors. Biological risk factors include nutritional variables, feeding habits and early colonization of cariogenic microorganisms. Social risk factors comprise low parental education, low socio-economic status and lack of awareness about dental disease (Mani et al.). In developing countries like India, changing lifestyle and dietary patterns are markedly increasing the caries incidence. Mothers are primary promoters of oral hygiene and they have a major influence on the dietary habits and food choices of children patterns of behaviour learnt in

ABSTRACT

Background: Early childhood caries (ECC) is a public health problem due to its impact on children's health, development and wellbeing. The objective of study was to evaluate parents knowledge, attitude and practices towards the prevention of early childhood caries. A pretested questionnaire with 23 questions was used for collecting information regarding mothers practices regarding feeding and oral hygiene practices. **Aim and Objectives:** 1. To analyze parents attitude towards prevention of early childhood caries. 2. To evaluate parents Practices towards prevention of early childhood caries.

Materials and Methods: A Cross-sectional survey using a Questionnaire consisting of questions addressing knowledge, attitude and practice of early childhood oral health related factors like oral development, diet, nursing habits, oral hygiene habits, importance of primary teeth. 150 parents of normal healthy children aged below 2-5 years were surveyed.

Selection criteria:

Inclusion criteria: Parents of normal healthy children aged between 2-5 years who are the primary caretakers of their children.

Exclusion criteria: Parents who are not the primary caretakers of the children or who had children with medical problems.

Conclusion: The study conducted in Karad reveals that the parents socioeconomic status affects oral hygiene practices. Mothers should be educated about appropriate breast and bottle feeding practices and should also be made aware of prolonged breast feeding, bottle used for sweetened liquids other than milk. Parents should also be educated about oral health issues and risk factors for ECC and its consequences.

early childhood are deeply ingrained and resistant to change. Mothers have an important role in this aspect (Santhebachalli et al., 2013). Information on caries prevalence and severity forms the basis for the magnitude and quality of caries prevention program and treatment needs in a population. Hence the study to evaluate parents knowledge, attitude and practices towards prevention of early childhood caries was done.

MATERIALS AND METHODS

A cross-sectional study using questionnaire consisting of questions addressing knowledge, attitude and practices of early childhood oral health related factors like oral development, diet, nursing habits, oral hygiene habits, importance of primary teeth. 150 parents of children visiting pediatric ward and Paedodontic department aged below 2-5 years in Karad city, Maharashtra, India were surveyed. Karad is a city in Satara district in the southern part of Indian state of western Maharashtra. The study protocol was reviewed by the Institutional ethical Board and was granted ethical clearance. A written informed consent was obtained from the parents of all children who were willing to participate in the survey.ss

Inclusion criteria: Parents and children visiting to pediatric ward of multispecialty hospital and Dept of pedodontics, Krishna Institution of Medical Sciences.

Exclusion criteria: Parents who were not the primary caretakers of the children or who had children with medical problem.

Sampling technique

The sample included children of specified age groups attending Dept of Paedodontics and pediatric ward of multispecialty hospital, Krishna Institution of Medical Sciences, Karad. Simple random technique was used to analyze the sample.

RESULTS

The present study was carried out on 150 parents of children aged between 2-5 years. The table below shows parents knowledge, practices and attitude regarding child's oral hygiene and feeding practices. Based on the survey done 31.33% of parents introduced oral hygiene practices at birth, 28% of parents started after eruption of first tooth, 23.3% parents introduced practices after eruption of all teeth and 16% of parents didn't introduce oral hygiene practices. Only 36.66% of parents surveyed were aware of dental guidance during pregnancy and 61.33% had no guidance during pregnancy. 31.3% of children were breast fed for 6 months to 1 year 32% were breast fed for 1-2 years, and 5.3% children were fed for more than 2 years. 48.6% of parents used bottle for feeding and 50.6% of parents didn't use bottle for feeding. Parents that added sugar in milk were 51.3% and 48% didn't use sugar in milk. 66% of parents had habit of cleaning oral cavity after feeding whereas 32.6% parents didn't have this habit. 56.6% parents think that, food products that causes caries are bakery products whereas others think caries are caused by food products like fruits, normal diet, and other food products. Parents who started semi-solid food for their child before 6 months are 17.3%, between 6 month-1 year are 46%, 23.3% between 1-2 years, 11.3% after 2 years. 74% of parents

make small pieces of food before giving to child. 52% of parents give their child sweetened liquid or juice in bottle 1 time whereas others give more than 1time and 57.3% of parents give plain water after every food. 35% of children brush their teeth 1 time and are supervised by their parents during brushing whereas remaining 32% are not supervised. 12.3% of children brush teeth 2 times and are supervised by their parents during brushing whereas others are not supervised by parents and 70% of children used toothpaste while brushing. 58% of parents don't take efforts to improve dental health and knowledge.

Table 1.

QUESTIONS	OPTIONS	PERCENTAGE
1. Age at which oral hygiene was introduced	At birth	31.33
	After eruption of first tooth	28
	After eruption of all teeth	23.33
	Not started	16
	No response	1.34
2. Dental guidance during pregnancy	Yes	36.66
	No	61.33
	No response	2.01
3. Age till which breast feeding was done	6 months	31.3
	6 months-1 year	31.3
	1-2 years	32
	>2 years	5.3
	No response	0.1
4. Use bottle for feeding	Yes	48.6
	No	50.6
	No response	0.8
5. Addition of sugar in milk	Yes	51.3
	No	48
	No response	0.7
6. Cleaning of oral cavity every time after eating	Yes	66.6
	No	32.6
	No response	0.8
7. Food products causing caries	Bakery products	56.6
	Normal diet	11.3
	Fruits	18
	none of the above	14
	No response	0.1
8. When did u start giving semi-solid food for your child	before 6 months	17.3
	6 months-1 year	46
	1-2 years	23.3
	after 2 years	11.3
	No response	2.1
9. Do u make small pieces of food before giving to child	Yes	74
	No	24.6
	No response	1.4
10. Frequency of giving sweetened liquid/juice to baby in bottle	1 time	52
	2 times	27.3
	3 times	11.3
	4 times	8.6
	No response	0.8
11. Do you give plain water after every feed	Yes	57.3
	No	42.2
	No response	0.5
12. Frequency of tooth brushing/supervise your child's brushing	1 time/look after yes	35
	1 time/look after no	32
	2 times/look after yes	12.3
	2 times/look after no	19
	Never	12.3
13. Does your baby use toothpaste during brushing	Yes	70.6
	No	29.4
14. Do you take the effort to improve dental health and knowledge	Yes	58
	No	41.3
	No response	0.7
15. Fluoride content prevents caries	Yes	42
	No	58
16. Night feeding/breast feeding at night can lead to caries	Yes	25.3
	No	74.6
	no response	0.1

Only 42% of parents are aware of fluoride content in toothpaste that prevents caries. 74.6% of parents didn't have awareness of caries that are caused by night feeding or breast feeding at night. Results reveal that parents with higher education had knowledge about oral hygiene practices and they assisted their children during brushing teeth. Compared with

breast feeding for 6 months or fewer, breast feeding for 18 months or longer tended to be positively associated with the risk of ECC and use of bottle to drink sweetened liquids other than milk and the introduction of solid foods at 6 months old or latter were positively associated with the risk of ECC. There was significant association between bottle-feeding while falling asleep at night and the risk of ECC (Tanaka *et al.*, 2013).

DISCUSSION

Early childhood caries, like other forms of caries, is considered to be a biofilm-mediated, sugar driven, multifactorial, dynamic disease that results in imbalance of demineralization and remineralization of dental hard tissues. Appropriate management of ECC from informed parents, health professionals, and community health workers, as well as evidence-based health policy, is important to reduce this burden of preventable disease (Pitts *et al.*, 2019). An analysis of caries experience in recent years, especially in developing countries, demonstrates that a significant proportion of infants and preschools are still affected by disease with strong polarization (Agarwal *et al.*, 2011). The best way of motivating children towards good oral health is through the parents. Children's preventive practices tend to be controlled by their parents actions and attitude. For the implementation of preventive attitudes in a given population, the knowledge about the existing standards of health and existing practices and attitude of that particular population is essential (Santhebachalli *et al.*, 2013). Since the mother is usually the primary adult caregiver for the child, it is precisely for this reason that this study was aimed at assessing the practices regarding feeding and oral hygiene habits of children of age 2-5 years in Karad and to evaluate caries experiences of their children. Education for mothers about appropriate breast and bottle-feeding practices should be considered in health promotion strategies (Sayegh *et al.*, 2002). Based on the analysis of data, results reveal that parents with higher education and high socioeconomic status got dental guidance during pregnancy as well as they were aware of tooth brushing techniques and fluoride contents in toothpaste.

They introduced oral hygiene practices at birth. Whereas parents with higher secondary education and middle class socioeconomic status had comparatively less knowledge about dental hygiene practices. They didn't have knowledge about feeding practices and fluoride contents in toothpaste. They introduced oral hygiene practices after eruption of first tooth. Parents with middle school education and who were not educated with lower class socioeconomic status had no knowledge about dental hygiene practices and didn't supervise their child during brushing. ECC prevalence varies from population to population but children of disadvantaged populations have been found to be most vulnerable as they lack knowledge (Gaidhane *et al.*, 2013). Various studies showed that children acquire their dietary and oral hygiene habits from parents. Sugars are not only used as a food, but are also given for other reasons, such as taste, as a pacifier and means of showing love and affection. Prolonged breast-feeding, bottle use for sweetened liquids other than milk, and the introduction of solid foods at six months old or later might be risk factors for the development of dental caries (Tanaka *et al.*, 2013). Our findings showed that mothers do not know all the factors that can influence caries in their children. None reported the role of

micro-organisms and lack of fluoride in caries etiology. These findings highlight the importance of providing preventive orientation to the mothers regarding early childhood caries. Information on age of first dental visit should be emphasized, especially among mothers with more than one child and low-income families (Azevedo *et al.*, 2014). In accordance with the 1996 American Academy of Pediatric Dentistry (AAPD) statement which recommends that ad libitum nocturnal breast-feeding should be avoided after the primary tooth begins to erupt (Azevedo *et al.*, 2005). Children with nursing caries weighed significantly less than comparison children and were represented by significantly lower percentile weight categories before dental intervention. Children with nursing caries and otherwise noncontributory medical histories were significantly more likely to satisfy one of the criteria for FTT.

Conclusion

The study conducted in Karad reveals that the parents socioeconomic status affects oral hygiene practices. Mothers should be educated about appropriate breast and bottle feeding practices and should also be made aware of prolonged breast feeding, bottle used for sweetened liquids other than milk. Parents should also be educated about oral health issues and risk factors for ECC and its consequences.

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