Perspectives of Pregnant Women's Infant Oral Health Knowledge and Beliefs: A Prenatal Survey

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Abstract

Background: Early childhood caries is a virulent form of dental caries that can destroy the primary dentition of infants and preschool children. ECC is a preventable disease and prevention should begin in pre and perinatal. Mothers with poor oral health may be at greater risk of infecting their children. Biologically, the mother is the primary source of Streptococci and young children are dependent on their mother for oral hygiene.

Aim: So, it's essential to explore pregnant women and nursing mothers' knowledge, attitude, and practices as they affect the dental care children receive.

Methodology: A survey was presented which was designed to assess the knowledge, attitude, and practices of pregnant women regarding infant's oral health. A survey was conducted in and around Vellore at a government and private maternity hospital among pregnant women and new mothers. A self-administered questionnaire consisting of a total of 41 questions concerning basic information on proper infant oral hygiene procedures was given. A statistical analysis was performed.

Results: A greater percentage of women were unaware of the importance of their oral hygiene, infant feeding practices and oral hygiene procedures.

Conclusion: Based on these results there is a need for education for mothers and would-be mothers.

Keywords: Childhood; Oral hygiene; Infant's oral health; Perinatal; Dental care.

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INTRODUCTION

A mother's knowledge and efficacy play an integral part in an infant's life. The mother needs to have adequate knowledge about the right oral health practices which will be imbibed by the infants. Educating the mother peri-natally that is as early as during her pregnancy can facilitate reinforcement of good oral health habits along with vigilant preventive efforts for the infant.[1]

Dental caries is the most common chronic disease in childhood.[2]

It may appear aggressively from an early age, affecting health in general and the development of affected children[3], representing a serious problem for public health.[4]

Good infant oral health is the basis for a lifetime free from preventable oral diseases. To achieve this goal, parental involvement is a must, and ideally, this involvement should start even before birth.[5]

Women with dental caries are twice as likely to have children with dental caries, the most common chronic disease of children. Biologically, the mother is the primary source of oral bacteria, and colonization of Mutants Streptococci (MS) parallels the emergence of the primary dentition. Furthermore, adverse prenatal events such as preterm birth have been closely linked to a greater prevalence of developmental defects of enamel in children and earlier colonization of bacteria, both risk factors for early childhood caries.[6]

Early Childhood Caries (ECC) is a virulent form of dental caries associated with unusual dietary practices.ECCis definedas the presence of one or more decayed, missing, or filled tooth surfaces in any primary tooth in a preschool age child between birth and 71 months of age.[7]

The implementation of appropriate oral hygiene practices early in a child's life, immediately after the eruption of the first tooth, the use of fluoride containing toothpaste, and effective permanent care procedures for a young child's oral cavity, constitute several factors preventing the onset of early childhood caries.[8]

During pregnancy, women are psychologically more motivated and receptive to new knowledge and changes in their habits, leading to the adoption of new and better health practices, which will influence the general health development of the baby. Such knowledge acquired during pregnancy usually benefits the whole family, as mothers act as multipliers of knowledge and information, especially related to health. For this reason, pregnancy is perceived as a moment that favours health education and, during this period, pregnant women should receive prenatal oral health care, including information about the most common oral manifestations.[9]

Mothers are decision-makers and play an important role in achieving the best oral health outcomes for their young children. A young child's dental environment is complex because their mothers' and/or caregivers' dental knowledge, attitudes, beliefs, and practices affect the child's oral condition. Very young children are dependent on their mothers to attend to their oral hygiene and feed them. Inappropriate bottle use patterns, such as the addition of sweeteners to the liquid prolonged exposure to sugary liquids at bedtime, and later age at weaning have been linked to early childhood caries.[10]

American Academy of Pediatric Dentistry (AAPD) recommends that infants should consult the dentist within 6 months of getting their first tooth or by their first birthday. It is the initial visit that recommends regular visits to the dentist, based on the child's oral health.[11]

Taking into consideration the pivotal role a mother plays in an infant's life; the present study assessed the knowledge and awareness about oral health maintenance and practices among pregnant women and new mothers.

MATERIALS AND METHODS

Research Hypotheses:[10]

It was hypothesized thatthe nursing mothers were not aware of the infant's oral health care practices.

Research Design: The design of this study was descriptive and cross-sectional. The convenience sampling technique was used for this study.

Blinding, Randomization and Allocation Concealment:

Enrolled participants in all four arms and study coordinators were blinded to the study group.

Informed Consent and Confidentiality:[11]

All the subjects were invited to participate in the survey.

The nature and underlying principle of the study were explained to the subjects followed by obtaining written informed consent along with their parents, in vernacular language.

None of the subjects participating in the study was coerced in any way or rewarded for their involvement. Their right to withdraw - if so desired at any stage of the study was also stated clearly to them.

To ensure the confidentiality of the data, the crude data as well as responses were destroyed upon completion of this research.

Consent was obtained from the participants, and they were assured of the confidentiality of the collected data and that the resultant information would be used only for research purposes.

Study setting and Assessors:[13]

The purposive sample was composed of (n=157) participants without dental knowledge or experience and were of Caucasian origin.

The principal investigator (Assessors) was available to clarify their doubts about any point while completing the survey.

Targeted Population and Study Period:[13]

The subjects for the study were selected from the paediatric ward of a private hospital in and around Vellore city (Tamil Nadu State). The study period was from Dec 2023 to Jan 2024.

The targeted populations were pregnant women and nursing mothers, who had agreed to participate in the survey.

AIMS AND OBJECTIVES:[13]

a. To assess the levels of oral health knowledge amongst pregnant women and nursing mothers regarding infant oral health.

b. To assess the levels of oral health attitude and behaviour amongst pregnant women and nursing mothers regarding infant oral health.

Inclusion criteria:[13]

a. Participants who were willing to participate in the study

b. Pregnant and new mothers who are fit and healthy and willing to participate.

Exclusion criteria:[13]

a. Children with congenital anomalies and twins who are medically compromised.

Sample size Calculation and sampling technique:[12]

The questionnaire was pretested by conducting a power analysis on 10% of the sample size

a. To assess the pregnant women and new mothers' ability to understand the questions and answer them without any help.

b. To detect significant effects accurately using the ANOVA procedure. They were excluded from the present study.

The results of the analysis indicated that all the measurements were reproducible with significant intra and inter-observer discrepancies.

The Sample Sizes for Two Independent Samples and the dichotomous outcome of the study were determined by fixing the probability of type I error at 5% and that of type II error at 20%.

Thus, the Sample size was predicted using 80% power at the 5% level of significance by standard statistical protocol, the sample size calculated was 100.

$$\text{Formulae} = \frac{Z\,1-/2\,2\,SD^2}{d^2}$$

Z 1-/2 is a standard normal variate (at 5% type 1 error (P 0.01) it is 2.28.

p-Values are considered significant below 0.05; hence 1.96 is used in the formula.

SD = Variable Standard Deviation - a value of standard deviation can be taken from power analysis.

d = Absolute error or precision (in this case, 5% error).

• Hence, n =160

The epidemiological study was carried out on 157 subjects in the age range of 20–30 years and above, who were randomly selected.

Three incomplete data points were discarded.

Research Tool:[13]

The survey proforma was a self-administered structured questionnaire after which its content and face validity were distributed to assess the oral health knowledge, attitude, and behaviour of pregnant women and new mothers.

A single examiner was trained and calibrated to conduct a cross-sectional study in the Vellore region. The questions were framed both in English and Tamil (vernacular language) for ease of understanding by the people.

The questionnaire was subjected to linguistic validation to ensure that the questions were translated reliably.

A questionnaire containing 41 multiple choice questions was designed, which included general information and education status. The questionnaire also includes knowledge of your oral hygiene and your children's oral hygiene and feeding practices.

Questions were about oral hygiene practices, the importance of oral health, causes of tooth decay, dietary information, breastfeeding/bottle feeding, duration, frequency of feeding, contents of the bottle, cleaning of gum pads, the importance of deciduous dentition, knowledge about fluoride paste, and first dental visits. The questionnaire was completed by the participants in the presence of one of the investigators. The filled questionnaire was collected from the participants on the same day after 15 to 20 minutes.[13]

Validation of KAB was in the questionnaire in three parts.[13]

- **Part I:** 6 questions Included age, educational level, occupation, gestational age, number of pregnancies, and miscarriage history. (Table 1)

- **Part II:** 17 questions assessed oral health knowledge. A three-point Likert scale (ordinal Agree, disagree, and no comments were used to evaluate the responses. (Table 2)

- **Part III:** 18 questions were included to assess oral health attitudes and practices. A three-point Likert scale (ordinal scale) was used to evaluate the responses to each item. (Table 3, 4)

Six experts did the content validity process.

Data Processing and Statistical Analysis[22]

Statistical Package for Social Sciences (SPSS) for Windows Version 22.0 Released 2013. Armonk, NY: IBM Corp. was used to perform statistical analyses.

Descriptive Statistics: The frequency distribution for categorical data is expressed in terms of number and percentage, whereas for continuous data, it is expressed in frequency, mean, and standard deviation for salivary flow, pH, and Buffer.

Inferential Statistics: Repeated measures of ANOVA followed by Bonferroni post hoc analysis were used to compare the mean Salivary Flow Rate and hand Buffering Capacity between different time intervals in each study group.

A 95% Confidence Level was used, and a p-value of less than or equal to 0.05 was considered statistically significant.

RESULTS

Demographic data: (Table 1)

A cross-sectional analytical study of 157 was conducted among pregnant women and nursing mothers to assess oral health knowledge, attitude, and behaviour among the participants.

The principal investigator excluded 3 participants due to incomplete surveys.

- Data from 157 questionnaires were analyzed yielding a response rate of 93%

- According to the mother's ages, the majority 89 (56.6%) Were between 21 and 25 years of age.The mean age of all the subjects (in years) was 29.2 ± 30.3. Almost half of the interviewed mothers had a University education 72 (45.8%) and 86 (54.7%) of them were housewives.

- According to the number of children in the family, the majority 98 (62.4%) had one child.

Table 1: Social-demographic variables of respondents.

Individual scenario					
Maternal Variables	**Respondents**	**Variables**	**Respondents**	**Variables**	**Inferential**
		Response rate n (%)	**Mean ± SD Comparisons**	**χ2**	**Statistics**
Total number of respondents		157/160			
Age group (years)	< 20	7 (4.4)	29.2 ± 30.3	69.1	p< 0.0001
	21-25	89(56.6)		df=3	HS*
	26-30	33(21.01)			
	Above 30	28 (17.8)			
Mothers Education	Illiterate	22 (14.01)	52.3 ± 21.7	22.03	p< 0.0001
	High School/Below	63 (40.1)		df=2	HS*
	Graduate/Postgraduate	72 (45.8)			

table Cont...

Mother's Profession/ occupation	Housewife	86 (54.7)	52.3 ± 24.7	25.4	p< 0.0001
	Nonskilled	44 (28.02)		df=2	HS*
	Skilled	27 (17.1)			
Gestational age	First trimester	56 (35.6)	52.3 ± 14.5	9.3	0.009
	Second trimester	68 (43.3)		df=2	SS*
	Third trimester	33 (21.01)			
Number of pregnancies	Primigravidae/ First gravidae	98 (62.4)	78.5 ± 19.5	6.5	0.011
	Multigravidae	59 (37.5)		df=1	SS*
History of miscarriage	Yes	09 (5.7)	78.5 ± 69.5	89.8	p< 0.0001
	No	148 (94.2)		df=1	HS*

Legends/Capitations:

• SD: Standard deviationw

Data Source:

• Fieldwork, 2023-24

Note:

• Inferential Statistics: Significance level p< 0.0001,

: *Significant; HS: Highly significant, SS: Statistically significant.

: Significance level p< 0.0001.

Dental health knowledge (Table 2)

The overall mean knowledge score was 7.22 ± 1.42. In general, participants showed good knowledge regarding dental health, especially in areas of the effect of prolonged bottle feeding 52.2% (n=82) and the importance of frequent dental visits 37.5% (n=59). Almost all mothers answered correctly when asked about the effect of frequent exposure to the Use of a sweetened pacifier on dental health 50.9% (n=80).

Concerning the tooth brushing duration for a child's teeth, 66.2%(n=104) of the mothers gave correct answers. Regarding the importance of primary teeth, 43.9%(n=69) of mothers agreed that the treatment of primary teeth is essential. The role of fluoride in preventing tooth decay was supported by 47.7%(n=75). Mothers were largely unaware that bacteria involved in dental caries could be transmitted from mothers to their children, only 19.1% (n=30) of subjects agreed to this fact.16.5%(n=26) of the mothers were aware of the Do decayed milk teeth affect a child's permanent teeth?

Oral hygiene of pregnant women and new mothers

For Frequency of brushing, a total of n=78 (49.6%) brush once a day.

Most women, 34.3% (n= 54) preferred a clean cloth (gauze) for cleaning the gum pads. About 49.04% (n=77) clean the child's teeth only after the eruption of the first tooth.

While 38.2% (n=60) of the mothers dispensed the recommended amount (pea size) of toothpaste for their children and 30.5% (n=48) of the mothers assisted their children during brushing.

Table 2: Knowledge of Infant Oral Health

Individual scenario					
Variables	Respondents	ANOVA (Inference)			Inferential Statistics
		Response rate n (%)	Mean ± SD Comparisons	χ2	
Start cleaning your baby's mouth before the first tooth erupts	Agreed	77 (49.04)	55.6 ± 18.6	14.6 df=2	p< 0.0001
	Disagreed	42 (26.7)			HS*
	Unsure	48 (30.5)			

table Cont...

Methods of cleaning gum pads	With gauze	54 (34.3)	39.2 ± 11.6	10.96 df=3	p=0.0119
	With finger	47 (29.9)			SS*
	With brush	30 (19.10)			
	Any other aids	26 (16.5)			
Age of eruption of the first tooth	At 6 months	79 (50.3)	52.3 ± 22.05	21.3 df=2	p< 0.0001
	After 1 year	53 (33.7)			HS*
	unsure	25 (15.9)			
Child's first dental visit	When the first tooth erupts	59 (37.5)			
	Only when there is a pain	38 (24.2)	39.2 ± 17.3	26.3 df=3	p< 0.0001
	unsure	48 (30.5)			HS*
	Not required	12 (7.6)			
Use of sweetened pacifier	Agreed	80 (50.9)	52.3 ± 19.7	15.9 df=2	p< 0.0001
	Disagreed	42 (26.7)			p< 0.0001
	Unsure	35 (22.2)			
Age of weaning	< 1 year	34 (21.6)	52.3 ± 22.4	20.4 df=2	p< 0.0001
	> 1 year	39 (24.8)			HS*
	Unsure	84 (53.5)			
Baby teeth are important	Agreed	69 (43.9)	52.3 ± 15.3	10.4 df=2	p=0.0054
	Disagreed	56 (35.6)			SS*
	Unsure	32 (20.3)			
Problems with baby teeth will affect permanent teeth	Agreed	78 (49.6)	52.3 ± 18.1	13.5 df=2	p< 0.0001
	Disagreed	38 (24.2)			HS*
	Unsure	41(26.1)			
Using fluoride toothpaste helps to prevent tooth decay	agreed	75 (47.7)	52.3 ± 22.8	24.9 df=2	p< 0.0001
	disagreed	61 (38.8)			HS*
	unsure	21 (13.3)			
Prolonged and frequent bottle feeding (milk or formula) is bad for his/her teeth	Agreed	82 (52.2)	52.3± 22.09	20.4 df=2	p< 0.0001
	Disagreed	29 (18.4)			HS*
	Unsure	46 (29.2)			
Bacteria can be transmitted from mothers' mouths to child's mouth	Agreed	30 (19.1)	52.3 ± 20.2	17.3 df=2	p< 0.0001
	Disagreed	48 (30.5)			HS*
	Unsure	79 (50.3)			
Do decayed milk teeth affect a child's permanent teeth?	Agreed	26 (16.5)	52.3 ± 26.7	29.3 df=2	p< 0.0001
	Disagreed	42 (26.7)			HS*
	Unsure	89 (56.6)			
A cavity in a baby tooth does not need to be filled unless it hurts	Agreed	78 (49.6)	52.3 ± 18.2	13.6df=2	p< 0.0001
	Disagreed	42 (26.7)			HS*
	Unsure	37 (23.5)			
How often teeth were brushed	Once	78 (49.6)	52.3 ± 18.2	13.6 df=2	p< 0.0001
	Twice	42 (26.7)			HS*
	thrice	37 (23.5)			
Tooth brushing duration for child's teeth	At least 2-3 min	104 (66.2)	78.5 ± 25.5	11.1 df=1	p< 0.0001
	Unsure	53 (33.7			HS*
Amount of toothpaste	Pea size	60 (38.2)	78.5 ± 18.5	10.3 df=1	p< 0.0001
	Unsure	97 (61.7)			HS*
Parent supervision	Yes	48 (30.5)	78.5 ± 30.5	16.07 df=1	p< 0.0001
	No	109 (69.4)			HS*
Overall score			7.22 ± 1.42		

Legends/Capitations:

• SD: Standard deviation

Citation:

• California Dental Association Foundation, American College of Obstetricians and Gynecologists. District IX. Oral Health during pregnancy & early childhood: Evidence-based guidelines for Health Professionals. J Calif Dent Assoc 2010; 38 (6): 391-440.

Data Source:

• Fieldwork, 2023-24

Note:

• Inferential Statistics: Significance level $p < 0.0001$,

  *Significant; HS: Highly significant, SS: Statistically significant.

  Significance level $p < 0.0001$.

  df: degree of freedom

Table 3: Oral Health Problems/Attitude

Individual scenario					
		ANOVA (Inference)			Inferential Statistics
Variables	Respondents	Response rate n (%)	Mean ± SD Comparisons	χ^2	
Bad taste in the mouth	Often	64 (40.7)	49 ± 13.1	9.4	p=0.0089
	Occasionally	32 (20.3)		df=2	SS*
	Rarely	61 (38.8)			
Broken or chipped natural tooth	Often	30 (19.1)	52.3± 17.2	13.1	p==0.0014
	Occasionally	55 (35.03)		df=2	SS*
	Rarely	72 (45.8)			
Gums that hurt or bleed	Often	45 (28.6)	52.3± 25.03	26.1	p< 0.0001
	Occasionally	86 (54.7)		df=2	HS*
	Rarely	26 (16.5)			
Pain/discomfort	Often	70 (44.5)	52.3 ± 15.6	10.7	p=0.0046
	Occasionally	32 (20.3)		df=2	SS*
	Rarely	55 (35.03)			
Persistent bad breath	Often	68 (43.3)	52.3± 13.07	7.4	p=0.0245
	Occasionally	53 (33.7)		df=2	SS*
	Rarely	36 (22.9)			
Sores on the tongue or inside the mouth	Often	66 (42.03)	52.3 ± 17.2	13.6	p=0.0011
	Occasionally	63 (40.1)		df=2	SS*
	Rarely	28 (17.8)			
Tooth Decayed	Yes	102 (64.9)	78.5 ± 23.5	9.4	p =0.0021
	No	55 (35.03)		df=1	SS*

Legends/Capitations:

• SD: Standard deviation

Citation:

• Moore S, Ide M, Coward PY, Randhawa M, Borkowska E, Baylis R, Wilson RF: A prospective study to investigate the relationship between periodontal disease and adverse pregnancy outcome. Br Dent J 2004, 197:251-258.

Data Source:

• Fieldwork, 2023-24

Note:

• Inferential Statistics: Significance level $p < 0.0001$,

: *Significant; HS: Highly significant, SS: Statistically significant.

: Significance level $p < 0.0001$.

Infant feeding practices (Table 4)

The overall mean practice score was 59.9 ± 11.4. In contrast to the knowledge, the participants generally showed good practices.

The mother prefers bottle feeding over breastfeeding, 49.04% (n=77) and 35.6% (n=56) said because of not sufficient milk. About 54.7%(n=86) feed their child during the nighttime with a bottle.

Results suggested that n=84 (53.5%) knew the importance of brushing.

Table 4: Oral Health Practices

Individual scenario					
Variables	**Respondents**	**ANOVA (Inference)**			**Inferential Statistics**
		Response rate n (%)	**Mean ± SD Comparisons**	**χ2**	
During pregnancy, do you receive guidance on oral health?	Yes	48 (30.5)	78.5 ± 30.5	16.07	p< 0.0001
	No	109 (69.4)		df=1	HS*
The major source of guidance on oral health information by	Health care providers	85 (54.1)	78.5 ± 6.5	0.71	p=0.039
	Non-health care providers	72 (45.8)		df=1	SS*
It is important to know the importance of brushing.	Agreed	84 (53.5)	52.3 ± 22.6	20.9	p< 0.0001
	Disagreed	41 (26.1)		df=2	HS*
	Unsure	32 (20.38)			
2nd trimester is the best for dental treatment	Agreed	76 (48.4)	52.3± 16.9	11.88	p< 0.0001
	Disagreed	37 (23.5)		df=2	HS*
	Unsure	44 (28.02)			
If the mother has decayed teeth, the child is likely to have decayed teeth	Agreed	97 (61.7)	52.3 ± 31.9	41.01	p< 0.0001
	Disagreed	36 (22.9)		df=2	HS*
	Unsure	24 (15.2)			
Prolonged Nocturnal bottle feeding	Agreed	86 (54.7)	58.3 ± 20.4	6.9 df=2	p=0.0317
	Disagreed	52 (33.1)			SS*
	Unsure	37 (23.5)			
At will, breastfeeding/ bottle feeding with sweetened beverages can cause dental caries	Agreed	64 (40.7)	52.3 ± 9.03	3.4	p=0.0012
	Disagreed	42 (26.7)		df=2	SS*
	Unsure	51 (32.4)			
Optimum feeding (5-7feeds/day)	Agreed	63 (40.1)	52.3 ± 20.9	20.4	p< 0.0001
	Disagreed	71 (45.2)		df=2	HS*
	Unsure	23 (14.6)			
Mothers prefer bottle feeding over breastfeeding	Agreed	77 (49.04)	52.3 ± 21.7	21.2	p< 0.0001
	Disagreed	56 (35.6)		df=2	HS*
	Unsure	24 (15.2)			
Dental visit since pregnant	Had gone	51 (32.4)	78.5 ± 27.5	13.02	p< 0.0001
	Had not gone	106 (67.5)		df=1	HS*
A mother's diet during pregnancy will affect the baby's teeth	Agreed	52 (33.1)	52.3 ± 7.7	2.8	p=0.2350
	Disagreed	43 (27.3)		df=2	NS*
	Unsure	62 (39.4)			
Overall score			59.9 ± 11.4		

Legends/Capitations:

• SD: Standard deviation

Citation:

• Anup Nagaraj, Sonia Pareek. Infant Oral Health Knowledge and Awareness: Disparity among Pregnant Women and Mothers visiting a Government Health Care Organization. International Journal of Clinical Pediatric Dentistry, September-

DISCUSSION

In a study done by Hashim *et al.*, about 94% of the women brushed their teeth at least once a day which is similar to the present study.[14]

George *et al.*, concluded that 80% noted that their dental health was important/extremely important compared to their overall health which is also to this study.[15]

In the present study, only 21% and 20% were using dental floss which contrasts with the study conducted by Thomas NJ *et al.*, in which 57% used dental floss weekly.[16]

In a study conducted by Hashimoto *et al.*, more than half of the women (58.3%) visited the dentist during their most recent emergency mostly during dental pain and about 40% of women felt that their oral health was poor which is also to this study.[14]

Breastfeeding provides multiple nutritional, immunological and psychological benefits to the infant in its first year of life. WHO recommends that infants be exclusively breastfed for the first 6 months of life, with some breastfeeding continuing for up to 2 years of age. When provided along with appropriate and adequate complementary food, breast milk continues to be an important source of nutrition and provides immunological benefits even after 6 months of age.[17]

In the study done by Anup Nagaraj *et al.*,Optimum feeding of 8 to 10 times/day was followed by 12.3% of housewives and only 5% of employed subjects and in the present study, pregnant women, and new mothers about 81% and 89% feeds the child whenever.[17]

In the present study, 45% and 40% reported bottle feeding during nighttime; on the contrary, in a study done by Mahejabeen R *et al.*, bottle feeding was reported to be 8.9%18. In the present study, 14% and 15% of pregnant women know the consequences caused due to bottle feeding.

In our study majority (70% and 75%) of mothers used toothbrushes and toothpaste for cleaning their teeth and regarding the frequency of brushing, in the study conducted by Parappa Sajjan P *et al.*[19]

In the study by Gunjan Kumar, 49% of the mothers felt that milk teeth were not as important as permanent teeth but, in this study, 37% and 27% know the importance of primary teeth.[20]

In the present study, only 10% and 8% of pregnant women and mothers know about the usage of fluoride toothpaste in children younger than one year of age but on the contrary, in a study done by Magdalena *et al.*,[6] almost 60% of future mothers believed the use of fluoride toothpaste before the first year of age to be appropriate.

In the present study, 54% and 57% of subjects concluded that a child's teeth should be brushed for 3 minutes which is not the study conducted by Magdalena[6] in which 35.7% to be moms said they would brush their children's teeth no less than 2 minutes.

In the present study, 38% and 30% said that after the eruption of all deciduous teeth starts cleaning a child's teeth which is to the study done on mothers of toddlers in Moradabad, India by Suresh et al.,in which most of the mothers reported that they would start brushing their child's teeth only once all the primary teeth erupted.[21]

In the study conducted by Lilian Rigo, a large part of the mothers interviewed took their child to the dentist for the first dental visit during the child's first year of life (64.6%) whereas in this study 15% and 12% took their child to a dentist.[22]

CONCLUSION

As Pedodontists, we must create awareness by explaining various oral hygiene methods and feeding practices and highlighting the importance of their role in the prevention of ECC.

This can be achieved by conducting camps and educating them through posters, advertisements, audiovisual aids, and dental health programs.

Clinical significance (Recommended):

1. It is recommended that further studies should take into consideration the handedness of the participants.

2. Based on these results there is a need for education for mothers and would be mothers.

Footnotes:

1. *Conflict of interest (Statement) and source of funding:*

a. The authors declare that the research was conducted in the absence of any commercial or financial relationships from the funding agency that could be construed as a potential conflict of interest or bias among the authors.

2. *Protection of human and animal subjects:* The authors declare that no experiments were performed on humans or animals for this study.

3. *Ethical disclosures:*

a. *Confidentiality of data:* The authors declare that no patient personal data appear in this article.

b. *Right to privacy and informed consent:* The authors have obtained the written informed consent of the patients or legal guardians/ next of kin mentioned in the article. The corresponding author owns this document.

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