

Knowledge and awareness about infant and toddler oral healthcare among mothers- A Survey

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Abstract:

Background- It is crucial that mothers are informed of the risk factors linked to early childhood caries. It is the duty of parents to maintain and enhance their child's oral and dental health after birth, and particularly in the early years. It is the pediatric dentist's job to educate parents, pediatricians, and prenatal counsellors about infant oral healthcare in order to close the knowledge gap.

Aim- The purpose of this study was to evaluate mothers' and expectant mothers' awareness and knowledge regarding newborn oral healthcare.

Methodology- The questionnaire, which comprised 12 items about infant and toddler oral healthcare and 5 demographic questions, was given to 157 participants, including mothers of infants, toddlers, and expectant women. Following questionnaire collecting, the data was retrieved and examined.

Results: Just six respondents (3.9%) possessed exceptional knowledge. 79 individuals (50.3%) had fair knowledge, whereas 39 subjects (24.8%) had strong knowledge. 33 participants, or 21%, lacked sufficient knowledge. Housewives and working women appeared to have somewhat different levels of knowledge.

Conclusion: Mothers' understanding of the oral health and feeding habits of their infants and toddlers appears to be lacking.

Keywords- infant oral healthcare, toddlers, dental caries, knowledge of mothers

Introduction

The American Academy of Pediatric Dentistry (AAPD) defines early childhood caries (ECC) as the presence of one or more decaying (non-cavitated or cavitated lesions), missing (cavitated), or filled tooth surfaces in any primary tooth in a child under six. Worldwide, newborns and preschoolers continue to be afflicted by early childhood caries, one of the most common chronic diseases in children [1]. ECC affects speech, development, overall health, and self-esteem, all of which have a detrimental effect on children's quality of life. [2]

Mothers must be made aware of the risk factors associated with early childhood caries. Family has the biggest influence on a child's psychological, physical, and social health from the moment of birth [3]. After birth, and especially during the early years, parents have a responsibility to maintain and improve their child's oral and dental health. Children's dental health is greatly influenced by the behaviors they form in their early years, both now and in the future [4]. Therefore, in order to preserve their child's oral health and teach them the values of good oral hygiene as they grow up, parents must be aware of basic oral hygiene practices. In order to fill in the knowledge gaps and improve parents' comprehension and awareness of infant oral healthcare, this study set out to examine parents' knowledge and awareness of the topic.

Aim- The aim of this study was to assess knowledge and awareness about infant oral healthcare among mothers and expecting mothers.

Inclusion criteria:

Mothers of infant and toddlers or expecting mothers who will consent to this study.

Exclusion criteria:

Mothers of children older than 2 years

Material and Methods-

157 expectant moms and mothers of young children who agreed to participate in the study were given both an online and an offline questionnaire. Twelve items about the dental health and feeding habits of infants and toddlers were included in the questionnaire, along with five demographic questions. The survey was based on a study by Kharoub et al., and it was retested after being evaluated by professionals for validity and clarity. Mothers who visited the Bharati Vidyapeeth Dental College and Hospital's Department of Pediatric and Preventive Dentistry in Pune were given the offline questionnaire. A total of 87 surveys were distributed online, while 70 were distributed offline. Following the collection of all questionnaires, information was taken out and examined.

Results-

The subjects' average age was 32.87 years. Of the 157 subjects, 44 were housewives and 114 were employed. Postgraduates made up 118 out of 157 subjects. 126 out of 157 participants were middle-class. Of the 157 subjects, 60 had two children, whereas 98 had just one. 68 women (43.3%) accurately stated when the baby should begin brushing their teeth. According to 65 mothers (41.4%), a cotton rag and finger are used to clean the baby's teeth. Of the moms, 71 (45.2%) were aware of the link between the dental health of the mother and the oral health of the infant. When a kid's first tooth erupts in the oral cavity, 62 moms (39.5%) stated that the child should be taken to the dentist. According to 72 moms (45.9%), a baby should only be breastfed for six months. Caries can result from prolonged nocturnal nursing or bottle feeding, according to 89 moms (56.7%). The fact that "Formula milk" contains sugar was known by 86 mothers (54.8%). Merely seven moms (4.5%) stated that they would consume the food without tasting it before giving it to their infant. (Table 1) (Figure 1)

116 mothers (73.9%) were aware that a toddler's thumb-sucking or pacifier use can lead to dental issues. Just nine mothers (5.7%) said that tooth paste should be applied in a smear. Primary teeth can deteriorate as early as age three, according to 94 moms (59.9%). When a kid's first tooth erupts in the oral cavity, 62 moms (39.5%) stated that the child should be taken to the dentist. Primary tooth preservation is vital, according to 100 moms (63.7%).(Table 2) (Figure 2)

Mothers' knowledge was divided into four categories: poor knowledge (those who answered fewer than four questions correctly), fair knowledge (those who answered four to seven questions correctly), good knowledge (those who answered eight to ten questions correctly), and excellent knowledge (those who answered more than ten questions correctly). Just six subjects (3.9%) possessed exceptional knowledge. 79 individuals (50.3%) had fair knowledge, whereas 39 subjects (24.8%) had strong knowledge. 33 participants, or 21%, lacked sufficient knowledge.(Table 3) (Figure 3)

There were no significant differences in the knowledge of the study participants according to their income, number of children, or educational attainment. Nonetheless, there were significant knowledge gaps between housewives and working adults. (Table 4)

Table 1

Question	Frequency	Percent
From what age cleaning the teeth of an infant should be started?		
After first tooth has erupted	54	34.4
After all the milk teeth have erupted	24	15.3
Even before any tooth have erupted	68	43.3

Don't Know	11	7
How should an infant's teeth be cleaned?		
With toothbrush and tooth paste	29	18.5
With finger and cotton cloth	65	41.4
With a finger brush	59	37.6
Don't Know	4	2.5
Do you think there is an association between a mother's oral health and infant oral health?		
Yes	71	45.2
No	28	17.8
Maybe	38	24.2
Don't know	20	12.7
When should the child have his first dental appointment?		
At first birthday	19	12.1
When the dental problem arises	41	26.1
When first tooth erupts in oral cavity	62	39.5
Don't Know	35	22.3
Till what age do you think an infant should be only breastfed?		
Till 6 months of age	72	45.9
Till 1 year	62	39.5
Till 2 years and beyond	23	14.6
Do you think prolonged nighttime breastfeeding or bottle feeding can cause caries?		
Yes	89	56.7
No	27	17.2
Maybe	14	8.9
Don't know	27	17.2
Does 'Formula milk' contain sugar?		
Yes	86	54.8
No	17	10.8
Maybe	26	16.6
Don't Know	28	17.8
Do you/ would you taste the food before feeding it to your baby?		
Yes	138	87.9
Sometimes	12	7.6
No	7	4.5

Table 2

Question	Frequency	Percent
Does a pacifier or thumb sucking habit in toddler cause dental problem?		
Yes	116	73.9
No	15	9.6
Maybe	13	8.3
Don't know	13	8.3
How much tooth paste should be used while brushing the teeth of a toddler?		
A smear of tooth paste should be used	9	5.7
Rice grain sized tooth paste should be used	43	27.4
Pea sized tooth paste should be used	105	66.9
Can primary teeth decay as early as less than 3 years of age?		
Yes	94	59.9
No	23	14.6
Maybe	20	12.7
Don't know	20	12.7
Do you think that preserving primary teeth is important?		
Yes	100	63.7
No	21	13.4
Maybe	16	10.2
Don't know	20	12.7

Table 3

Knowledge	Poor	Fair	Good	Excellent
N	33	79	39	6
%	21%	50.3%	24.8%	3.9%

Table 4

Category		Knowledge				Total
		Poor	Fair	Good	Excellent	p-value
Occupation						
Employed	n	14	64	30	6	0.001*
	%	12.30%	56.10%	26.30%	5.30%	

Housewife	n	19	15	9	0	0.155
	%	44.20%	34.90%	20.90%	0.00%	
Education						
High School	n	0	4	0	0	
	%	0.00%	100.00%	0.00%	0.00%	
Graduate	n	12	15	8	0	
	%	34.30%	42.90%	22.90%	0.00%	
Post Graduate	n	21	60	31	6	
	%	17.80%	50.80%	26.30%	5.10%	
Income						
Low income	n	0	11	6	0	0.278
	%	0.00%	64.70%	35.30%	0.00%	
Middle Income	n	33	53	33	6	
	%	26.40%	42.40%	26.40%	4.80%	
High Income	n	0	15	0	0	
	%	0.00%	100.00%	0.00%	0.00%	
No of children						
1	n	21	52	22	3	0.704
	%	21.40%	53.10%	22.40%	3.10%	
2	n	12	27	17	3	
	%	20.30%	45.80%	28.80%	5.10%	

Discussion-

Good oral healthcare is integral component of general healthcare. A debilitating oral healthcare can have an adverse effect on development of speech, self- esteem and general health as it will affect the quality of life in children.[5]

Mother's awareness about risk factors associated with early childhood caries is of utmost importance. Family imposes the most important effects on the psychological, physical, and social aspects of health from the moment a child is born. After birth and especially during early childhood, parents have the responsibility to maintain and to improve the child's oral and dental health. The behaviours established in childhood have extensive implications, not only on children's current oral health, but also on their oral health as they grow into adults. Hence this study was undertaken to find out the awareness of mothers with regards to infant and toddler oral healthcare and feeding practices, so as to understand if there is any gap in knowledge of mothers regarding the same.

In this study the mothers who had excellent knowledge about the subject were less in number, almost half of the mothers had a fair knowledge about infant and toddler oral healthcare similar results were seen in study conducted by Jinal Desai et.al.[9]

43.3% mothers correctly reported the age of the infant to start cleaning the teeth, similarly in a study conducted but K.S. Dhull et.al.[8] reported that only 27.6% mothers correctly reported the proper age of infant to start cleaning teeth these results also aligned with the study conducted by Jinal et.al and Neethu Gopal et.al[9,11].

4.5% reported that they would not taste the food before feeding it to their baby this was in accordance with the study done by Nurit Dagon et.al.[4]

73.9% mothers knew that a pacifier or thumb sucking habit in toddler cause dental problem similar results were seen in study conducted by Efthimia et.al. where two-third of the mothers believed that pacifier of thumb sucking can cause dental problem in children.

56.7% participants reported that prolonged nighttime breastfeeding or bottle feeding can cause caries which was in accordance with study conducted by Gyanendra Kumar et. al.[7]

5.7% reported that a smear of tooth paste should be used in infants while using toothbrush and toothpaste to clean their teeth. 63.7% reported that preserving primary teeth is important these result differed from the study conducted by Jinal Desai et. al.

Knowledge of the study subjects did not differ significantly according to education, income and number of children. But the knowledge was significantly different between employed and housewives mothers these results aligned with the study conducted by Puneet Dang et.al and Dr. Neethu Gopal et.al.[10,11]

Limitations- As this study was conducted with a sample size of 157 the study should be conducted on a large scale for better assessment. Its results cannot be generalized to a population as there was an unequal distribution of demographic variables.

Conclusion- There seems to be in gap in knowledge about infant and toddler oral healthcare and feeding practices among mothers. This lack of knowledge can hamper the oral healthcare of children and in turn their overall health. Hence it is important the mothers and expecting mothers are made aware about proper oral healthcare of children and right feeding practices through pre-natal counselling and through their pediatricians and pediatric dentists.

The study stated that mothers had fair knowledge about infant and toddler oral healthcare but the implementation of this knowledge in daily practice is not seen as ECC is seen to be prevalent in preschool children and toddlers.

Conflict of Interest –

None

Clinical Significance of the study-

This study highlights the knowledge and awareness of parents about infant oral healthcare and to understand the gap in knowledge and wisdom among parents. To understand the areas with gap in the knowledge.

Data Availability –

Data available on request due to privacy/ethical restriction- the data that support the findings of this study are available on request form the corresponding author. The data are not publically available due to restrictions.

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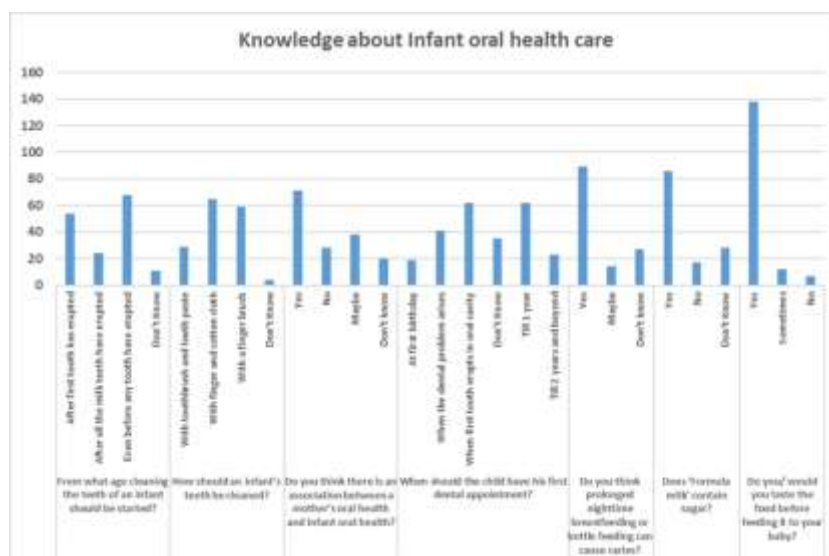
Authors Contribution-

All authors contributed significantly to the development of this study. The study concept and design were formulated by the primary investigator, with methodological guidance provided by the supervising author. Data

collection and analysis were carried out collaboratively, ensuring accuracy and consistency. The initial manuscript draft was prepared by the primary author, while critical revisions for intellectual content were performed by the co-authors. All authors reviewed, edited, and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

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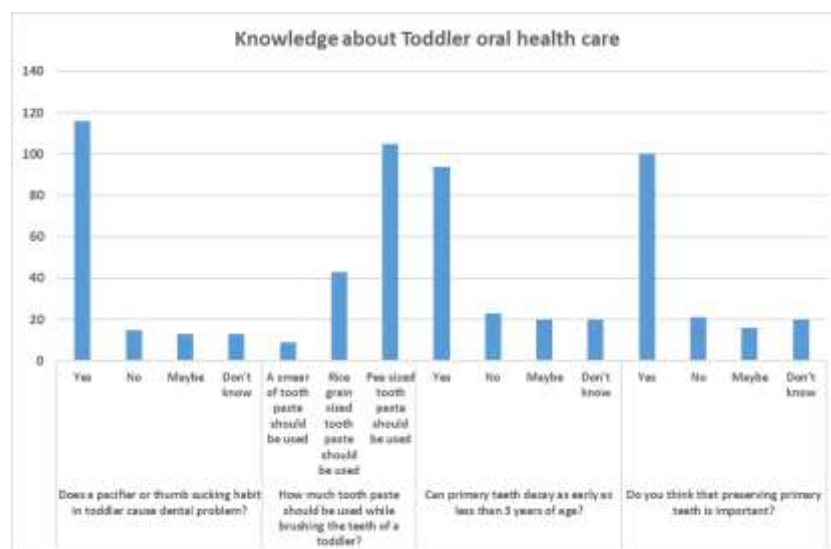
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Graph 1



Graph 2



Graph 3