

KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS REGARDING ORAL HYGIENE AND DENTAL CARIES AMONG CHILDREN

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ABSTRACT

Aim of the study was to evaluate the knowledge, attitude, and practice of mothers relating to oral hygiene and caries in children aged 6 months-12 years. It was a cross sectional study carried out amongst mothers seen in Teaching Hospital of University College of Dentistry, Lahore from January to April 2018. Modified questionnaire partly adapted from another similar study was administered. A total of 148 mothers participated in the study. 49% mothers were aware that their children had caries. 48% mothers did not have any knowledge if caries was a transmittable disease. 51% mothers were aware of brushing their children's teeth till age 7 but 72% mothers were not practicing it. 91% mothers had knowledge of tooth brushing twice a day. About 55% mothers did not share utensils with their children. Approximately 66% were aware that bedtime bottle feeding should not be done. In spite of having knowledge that high sugar intake causes caries, 59% mothers reported adding sugary products in their children's milk. This study depicts good knowledge but negative attitude and practice of mothers related to oral hygiene.

Key Words: Child oral health, caries, knowledge, attitude, practice.

INTRODUCTION

Dental caries is one of the most important and prevalent disease of oral cavity. It is a transmissible infectious oral disease, caused by interplay of cariogenic bacteria with fermentable dietary carbohydrates on the tooth surface over a period of time.^{1,2} Although caries occurs in both young and adults, it has been observed that it affects nearly 90% children.³ Early Childhood Caries (ECCs) is defined as "the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries) or filled tooth surfaces in any primary tooth in a preschool-age child between birth and 71 months of age".⁴

As main bacteria involved in caries is streptococcus mutans, it can spread from mother to child around 2 years of age; through saliva, because at this age the child is spending more time with his/her mother.^{1,5,6} Caries transmission takes place due to various factors such as oral hygiene status of the parent/guardian, diet, and immune status.^{5,7}

Children, specially preschoolers, generally don't understand mechanics of proper brushing and significance of oral hygiene maintenance. Recommendations by American Dental Association (ADA) includes parents cleaning their child's gums with wet cotton after feeding, initiating brushing of their child with a baby toothbrush after eruption of first tooth, reducing sugar intake and avoiding giving bottle to child during sleep. It is also recommended to schedule dental visits every 6 months, beginning at one year of age.⁸

A study was conducted by Sogi *et al.* which assessed knowledge, attitude and practice of parents in prevention of ECCs. Results showed that knowledge score of parents was 69.5%, attitude score was 53.5% and bad practice score was 18.5%.⁹ Similar results were reported in another study, according to which caretakers were knowledgeable about factors responsible for caries however, this knowledge did not translate in their attitude and practice.¹⁰

There is a lack of such studies in Pakistan, with only two previous studies evaluating the role of mother in maintenance of their child's oral health. This is the only study conducted in Lahore with aim of evaluating knowledge, attitude and practice of mothers related to oral health of children of 6 months to 12 years of age.

METHODOLOGY

This was a cross-sectional study, carried out at the University College of dentistry (UCD), University of Lahore from January- April 2018. A 20-item structured questionnaire was administered, which was partly

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adapted from another similar study by Sakai *et al.*⁵ Few questions were modified to include other variables such as bottle feeding, frequency of brushing and sweeteners in milk. Mother's knowledge, attitude and practice were assessed using questionnaire which was grouped under three categories: Oral hygiene, Brushing and Etiological factors. It was then translated in Urdu as most of the mothers were not fluent in English. Ethical approval was obtained from ethical committee of UCD. Participants were informed about the study and only those consenting, were included in the study. The sample size calculated was 144 with 80% power of test and 5 % level of significance.

Inclusion criteria

Mothers having children of age 6 months -12 years.

Mothers aged 18 and above.

Exclusion criteria

Mothers who were not willing to participate.

RESULTS

Total 160 questionnaires were distributed however, response was obtained from 148 mothers and 12 mothers refused to participate. As far as education of participants was concerned, majority of them had completed their graduation and were housewives as shown in table 1

Table 2 summarizes the perception of mothers regarding caries. It is evident that mothers did not

think that caries was a transmissible disease.

Although majority of children were brushing their teeth themselves, many (51%) mothers considered parents to be responsible for their child's oral health and hygiene till 6-7 years. Many children had never visited a dentist as most (50%) mothers believed in visiting dental clinic only when necessary. Only 32% were aware that a visit must be arranged every 6 months. Information concerning attitude and practice of mothers towards oral health of child has been summarized in table 3.

Table 4 describes knowledge and attitude of mothers regarding oral health. Almost all mothers knew that too much sweet intake caused caries, yet 59% of mothers reported adding sweeteners in their child's milk. Approximately 61% of mothers were aware of changing their child's tooth brush after every 3 months. About

TABLE 1: EDUCATION AND OCCUPATIONAL STATUS OF MOTHERS

Variable	N (%)
Education	
Uneducated	11 (7.4%)
Graduation	101 (68%)
Professional education	36 (24%)
Occupation	
Housewife	108 (72%)
Working women	40 (27%)

TABLE 2: RESPONSES RELATED TO PERCEPTION OF CARIES

Question	Yes N (%)	No N (%)	Don't know N (%)
Did you ever have caries?	87 (59%)	53 (36%)	7 (4.7%)
Does your child has caries?	73 (49%)	71 (48%)	4 (2.7%)
Is caries transmittable disease?	38 (25.9%)	72 (49%)	38 (25.9%)

TABLE 3: RESPONSES RELATED TO ATTITUDE AND PRACTICE CONCERNING ORAL HEALTH

Question	Yes N (%)	No N (%)	Don't know N (%)
Is there a need to brush your child's teeth under one year of age?	56 (38.1%)	38 (25.9%)	14 (9.5%)
Does your child brushes his/ her teeth himself/ herself?	106 (72.1%)	41 (27.9%)	1 (0.68%)
Should mother brush his/her child's teeth?	82 (55.8%)	57 (38.8%)	9 (6.12%)
Has child ever gone to a dentist?	71 (48.3%)	76 (51.7%)	1 (0.7%)
Do all members of the family have their own toothbrushes?	140 (95.2%)	6 (4.1%)	2 (1.4%)

TABLE 4: RESPONSES RELATED TO KNOWLEDGE AND ATTITUDE OF ORAL HEALTH

Question	Yes N (%)	No N (%)	Don't know N (%)
Do you blow your child's hot food to cool it down?	85 (57.8%)	60 (40.8%)	3(2%)
Do you share utensils (e.g. spoon, glass) with you child?	66 (44.9%)	82 (55.8%)	0 (0%)
Do you think bottle feeding for longer duration cause caries?	86 (58.5%)	35 (23.8%)	27 (18.4%)
Should the child do bottle feeding at night?	31 (21.1%)	98 (66.7%)	19 (12.9%)
Do you think too much sweets intake cause caries?	133 (90.5%)	10 (6.8%)	5 (3.4%)

68% of mothers knew that brushing before going to bed and after waking was effective. Some (32%) mothers thought that brushing for children should begin by 3-4 years whereas few (22%) stated starting brushing on appearance of first tooth in oral cavity.

DISCUSSION

Mothers play vital role in maintaining oral health and healthy habits of their children as they are developed during infancy and maintained throughout their early childhood. To implement oral hygiene habits in children, parents must practice these oral habits themselves. In this study, most of the mothers did not know that caries is a transmissible disease and frequently shared their utensils with children. This corresponds with the results of study by Sakai *et al.* (2008).⁵ This study also showed that the knowledge of mothers regarding brushing was good. The mothers were aware of brushing twice a day, after breakfast and before bedtime. Concurrently, same phenomenon was observed in another study carried out by Mahmoud *et al.* (2017).¹¹ Knowledge of mothers regarding brushing was deemed to be inadequate in another study. Despite having good knowledge, many mothers had poor practice of brushing their child's teeth. Also, majority of mothers knew that parents were responsible for their child's oral health till 7 years but contrasting results were reported in another study where, most mothers thought that child's teeth should be cleaned by them till 1-2 years.³ The study also showed lack of awareness in mothers regarding visiting a dentist. Mothers thought that they should only visit a dentist when necessary. Similar observations were seen in a study by Oredugba *et al.* (2014).¹²

The study also demonstrated that mothers were knowledgeable about harms associated with bottle feeding for longer duration and at night. Correspondingly, a similar study reported that 79% of mothers were aware of the damaging effect of prolonged bottle feeding amongst children.¹³ Vann *et al.* (2010) in his study also reported that mothers had good knowledge about the effect of prolonged bottle feeding on oral health, and only mothers who weren't educated did not know about its harmful effects.¹⁴

CONCLUSION

This study shows that most mothers were knowledgeable about oral hygiene practices of children however, this needs to be reflected in their attitude and practice which was observed to be inadequate.

REFERENCES

- 1 Ritter André V., Boushell LW, Walter R, Sturdevant CM. Sturdevants art and science of operative dentistry. 7th ed. St. Louis, MO: Elsevier; 2019.
- 2 Featherstone JDB. Dental caries: a dynamic disease process. Aust Dent J. 2008; 53(3):286-91. doi: 10.1111/j.1834-7819.2008.00064.x. Available at <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1834-7819.2008.00064.x>. [Last Accessed: 15 November 2018]
- 3 American Dental Association (ADA). Statement on Early Childhood Caries. N.d [Online]. Available at <https://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/statement-on-early-childhood-caries>. [Last Accessed: 15 November 2018]
- 4 Mubeen N, Nisar N. Mother's Knowledge, attitude and practices regarding dental caries and oral hygiene among children (age 1 To 5 years) in Civil Hospital, Karachi. Int J Dent Oral Health. 2015; 2(4):1-6.
- 5 Sakai VT, Oliveira TM, Silva TC, Moretti ABS, Geller-Palti D, Biella VA, Machado MAAM. Knowledge and attitude of parents or caretakers regarding transmissibility of caries disease. J Appl Oral Sci: Revista FOB.2008; 16(2):150-54.
- 6 Shinde PP, Shetiya SH, Agarwal D, Mathur A. Knowledge, attitude, and practice about infant oral hygiene care among Indian professional working mothers: A questionnaire study. J Indian Assoc Public Health Dent. 2018; 16(1):58-61.
- 7 Reang T, Bhattacharjya H. Mother's knowledge and practice regarding oral hygiene and challenges in the prevention of dental caries of under-five children in an urban resettlement colony. Int J Med Sci Public Health. 2014; 3(1):76-80.
- 8 ADA. Patient smart (Baby Bottle Tooth Decay). 2014. [Online]. Available at http://www.ada.org/~media/ADA/Publications/Files/ADA_PatientSmart_BBTD.ashx. [Last Accessed 31 January 2019]
- 9 Sogi SPH, Hugar MS, Mallikarjuna RM. Knowledge, Attitude and practices of oral health care in prevention of early childhood caries among parents of children in Belagavi city. J Family Med Prim Care. 2016; 5(2):286-90.
- 10 Mani SA, Aziz AA, John J, Ismail NM. Knowledge, attitude and practice of oral health promoting factors among caretakers of children attending day-care centers in Kubang Kerian, Malaysia: A preliminary study. J Indian Soc Pedod Prev Dent. 2010; 28(2):78-83.
- 11 Mahmoud N, Kowash M, Hussein I, Hassan A, Al Halabi M. Oral Health Knowledge, Attitude, and Practices of Sharjah Mothers of Preschool Children, United Arab Emirates. J Int Soc Prev Community Dent. 2017;7(6):308-14.
- 12 Oredugba F, Agbaje MO, Ayedun O, Onajole AT. Assessment of mothers' oral health knowledge: towards oral health promotion for infants and children. Health. 2014; 6(10):908-15
- 13 Al Jameel A, Mubayrik AB, Hadlaq E, Alagil N, AlAjlan N, AlShenaifi M, Almutari A, Fakeeha G, Albader S, Alomran W. Assessing the knowledge and attitudes of group of mothers living in Saudi Arabia with regards to their children's oral health: A cross-sectional study. AMJ.2017; 10(11):964-72.
- 14 Vann WF, Lee JY, Baker D, Divaris K. Oral health literacy among female caregivers: impact on oral health outcomes in early childhood. J Dent Res. 2010;89(12):1395-400.

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