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KNOWLEDGE, ATTITUDE AND PRACTICES OF MOTHERS REGARDING THEIR CHILD'S ORAL HEALTHCARE: A CROSS SECTIONAL STUDY IN A PRIVATE HOSPITAL OF NORTH GUJARAT.

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ABSTRACT

Background: Children who develop caries often complain about having associated health problems such as oral pain and local infections that results in difficulty in sleeping, eating, psychological problem, reduced growth and increase in the risk of caries in permanent dentition. It has been documented that mother's knowledge regarding oral health affect maintenance and fate of their childrens' oral health by influencing their oral hygiene and healthy eating habits. Hence, this study was conducted with the aim to assess the knowledge, attitude and practices of mothers towards their child's oral healthcare. **Materials and methods:** A Cross sectional questionnaire based study was conducted in the Gynaecology and Pediatric departments of a private hospital in Visnagar, North Gujarat. Data collected was entered into MS 2013 and SPSS was used to analyse the data. Chi Square test was applied. **Results:** Mothers who had completed their graduation / post graduation answered positively regarding the fluoride content of water having a role in caries prevention, poor oral health affecting the general health of individual. The result was statistically significant with the P- value being ≤ 0.05. **Conclusion:** The current study throws some light on the relation between the educational level of mothers and their knowledge and practices related to oral healthcare of their child. Healthcare professionals should educate the prenatal mothers regarding oral health of their child.

KEYWORDS: Children, Mothers, Oral Healthcare.

INTRODUCTION

The meaning of health has evolved over time. Keeping up with the biomedical perspective, the primitive definitions of health focused on the subject of the body's ability to function. Health was seen as a state of normal function that could be disrupted from time to time by diseases.[1]

When talking about health, it is important to mention that general health of an individual is linked with the oral health. Oral health is a state of being devoid of oral diseases and conditions like - dental caries (tooth decay), periodontal disease, tooth loosening, and other diseases or disorders that would limit a person's capacity in biting, chewing, smiling, speaking and psychological well being.[2]

Oral diseases are higher among the poor and the disadvantaged population groups.[3] Oral diseases represent "what amounts to a silent epidemic affecting our most vulnerable citizens- children."[4] Dental caries is a prevalent oral health problem among preschool children, despite the well known fact that oral health is a major component of preschool children's well being. Children who develop caries often complain about having associated health problems such as oral pain and local infections that results in difficulty in sleeping, eating, psychological problem, reduced growth and increase in the risk of caries in permanent dentition.[5]

Parents or guardians are mainly responsible for all the health issues related to their children. Their role in modelling their children towards practicing preventive oral health throughout life is crucial.[6] The early years of a child involve "primary socialization" during which the primary childhood routines and habits are acquired. These include dietary habits and healthy behaviours established as norms in the home and are dependant on the knowledge and behaviour of parents.[7]

Examining the unique roles of mother and father, research has shown that mothers spend more time in everyday caregiving activities with their children and are most often the primary source of physical comfort and safety for their child. It has been documented that mother's knowledge regarding oral health affect maintenance and fate of their children's oral health by influencing their oral hygiene and healthy eating habits.[8] Parents perception of their children's oral health as being better than their own should not be mistaken for the children's oral health status as being good.[9]

The importance of a mother's knowledge on health including oral health cannot be over emphasized because most of her decisions with regard to health of her child will be based on her knowledge.[10] The lack of knowledge in part combined with behaviours and beliefs that lead to poor feeding practices, poor oral hygiene maintainance, and failure to seek professional dental care appear to place a given child at a higher risk of developing caries than other children with more care.[3]

Therefore, the present study aims to assess the knowledge, attitudes and practices of mothers towards their child's oral health care through a prevalidated questionnaire.

MATERIALS AND METHODS

A descriptive, cross sectional study was conducted among mothers visiting the Gynaecology and Pediatric Departments at a private hospital in Visnagar, North Gujarat. The study was conducted from 1st August, 2019 to 15th September, 2019. Ethical clearance was obtained from the Ethical Committee of the concerned institution.

Inclusion criteria

1. Mothers having children aged between a few months to 6 years of age were included in the study.
2. Mothers who were ready to give informed consent.

Exclusion criteria

1. Mothers who were not willing to give consent were excluded from the study.
2. Mothers and children with severe systemic conditions.

The questionnaire consisted of 2 parts. The first part consisted of demographic details of mothers like her age, educational qualification, employment status, the number of children and the age of her children respectively. The second part of the questionnaire consisted of 17 knowledge, attitude and practice type questions related to child's oral health care. The questionnaire was drafted in English initially and then converted into the local language (Gujarati) to increase the response rate of the mothers.

Statistical analysis

The data was collected and recorded in MS Excel Office 2013. The compiled data was analysed using Statistical Package for Social Sciences (SPSS) version 20.0 The descriptive values were measured using the Percentages and Chi Square test was applied where applicable.

RESULTS

A total of 200 mothers participated in the study which lasted for 45 days. The average age of mothers who participated in the study was 20 ± 2.5 years. 18% mothers were illiterate, 67% mothers had completed their schooling and 15% had completed their graduation and/ or post graduation. Majority of the mothers (73%) were housewives. 44% mothers had 2 children whereas only 4.5% had 4 children.

A P- value of ≤ 0.05 was considered statistically significant for all the questions.

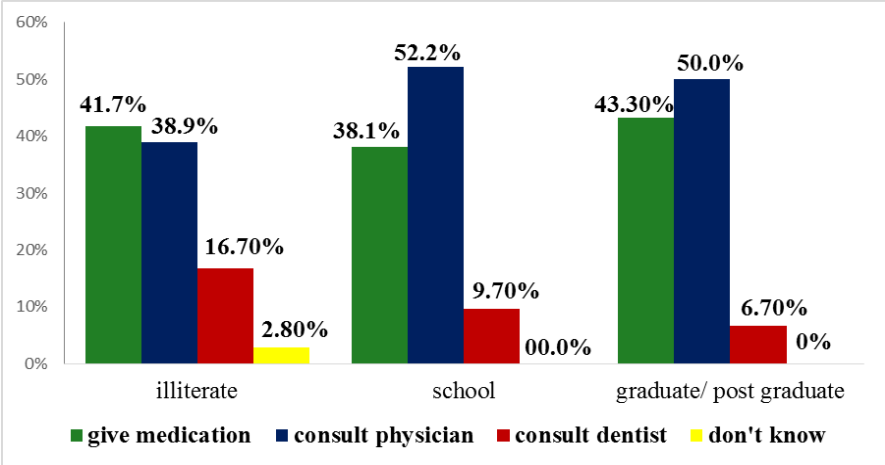
Table 1: Shows responses of mothers to the questions asked regarding their child's oral healthcare.

Questions	Answers	Education level of mothers			P-Value
		Illiterate (%)	Schooled (%)	Graduates/ Post graduates (%)	
1) When does the 1st primary tooth erupt?	Before 1st year	52.8%	62.7%	53.3%	≤ 0.05*
	After 1st year	00%	6.7%	23.3%	
	Don't know	47.2%	30.6%	23.3%	
2) Are primary teeth as important as permanent teeth?	Yes	36.1%	35.1%	23.3%	≤ 0.05*
	No	16.7%	27.6%	53.3%	
	Don't know	47.2%	37.3%	23.3%	
3) Does fluoride in drinking water prevent dental caries?	Yes	5.6%	27.6%	36.7%	≤ 0.05*
	No	22.2%	15.7%	16.7%	
	Don't know	72.2%	56.7%	46.7%	
4) Does poor oral health affect the general health of the child?	Yes	22.2%	67.2%	86.7%	≤ 0.05*
	No	41.7%	20.9%	13.3%	
	Don't know	36.1%	11.9%	00 %	
5) Do decayed primary teeth cause permanent teeth to decay as well?	Yes	33.3%	50%	56.7%	≥ 0.05
	No	33.3%	33.6%	33.3%	
	Don't know	33.3%	16.4%	20.0%	

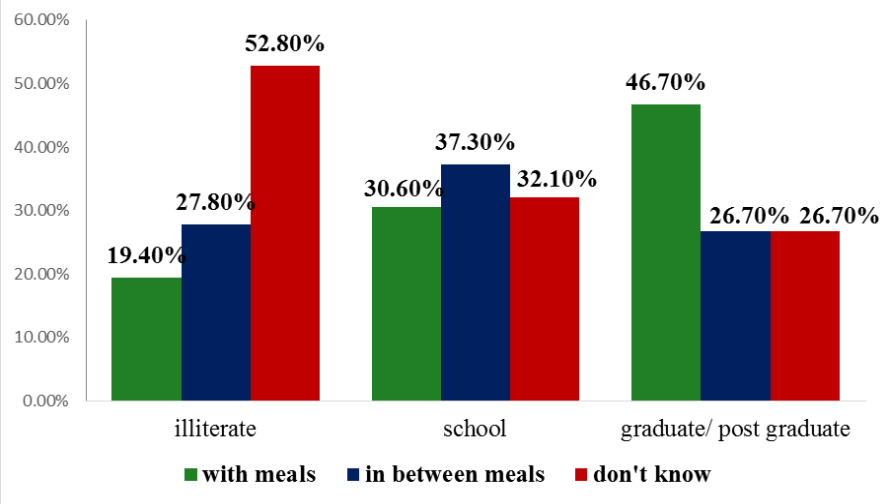
6) Does nutritious food play an important role in maintaining healthy teeth?	Yes	47.2%	83.6%	83.3%	≤ 0.05*
	No	13.9%	6.7%	6.7%	
	Don't know	38.9%	9.7%	10.0%	
7) Do you brush your child's teeth after every meal?	Yes	58.3%	82.1%	100%	≤ 0.05*
	No	33.3%	15.7%	00%	
	Don't know	8.3%	2.2%	00%	
8) Does frequent and prolonged bottle feeding cause dental caries?	Yes	30.6%	53.0%	46.7%	≤ 0.05*
	No	30.6%	14.9%	30.0%	
	Don't know	38.9%	32.1%	23.3%	
9) Does thumb sucking have any adverse effects on the child's teeth?	Yes	50.0%	39.6%	70.0%	≤ 0.05*
	No	2.8%	32.1%	6.7%	
	Don't know	47.2%	28.4%	23.3%	

**- denotes statistically significant results*

As seen in the table above, majority of the illiterate, schooled and graduated mothers knew that the first tooth erupts before the child turns one. This result was statistically significant. 72.2% of illiterate mothers and 56.7% of schooled mothers did not know if fluoride in drinking water prevents dental caries. 53.3% of the graduate and / or post graduate mothers replied that primary teeth are not as important as permanent teeth, whereas, 47.2% of illiterate mothers did not know their importance at all. This result too was significant among all the educational groups. Majority of mothers from all educational groups brushed their child / childrens teeth after every meal. Mothers from all educational groups replied positively when asked about nutritious food playing an important role in maintainance of oral health.

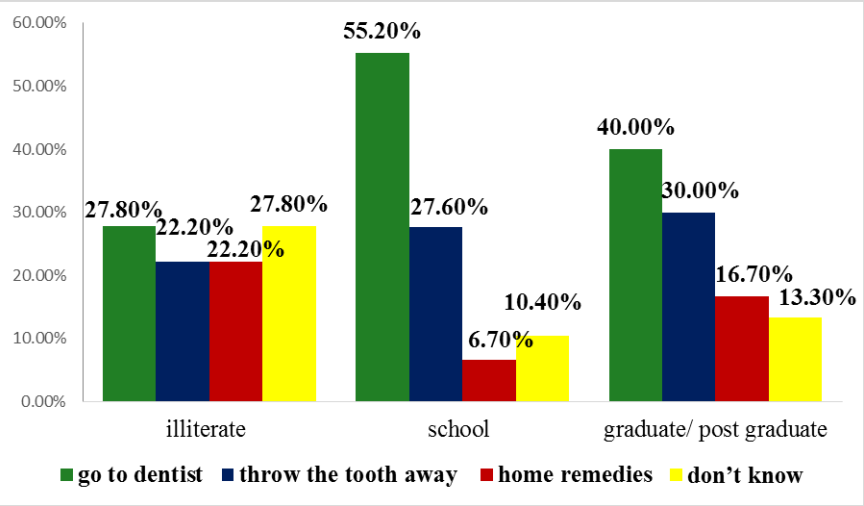


Graph 1: Depicts the responses of mothers regarding what they would do when their child had a toothache. (P-Value – ≥ 0.05).



Graph 2: Depicts the responses of mothers regarding when do they give sugary foods to their child. (P – Value - ≤ 0.05*)

*- *denotes statistically significant results*



Graph 3: Depicts the responses of mothers regarding what they would do if the child has any injury and the tooth/ teeth fall off. (P- Value – ≤ 0.05*)
*- *denotes statistically significant results*

Graph 1 depicts what the mothers would do when their child suffers from tooth ache. Majority of the schooled (52.2%) and graduate / postgraduate mothers (50%) answered consulting their physician in case their child had a toothache. Surprisingly, 16.7% of the illiterate mothers replied that they would consult a dentist for their child's toothache, which was highest among all the educational groups.

Graph 2 depicts the time during which mothers think is appropriate to give sugary foods to their children. 52.8%, 32.1% of the illiterate and schooled mothers, respectively, did not know the appropriate time to give sugary foods to their children. 46.7% of the graduate mothers, however, replied that they would give sugary foods to their children during meals itself.

Graph 3 shows the responses of mothers of what they would do when the child suffers an injury and the teeth/ tooth falls off. 55.2% of the schooled mothers replied going to the dentist if the child suffers a dental injury. 22.2% of illiterate mothers and 30% of the graduate / post graduate mothers replied with "throwing away the tooth / teeth" when it is injured. This result was statistically significant among all the groups.

DISCUSSION

There are 5 key determinants of health as stated by Fisher – Owens et al: 1) genetic and biological factors, 2) the social environment, 3) physical environment, 4) health behaviours and 5) dental and medical care.[2] As compared to medicine, dentistry faces a huge challenge when it comes to prevention of oral diseases and promotion of good oral health. These challenges get more complicated when it comes to promotion of oral health of children.[2]

The best opted model for promotion of child oral healthcare is "the Pediatric triangle". It is a model which indicates that promotion and treatment of oral healthcare in children is a three way interaction between the child, the pediatric dentist and the parents.[11] In this model the child is placed as the apex of the triangle signifying that every treatment needs to be carried out keeping the child's best interest at heart.[11] Knowledge and awareness are necessary pre requisites for changes in behavior, including behaviors related to health and disease prevention.[12]

In the present study, 15% of mothers had completed their graduation/ post graduation. In a similar study conducted by Gurunathan D et al, in Tamil Nadu, 65% mothers were graduates or had a diploma degree. In their study, only 35% mothers had completed their education upto the school level. In contrast to their study, a maximum of 67% of mothers had completed their education upto school level.[10]

Majority of the mothers in our study (73%), were housewives which meant they were spending almost all of their time with their child/ children. Majority of mothers in our study had good knowledge regarding the eruption of the first primary tooth, which was in accordance with a study conducted by Shinde PP et al[7] and Kakatkar et al.[13]

When asked about the importance of primary teeth, a majority of the mothers were unaware. This may be due to beliefs or cultural based opinions. Maternal belief towards dental health related behaviour could be different among different communities and ethnic groups.[14] This stresses a need for gynaecologists, pediatricians , health care workers who come in contact with expecting mothers to impart knowledge regarding the importance of primary teeth and thus help in oral

health promotion. This result was in contrast to a study conducted by Suresh BS et al who stated that graduate mothers were well aware of the importance of primary teeth and the result was also statistically significant (p-value =0.001).[8]

The fluoride content in water in North Gujarat is higher than in the other parts of the state. It is a well known fact that optimal fluoride content in water may serve as an effective tool in prevention of dental caries.[3] In the present study, as many as 72.2 % of the illiterate mothers and 56.7 % of the schooled mothers had no idea about the importance of the fluoride content in water. In a study conducted by Mahmoud N et al, a majority (51.7%) of mothers recognized the importance of fluoride as a tool to prevent dental caries in Saudi Arabia.[3] Gussy MG et al stated that there should be good knowledge among mothers of the background levels of fluoride in their area. Then only, can they can understand the appropriate amount of fluoridated toothpaste to be given to their child in order to prevent dental caries.[15]

Many studies have documented the impact of good oral health on general health. A child's oral health too, should not be overlooked in this aspect. In the present study, majority of graduated and school mothers agreed that oral health is imperative for general health. However, the same could not be said for the illiterate mothers. Majority of the illiterate mothers (41.7%) disagreed with this statement. Primary teeth are extremely important to chew food properly during the formative years where child is mainly dependant on nutrition for his/ her growth and development.[3] Mahmoud et al reported that total of 99% mothers agreed that oral health is essential for general health of the child.[3] however, the same cannot be said for our study population. But, majority of the mothers (83%) of the school and graduate mothers) do agree that nutritious food does play an important role in maintaining good oral health of child.

The result was significant regarding the brushing of child's teeth after every meal. 100% of the graduate/ post graduate mothers reported positively that they brushed their child's teeth after every meal. Mothers with higher education felt it was important to brush their child's teeth frequently after meals. This could go a long way to motivate children on better oral hygiene practices in the future.[10] Tooth brushing is an important preventive method for dental caries.[10] In a study conducted by Sultan S et al , the mothers did not engage in tooth brushing of their children after meals. They stated that they had been taught to brush their teeth only once hence, the same practice is carried on their children too.[9] This clearly shows that the mothers own self care habits has an impact on the child's dental health.[15,16] A study by Hood et al in the United Kingdom stated that mothers had good knowledge regarding the causes of dental caries but their knowledge regarding the practices of tooth brushing were limited.[16]

Dental pain is very common in primary teeth. Dental pain management of children is also equally important. In the present study, majority of mothers agreed that if child had dental pain, they would take the child to the dentist only. A fair number of mothers (16.7% of illiterate mothers and 20.9% of school pass mothers) agreed that they would take the child to their general physician / pediatrician. However, in another study, by Sultan S et al only 4.8% mothers agreed that they would take their child to the dentist.[9]

The relation between time of sweet food consumption and caries activity is very well established by the Stephan's Curve. It is a cycle that depicts the relation between demineralization and remineralisation in the oral cavity. It has been stated by many that sweet foods given during meal times prevent dental caries. In fact, in between meal snacking has also been stated as a culprit for dental caries formation.[17] Keeping this in mind, the mothers were questioned about the correct time to give sweet foods to their children. 52.8% of the illiterate mothers did not know the importance of this. Only 46.5% of the graduate mothers, answered that sweet foods should be given during meal time itself. In contrast, a study conducted by Lin et al.[18] and Pradeep Kumar et al,[19] majority of mothers (73.9%) had good knowledge regarding the role of sweet food in dental caries formation. Gurunathan D et al also reported similar results of mothers having good knowledge regarding the sweet food consumption.[10] However, unlike in our study, time of the sweet food consumption has not been mentioned by many.

A study conducted by Mahmoud N et al 695 mothers gave sugary snacks in between meals and only a mere 5% practiced the sugar foods to meal times.[3] Alkhtib A et al reported that 42% of children in their study reported to have a habit of frequent snacking and the snack items almost constituted sugary foods.[20] The 'time' of this sweet food consumption is extremely important and should be emphasized more in literature. The result of our study was significant which may lead to the possible explanation that mothers with a higher education may have access to proper information regarding oral hygiene practices than those with lower education or those who were illiterate.[11] Sweetened drinks and starchy foods are considered to be extremely cariogenic and are found to be associated with the tooth decay.[21]

Prolonged and frequent bottle feeding has been linked to dental caries. Mothers who finished school education knew the importance of bottle feeding (53%), in the present study as compared to mothers belonging to the other two groups. A possible explanation for this might be that the main source of information could be from the elders of the family which has been a common practice in many regions.[4] In a study conducted in Nepal, only 29% of respondents knew that prolonged and frequent bottle feeding causes dental caries.[22] Similar studies of these results were reported by Maulana et al.[23] and

Wyne et al.[24] Gussy et al reported that the content of the bottle is more important than the apparent use of the bottle.[15]

The present study also showed statistically significant results about injury to primary teeth. Most of the mothers agreed that any injury to teeth of child should be treated by a dentist only and not any family physician. Additionally the mothers were also asked if their child had a habit of thumb sucking beyond the age of 2/3 years, would it cause any adverse effects on the child's dentition. 70% of the graduate mothers answered in the affirmative, although the result was not significant.

This study shows that education does play an important role in helping people assess information properly. Therefore, the graduate / post graduate mothers had good knowledge and attitude as compared to mothers who had completed their schooling or who were illiterate. Educated mothers were, moreover, able to implement proper practices in themselves which in turn reflected in their practices towards their children. This study also throws light on how illiterate mothers need to be educated about the importance of their child's oral health. This could be done collectively by the gynaecologists as well as the pediatricians who come in contact with these expecting mothers.

CONCLUSION

The present study emphasized the need to educate the illiterate mothers. Certain beliefs and cultural and ethical practices should be bought to light and parents should be advised on it. First time mothers should be counselled on how to take care of their child's oral health starting from birth. Mothers should be instructed on the importance of nutritious food and substitutes for sugary foods. Teeth brushing habits should be taught well in advance and mothers should assist their child/ children in brushing teeth till they are capable of doing so on their own. Mothers should normalize visits to the dentist so that the child can familiarize with the dentists and preventive treatments could be started earlier on. Educating the parents (especially the mothers) could go a long way in promoting oral health of children.

Although this was a preliminary study conducted in this area, more studies need to be conducted for longer duration of time in order to gain better results.

REFERENCES

1. Park K. Park's Textbook of Preventive and Social Medicine. 25th edition. M/s Banarasidas Bhanot Publishers, 2019; 17.
2. Lee S, Kim H, Lee J, Kim J. Association between Maternal and Child Oral Health and Dental Caries in Korea. J Public Health: From Theory to Practice, 2019; 27: 219-227.
3. Mahmoud N, Kowash M, Hussein I, Hassan A, Al Halabi M. Oral Health knowledge, attitude, and practices of Sharjah mothers of pre school children, United Arab Emirates. J Int Soc Prevent Communit Dent, 2017; 7: 308-314.
4. Suresh KS, Kumar P, Javanaiah N, Shantappa S, Srivastava P. Primary Oral Health Care in India: Vision or Dream? Int J Clin Pediatr Dent, 2016; 9(3): 228-232.
5. Alzaidi SS, Alanazi I, Nawas O, Mulla M. Childhood Oral Health: Maternal knowledge and practice in Tabuk, Saudi Arabia. The Egy J of Hos Med, 2018; 70(9): 1544-1551.
6. Chala S, Houzmali S, Abouqal R, Abdallaui F. Knowledge, attitude, and self reported practices towards children oral health among mother's attending maternal and child units, Sale, Morocco. BMC Public Health, 2018; 18: 618 https://doi.org/10.1186/s12889-018-5542-2.
7. Shinde SS, 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: 58-61.
8. Suresh BS, Ravishankar TL, Chaitra TR, Mohapatra AK, Gupta V. Mother's knowledge about pre school child's oral health. J of Ind Soc of Pedodont and Prev Dent, 2010; 28(4): 282-287.
9. Sultan S, Ain T, Gowhar O. Awareness of mothers regarding Oral Health of their children in Kashmir, India. Int J of Cont Med Res, 2016; 3(7): 2168-2171.
10. Gurunathan D, Moses J, Arunachalam SK. Knowledge, Attitude, and Practice of Mothers regarding Oral Hygiene of Primary school children in Chennai, Tamil Nadu, India. Int J clin Pediatr Dent, 2018; 11(4): 338-343.
11. Saied- Moallemi Z, Virtanen JI, Ghoufranipur F, Murtoma H. Influence of mother's oral health knowledge and attitudes on their children's dental health. European Archives of Pediatric Dentistry, 2008; 9(2): 79-83.
12. Green W, Kreuter M. Health promotion planning: an educational and ecological approach. 3rd edn. Mountain view, CA: Mayfield pub. Co., 1999.
13. Kakatkar G, Nagarajjapa R, Bhat N, Prasad V, Sharda A, Asawa K. Parental beliefs about children's teething in Udaipur, India: a preliminary study. Bras Oral Res, 2012; 26: 151-157.
14. Kristina A, Ulf B, Anders GB. Usefullness of a psychometric questionnaire in exploring parental attitudes in children's dental care. Acta Odontol Scand. 2001; 59: 14-20.
15. Gussy MG, Waters EB, Riggs EM, Lo SK, Kilpatrick NM. Parental knowledge, beliefs and behavoirs for oral health of toddlers residing in Rural Victoria. Australian Dental journal. 2008; 53: 52-60.
16. Hood CA, Hunter ML, Kingdon A. demographic characteristics, oral health knowledge and practices of mothers of children aged 5 years and under referred for extraction of teeth under general anesthesia. Int J Paedaitr Dent, 1998; 8(2): 131-136.

17. Nikhil Marwah. Textbook of Pediatric Dentistry. 4th Edition, Jaypee Publishers, 2015.
18. Lin HC, Wong MC, Wang ZJ. Oral health knowledge, attitudes and practices of Chinese adults. J Dent Res., 2001; 80: 1466- 1470.
19. Kumar RP, John J, Saravanan S, Arumugham IM. Oral health knowledge, attitude and practices of patients and their attendants visiting college of Dental Surgery, Saveetha University, Chennai. J Indian Assoc Public Health Dent, 2009; 13: 43-53.
20. Alkhtib A, Morawala A. Knowledge, attitudes, and practices of mothers of pre school children about oral health in Qatar: a cross sectional survey. Dent J., 2018; 51(6): 1-8.
21. Ghanim A, Adenubi A, Wyne K. Caries prediction model in pre – school children in Riyadh, Saudi Arabia. Int J Pediatr Dent, 1998; 8: 115-122.
22. Khanal K , Shreshta D, Ghimire N, Younjan R. Assessment of knowledge regarding oral hygiene among parents of pre – school children attending pediatric out patient department in Dhulikhel hospital. Kathmandu Univ Med J., 2015; 49: 38-43.
23. Maulana SA, Yashoda R, Puranik MP, Hiremath SS, Gaikwad R. Knowledge, attitudes and practices towards primary dentition among the mothers of 3-5 year old pre school children in Bangalore city. J Indian Assoc Public Health Dent, 2012; 19: 83-92.
24. Wyne AH, Chohan AN, Alrowily FH, Shehri BM. Oral health knowledge, attitudes and practices by parents of children attending KSUCD clinics. Pak Oral Dent J., 2004; 24: 145-148.