

Assessment of Knowledge and Attitude of Yemeni Mothers Toward Their Children's Oral Health Status

Reema A. Al-Eryani^{1*}, Latifa A. Al-Najjar²

¹Assistant Professor of Pediatric Dentistry, Faculty of Dentistry, Sana'a University, Yemen

²Assistant Professor of Oral Diagnosis and Radiology, Faculty of Dentistry, Sana'a University, Yemen

DOI: <https://doi.org/10.36348/sjodr.2025.v10i01.008>

Received: 17.12.2024 | Accepted: 22.01.2025 | Published: 24.01.2025

*Corresponding author: Reema A. Al-Eryani

Assistant Professor of Pediatric Dentistry, Faculty of Dentistry, Sana'a University, Yemen

Abstract

Aim of the study: To assess the attitude and knowledge among Yemeni parents toward their child's oral health practice and habits with associated factors. **Subjects and methods:** This study was carried out using three hundred self-administered structured questionnaires for parents or guardians. Demographic variables, knowledge of dental health, oral health, and dietary practices concerning dental care, and attitudes toward oral health were assessed. The correlation between sociodemographic status and oral health knowledge and practice was evaluated. **Result:** results showed that the mean caregiver's level of knowledge is 53.9%. Most mothers have good knowledge about the age of primary teeth eruption 71.9% and exfoliation 64.9%, the significance of primary teeth 78.4%, what causes the most common dental disease affects teeth 91.8%, and the importance of cleaning teeth 85.4%. 68.4% Cleaned their teeth, and most of them 78.4% remained to encourage their children to clean their teeth. Mothers have bad knowledge about the time to start brushing their children's teeth 46.8% and the role of fluoride in preventing dental caries 32.2%. There was a statistically significant correlation between the level of knowledge and the mother's education level and occupation. **Conclusion:** Yemeni mothers have average knowledge of their children's oral health status. There was a statistically significant relation between the mother's education level and the level of knowledge. The mother's education level group (Professional) ranked first with a knowledge level (73%).

Keywords: Oral health awareness, Knowledge, Education level, Mothers, Parents, Yemeni population.

Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Dental caries is a common disease in children and is considered a major public health problem worldwide [1]. According to the *WHO Global Oral Health Status Report (2022)* oral diseases affect close to 3.5 billion people worldwide, with 3 out of 4 people living in middle-income countries. Globally, an estimated 2 billion people suffer from caries of permanent teeth and 514 million children suffer from caries of primary teeth [2].

Dental caries is a multifactorial disease related to many risk factors such as dietary habits, oral hygiene practices, nutritional imbalances, salivary flow and composition, use of fluorides, etc. [1].

According to the American Academy of Pediatric Dentistry (AAPD), the guidance of eruption and development of the primary, mixed, and permanent

dentitions are an integral component of comprehensive oral health care for all pediatric dental patients [3]. A complete set of primary dentitions is an essential prerequisite. Primary teeth have an important role in the development of speech and pronunciation, chewing, guiding the eruption of permanent teeth correctly for proper occlusion and accepted esthetic. Therefore, the primary dentition must be maintained in good health and preserved until normal exfoliation [4].

Oral health is the base of general health and represents an essential role in the life of a child and the presence of healthy permanent teeth [5, 6]. The child especially in the early years of his life regarded his parents as a real model in everyday life and habits. Parental habits of oral health and hygiene directly influence the child's oral health [6].

In Yemen, the knowledge and attitude of parents/caregivers about the oral health of their children have not been reported previously.

Aim of the study:

1. To assess the knowledge and attitude of Yemeni mothers toward their children’s oral health.
2. To evaluate the correlation between demographic factors and the mother’s level of knowledge.

MATERIALS AND METHODS

A cross-sectional study was conducted in the outpatient clinics of Pediatric and Preventive Dentistry, College of Dentistry, Sana’a University, Yemen. A self-administered structured 513 questionnaires were fulfilled by the attended mothers of children up to 12 years.

The questionnaire consisted of 29 questions, including the demographic data. It focused on the mother’s level of knowledge and attitude about oral health, oral hygiene practices, and the role of diet in preventing dental caries. A questionnaire was designed

in English and fulfilled by the researcher in which the questions were translated into Arabic and asked at the same time verbally.

After completing each questionnaire, the mother was aware of and demonstrated the importance of primary teeth, correct oral hygiene practices, a balanced diet, the correct method of feeding, and the prevention of dental caries.

RESULTS

The study consisted of 513 questionnaires fulfilled by mothers.

Baseline Characteristics of Survey Participants:

Table (1) shows that among the 1026 parents who participated in the study, the majority of the fathers were workers, representing 34.5% (177). While for mothers, most of them were housewives, representing 69.6% (357). Both fathers and mothers finish university at their education level, representing 59.7% (291), and 35.1% (180) respectively.

Table 1: Sociodemographic profile of child parents

| Sociodemographic characteristics | | Frequency(n) | Percent |
|-----------------------------------|--------------------|--------------|-------------|
| Mother's age | Less than 30 years | 201 | 39.2% |
| | 30-40 years | 243 | 47.4% |
| | 41-50 years | 60 | 11.7% |
| | More than 50 years | 9 | 1.8% |
| | Total | 513 | 100% |
| Mother's occupation | Employee | 33 | 6.4% |
| | Doctor | 24 | 4.7% |
| | Dentist | 27 | 5.3% |
| | Worker | 12 | 2.3% |
| | Housewife | 357 | 69.6% |
| | Teacher | 51 | 9.9% |
| | Student | 9 | 1.8% |
| | Total | 513 | 100% |
| Mother's educational level | Primary | 90 | 17.5% |
| | Secondary | 72 | 14.0% |
| | High school | 129 | 25.1% |
| | University | 180 | 35.1% |
| | Professional | 9 | 1.8% |
| | Not educated | 33 | 6.4% |
| | Total | 513 | 100% |

A. Frequency and Percentage of Caregiver Knowledge about Oral Health & Primary Teeth:

As shown in Table 2, Almost half of the mothers have three children or more representing 48%. The majority know the time of eruption and exfoliation of primary teeth, representing 71.9 %, and 64.9%, respectively. Nearly half of the participants know that the child has 20 primary teeth (56.7%). About 91.8% agreed that dental caries is the most common dental disease affecting teeth.

However, only 7.6% know that both sugar consumption and bad oral hygiene are the main causes of dental caries. Almost half of them know about the time at which they must start cleaning their child’s teeth. Only 18.7% agreed that teeth must be brushed after meals and 14% changed their child’s toothbrush every three months.

In addition, the majority of participants agreed that chocolate is the most common food items that cause tooth decay 87.7%. almost all mothers prefer breastfeeding 97.7%

Table 2: Frequencies (n) and percentages (%) of parents' knowledge questionnaire (correct answer in bold) (multiple choice Q.)

| Care giver knowledge about oral health & primary teeth | | Frequency | Percent |
|---|---|------------------|----------------|
| How many children are in the family? | One child | 126 | 24.6% |
| | Two children | 141 | 27.5% |
| | Three children or more | 246 | 48.0% |
| At what age the first primary tooth erupts | 6-10 months | 369 | 71.9% |
| | 10-16 months | 90 | 17.5% |
| | I don't know | 54 | 10.5% |
| At what age the child's first tooth falls off | Less than 6 years | 69 | 13.5% |
| | Six years and more | 333 | 64.9% |
| | I don't know | 111 | 21.6% |
| Number of primary teeth | 20 | 291 | 56.7% |
| | 20 - 30 | 48 | 9.4% |
| | I don't know | 174 | 33.9% |
| According to you, what is the significant of primary teeth? | Eating | 402 | 78.4% |
| | Appearance | 30 | 5.8% |
| | Eating and Appearance | 75 | 14.6% |
| | I don't know | 6 | 1.2% |
| According to your knowledge, what is the most common dental disease affecting teeth | Gingival diseases | 12 | 2.3% |
| | Dental caries | 471 | 91.8% |
| | Another disease | 3 | 0.6% |
| | Gingival diseases and Dental caries | 12 | 2.3% |
| | I don't know | 15 | 2.9% |
| What is the cause of dental caries? | Sugar consumption | 387 | 75.4% |
| | Bad oral hygiene | 72 | 14.0% |
| | Sugar consumption and Bad oral hygiene | 39 | 7.6% |
| | I don't know | 15 | 2.9% |
| Do you know the time at which you start cleaning your child's teeth | At the time of the eruption of first primary tooth | 240 | 46.8% |
| | At the time of the eruption of the first permanent tooth | 129 | 25.1% |
| | I don't know | 144 | 28.1% |
| How many times should the child brush his/her teeth | Once daily | 117 | 22.8% |
| | Twice daily | 267 | 52.0% |
| | After meals | 96 | 18.7% |
| | I don't know | 33 | 6.4% |
| How often do you change your child tooth brush | Every three months | 72 | 14.0% |
| | Every 6 months | 114 | 22.2% |
| | If becomes old | 210 | 40.9% |
| | I don't know | 117 | 22.8% |
| The most food items that lead to tooth decay | Chocolate | 450 | 87.7% |
| | Biscuits | 24 | 4.7% |
| | Fruits | 3 | 0.6% |
| | Chocolate and Biscuits | 27 | 5.3% |
| | I don't know | 9 | 1.8% |
| What is the best time to give sweets and chocolates to your child | After meals | 354 | 69.0% |
| | Between meals | 96 | 18.7% |
| | At night before bed | 3 | 0.6% |
| | I don't know | 60 | 11.7% |
| Breast feeding or bottle feeding | Breast feeding | 501 | 97.7% |
| | Bottle feeding | 12 | 2.3% |

Table 3, shows that caregivers have almost a good knowledge about teeth brushing habits as they say that they help their child brush 62.6%, reminding and encouraging them to brush their teeth 78.4%, but they don't know the role of fluoride in preventing caries and

half of them don't know if their toothpaste contains fluoride or not 56.7%. The majority don't use dental floss 91.2%. almost half of them 45.6% agreed that it is ok for the child to sleep with a milk bottle in his mouth.

Table 3: Frequencies (n) and percentages (%) of parents' knowledge questionnaire (YES/NO Q.)

| Care giver knowledge about oral health & primary teeth | | Frequency | Percent |
|--|--------------|-----------|---------|
| Do you know the consequence of dental caries in primary teeth | Yes | 303 | 59.1% |
| | No | 210 | 40.9% |
| Do you know how to prevent dental caries | Yes | 375 | 73.1% |
| | No | 138 | 26.9% |
| Do you know the importance of cleaning teeth | Yes | 438 | 85.4% |
| | No | 75 | 14.6% |
| Does your child brush his/her teeth | Yes | 351 | 68.4% |
| | No | 162 | 31.6% |
| Do you encourage and remind your child to brush his/her teeth | Yes | 402 | 78.4% |
| | No | 111 | 21.6% |
| Do you help your child brushing his/ her teeth | Yes | 321 | 62.6% |
| | No | 192 | 37.4% |
| Do you Supervised your child while brushing his/her teeth | Yes | 294 | 57.3% |
| | No | 219 | 42.7% |
| Does your child rinse his/her mouth after eating | Yes | 168 | 32.7% |
| | No | 345 | 67.3% |
| Do you know the role of fluoride in tooth paste | Yes | 165 | 32.2% |
| | No | 348 | 67.8% |
| Does your child use tooth paste with fluoride | Yes | 117 | 22.8% |
| | No | 105 | 20.5% |
| | I don't know | 291 | 56.7% |
| Does your child use dental floss | Yes | 45 | 8.8% |
| | No | 468 | 91.2% |
| Is it ok for child to sleep with milk bottle in his mouth | Yes | 234 | 45.6% |
| | No | 72 | 14.0% |
| | I don't know | 207 | 40.4% |
| Do you need to clean child mouth after milk feeding? (Either breast or bottle) | Yes | 216 | 42.1% |
| | No | 126 | 24.6% |
| | I don't know | 171 | 33.3% |

The mother's level of knowledge about oral health & primary teeth:

The study shows the percentage of caregivers who answered individual questions correctly. They have a good knowledge of all oral health habits except the cause of dental caries and brushing teeth habits,

including the time of brushing their teeth and how many times they should he/she brushing. On the other hand, they have bad knowledge about using dental floss, the times of changing toothbrushes, the role of fluoride in preventing dental caries, feeding habits, and if the toothpaste contains fluoride.

Table 4: The caregiver's level of knowledge about oral health & primary teeth

| Care giver knowledge about oral health & primary teeth | Good Knowledge | | Bad Knowledge | |
|---|----------------|-------|---------------|-------|
| | N | % | N | % |
| At what age the first primary tooth erupts? | 369 | 71.9% | 144 | 28.1% |
| At what age the child's first tooth falls off? | 333 | 64.9% | 180 | 35.1% |
| Number of primary teeth | 291 | 56.7% | 222 | 43.3% |
| According to you, what is the significant of primary teeth? | 402 | 78.4% | 111 | 21.6% |
| According to your knowledge, what is the most common dental disease affected teeth? | 471 | 91.8% | 42 | 8.2% |
| What is the cause of dental caries? | 72 | 14.0% | 441 | 86.0% |
| Do you know the consequence of dental caries in primary teeth? | 303 | 59.1% | 210 | 40.9% |
| Do you know how to prevent dental caries? | 375 | 73.1% | 138 | 26.9% |
| Do you know the importance of cleaning teeth? | 438 | 85.4% | 75 | 14.6% |
| Do you know the time at which you start cleaning your child's teeth? | 240 | 46.8% | 273 | 53.2% |
| Does your child brush his/her teeth? | 351 | 68.4% | 162 | 31.6% |
| How many times should the child brush his/her teeth? | 96 | 18.7% | 417 | 81.3% |
| Do you encourage and remind your child to brush his/her teeth? | 402 | 78.4% | 111 | 21.6% |
| Do you help your child brushing his/ her teeth? | 321 | 62.6% | 192 | 37.4% |
| Do you Supervised your child while brushing his/her teeth? | 294 | 57.3% | 219 | 42.7% |

| Care giver knowledge about oral health & primary teeth | Good Knowledge | | Bad Knowledge | |
|--|----------------|-------|---------------|-------|
| | N | % | N | % |
| Does your child have to rinse his/her mouth after eating? | 168 | 32.7% | 345 | 67.3% |
| How often do you change your child tooth brush? | 72 | 14.0% | 441 | 86.0% |
| Do you know the role of fluoride in tooth paste? | 165 | 32.2% | 348 | 67.8% |
| Does your child use tooth paste with fluoride? | 117 | 22.8% | 396 | 77.2% |
| Does your child use dental floss? | 45 | 8.8% | 468 | 91.2% |
| The food items that lead to tooth decay | 450 | 87.7% | 63 | 12.3% |
| What is the best time to give sweets and chocolates to your child? | 354 | 69.0% | 159 | 31.0% |
| Breast feeding or bottle feeding? | 501 | 97.7% | 12 | 2.3% |
| Is it ok for child to sleep with milk bottle in his mouth? | 72 | 14.0% | 441 | 86.0% |
| Do you need to clean child mouth after milk feeding? (Either breast or bottle) | 216 | 42.1% | 297 | 57.9% |
| Mean caregiver's level of knowledge | 53.9% | | 46.1% | |

The comparison between the level of knowledge and variables:

1. Comparison between the level of knowledge and the mother's age:

The results showed that there were no differences between the mother's age groups in the level

of knowledge about oral health & primary teeth, as the p-value (0.494) was higher than the significance level of 0.05 Table (8).

Table 8: Comparison between level of knowledge and mother's age

| Mother's age | Level of knowledge | P value |
|--------------------|--------------------|---------|
| | Mean ± SD | |
| Less than 30 years | 0.55 ± 0.144 | 0.494 |
| 30-40 years | 0.54 ± 0.168 | |
| 41-50 years | 0.53 ± 0.214 | |
| More than 50 years | 0.40 ± 0.144 | |

Kruskal-Wallis Test

2. Comparison between level of knowledge and mother's occupation:

Table 9 revealed that there were differences between mother's occupation groups in the level of knowledge about oral health & primary teeth, as the p-

value was (0.000), which is less than the significance level of 0.05. The mother's occupation group (Doctor) ranked first with a knowledge level (71%), while the mother's occupation group (Worker) ranked last with a percentage of (41%).

Table 9: Comparison between level of knowledge and mother's occupation

| Mother's occupation | Level of knowledge | P value |
|---------------------|--------------------|---------|
| | Mean ± SD | |
| Employee | 0.60 ± 0.081 | 0.000* |
| Doctor | 0.71 ± 0.074 | |
| Worker | 0.41 ± 0.252 | |
| Housewife | 0.49 ± 0.150 | |
| Teacher | 0.64 ± 0.082 | |
| Student | 0.61 ± 0.289 | |

Kruskal-Wallis Test

3. Comparison between level of knowledge and mother's education level:

Finally, the results showed that there were differences between mothers' education level groups in the level of knowledge about oral health & primary teeth,

as the p-value was (0.000), which is less than the significance level of 0.05. The mother's education level group (Professional) ranked first with a knowledge level (73%), while the mother's education level group (Not educated) ranked last with a percentage of (44%) Table (10).

Table 10: Comparison between level of knowledge and mother's education level

| Mother's education level | Level of knowledge | P value |
|--------------------------|--------------------|---------|
| | Mean ± SD | |
| Primary | 0.45 ± 0.191 | 0.000* |
| Secondary | 0.51 ± 0.131 | |
| High school | 0.52 ± 0.150 | |
| University | 0.62 ± 0.135 | |
| Professional | 0.73 ± 0.115 | |
| Not educated | 0.44 ± 0.149 | |

Kruskal-Wallis Test**DISCUSSION**

This is the first study carried out in Yemen to assess the level of mother's knowledge and its relation to different demographic data including educational level, age, and occupation.

In this study, mothers were the main participants because they are often the main ones responsible for caring for their children and usually have more knowledge than others regarding their children's oral health [7].

The findings of this study indicate areas of strength & weakness in the knowledge of participating mothers. In general, the percentage of good knowledge of oral health of Yemeni mothers was 53.9% this may be because of lacking educational programs.

The majority of mothers have a good knowledge of the timing of eruption and the importance of primary teeth, they know that the most common disease-affected teeth is caries, but they have bad knowledge about the cause of the disease.

Regarding oral health practices, mothers were knowledgeable about the importance of teeth brushing as they encouraged & supervised their children to brush, this was truly supported by *Anand Nanasaheb Patil et al., 2021* [8].

Regarding oral health practices, the *American Academy of Pediatric Dentistry (AAPD)* [9,10] recommends the time to start brushing a child's teeth as soon as they erupt. However, mothers in the present study show bad knowledge regarding the time when they should start brushing their child's teeth.

In the present study, 52% of mothers said that children should brush their teeth twice a day. These results were lower than the study of *Anand N Patil et al., 2022* [11] wherein 81.7% agreed that children should brush their teeth twice a day.

Mothers were knowledgeable about the importance of teeth brushing as they encouraged, helped, and supervised their children to brush their teeth. So, nearly half of the mothers supervise (62.6%) and help (57.3) their children brush their teeth as it is important as

children lack manual dexterity and brushing may be ineffective. This result was acceptable but in contrast with the study done by *Gibi Syriac 2020* [12] which revealed that of the total participants, 92% of subjects acknowledged that they monitor their child's brushing.

but they ...Mothers have limited knowledge of when to change their child's toothbrush,

The results of this study show that only 32.2 % of mothers know the role of fluoride in preventing dental caries, this was in agreement with *Moulana. SA et al., 2012* [13]. Contrary to our findings *Salama et al., 2020* [14] reported that 72.5% of parents agree that fluoridated toothpaste plays an important role in preventing dental caries.

In addition, 87.7% know that chocolate is one of the items of food that cause tooth decay, which was nearly in agreement with *Nitin Khanduri et al., 2022* [15] 90%, *Peterson et al., 1990* ⁽¹⁶⁾ 74%, and *Neupaul P et al., 2020* ⁽⁷⁾ 88.9% which reported that the majority of parents knew that dental decay was caused by sweets and candy.

Although most mothers prefer breastfeeding they have bad knowledge about the role of nighttime bottle/ breastfeeding and the importance of cleaning teeth they need to after bottle or breastfeeding. This was following the results of a previous study by *Rwakatema and Ng'ang'a. 2009* [17], *Neupaul P et al., 2020* [7].

The result of this study reveals that there is a statistically significant relationship between the level of education and overall knowledge related to oral health this was truly supported by *Nitin Khanduri et al., 2018* [5]. In addition, there was an agreement with the findings of *Schwendicke et al., 2015* [18], who reported that people with lower own or parental education levels would have poorer health literacy, poorer dietary and oral health behaviors.

On the other hand, there wasn't a statistically significant relation between the mother's age and the level of knowledge, this was in agreement with *Fatimah Saud Al-shammari et al., 2021* [19] who studied the parental awareness and knowledge of their children's oral health in the city of Dammam, they found that there were statistically significant relations between

educational level and overall knowledge related to oral health and no statistical significant regarding age of parents.

CONCLUSION

1. Yemeni mothers have about 53.9 % level of good knowledge about their children's oral hygiene.
2. There was a statistically significant relation between the mother's education level and the level of knowledge.
3. The mother's education level group (Professional) ranked first with a knowledge level (73%).

The limitations of this study were that it was carried out in one institution only by random sampling method, so the outcome of the results may vary accordingly.

REFERENCES

1. Patil, A. N., Karkare, S., Jadhav, H. S., Damade, Y., & Punjari, B. K. (2022). Knowledge, attitude, and practice of parents toward their children's oral health and its influence on the dental caries status of 5-10-year-old schoolchildren in Nashik, Maharashtra: a cross-sectional study. *International journal of clinical pediatric dentistry*, 15(Suppl 2), S126.
2. Jain, N., Dutt, U., Radenkov, I., & Jain, S. (2024). WHO's global oral health status report 2022: Actions, discussion and implementation. *Oral diseases*, 30(2), 73-79.
3. Tuli, M., Gangasani, A., Khurshid, A., Manchikalapudi, J., Kadhiwala, P., Patel, J., & Tiwari, R. V. C. (2020). Knowledge of parents about multi-level influences on oral hygiene practice's in pediatric patients: a qualitative research. *Saudi J Med*, 5(5), 248-252.
4. Lone, N., Sidiq, M., Yousuf, A., & Khan, M. (2016). Parental awareness and attitudes towards preschool oral health of children visiting a Government Dental Hospital of Kashmir. *Children*, 5(4.7), 5-2.
5. Khanduri, N., Singhal, N., Mitra, M., & Rohatgi, S. (2018). Knowledge, attitude, and practices of parents toward their children's oral health: A questionnaire survey in Bhairahawa (Nepal). *Int J Pedod Rehabil*, 3(2), 59-61.
6. Mohamed, Y. S. (2020). Assessment Of The knowledge and awareness among egyptian parents in relation to oral health status of their children. *Egyptian Dental Journal*, 66(2-April (Orthodontics, Pediatric & Preventive Dentistry)), 737-746.
7. Nepaul, P., & Mahomed, O. (2020). Influence of parents' oral health knowledge and attitudes on oral health practices of children (5–12 years) in a rural school in KwaZulu-Natal, South Africa. *Journal of International Society of Preventive and Community Dentistry*, 10(5), 605-612.
8. Patil, A. N., Karkare, S. R., Jadhav, H. S., Sirikonda, S., Suryawanshi, V. B., & Patil, S. N. (2021). Knowledge attitude and practices of parents towards oral health maintenance among their children and correlation with dental caries experience-A cross-sectional study. *Medical Journal of Dr. DY Patil University*, 14(1), 40-44.
9. American Academy of Pediatric Dentistry. (2000). 2000-2001 American Academy of Pediatric Dentistry Reference Manual. *Pediatr Dent*, 22, 82.
10. American Academy of Pediatric Dentistry. Policy on the dental home. *Pediatr Dent* 2012;34:24-5.
11. Patil, A. N., Karkare, S., Jadhav, H. S., Damade, Y., & Punjari, B. K. (2022). Knowledge, attitude, and practice of parents toward their children's oral health and its influence on the dental caries status of 5-10-year-old schoolchildren in Nashik, Maharashtra: a cross-sectional study. *International journal of clinical pediatric dentistry*, 15(Suppl 2), S126.
12. Syriac, G., Kumar, A., & Jeeva, P. (2020). Knowledge, Attitude and Practices of Parents towards Oral Health Maintenance and Pulp Therapy of Deciduous Teeth. *Indian J. Dent. Educ*, 13(2), 45-52.
13. Moulana, S. A., Yashoda, R., Puranik, M. P., Hiremath, S. S., & Rahul, G. N. (2012). Knowledge, attitude and practices towards primary dentition among the mothers of 3-5 year old pre-school children in Bangalore city. *Journal of Indian Association of Public Health Dentistry*, 10(19), 83-92.
14. Salama, F., Alwohaibi, A., Alabdullatif, A., Alnasser, A., & Hafiz, Z. (2020). Knowledge, behaviours and beliefs of parents regarding the oral health of their children. *European Journal of Paediatric Dentistry*, 21(2), 103-109.
15. Khanduri, N., Singhal, N., Mitra, M., & Rohatgi, S. (2018). Knowledge, attitude, and practices of parents toward their children's oral health: A questionnaire survey in Bhairahawa (Nepal). *Int J Pedod Rehabil*, 3(2), 59-61.
16. Petersen, P. E., Hadi, R., Al-Zaabi, F. S., Hussein, J. M., Behbehani, J. M., Skougard, M. R., & Vigild, M. (1990). Dental knowledge, attitudes and behavior among Kuwaiti mothers and school teachers. *The Journal of pedodontics*, 14(3), 158-164.
17. Rwakatema, D. S. (2009). Oral health knowledge, attitudes and practices of parents/guardians of pre-school children in Moshi, Tanzania. *East African Medical Journal*, 86(11), 520-525.
18. Schwendicke, F., Dörfer, C. E., Schlattmann, P., Page, L. F., Thomson, W. M., & Paris, S. (2015). Socioeconomic inequality and caries: a systematic review and meta-analysis. *Journal of dental research*, 94(1), 10-18.
19. Alshammari, F. S., Alshammari, R. A., Alshammari, M. H., Alshammari, M. F., Albrahim, A. K., Alkurdi, K. A., & Alshammari, A. F. (2021). Parental awareness and knowledge toward their children's oral health in the city of Dammam, Saudi Arabia. *International journal of clinical pediatric dentistry*, 14(1), 100.