



Assessment of Knowledge, Attitude and Practice Behaviors of Parents towards Care of Primary Dentition – A Cross Sectional Study

Monika M. Khubchandani^{1*}, Nilima Thosar², Priyanka Paul³, Suwarna Dangore⁴ and Swapnil Mohod⁴

¹*Department of Pedodontics and Preventive Dentistry, Sharad Pawar Dental College and Hospital, Wardha, Maharashtra, India.*

²*Department of Pediatric and Preventive Dentistry, Sharad Pawar Dental College and Hospital, Wardha, Maharashtra, India.*

³*Department of Public Health Dentistry, Sharad Pawar Dental College and Hospital, Wardha, Maharashtra, India.*

⁴*Department of Oral Medicine, Diagnosis and Radiology, Sharad Pawar Dental College and Hospital, Wardha, Maharashtra, India.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The present study was undertaken to assess the knowledge, attitude and practice behaviors of parents towards care of the primary dentition of children in Wardha city, India.

Study Design: Cross sectional study.

Place and Duration of the Study: Department of Pedodontics & Preventive Dentistry, Sharad Pawar Dental College & Hospital, Duration- One year

Methodology: A questionnaire based cross sectional study was conducted among parents of 3-7 year old children who visited the Department of Pedodontics & Preventive dentistry. The self-administered, close-ended questionnaire was adopted from oral health literature [Rwakatema et al

*Corresponding author: E-mail: monika.khubchandani@gmail.com;

2009] and was modified based on researcher's knowledge and experience of the issues under study. The first part of the questionnaire included the demographic details while the second part comprised of 25 items to test knowledge, attitude and practices of parents. Data was collected by a single investigator who distributed the questionnaire, allowed enough time to fill it and collected on the spot after they had completed.

Results: Majority of parents (69%) had good knowledge about importance of milk teeth. 87% of parents were aware that oral health affects the overall general health of child. However, Bedtime bottle-feeding and sharing of spoons with the child was reported by 54% and 77% of the study participants respectively.

Conclusions: The majority (57.9%) of the study population had good knowledge pertaining to oral health. However, their practices towards the oral health of children were not satisfactory. Therefore, there is a need to improve oral health care practices by conducting awareness programs for parents.

Keywords: Attitude; knowledge; practice behaviors; primary dentition.

1. INTRODUCTION

Dental caries is one of the most common infectious, transmissible, chronic diseases affecting individuals of all age groups. Early childhood caries is a severe form of dental caries striking the primary dentition of young children below 71 months of age. The disease is caused by the complex interaction of several factors such as diet, cariogenic flora, the host (tooth surface) and time. In subpopulations of poor and minority children, the rate is higher and the condition begins earlier [1, 2].

Early childhood caries is entirely preventable firstly, by promoting oral health education programs emphasizing oral hygiene practices, diet and feeding and secondly, by analyzing the 'possible reasons' responsible for caries experience among young children[3].

Inculcation of good oral practices is an essential pre-requisite to ensure good oral health. However, adopting and adapting to appropriate oral health related behavior is greatly influenced by care takers' level of education, their awareness about importance of oral health and attitude towards seeking dental care when required[4].

In developing countries, more coordinated efforts are required to be taken by oral health care professionals to ensure development and implementation of oral health awareness programs to benefit the young population. However, such programs demand the evaluation of existing oral health awareness at ground level [5, 6].

The basic knowledge and awareness of parents / guardians regarding oral health has great

influence on oral hygiene practices of children. Hence, the present study was undertaken to assess the knowledge, attitude and practice behaviors of parents regarding care of the primary dentition of children in Wardha city, India.

2. MATERIALS AND METHODS

A questionnaire based cross sectional study was conducted on parents of 3-7 year old children who visited the department of Pedodontics & Preventive dentistry from July 2019 to October 2019. The study included parents reporting to dental hospital for the treatment of their child and agreed to participate in the research. Parents of special children and parents who could not read or write were excluded from the study. The self-administered, close-ended questionnaire written in English was adopted from oral health literature [Rwakatema et al 2009] and was modified based on researcher's knowledge and experience of the issues under the study. The questionnaire was then translated in Marathi (participants' mother tongue) by two dentists who were fluent in both English and Marathi. The questionnaire was later back translated in English and verified with the original English questionnaire by two pediatric dentists who were well versed in both English and Marathi languages. A pilot study was conducted among 10 parents to check for its feasibility and any changes if required were made. These subjects were not included in the final analysis.

A structured questionnaire was formulated requiring information about patient's demographic details and 25 items. Out of 25 questions, nine were knowledge based, nine questions were to check the attitude component

and seven questions were related to practices toward child's oral health. The parents were asked to respond to the knowledge and attitude questions by "agree", "disagree" and "don't know" for most questions. The questions probing on oral hygiene practices had several options and subjects were advised to respond to each practice question by choosing one response from the provided list of options. All aspects of oral health promoting factors in children including importance of primary dentition, child's first dental visit, oral hygiene, diet, and fluoride and awareness regarding infant oral health and practices were addressed.

Data was collected by a single investigator who distributed the questionnaire to the parents, allowed enough time to fill it and collected on the spot after they had completed.

3. RESULTS

The response rate was 100% as all 216 parents completed the questionnaire. Of 216 parents, 116 were mothers and 100 were fathers. About 39.8% participants had primary education, 24.07% had lower secondary education while 36.11% had higher secondary education. 29% of the participants were homemakers i.e., the mothers of children only. Other 71% people were either self-employed, skilled workers or salaried employees.

3.1 Knowledge

The overall mean knowledge score was estimated to be 1.54 (Table -2). Nearly 69% of parents agreed with the fact that maintenance of milk teeth is important. 87% of parents were aware that oral health affects the overall general health of child whereas remaining 13% thought that oral health has no impact on the overall general health. The majority of participants 93.5% were of the opinion that untreated caries involving primary teeth affect the permanent dentition. 87% subjects believed that dental caries in primary dentition is preventable with diet and proper brushing, while 13% of the parents thought that caries is unavoidable. Only 5.6% of respondents knew that the child should receive first dental visit within 6 months of age. However, majority of the parents had no knowledge about first dental visit. 76.4% respondents agreed that restoration is the best treatment option for primary tooth with caries. More than half, 61.1% thought that primary teeth hold space for permanent teeth, and 57.4% respondents

believed that early extraction of primary teeth affect eruption of permanent teeth. When asked about preventive strategies for dental caries, only 24.1 were aware of dental sealants.

3.2 Attitude

The overall mean attitude score was 1.45 (Table -3). Attitude of parents towards prevention of caries was obtained, and the most astonishing revelation was that most of the parents i.e. 77.8% believed dental visit is not important when child is not in pain. Only 7.4% responded positively regarding child's regular dental visit while 14.8% were in dilemma about the same fact. Over 57% of parents/caregivers were aware that general health of mother during pregnancy affects health of deciduous teeth of the child while 25% believed that nowhere mothers' general health is related to child's oral health. Responses recorded in Table 3 reflected that most caregivers i.e. 89% believed that limiting sweet intake can prevent caries whereas the awareness of the ill effects of prolonged use of pacifiers was lacking in the study population. Only 30% of study subjects were aware that prolonged use of pacifier is harmful. 27% of the study population believed that premature loss of primary teeth affects the general health while 62% disbelieved it. Only 25% of the study population was aware about child mouth cleaning starting after birth while 61% were unaware of the same fact. More than half (80%) of the study participants believed that use of toothbrush and toothpaste is the best method for oral hygiene practice. When asked about parents' view of placement of dental sealants to prevent tooth decay, 69.4% responded positively, 9.3% disagreed and 21.3% had no idea about dental sealants. Only 6.5% of the parents believed that if the child complains of dental pain, pediatric dentist should be consulted. 75% believed that the child can be taken to any specialty dentist or general dentist while 18.5% had neutral response.

3.3 Practices

The overall mean attitude score was 1.44 (Table -4).When asked about night time bottle feeding practices, more than half of the parents (54.2%) reported use of night time bottle feeding to calm the child while 45.8% of parents do not allow bottle feeding at night. Most of the parents (77%) reported that they share spoons with the child as they taste the food before feeding the child. However, approximately 8.3% of the parents had

reported that they do not share spoon with the child. It was noted that only 25% of parents had a practice of supervising the child while brushing whereas 75% of the respondents showed no great concern about monitoring oral hygiene practices of the child. Regarding frequency of child's visit to dentist, 83% of parents reported that they visit the dentist when the child is in pain, 12% of them had a good practice of visiting the dentist once in a year while 4.6% of the respondents had never taken the child to dental clinic. Since maternal oral hygiene practices have a significant impact on child's oral health, mothers were asked about oral hygiene practices and frequency of brushing. 55% mothers had the practice of brushing once a day, 34% of them had a good practice of brushing twice daily while 9% of respondents reported use of finger for cleaning. When asked about role of the parent in child's oral hygiene and dental home care, 57% reported that they observe and guide the child while brushing, 28% reported that they only advice while 13% of the respondents leave

the dental care to the child itself. Of the respondents, 25% had the practice of changing child's toothbrush every six monthly, 24% when the bristles fray out while 50% were not particular.

Correlation between knowledge, attitude and practice behavior is illustrated in table 5. In our study, a positive correlation between knowledge and attitude ($r=0.096$, $p=0.032$) was observed among study population but a negative correlation was observed between knowledge and practices ($r= -0.043$, $p=0.002$).

4. DISCUSSION

This study was undertaken to assess existing level of knowledge, attitude and practices among parents regarding oral health of infants and young children which revealed that despite adequate knowledge and attitude scores, a considerable amount of difference between knowledge and practice behaviors was noted.

Table 1. Sociodemographic characteristics of study population

Variables	Frequency (%)
Parental status	
Father	46.2%
Mother	53.7%
Education	
Primary level	39.8%
Lower secondary level	24.07%
Higher secondary level	36.11%
Employment	
Unemployed	29%
Self-employed, salaries, skilled worker	71%

Table 2. Overall Individual Knowledge, number and percentage distribution of study Participants

Items	Frequency (n)	Percentage
Is maintenance of milk teeth important	150	69%
Does health of mouth and teeth affect overall health of child	188	87%
Can untreated caries involving primary teeth affect permanent teeth	202	93.5%
Is primary teeth caries preventable with proper diet and brushing	188	87%
Child should receive first dental visit within 6 months of age	12	5.6%
Restoration is the best treatment option for primary tooth with caries	165	76.4%
Do primary teeth hold space for permanent teeth	132	61.1%
Does early extraction of primary teeth affect eruption of permanent teeth	124	57.4%
Are you aware of a thin protective coating painted on the chewing surface of teeth to protect them from decay	52	24.1%

Table 3. Number and percentage distribution of parents according to Attitude items

Items	Yes	No	Do not know
Is visit to the dentist important even when the child not in pain	16 (7.4%)	168(77.8%)	32(14.8%)
Do you believe that general health of mother during pregnancy affect health of deciduous teeth of the child	124(57.4%)	54(25%)	38(17.6%)
Do you believe that Limiting sweet intake can prevent caries	195(89.7%)	9(4.14%)	12(5.52%)
Prolonged pacifier use is harmful	66(30.6%)	126(58.3%)	24(11.1%)
Does premature loss of primary teeth affect the general health	48(27.2%)	134(62%)	34(15.7%)
Do you agree that child mouth cleaning start after birth	54(25%)	132(61.1%)	30(13.9%)
Toothbrush and toothpaste is the best method for oral hygiene practice	174(80.6%)	36(16.7%)	6(2.8%)
Would placement of a thin protective coating on teeth be helpful to prevent dental caries	150(69.4%)	20(9.3%)	46(21.3%)
If child complains of dental pain, pediatric dentist should be consulted	14(6.5%)	162(75%)	40(18.5%)

Table 4. Number and percentage distribution of parents according to practices items

Items	Frequency (n)	Percentage
Do you allow night time bottle feeding for your child		
Yes	118	54.2%
No	98	45.8%
Don't know		
Do you share spoons with your child/Taste the food with the same spoon before feeding the child		
Yes	169	77.74%
No	18	8.28%
Neutral	29	13.34%
Do you supervise your child while tooth-brushing		
Yes	54	25 %
No	162	75%
Neutral		
How frequently do you take your child to dentist		
Once a year	26	12%
When having pain or in trouble	180	83.3%
Never	10	4.6%
Mother's brushing frequency		
Once	120	55.2%
Twice	76	34.9%
Do not brush, use finger for cleaning	20	9.2%
What is your role in your child's oral hygiene and dental home care		
I observe and guide	124	57.4%
I only advice	62	28.7%
I leave my child's dental care to the child itself	30	13.9%
How often do you change your child's toothbrush		
6 monthly	56	25.9%
When the bristles fray out	52	24.1%
No particular period	108	50%

Table 5. Correlation between knowledge attitude and practice behaviour

Correlation analysis of knowledge with attitude, and behavior among study subjects by using Pearson’s correlation				
	Attitude r-value	p-value	Practice r-value	p-value
knowledge	0.096	0.032	-0.043	0.002

From this study, it is evident that the parents had an overall good knowledge score pertaining to oral health which is reflected by parents being aware of the importance of primary teeth and the impact of untreated caries on developing permanent dentition. This is in accordance with studies by Ramakrishnan et al. [7] Parents were aware with the fact that primary teeth caries is preventable with proper diet and brushing. Similar findings were reported by Narayanan et al. [8] The first dental visit should occur shortly after the first tooth erupts and no later than the child’s first birthday. The American Academy of Pediatric Dentistry (AAPD) recommends that “a child should visit the dentist within six months of eruption of the first primary tooth and no later than 12 months of age”. However, results of the present study suggest that parents seem to have low awareness about the importance of child’s first dental visit.

In the present study, parental knowledge about placement of pit and fissure sealant was lacking as only 24% participants in the study stated that they are aware of a thin protective coating painted on the chewing surface of teeth to protect them from decay. This was in accordance with the studies by Deep et al [9] where only around 22% of study participants were familiar with fissure sealants and had knowledge about the fluoride as a cariostatic agent.

In this study, 90% of the participants were aware that sugary items cause tooth decay and limiting sweet intake can prevent caries. The findings of our study were similar to those reported by Khanduri et al [10] where 90% of the parents knew that sweet food causes tooth decay. While Quadri et al [11] reported that “Twelve out of 15 questions on knowledge about sweet foods and beverages were answered correctly by more than 60% of the study sample.” In the present study, the deleterious effects of prolonged use of pacifiers were not acknowledged by majority of parents. The United Nations Children’s Fund and WHO advises that hospitals should “give no artificial teats or pacifiers to breast-feeding infants as it is associated with early cessation of breast-feeding as well as other problems”. [12]

In the present study only 6.5% of parents were of the opinion to take their children to pediatric dentist in case of toothache. The results are comparable to another study by Lone et al [13] where it was observed that only 5.9% of the parents were of the same belief.

The results of practices of care of primary dentition revealed that a considerable number of parents (54.2%) allow night time bottle feeding for the child. The findings were in line with another study by Dhull et al [14] where 53% mothers disagreed with the fact that night time bottle feeding can cause dental caries. According to AAPD guidelines [15] “ad libitum breastfeeding should be avoided after the first primary tooth begins to erupt in oral cavity.”

Saliva-sharing behavior was observed amongst 77% of the participants. According to AAPD recommendations, the early colonization of mutans streptococci in infants can be prevented by avoiding saliva-sharing activities. In the present study, majority of parents said that they would take the child to dentist when the child is in pain. The reason for little significance of primary teeth among parents could be the fact that these are temporary teeth and they will eventually shed.

The limitation of the present study is that it was carried out in one institution with small sample size targeting only rural population.

5. CONCLUSION

The majority (57.9%) of the study population had good knowledge pertaining to oral health. However, their practices towards the oral health of children were not satisfactory. The results reveal that higher knowledge on oral health did not translate into good practices as parents did not involve in any preventive measures. Therefore, there is a need to improve oral health care practices of preschoolers and young children. Health care professionals need to conduct awareness programs for expectant and new mothers to educate about oral health care of infants mainly to prevent saliva-sharing activities

and restricted use of night-time bottle feeding. In addition, parents should be encouraged to inculcate oral self-care practices to motivate the child.

CONSENT AND ETHICAL APPROVAL

Ethical clearance was obtained from the institutional review board and an informed consent was obtained from parents after an adequate explanation of the research protocol.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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