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Knowledge, Attitude And Practice Of Mothers Towards Dental Caries Causation And Transmission In Pre-School Children-A Questionnaire Based Study

Research Article

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Abstract

Dental caries is the most common chronic microbial oral disease. More than 60% of children worldwide between the ages of 2 to 11 years are affected. The etiology of dental caries is multifactorial. Maternally derived streptococcal caries is caries transmitted to the child via the mother by practices such as sharing of feeding spoons. The awareness of such a caries transmission is poor among mothers and caretakers. Hence, the aim of the current study was to access the knowledge, attitude and practice of mothers towards dental caries causation, prevention and its transmission among pre-school children. A cross-sectional study was conducted across various day care centers, Montessori's and Primary schools in Chennai ,Tamilnadu. Inclusion criteria were mothers of children and who were of age 0-6 years. The questionnaires were made in English . Initially, a pilot study was carried out to test the feasibility of the questionnaire. Following this, the questionnaire was distributed to collect responses. 385 mothers responded to the questionnaire. Statistical analysis of the data set comparing the responses of the mothers belonging to various educational backgrounds was also done using Chi Square test on SPSS software. The results of the study showed an above average knowledge and attitude score. The mean practice score was much lesser than the knowledge and attitude score, indicating that mere knowledge and attitude was not enough for implementation of oral hygiene practices and further steps needed to be taken to implement it successfully.Although the responses were better in mothers with higher levels of education there was no statistical association established between the level of education of the mother and the responses obtained.($p>0.05$) Also, it was seen that the knowledge of maternally transmitted dental caries was good to satisfactory but the practices in this regard were poor due to various reasons.

Keywords: Attitude; Childhood Mothers; Dental Caries; Maternally Derived Streptococcus Mutans; Maternally Transmitted Caries.

Introduction

Dental caries is the most common chronic microbial disease of childhood, globally [1]. It affects 60-90% of children worldwide between the ages of 2 to 11 years [2]. The etiology of dental caries is multifactorial and is mainly attributed to a time-specific interaction of microorganisms with sugars on a tooth surface. Feeding practices and the kind of diet consumed also play an important role in acquisition of the infection and development of caries.

Multiple Factors such as high sugar intake, poor oral hygiene, lack of fluoride exposure, and enamel defects are some major factors responsible for the development. Maternal transmission has also been documented as a method by which children are initially inoculated with Maternal streptococcus. Although dental caries' knowledge and awareness has been gradually on the rise the world over, in practice the problem of dental caries prevention in children has remained unchanged in many areas of the world, especially the socially deprived [3, 4]. Childhood caries are also associated with other health problems. These can range from local pain, infections, abscesses, leading to difficulty in chewing, malnutrition, gastrointestinal disorders, and difficulty in sleeping [5]. In the developed and developing countries consumption of processed sugar and inadequate oral hygiene has been a signifi-

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cant attribute to dental caries. About 90% of oral diseases are left untreated, because it is not taken as a serious health problem. The ignorance of seeking treatment of dental caries is also due to lack of awareness. Childhood dental caries are completely dependent on the parent. This is attributed to the fact that they are the gatekeepers who decide whether to take them to the dentist for treatment or not. It is widely known that the behavior of parents, especially the mother, affects the child's health [6]. Similarly, even in terms of oral health, the role of mothers is very important, as they are the main caregivers of oral health to their children during the first few years of life, even in preschool, parents are still the main supplier of children's oral health. Factors such as maternal education, occupation, age, current knowledge, attitude, and behavior can provide an insight for improving their health habits and their children's health indirectly [7]. The direct relationship between dental health of the mother and dental caries in their children can be explained by the influence of faulty dietary and hygiene habits on infants as well as by infection of the child's mouth by maternal bacteria. Therefore, tooth brushing habits of mothers, dietary habits, and food choices are directly associated with those of their children [8]. The American Dental Association (ADA) recommends that parents wipe their child's gums with clean cotton after each feeding, and tooth brushing should be started when the first tooth erupts with a baby toothbrush, along with low sugar consumption and not sleeping with bottles in mouth. The child must have a dental visit at the age of 1 year followed by regular check-ups for every 6 months [9, 10]. Dental care professionals agree with the fact that efforts aimed at improving parental oral health behaviors could result in reductions in caries risk among their children. This in turn can have a positive influence on the immediate and long-term quality of the child's oral and overall health and can also be beneficial socially and economically. Previously our team has a rich experience in working on various research projects across multiple disciplines [11-25] Now the growing trend in this area motivated us to pursue this project. Our aim is to access the knowledge, attitude and practice of mothers towards dental caries causation, prevention and its transmission among pre-school children. Additionally, we also tried to establish an association between the educational qualification of the mother and the responses obtained in the given questionnaire.

Materials And Methods

A cross-sectional study was conducted across various day care centers, Montessori schools and Primary schools in Chennai ,Tamilnadu. Ethical permission to carry out the study was obtained from the Institutional Ethical board. Inclusion criteria were mothers of children Zero to Six years of age, and who were willing to participate. In addition, mothers with children with no medical conditions or no medications prescribed to them were included in the study. Mothers who could not read and write were excluded from the study. In addition, mothers who were not the primary caretakers of their children or who had children with medical problems were excluded from the study.

Sample Size Calculation

Convenience sampling was considered, and sample size was calculated based on a formula by Cochrane when the population is >500, the approximate sample size should be 385 with margin error = 0.05 and confidence level set at 95%. The predetermined Z value of 1.96 was considered for sample size calculation. [Cochran, W.G. (1963) Sampling Techniques, Wiley, New York.]

Methodology

The self-administered questionnaire written in English was adapted and modified from Mani et al. It had 22 items, 7 in the knowledge, 11 practice components and 4 in the attitude component, and took about 5-10 min to complete. The scoring for practice was based on a 4-point Likert scale [26]. The scoring for knowledge and attitude included Yes, always /no /not sure/sometimes and the practice components included Yes/No/ Sometimes/Don't feel any necessity. All aspects of oral health promoting factors in children including oral hygiene, diet, and fluoride, and awareness regarding infant oral health and practices were addressed. Suggestions from public health dentists, pediatric dentists regarding the content of the questionnaires, were also taken and incorporated. Additionally, an association was established between the educational qualification of the mother and the responses given to the Knowledge, attitude and practice based questions. The collected data set was statistically analysed using Chi square test ($P<0.05$) on SPSS software (SPSS Version 23.0, SPSS, Chicago, IL, USA).
A pilot study was conducted on 10 mothers to check for its feasibility, clarity, comprehensiveness, and acceptability; any changes if required were done. The respondents opined to have understood the content of the questionnaire and, also, understood what it intended to measure. The pilot study responses were not considered in the main study. This pretested questionnaire addressed the knowledge, attitude, and practices of oral health care for prevention of dental caries in children and its causation and transmission via the mother.

Results And Discussion

Our institution is passionate about high quality evidence based research and has excelled in various fields [15, 27-36]. The response rate was 100% as all 385 mothers completed the questionnaire. Nearly 73% of the participants were from 24 to 36 age groups. About 4.8% participants had only primary education while 18.6 % had higher secondary education. And a maximum of 76.6% of participants had University level education, while 44.2 % of the participants were homemakers. The remaining 55.8 % people were either self-employed or salaried employees.

Mothers having two or more children had significantly better overall knowledge scores than mothers with a single child. In addition, participants with higher education levels had significantly better overall response scores than less educated mothers.However, Chi square analysis of the data set showed no significant association between the level of education and responses give($p>0.05$)[Table 1-2].

Knowledge

The overall mean knowledge score was 66.0 %.Only 47% of mothers were aware of the chronology of eruption of the first tooth. When asked about food carcinogenicity, 81.5% of mothers knew that sweet food causes tooth decay. On the contrary only 64 % believed that putting the child to sleep with a feeding bottle or sweetened pacifier could cause tooth decay. The knowl-

edge regarding the usage of fluoridated toothpaste appeared to be low, i.e., 55%. However, 81% mothers were knowing the importance of cleaning the gums before tooth eruption and 60% mothers were completely aware about oral bacteria being a cause factor contributing to dental caries. The responses were better in mothers with university level of education, however there was no statistically significant association between the educational level of the mother and the response obtained to Knowledge based questions(p>0.05).[Figure 1-2][Table 2]

Attitude

The overall mean attitude score was 67%. The overall attitude towards prevention of dental caries and, its causation and mother's role in prevention and transmission was in accordance to knowledge which had an average of 66%. 75.5% mothers believed that oral hygiene in a child's mouth was important even before teeth showed any signs of eruption. 76% also believed that it was necessary for children to brush twice daily. Only 62% mothers positively believed that a mother's oral health influences the children's oral health. Surprisingly, despite 75.5% believing in a child's oral hygiene before tooth eruption being important only 57% believed that primary tooth decay could have its effects on permanent dentition. The overall attitude score despite being in accordance with knowledge was merely just above a 50% mark clearly indicating that mothers of children required to be further educated about dental caries, prevention and their role in its prevention and transmission to the child.The responses were better in mothers with university level of education, however there was no statistically significant association between the educational level of the mother and the response obtained to Attitude based questions(P>0.05).[Figure 3-4][Table 3]

Practices

The practices were categorized into "good" practices and "bad" practices. The overall mean good practice and bad practice score were 39.5% and 20.5%, respectively. The most prevalent good practice was supervising the child during brushing, followed by restricting the child's sugar and snack intake and then usage of

Table 1. Table depicting the Socio demographic details of the respondents such as Age Group, Education levels, Occupational Status and number of children.

	Frequency (%) n=385
Age Group	
20-29	53
30-39	26
More than 40	21
Education	
Primary education	4.8
Secondary education	18.6
University level	77.6
Occupational Status	
Homemaker	44.2
Self employed/Salaried	55.8
Number of Children	
1	43
2	51
More than 2	6

53% of the participants were of the mean age group of 20-29 years . 77.6% of participants had a university level of education. 55.8% were self employed individuals and 51% of the respondents had two children each.

Table 2. Table denotes the responses obtained for various parameters that study the knowledge of mothers towards dental caries causation and transmission in pre-school children.

Variables	Responses of Mothers with Primary level Education	Responses of Mothers with Secondary Level Education	Responses of mothers with University level Education	P value Chi square Test (p<0.05)
First tooth is seen in the child's mouth at - months	6 months (2.6%) 9 months (1.04%) 12 months (1.4%)	6 months (8.85%) 9 months (5.21%) 12 months (5.2%) 24 months (0.26%)	6 months (33.07%) 9 months (22.14%) 12 months (18.17%) 24 months (2.34%)	Value: 2.642 Df: 6 Sig: 0.851
Gums should be cleaned even if there is no/few teeth in the child's mouth	Yes (3.91%) No (0.26%) Sometimes (0%) Not Sure (0.26%)	Yes (15.62%) No (1.56%) Sometimes (1.56%) Not Sure	Yes (61.72%) No (7.03%) Sometimes (7.03%) Not Sure (1.82%)	Value: 7.348 Df: 6 Sig: 0.290
Sugars play a key role in tooth decay	Yes (3.65%) No (0%) Sometimes (0.26%) Not Sure (0.26%)	Yes (15.1%) No (2.08%) Sometimes (2.08%) Not Sure (0.52%)	Yes (62.5%) No (3.65%) Sometimes (8.33%) Not Sure (1.82%)	Value: 4.100 Df: 6 Sig: 0.663
Bottle feeding the child at sleep time or sweetener dipped pacifiers can cause tooth decay	Yes (2.6%) No (0.26%) Sometimes (0.78%) Not Sure (0.78%)	Yes (13.54%) No (1.56%) Sometimes (1.56%) Not Sure (1.04%)	Yes (52.08%) No (7.55%) Sometimes (10.94%) Not Sure (5.73%)	Value: 7.468 Df: 6 Sig: 0.280
Irregular snacking, Chocolate consumption and juices can contribute to tooth decay	Yes (3.39%) No (0.78%) Sometimes (0.78%) Not Sure (0%)	Yes (11.46%) No (2.34%) Sometimes (2.34%) Not Sure (1.30%)	Yes (54.17%) No 4.43%) Sometimes (11.46%) Not Sure (6.25%)	Value: 9.273 Df: 6 Sig: 0.159
Tooth decay is caused by Bacteria	Yes (3.65%)No (0%) Sometimes (0.78%) Not Sure (0.78%)	Yes (9.38%)No (0.78%) Sometimes (4.69%) Not Sure (4.69%)	Yes (46/09%) No (5.21%) Sometimes (9.90%) Not Sure (15.10%)	Value: 3.967 Df: 6 Sig: 0.681
Fluoride's are important for a child to have a good set of teeth	Yes (2.86%) No (0.52%) Sometimes (0.52%) Not Sure (0.78%)	Yes (8.59%) No (0.78%) Sometimes (3.12%) Not Sure (5.99%)	Yes (41.93%) No (4.95%) Sometimes (11.20%) Not Sure (11.23%)	Value: 3.996 Df: 6 Sig: 0.677

Figure 1. Bar graph representing the association between Education of the Mother and response to Role of Sugars in tooth decay. Bar graph representing the association between Education of the Mother and response to Role of Sugars in tooth decay. X axis represents the Education of the mothers and Y axis represents the number of respondents. Mothers with university level education gave the most accurate responses(62.50 %).There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.290 (p>0.05). Knowledge on the role of sugars playing a key factor in causation of dental caries was highest among mothers with university level of education.

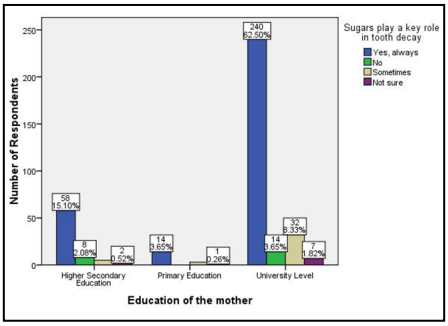


Figure 2. Bar graph representing the association between Education of the Mother and response to knowledge on bottle feeding at sleep time or use of pacifiers dipped in sweetener as a possible causative factor for dental caries. Bar graph representing the association between Education of the Mother and response to knowledge on bottle feeding at sleep time or use of pacifiers dipped in sweetener as a possible causative factor for dental caries. X axis represents the Education of the mothers and Y axis represents the number of respondents. Mothers with university level education gave the most accurate responses(52.08 %).There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.663 (p>0.05).Knowledge on causation of caries due to bottle feeding at sleep time or usage of sweetened pacifiers was highest among mothers with university level of education.

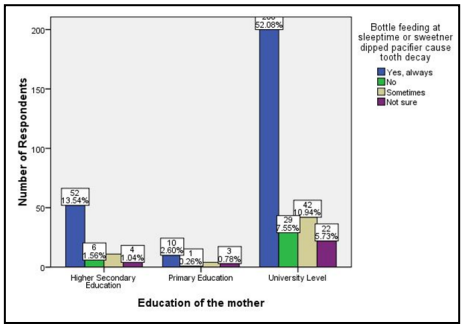
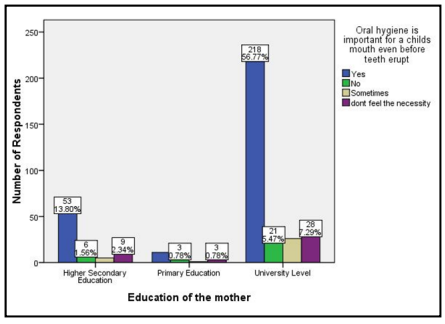


Figure 3. Bar graph representing the association between Education of the Mother and response to attitude on oral hygiene being important for a child even before the eruption of teeth. Bar graph representing the association between Education of the Mother and response to attitude on oral hygiene being important for a child even before the eruption of teeth. X axis represents the Education of the mothers and Y axis represents the number of respondents. Mothers with university level education gave the most accurate responses(56.77 %).There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.677 (p>0.05). Majority of mothers with a university level of education felt that oral hygiene in a child was important, even before the eruption of teeth.given. Chi square test P value 0.663 (p>0.05).Knowledge on causation of caries due to bottle feeding at sleep time or usage of sweetened pacifiers was highest among mothers with university level of education.



fluoridated toothpastes ie.55% and 53 % respectively. Bad practice of putting the child to sleep with a feeding bottle showed a prevalence of 30% positively, while nearly 25% mothers occasionally put their child to sleep with feeding bottles or sweetened pacifiers. On enquiry it was commonly mentioned that it was easier to put the child to sleep with a feeding bottle in mouth. Some other mothers also reported that it was the child's habit without which the child would not fall asleep. Nearly 43% of mothers positively mentioned that they spoon feed / bite down food to smaller pieces before feeding the child, while 23% mentioned that they do it occasionally. Surprisingly 75 % percent of the mothers were regular to the dentist, but 43% accepted that they had teeth that were decayed or were not restored. Meanwhile 18% mentioned that they were not aware if they needed any fillings or had

Figure 4. Bar graph representing the association between Education of the Mother and response to attitude based question- Does mother's oral hygiene influence a child's oral health? Bar graph representing the association between Education of the Mother and response to attitude based question- Does mother's oral hygiene influence a child's oral health?.X axis represents the Education of the mothers and Y axis represents the number of respondents. Mothers with university level education gave the most accurate responses (47.92 %). There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.223 (p>0.05). Majority of mothers with a university level of education felt that the mother's oral health influenced the child's oral health.

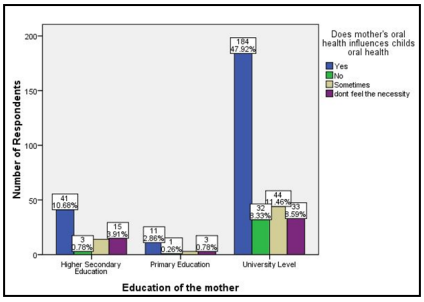


Table 3. Table denotes the responses obtained for various parameters that study the attitude of mothers towards dental caries causation and transmission in pre-school children.

Variables	Responses of Mothers with Primary level Education	Responses of Mothers with Secondary Level education	Responses of mothers with University level education	P value Chi square Test (p<0.05)
Oral hygiene in a child's mouth is important even before teeth erupt	Yes (0.78%)	Yes (13.80%)	Yes (56.77%)	Value: 3.996
	No (0.78%)	No (1.56%)	No (5.47%)	Df: 6
	Sometimes (0%)	Sometimes (1.56%)	Sometimes (5.47%)	Sig: 0.677
	Not necessary (0.78%)	Not necessary (2.34%)	Not necessary (7.29%)	
It is necessary for all children to brush twice daily	Yes (3.91%)	Yes (14.06%)	Yes (57.29%)	Value: 9.014
	No (0.26%)	No (3.12%)	No (5.73%)	Df: 6
	Sometimes (0%)	Sometimes (0.52%)	Sometimes (10.68%)	Sig: 0.173
	Not necessary (0.26%)	Not necessary (0.52%)	Not necessary (2.60%)	
Mother's oral health influences child's oral health	Yes (2.86%)	Yes (10.68%)	Yes (47.92%)	Value: 8.206
	No (0.26%)	No (0.78%)	No (8.33%)	Df: 6
	Sometimes (0.78%)	Sometimes (3.91%)	Sometimes (11.46%)	Sig: 0.223
	Not necessary (0.78%)	Not necessary (3.91%)	Not necessary (8.59%)	
Decayed primary teeth can have its effects on permanent teeth	Yes (3.12%)	Yes (10.68%)	Yes (42.45%)	Value: 7.826
	No (1.04%)	No (2.08%)	No (13.80%)	Df: 6
	Sometimes (1.04%)	Sometimes (2.08%)	Sometimes (13.80%)	Sig: 0.251
	Not necessary (0%)	Not necessary (2.60%)	Not necessary (5.47%)	

any decayed teeth in their mouth. On being asked if they would like to receive further knowledge in regard to the child's and personal oral care 75% showed positive results , indicating a good positive scope for further education to mothers in this regard. 14% however felt it was not necessary and 11 % felt no need for further information. The responses were better in mothers with University level of education,However there was no statistically significant association between the educational level of the mother and the response obtained to Practice based questions(p>0.05). [Figure 5-6][Table 4]

Overall it was seen that the mean good practice score was significantly lesser than the mean knowledge and attitude scores, indicating that despite a sound knowledge and attitude about the tooth decay prevention in the child many of the practices were not implemented in day to day life. It was also seen that despite an average knowledge and attitude towards mother being the source of dental caries, in practice the awareness was significantly much lesser or ignored due to various reasons. Indicating that more knowledge, attitude and practice implementation should be done in this regard.Although the responses were better in mothers with higher levels of education, it was observed that there was no statistically significant association between the educational qualification of the mother and the responses rendered to the questionnaire.(P>0.05)

Parents are role models for their children. But in the pre-school group of children naturally the child spends more time at home with the mother than with both the parents. Hence the role of the mother in the development of the child's habits, practices and health is emphasized more here. Children learn habits, adapt and develop skills by imitating their role models. The best way to teach them is to practice these oral hygiene practices ourselves. Dental caries have been known to be most common of microbial diseases in childhood. It is a preventable disease and if noticed at an early stage, children cooperate better, and parents save their valuable

Figure 5. Bar graph representing the association between Education of the Mother and response to Practice based question-Do you spoon feed your child or bite the food into smaller pieces before feeding the child? Bar graph representing the association between Education of the Mother and response to Practice based question-Do you spoon feed your child or bite the food into smaller pieces before feeding the child? X axis represents the Education of the mothers and Y axis represents the number of respondents. 30.99% of mothers with university level education answered as yes, while 27.34% answered no .There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.317 (p>0.05). Majority of mothers with a university level of education had the practice of biting the child's food into smaller pieces before spoon feeding it.

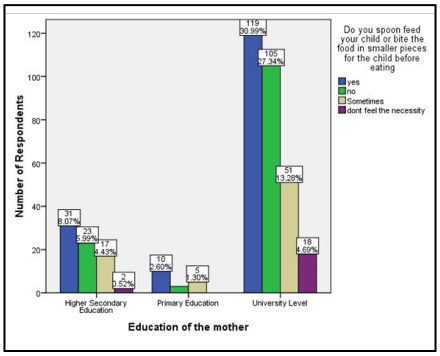


Figure 6. Bar graph representing the association between Education of the Mother and response to attitude based question-Do you take your child to the dentist once in 6 months ?

Bar graph representing the association between Education of the Mother and response to attitude based question-Do you take your child to the dentist once in 6 months ?X axis represents the Education of the mothers and Y axis represents the number of respondents. 38.28% of mothers with university level education answered yes, while 17.71% answered sometimes .There was no statistically significant association between Education of mothers and the responses given. Chi square test P value 0.298 (p>0.05). Majority of mothers with a university level of education had the practice of taking their children to the dentist once in 6 months.

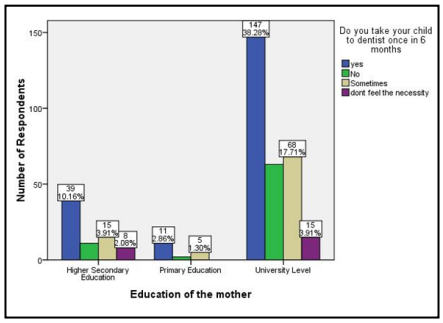


Table 4. Table denotes the responses obtained for various parameters that study the practice of mothers towards dental caries causation and transmission in pre-school children.

Variables	Responses of Mothers with Primary level Education	Responses of Mothers with Secondary Level education	Responses of mothers with University level education	P value Chi square Test (p<0.05)
Do you clean your child's mouth or supervise when your child brushes	Yes (1.04%) No (1.04%) Sometimes (0%) Not necessary (0%)	Yes (12.24%) No (3.12%) Sometimes (0.78%) Not necessary (0.78%)	Yes (53.91%) No (9.90%) Sometimes (9.90%) Not necessary (3.92%)	Value: 5.645 Df: 6 Sig: 0.464
Do you restrict your child's snacking habits/sugar consumption	Yes (3.12%) No (0%) Sometimes (1.30%) Not necessary (0%)	Yes (10.68%) No (3.91%) Sometimes (3.91%) Not necessary (0.26%)	Yes (40.62%) No (13.28%) Sometimes (18.23%) Not necessary (4.17%)	Value: 6.334 Df: 6 Sig: 0.387
Do you put your child to sleep with feeding bottle or sweetened pacifier	Yes (1.82%) No (1.82%) Sometimes (1.82%) Not necessary (0.26%)	Yes (6.77%) No (6.77%) Sometimes (5.73%) Not necessary (0.52%)	Yes (22.40%) No (37.24%) Sometimes (13.02%) Not necessary (3.65%)	Value: 10.98 Df: 6 Sig: 0.089
Do you take your child to the dentist once in 6 months	Yes (2.86%) No (1.30%) Sometimes (1.30%) Not necessary (0%)	Yes (10.16%) No (3.91%) Sometimes (3.91%) Not necessary (3.08%)	Yes (38.28%) No (17.71%) Sometimes (17.71%) Not necessary (3.91%)	Value: 7.249 Df: 6 Sig: 0.298
Do you use a fluoridated toothpaste for your child	Yes (2.08%) No (1.30%) Sometimes (1.30%) Not necessary (0%)	Yes (9.38%) No (3.39%) Sometimes (3.39%) Not necessary (2.86%)	Yes (40.36%) No (14.58%) Sometimes (9.38%) Not necessary (9.38%)	Value: 5.340 Df: 6 Sig: 0.501
Do you spoon feed your child or bite food into smaller pieces for the child before eating	Yes (2.60%) No (1.30%) Sometimes (1.30%) Not necessary (0%)	Yes (8.07%) No (5.99%) Sometimes (4.43%) Not necessary (0.52%)	Yes (30.99%) No (27.34%) Sometimes (13.28%) Not necessary (4.69%)	Value: 7.039 Df: 6 Sig: 0.317
Does your child brush his/her teeth twice daily	Yes (1.30%) No (1.30%) Sometimes(0.7%) Not necessary (0.78%)	Yes (9.64%) No (4.17%) Sometimes(4.1%) Not necessary (0.78%)	Yes (41.15%) No (13.80%) Sometimes(17.5%) Not necessary (3.91%)	Value: 7.335 Df: 6 Sig: 0.291
Do you have teeth that are decayed or require filling	Yes (2.60%) No (1.04%) Sometimes (0%) Not necessary (0.78%)	Yes (7.29%) No (4.69%) Sometimes (2.08%) Not necessary (4.95%)	Yes (32.03%) No (28.12%) Sometimes (3.91%) Not necessary (12.24%)	Value: 5.913 Df: 6 Sig: 0.433
Do you visit the dentist regularly	Yes (2.08%) No (0.26%) Sometimes (0.52%) Not necessary (0.52%)	Yes (8.33%) No (3.91%) Sometimes (3.91%) Not necessary (2.34%)	Yes (32.81%) No (14.84%) Sometimes (22.40%) Not necessary (6.25%)	Value: 4.826 Df: 6 Sig: 0.566
Do you take your child to the dentist for fluoride application from time to time	Yes (2.08%) No (0.52%) Sometimes (0.78%) Not necessary (0.78%)	Yes (3.07%) No (3.91%) Sometimes (3.91%) Not necessary (1.82%)	Yes (29.69%) No (25%) Sometimes (14.32%) Not necessary (7.29%)	Value: 4.826 Df: 6 Sig: 0.566
Would you like to be updated more on how to take care of your child's oral health and your role in it	Yes (3.65%) No (0.78%) Not necessary (0.26%)	Yes (13.54%) No (1.56%) Not necessary (3.91%)	Yes (56.77%) No (9.11%) Not necessary (10.42%)	Value: 4.233 Df: 4 Sig: 0.375

time and money spent on dental treatments. Hence, prevention at the root level, i.e., primordial prevention and oral health especially at ages less than two. Later, from the age of two years onward, oral health promotion strategies such as fluoridated toothpaste, etc., can be begun in cooperation with the parents, especially the mother. To attain these goals, one needs to assess the existing levels of knowledge, attitude, and practices to bring about the necessary changes. In addition, children with primary dentition affected by dental caries are prone to the development of dental caries in permanent dentition. Hence, children reinforced at an early age by their mothers are motivated and trained for a lifetime. Studies assessing the mother's ability to care for a child's oral health reveal that mothers nowadays do not have enough time for the child due to job/employment stress etc. other than lacking knowledge of brushing by proper techniques and maintain the infant's oral hygiene. Nuclear families/Secondary caretakers in case of working mothers also do not give enough time and opportunity for mothers to raise their children themselves. It has been a common practice to leave the child at day care centers when the mother/parents are at work [37]. Several studies have found that good knowledge and attitude toward oral health does not necessarily produce good practices .From the following study, awareness regarding bad practices is abundant. This reveals an important take home message for us as general dentists that parents especially mothers need to be trained and motivated to carry out oral hygiene practices in a proper way and efficiently. In addition, knowledge regarding the use of fluoridated toothpastes and whether deciduous teeth need treatment and importance of oral hygiene in the pre-dentate stage appeared to be just about average to good. Also, a general low score was found in good practices in infant oral health care such as prolonged bottle feeding and use of sweetened pacifiers while putting the child to sleep. The role of bacteria in the causation of dental caries was well acknowledged by most of the mothers. But it was not reflected by the prevalent practice of biting food into small pieces before feeding in this study. This is in accordance with studies by Mani et al. [26].

The focus should be on mothers to encourage to limit their practice of biting down food and to elevate their practice to carry out oral hygiene practices in a proper way. Mothers and children should be advised that foods and drinks containing sugar substitutes are available but should be consumed in moderation. Sugar-free medicines should be used when available. Mothers should be encouraged to brush their Child's teeth soon as the first tooth appears, using a soft toothbrush and water only. Children who use a baby bottle should be advised never to put sweet drinks, including fruit juice, into the bottle and breast-feeding should not be practiced at will of the child [38]. Mothers should be advised not to let their child sleep or nap with a baby bottle or sweetened pacifiers despite all the benefits like putting the child to sleep earlier and more easily. Other studies by Oredugba et al also revealed that parents in general are aware that milk teeth are as important as permanent teeth and affect the general health of the child [39, 40]. In addition, awareness to visit the dentist before the child's first birthday should be insisted on as this can greatly influence the overall dental health of the child [41, 42]. Despite these facts being known to them, their inability to take proper oral health care is indeed surprising. Similar findings have been reported in numerous other studies by Emanuelsson [43] and De Soet [44]. The limitation of the study might be that the sample was chosen based on a non- probability or convenience sampling model and despite trying to maintain the accuracy of responses and filtering out respondents who were not from the inclusion criteria, the study might yet not represent the entire population of all the mothers of the pre schooling children. A further qualitative study might be beneficial in providing the required data and then the necessary steps and actions can be implemented at private practice and at community level.

Conclusion

The current study shows that despite good knowledge among mothers, their practices are lacking to keep up with necessary standards. Mothers in particular. play an important role and are the primary caretakers. Therefore, the focus should be on mothers during oral health promotion for children, especially of preschoolers and children <6 years. The awareness to visit the dentist before a child's first birthday should be created among the mothers or the caretakers. Mothers should be informed to brush their children's teeth at least once by themselves at night before going to bed. They need to be trained and motivated to carry out oral hygiene practices in a proper way and efficiently. Additionally, due to inability of the mothers to efficiently carry out oral hygiene practices, additive professional preventive practices such as (a) topical fluoride application and, (b) pit and fissure sealants should be carried after eruption of all deciduous teeth, especially deciduous molars as they have a longer lifespan in the oral cavity of children. For this purpose, more dentists should be trained in carrying out these preventive therapies.

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