



ISSN Print: 2394-7489  
ISSN Online: 2394-7497  
IJADS 2024; 10(2): 279-282  
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[www.oraljournal.com](http://www.oraljournal.com)  
Received: 23-02-2024  
Accepted: 01-04-2024

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## Assessment of mother's knowledge and attitude about their child's oral health: A questionnaire based study

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DOI: <https://doi.org/10.22271/oral.2024.v10.i2d.1953>

### Abstract

The understanding, convictions, and perspectives about oral health that parents hold directly impact how their children maintain oral hygiene, their dietary choices, and their overall oral health practices.

**Aim:** The aim of this study is to assess the mother's knowledge and attitudes regarding their child's oral health practice and related factors.

**Materials and Method:** The study will encompass a cohort of 200 mothers. A questionnaire was formulated to assess the knowledge and attitude of mothers concerning the oral health of their children (1-7 years). The provided questionnaire for the survey was completed by the mothers. The collected data were analyzed statistically and subjected to comparative evaluation.

**Result:** A total of 200 parents participated in the study. About only 77.5% of the parents brushes their child's teeth as soon as the teeth erupt, while 54% and 60.5% of the parents were found to have good attitude and practices regarding the significance of primary dentition, respectively.

**Conclusion:** Majority agreed that primary teeth were important. Education significantly influences the care of children's teeth, therefore parental awareness through oral health promotion should be integrated into all interactions with parents at healthcare facilities.

**Keywords:** Dental caries, *Streptococcus mutans*, early intervention

### Introduction

Oral health disorders stand as the foremost prevalent no communicable ailments, impacting approximately half of the global population [1]. Dental caries, a communicable infection, typically attributes *Streptococcus mutans* as the primary causative agent. Research employing phenotyping and/or genotyping methodologies strongly indicate that mothers serve as the primary reservoir of infection for children. Inadequate feeding habits by mothers or caregivers elevate the likelihood of early childhood caries onset in infants and toddlers by fostering the premature colonization of *S. mutans* in the oral environment [2].

As per the American Academy of Paediatric Dentistry (AAPD), monitoring the timing and progression of primary, mixed, and permanent tooth eruption and development constitutes a fundamental aspect of comprehensive oral healthcare for all pediatric dental patients. The eruption of primary teeth begins at 6 months and is completed by around 3 years of age. A full set of primary teeth is crucial for mastering accurate speech, fostering effective chewing, directing the permanent teeth towards appropriate alignment, and ensuring favourable aesthetics [3]. Even though permanent teeth begin their formation during early childhood, typically from ages 0 to 3, the process of eruption typically commences around the age of 6 and continues thereafter. As the first molar erupts, the oral cavity constitutes of mixed dentition, thus heightening the risk of caries. Hence, it is crucial to ensure the maintenance of healthy primary teeth until their natural shedding process. The groundwork for the sound development of permanent teeth in children and adolescents is established during their initial year of life. Numerous research findings indicate a correlation between inappropriate dietary frequency, unhealthy eating practices, and insufficient oral hygiene practices during the initial three years of life and the occurrence of tooth decay in children. Neglecting decayed primary teeth heightens the likelihood of subsequent caries development in permanent teeth,

consequently impacting the individual's quality of life [4]. Research suggests that the more favorable parents' attitudes are towards dentistry, the improved dental health outcomes tend to be observed in their children. The oral health maintenance and outcomes of young children are shaped by their parents' knowledge and beliefs, influencing practices related to oral hygiene and nutritious dietary habits. Effective preventive strategies against dental diseases become challenging to implement without a foundational understanding of caries risk factors, the significance of primary teeth, and proper oral hygiene practices. Parent's knowledge and positive attitude toward good dental care are very important in the preventive cycle [5]. The aim of this study was to assess the mother's knowledge and attitude regarding their child's oral health practice and related factors.

**Materials and Methods**

The sampling frame for this study comprised mothers of the children aged between 0 to 7 years, attending the pediatric Department of Kothiwal Dental College and Research Center, Moradabad.

A total of 200 mothers participated in the study. A questionnaire was designed to assess the knowledge and the attitude of mothers regarding oral health of their children (1-7 years). Parents of children who were willing to participate the survey were asked to fill a set of 15 questions.

The initial section of the questionnaire included gathering demographic information about the participant, encompassing details such as name, age, gender, the age and gender of the child, the number of siblings accompanying the parent and child, and the residential location. The subsequent segment comprised inquiries regarding understanding of primary teeth, their roles, impact on permanent teeth, and the significance of fluoride.

**Result**

**Table 1:** When did you start using tooth brush on yours child's teeth

|  | Frequency (n) | Percentage (%) |
|--|---------------|----------------|
| As soon as 1 <sup>st</sup> tooth erupt | 75            | 37.5           |
| 1 year of age                          | 84            | 42             |
| 1 year of age                          | 41            | 20.5           |
| Total                                  | 200           | 100            |

Table 1: Among 200 participants, a significant portion, constituting 84 individuals (42%), reported that mothers

**Table 5:** In study, However only mothers of 50 participants i.e 25% of the total participants were aware about prevention of tooth decay by using fluoride toothpaste

|   | Agree N (%) | Disagree N (%) | Don't know N (%) |
|---|-------------|----------------|------------------|
| Use of fluoride toothpaste can prevent tooth decay                                  | 50 (25%)    | 84 (42%)       | 66 (33%)         |
| If a baby sleeps with the milk bottle all night, this will result in holes in teeth | 91(45.5%)   | 78 (39%)       | 31 (15.5%)       |

Table 5: In this study, however only mothers of 50 participant's i.e 25% of the total participants were aware about prevention of tooth decay by using fluoride toothpaste. And mothers of 91 participant's i.e 45.5% of the total participants agreed with the result of formation of holes in teeth by keeping a baby to have sleep with milk bottle all night. Table 6: In this study, mothers of 108 participants i.e 54% of the total participants were aware about the importance of milk teeth.

initiated brushing their child's teeth at the age of one year. This was followed by 75 participants (37.5%) whose mothers began brushing their child's teeth immediately upon the eruption of the first tooth. The remaining participants, accounting for 41 individuals (20.5%), indicated that brushing commenced after the child reached one year of age.

**Table 2:** How many times your child brushes his /her teeth in a day

|       | Frequency (n) | Percentage (%) |
|-------|---------------|----------------|
| 0     | 0             | 0              |
| 1     | 79            | 39.5           |
| 2     | 121           | 60.5           |
| Total | 200           | 100%           |

Table 2: Of the total 200 participants, the majority, comprising 121 individuals (60.5%), stated that their children brush their teeth twice daily. Subsequently, 79 participants (39.5%) reported their children brushing once daily.

**Table 3:** How often you change yours child's brush

|                           | Frequency (n) | Percentage (%) |
|---------------------------|---------------|----------------|
| 3 months                  | 35            | 17.5           |
| 6 months                  | 92            | 46             |
| As soon as it gets frayed | 73            | 36.5           |
| Total                     | 200           | 100%           |

Table 3: Among the 200 participants, the mothers of the majority, numbering 92 individuals (46%), stated that they replace their child's toothbrush every six months. Following this, 73 participants' mothers (36.5%) reported changing the toothbrush as soon as it becomes frayed. Lastly, 35 participants' mothers (17.5%) mentioned replacing the toothbrush every three months.

**Table 4:** What kind of toothpaste do you use for your child

|                 | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| Fluoridated     | 50            | 50             |
| Non-Fluoridated | 50            | 50             |
| I don't know    | 100           | 100            |
| Total           | 200           | 100%           |

Table 4: Of the total 200 participants, all parents, accounting for 100% of the respondents, reported not being aware of the type of toothpaste they use for their child. Among the mothers specifically, half, or 50%, stated that they use fluoridated toothpaste for their child, while the other 50% mentioned not using fluoridated toothpaste for their child.

Mothers of 88 participants i.e 44% of the total participants considered that infection from decay milk tooth can spread to permanent tooth.

Mothers of 102 participants i.e 51% of the total participants considered that sugar containing diet causes dental decay in children. Mothers of 48 participants i.e 24% of the total participants were aware of the space present between the milk teeth.

**Table 6:** In this study, mothers of 108 participants i.e 54% of the total participants were aware about the importance of milk teeth.

|   | Yes N (%) | No N (%)  | May be N (%) |
|---|-----------|-----------|--------------|
| Do you think milk teeth are important   | 108 (54%) | 54 (27%)  | 38 (19%)     |
| Do you feel that infection from decay milk tooth can spread to permanent tooth lying under it and damage it | 88 (44%)  | 62 (31%)  | 50 (25%)     |
| Does sugar containing diet/drink cause dental decay in children   | 102 (51%) | 20 (10%)  | 78 (39%)     |
| Do you think space between milk teeth are normal  | 48 (24%)  | 80 (40%)  | 72 (36%)     |
| Are you aware that root canal treatment and capping can be done for milk teeth as well                      | 32 (16%)  | 110 (55%) | 58 (29%)     |
| Do you ever hear of fissure sealant   | 4 (2%)    | 134 (67%) | 62 (31%)     |

Mothers of 32 participants i.e 16% of the total participants were aware of the root canal treatment and capping on milk teeth. Mothers of 4 participants i.e 2% of the total participants were aware of fissure sealants.

**Table 7:** What amount of toothpaste should be placed on a brush

|                | Frequency (n) | Percentage (%) |
|----------------|---------------|----------------|
| Small pea size | 50            | 25             |
| Full length    | 84            | 42             |
| Doesn't matter | 66            | 33             |
| Total          | 200           | 100%           |

Table 7: Out of 200(100%) participants, mothers of majority of the participants i.e 84 (42%) used full length toothpaste on their child's brush, followed by mothers of 66 participants (33%) were not aware about the amount of toothpaste on the brush followed by mothers of 50 participants (20.5%) used small pea size toothpaste on their child's brush.

**Table 8:** How often do you think your child should visit a dentist?

|                              | Frequency (n) | Percentage (%) |
|------------------------------|---------------|----------------|
| 6 months                     | 30            | 15%            |
| Yearly                       | 65            | 32.5%          |
| When a child has any problem | 105           | 52.5%          |
| Total                        | 200           | 100%           |

Table 8: Out of 200(100%) participants, mothers of majority of the participants i.e 105 (52.5%) only visited dentist when their child had problem, followed by mothers of 65 participants (32.5%) visited dentist yearly, followed by mothers of 30 participants (15%) visited dentist for their child 6 monthly.

**Discussion**

This study investigated how parents' understanding, beliefs, and behaviors regarding oral health relate to different factors impacting the significance of their children's baby teeth. Parents, particularly mothers, serve as influential figures for their children, shaping their behaviors and attitudes. This study contributes valuable insights to the existing knowledge regarding mothers' awareness of infant oral hygiene. The questionnaires specifically target mothers' understanding of pertinent risk and protective factors that can impact oral health [2].

Research findings indicate a significant correlation between children's tooth brushing habits and parental attitudes regarding the importance of fostering good oral hygiene. Additionally, socio-demographic factors have been noted to influence mothers' understanding of oral health.

According to the current study, around 48% of mothers began brushing their children's teeth only after they reached the age of one year. In contrast to findings from other studies, parents demonstrated a lack of awareness regarding the recommendation to initiate tooth brushing as soon as the child's first tooth emerges. The questionnaires specifically

aim to assess mothers' comprehension of critical risk and protective factors influencing oral health [6].

It's essential to maintain the habit of brushing teeth at least twice daily: once in the morning before breakfast and again at night after the last drink. According to Attin T *et al.* [7] most patients fails to achieve sufficient plaque removal. Therefore, highlighting the importance of brushing teeth twice daily to enhance plaque control.

Reportedly, 60.5% of the mothers in our sample made their children brush twice daily. While the study population showed a strong awareness that items containing sugar can cause tooth decay, this finding aligns with a study conducted by Jain *et al.* [8] indicating limited understanding among respondents regarding the connection between snacking frequency and tooth decay.

Thakare *et al.* [9] in his study noted that most mothers were cognizant of the significance of primary teeth. Similarly, participants in the present study expressed the belief that deciduous teeth were important and expressed a desire to preserve them until they naturally fall out.

Dentifrice plays a crucial role in preventing the build-up of dental plaque, making the selection of the most suitable dentifrice particularly important, especially for developing teeth. These toothpastes contain fluoride, which, when used in appropriate amounts, can help prevent tooth decay. In the present study, 100% of mothers was not aware that their child use fluoridated or non-fluoridated toothpaste, they only persuaded by brand advertisements. Contrary to the findings of a previous study, conducted by Tay HL *et al.* [10] only 25% of the mothers were aware of the importance of fluoride in preventing dental caries.

In the present study, 52.5% of parents visited dentist only when the child had any problem because they viewed dental treatment for deciduous teeth as unimportant and the most common reason for this reluctance was perceived to be expenditure of time and money on temporary dentition.

The oral health status and utilization patterns of dental services in later stages, such as adulthood, are shaped by the circumstances established during infancy. Parents, particularly mothers, should be supported in understanding their role as role models for their children and encouraged to enhance their child's dental health habits.

**Conclusion**

Knowledge, attitude and practice regarding the importance of primary dentition was good in almost half of the study participants. Many participants had awareness about oral hygiene. However most of the participants were not aware of fluoride application for prevention of dental caries. Thus, improving awareness among mothers by oral health education and oral health promotion is crucial in the care of child's oral health.

**Conflict of Interest**

Not available

**Financial Support**

Not available

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**How to Cite This Article**

Gayana A, Bezborah B, Chaudhary S, Manuja N. Assessment of mother's knowledge and attitude about their child's oral health: A questionnaire based study. *International Journal of Applied Dental Sciences*. 2024; 10(2): 279-282.

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