



Knowledge and Attitude of Parents towards Oral Health Care Needs of their Children in Abbottabad, KPK, Pakistan: A Cross-Sectional Survey.

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Abstract

The aim of this study was to determine knowledge and attitude of parents about oral health care needs of their children in Abbottabad, District of Khyber Pakhtunkhwa, Pakistan. A descriptive, cross-sectional study was carried out among parents of young children that included teachers, doctors and general population in Abbottabad, district of KPK province, Pakistan. Non-probability, convenience sampling technique was used. The data was obtained via self-administered and structured questionnaire to assess parental knowledge and attitude regarding dental care of their children. Data was analyzed using SPSS software version 24. Descriptive statistics and Chi Square test were performed. P value of less than 0.05 was considered to be statistically significant. This study showed that the selected sample had relatively good knowledge regarding the importance of primary teeth. 74.2% of parents were of opinion that children's teeth should be brushed properly to prevent dental caries. Among parents, mothers had adequate knowledge about dietary (91.4%) and feeding (73.6%) practices. Also, parents (79.4%) had an idea about effects of deleterious oral habits on permanent teeth. However, parents of young children need to be more educated in terms of first and regular dental visits in order to be able to maintain a sound primary and permanent dentition.

Keywords Knowledge, awareness, parents, oral health, primary teeth.

1. Introduction

Good oral health is an essential component of general health. Oral health in children plays a major role in their overall dental well-being. Maintenance and preventive measures should be started before the eruption of first tooth (1, 2). Parents have a great impact on lives of their children and are responsible for encouraging their children to improve their oral health (2).

Among parents, mothers' positive attitude towards dental care and oral health knowledge is directly correlated with child's sound dentition (2, 3). Negligence of parents related to care of primary teeth, dietary and feeding habits and regular dental visits, often leads to compromised oral health of their children (2, 4).

Educating parents is of utmost importance for healthy upbringing of their children. Poor knowledge and attitude of parents towards dental health of their children increase the risk of developing early childhood caries and other local infections, thereby compromising the overall dental quality of life. Investment in and promotion of dental health education is prime need for reduction of dental caries and other associated dental problems (5-7).

The eruption of primary teeth in the oral cavity starts at an age of 6 months, completed at 3 years and sheds by 6-7 years. Presence and maintenance of primary teeth is as important as that of permanent teeth for factors like proper eating, speaking and provision of space for permanent teeth. Oral health disease prevention and promotion strategies are to be integrated into parents as well as health care professionals for proper guidance and referral of children for best treatment at the correct time (8-11). Maintenance of primary dentition in good health is imperative to avoid negative consequences on permanent teeth like lack of space, impaction, delayed/ earlier eruption of successor teeth and deleterious oral habits such as; finger sucking, bruxism, nails or lip biting; each have its own effect on permanent teeth (11, 12).

In comparison to the parental knowledge about oral health care, vast majority of the parents (51%) were found to be unaware of oral hygiene habits and effects of compromised primary dentition on permanent dentition (77%) (2). Researchers have also found that, parental disregard for primary dentition can be a serious obstacle in the long-term preservation of good oral health (1, 5).

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The rationale of this study was to describe the importance of parental knowledge and attitude towards oral health care needs of their children, since well-maintained primary dentition ultimately leads to healthy permanent dentition. Awareness among parents and a positive change in their attitude towards dental care and treatment (13) in our population is an essential need of hour. Co-ordinated efforts by parents and healthcare professionals are required to impart dental health education about oral hygiene, feeding practices and importance of primary dentition to avoid dental problems from becoming a chronic illness.

The aim of our study was to assess awareness among different parental groups i.e., general population, teaching professionals and doctors about oral health needs and care of their children's primary dentition in our population in order to avoid occurrence of dental problems at an early age.

2. Materials & Methods

A descriptive, cross-sectional study was designed and conducted in a time period of 02 months (February-March, 2020). Non-probability, convenience sampling technique was used. A questionnaire was developed for the purpose of knowing about parental knowledge regarding oral health care of their children, after doing a thorough search for already available research work on Google (2, 6, 8). The self-administered and structured questionnaire was distributed among 210 parents, who belonged to three different categories i.e., teachers, doctors and general population. They were accessed through online resources. Among 210, 194 parents responded positively. Informed

consent was taken, the purpose of study thereby explained and strict confidentiality assured. The participants were asked to mark the most suitable answer from the given choices.

There were a total of 17 questions in the questionnaire, which consisted of 2 main sections:

The first section consisted of demographic data such as age, gender, and profession/category.

The second section was used to analyze parental knowledge, practical understanding and their attitude towards oral health requirements and primary teeth care of their children, which included questions related to regular dental care, protection by brushing, bedtime brushing, supervision, primary teeth function, infected primary teeth, conflict with child, child to bed with bottle, effect of sugars, end of bottle/ breast feeding, toothache, dental visits, fluoridated water, fluoride toothpastes, effect on permanent teeth, thumb sucking, decay/ extraction of milk teeth.

2.1 Data Analysis

The data obtained via this survey was analyzed using SPSS software version 24. Descriptive statistics was obtained and Chi Square Test was applied to learn about awareness among parents of different categories about oral health needs and care of primary teeth. $P < 0.05$ was considered to be statistically significant.

3. Results

The present study involved 194 participants; among which 54 were male parents and 140 were female parents, residing in the city of Abbottabad (**Table 1**).

Table 1: Categorical representation (general population, teachers and doctors) of total number of parents (both males and females); who willingly participated in the study.

CATEGORIES	MALES	FEMALES	TOTAL
General public	27	50	77
Teachers	06	42	48
Doctors	21	48	69
TOTAL	54	140	194

Parental knowledge and attitude towards care of their children's primary dentition was compared among the participants from three different categories and the results were found to be statistically significant. Parents (40.7%) had knowledge about dental checkup of their children after the eruption of all primary teeth. Majority

of the parents (96.4%) were of opinion that brushing before bedtime is necessary to avoid dental caries. Two-third of the parents (79.4%) was of the view that deleterious oral habits e.g., finger sucking can have negative effects on permanent teeth (**Table 2**).

Table 2: Comparison of knowledge and attitude of parents towards care of primary dentition, depending on the questions asked.

ITEMS	GENERAL PUBLIC	TEACHERS	DOCTORS	TOTAL	P-VALUE
Dental check-up after eruption of all primary teeth	30 (39.0%)	30 (62.5%)	19 (27.5%)	79 (40.7%)	0.001 **
Caries prevention via brushing	53 (68.8%)	38 (79.2%)	53 (76.8%)	144 (74.2%)	0.557
Brushing before bedtime	77 (100.0%)	47 (97.9%)	63 (91.3%)	187 (96.4%)	0.015 *
Child supervision while brushing	52 (67.5%)	39 (81.3%)	49 (71.0%)	140 (72.2%)	0.326
Primary teeth role in chewing, eruption, speech & appearance	47 (61.0%)	31 (64.9%)	52 (75.4%)	130 (67.0%)	0.336
Primary teeth are important to salvage	41 (53.2%)	29 (60.4%)	49 (71.0%)	119 (61.3%)	0.088 *
Child using bottle in bed	53 (68.8%)	22 (45.8%)	41 (59.4%)	116 (59.8%)	0.039 *
Snacking affects primary teeth	74 (96.1%)	42 (87.5%)	63 (91.3%)	179 (92.3%)	0.278
Termination of breastfeed at 2 years	55 (71.4%)	32 (66.7%)	48 (69.6%)	135 (69.6%)	0.799
Missed school due to toothache	21 (27.3%)	25 (52.1%)	14 (20.3%)	60 (30.9%)	0.001 **
Dental visit every 6 months	45 (58.4%)	26 (54.2%)	50 (72.5%)	121 (62.4%)	0.153
Fluoridated water consumption	21 (27.3%)	24 (50.0%)	31 (44.9%)	76 (39.2%)	0.019 *
Presence of fluoride in toothpaste	51 (66.2%)	34 (70.8%)	60 (87.0%)	145 (74.7%)	0.012 *
Permanent teeth affected by primary teeth removal	47 (61.0%)	27 (56.3%)	48 (69.6%)	122 (62.9%)	0.311
Finger sucking effects permanent teeth	62 (80.5%)	32 (66.7%)	60 (87.0%)	154 (79.4%)	0.027 *
Avoid infected primary teeth extraction	22 (28.9%)	24 (50.0%)	09 (13.0%)	55 (28.5%)	0.000 **

*= Statistically significant (P<0.05), ** =Highly significant (P<0.01)

Parents were also asked about certain factors that might have a negative effect on their children’s teeth. Among parents, mothers had adequate knowledge about dietary (91.4%) and feeding habits (73.6%) of their child. **(Figure a)** Also, response related to supervision of

children during teeth brushing was found to be statistically significant among both male (57.4%) and female (77.9%) parents, which indirectly reflect their knowledge about care of child’s primary dentition in order to avoid dental caries **(Table 3)**.

Table 3: Responses of both male and female parents related to factors that might have a negative effect on their child’s dentition

QUESTIONS	MALE PARENTS	FEMALE PARENTS	P-VALUE
Child supervision while brushing	31 (57.4%)	109 (77.9%)	0.011*
Snacking affects primary teeth	51 (94.4%)	128 (91.4%)	0.701
Child using bottle in bed	34 (63.0%)	82 (58.6%)	0.576
Termination of breastfeed at 2 years	32 (59.3%)	103 (73.6%)	0.037*

*= Statistically significant (P<0.05)

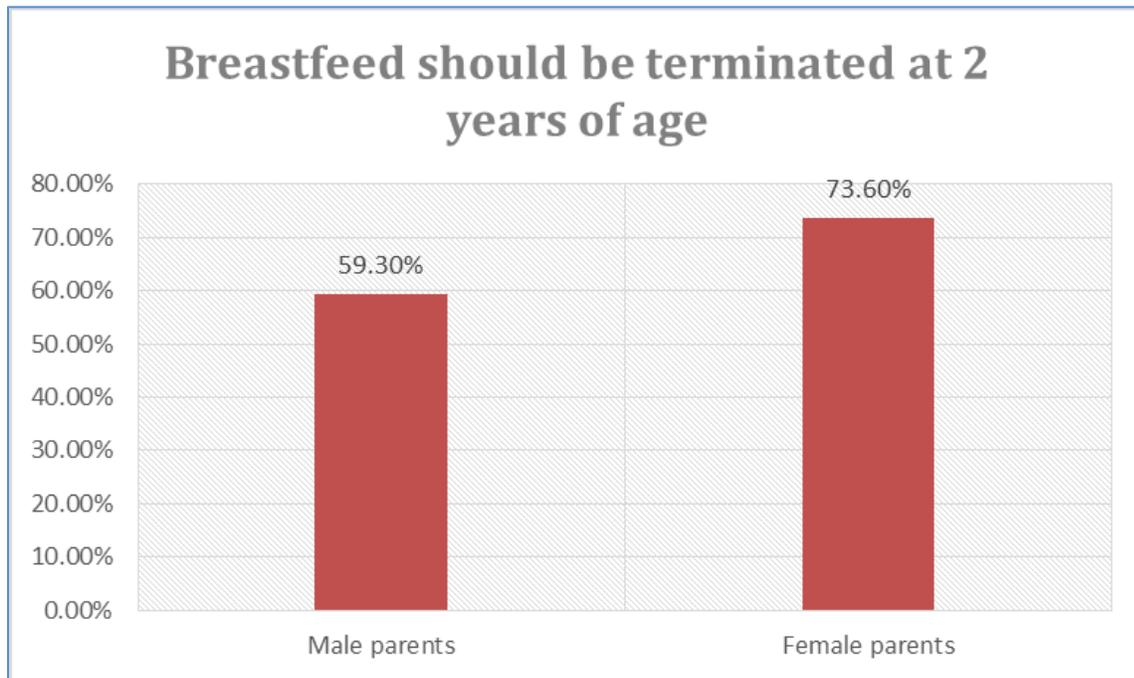


Figure a: Bar graph representing high percentage of female parents aware of when to terminate breastfeeding

In this study, parents were also asked about their opinion on what exactly is the correct age to begin regular dental checkup of their children. 39% of the

parents were of view that dental checkup should be started after all the primary teeth have erupted. Some of

the parents (24.0%) thought that it should be started as soon as the first tooth appears in oral cavity (**Figure b**).

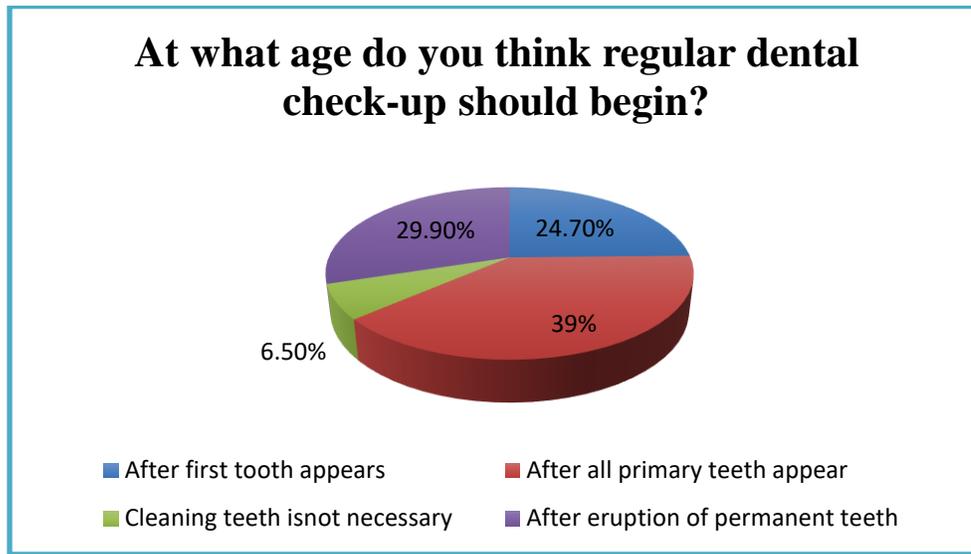


Figure b: Pie chart distribution of parental opinion regarding age for regular dental checkup

4. Discussion

A good understanding of parental knowledge and awareness regarding oral health needs and care is essential for effective implementation of efforts that are aimed at improving oral health status of young children (3). Parents are more likely to have a positive impact on their child and are responsible for encouraging them towards better (2). According to the findings of Bhavneet Kaur (2009), parents who brush their teeth twice a day mostly have children who brush their teeth twice a day (22). In a similar way, our study revealed that 96.4% of the parents were of opinion that regular brushing i.e., in the morning and before bedtime is necessary and recommended. The findings of this study are in disagreement with the findings of Chhabra and Chhabra (2012), who found that only 41.3% of the children brushed their teeth twice a day (19). 72.2% of the parents supervised their children while brushing teeth, which showed positive attitude of parents towards oral health maintenance.

It has been observed that children of parents, who paid less attention towards care of their child's primary dentition, were found to be more susceptible to early childhood caries than otherwise. Such ignorant attitude of parents towards their child's dental health proves to be a barrier in developing high-yielding preventive

programs (21). According to American Academy of Pediatric Dentistry, 'one of the most important and key factor in promotion of a child's dental health and prevention of dental caries along with other associated dental problems is 'early dental examination'. As a result, awareness among parents regarding maintenance of their child's primary dentition is as important as that of permanent dentition (8).

According to the findings of this study, 39% of the parents believed that regular dental checkup should be started when all primary teeth have erupted in the oral cavity (Figure b). 62.4% of the parents were of opinion that, dental checkup is required every 6 months. However, 24.7% of the total parental population thought that dental checkup should begin as soon as first tooth erupts in the mouth, which is quite a low percentage from the total in comparison. The findings are in order with the findings of Thakib A Al-Shalan (2003) (16) but not in co-relation with the findings of Bhavneet Kaur (2009), who restated that a child's first dental visit should range from as soon as the first tooth erupts in the mouth to one year of age (22).

Among parents, mothers were found to have adequate knowledge about the dietary (91.4%) and feeding (73.6%) practices of their children. 91.4% of the mothers believed that excessive intake of sugar containing foods can be a major cause of dental cavities.

The principal outcomes of this survey co-relates with the findings of Suresh *et al.* (2019), Lin *et al.* (2010), and Kumar *et al.* (2001) i.e., the mothers were well aware of their children's dietary practices and its positive or negative influence on child's dental health (1, 15, 17). Moreover, 73.6% of the mothers knew when to exactly stop breast feeding by positively responding to the related question which suggested that they had good knowledge about effects of prolonged breast feeding, which leads to teeth decay (19). Suresh *et al.* (2019) reported that despite having appropriate knowledge, majority of the mothers allowed their children to sleep with nursing bottles at bedtime; which is in agreement with the findings of present study (58.6%) and that of Gussy *et al.* (2008), in rural mothers in Australia (15, 18).

In the present study, majority of the parents i.e., 61.3% knew about importance of primary dentition and were of opinion that primary teeth should be treated timely to avoid their premature loss. The findings of this study are statistically significant but in contradiction with findings of Chhabra and Chhabra (2012) as well as Harison *et al.* (2003), who found that parents did not have any idea about saving a primary tooth rather thought that it will be replaced by a permanent tooth sooner or later without any negative consequence (19, 20).

Parents were asked about use of fluoridated toothpastes and drinking fluoridated water. A very few number of parents (39.2%) knew about fluoridation of water while high number of the parents were of opinion that they use fluoridated toothpaste (74.7%). Adair *et al.* (2005), stated that "*children are more likely to be caries free if their teeth are brushed twice daily with fluoride toothpaste, with parental involvement and in an environment where sugar is controlled*"(25).

According to the results obtained from this study, significantly higher number of parents (79.4%) were aware of the effects of deleterious oral habits i.e., thumb sucking, tongue thrust, mouth breathing, nails and lip biting; which can cause harm to the developing dentition and proper alignment of permanent teeth (23). The findings are in contradiction with the study of Janvhi Manohar *et al.* (2017), who found that 77% of the parental population was not aware of deleterious effects of oral habits on permanent dentition.

To create awareness among parents, following aspects must be dealt with:

- Educating parents through proper awareness programs.
- Attention towards oral hygiene maintenance in general and preventive aspects in specific must be drawn.
- Free dental checkups should be arranged (6).

5. Conclusion

Parental knowledge and positive attitude in regard to take proper care of their child's oral health is necessary to avoid negative consequences. In this study, majority of the parents had a clear insight into proper maintenance of their children's dental health but in some particulars awareness needs to be integrated like first and regular dental visits, knowledge about preventive strategies, effects of early decay/ removal of primary teeth on permanent teeth. An increase in the knowledge of parents through comprehensive oral health-care programs can result in having a direct effect on their child's oral health and hence, should be encouraged.

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Conflicts of Interest The authors declare no conflicts of interest.

References

1. Kumar G, Dhillon JK, Vignesh R, Garg A. Knowledge, attitude and practical behavior of parents regarding their child's oral health in New Delhi. *J. Indian Soc Pedod Prev Dent.* 2019;37(1):3-7.
2. Manohar J, Mani G. Knowledge and attitude of parents regarding children's primary teeth and their willingness for treatment. (2017). *J. Pharm. Sci. & Res.* 2017;9(2):194-8.
3. Shetty RM, Deoghare A, Rath S, Sarda R, Tamrakar A. Influence of mother's oral health status of their preschool child. *Saudi J. Oral Sci.* 2016;3(1):12-6.
4. Sultan. S, S. Ain T, Gowhar O. Awareness of Mothers Regarding Oral Health of their Children in Kashmir, India. *Int. J. of Contem. Med. Res.* 2016;3(7):2168-71.
5. Gokhale N, Davalbakta RN, Hugar S, Patil V. Knowledge and attitude about oral health care in

- children among health care professionals of Belagavi City: A Questionnaire Study. *J. Indian Soc Pedod Prev Dent.* 2017;35(1):16-7.
6. Gurunthan 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):338-43.
 7. Trindade FA, Valente AR, Andrade MRT, Tannure PN, Antonio AG, Fidalgo TKS. Knowledge and practices of parents and guardians regarding the oral health of children from a shelter and a university in Rio de Janeiro, Brazil. *Brazilian Research in Pediatric Dentistry and Integrated Clinic* 2014;14(4):293-302.
 8. Alshunaiber R, Alzaid H, Meaigel S, Aldeeri A, Adlan A. Early childhood caries and infants's oral health; pediatricians and family physicians' practice, knowledge and attitude in Riyadh city, Saudi Arabia. *Saudi. Dent. J* 2019;31(1):96-105.
 9. Shivaprakash PK, Elango I, Baweja DK, Noorani HH. The state of infant oral healthcare knowledge and awareness: Disparity among parents and healthcare professionals. *J. Indian Soc Pedod Prev Dent.* 2009;27(1):39-43.
 10. Alshukairi H, Mohammed BA, Alturki R, Almuhrif A, Mokeem S, Alduraye S. Parents knowledge, behavior and attitude regarding their children's oral health and the consequences of premature loss of primary teeth. *EC Dental Science* 2019;18(8):1862-71.
 11. Setty JV, Srinivaran I. Knowledge and awareness of primary teeth and their importance among parents in Bengaluru City, India. *Int. J. Clin. Pediatr. Dent.* 2016;9(1):56-61.
 12. Ramakrishnan M, Banu S, Ningthoujam S, Samuel AV. Evaluation of knowledge and attitude of parents about the importance of maintaining primary dentition- A cross-sectional study. *J Family Med Prim Care* 2019;8(2):414-18.
 13. Chandran V, Verma RB, Joy TM, Ramanarayan V, Govinda BS, Menon MM. Parental Knowledge, Attitude and Practice Regarding the Importance of Primary Dentition of their Children in Kerala, India. *J Indian Assoc Public Health Dent.* 2019;17(3):247-52.
 14. Constitution of World Health Organization. In: World Health Organization: Basic documents. 45th ed. Geneva: World Health Organization; 2005.
 15. Suresh BS, Ravishankar TL, Chaitra TR, Mohapatra AK, Gupta V. Mother's Knowledge about preschool child's oral health. *J. Indian Soc Pedod Prev Dent.* 2010;28(4):282-7.
 16. TA Al-Shalan. "Factors affecting Saudi parents' perception of their children's first dental visit. *J Contemp Dent Pract* 2003;4(4):54-66.
 17. Lin HC, Wong MC, Wang ZJ, Lo EC. Oral health knowledge, attitudes and practices of Chinese adults. *J Dent Res.* 2001;80(5):1466-77.
 18. Gussy MG, Waters EB, Riggs EM, Lo SK, Kilpatrick NM. Parental knowledge, beliefs and behaviors for oral health of toddlers residing in rural Victoria. *Aust Dent J.* 2008;53(1):52-60.
 19. Chhabra N, Chhabra A. Parental knowledge, attitudes and cultural beliefs regarding oral health and dental care of preschool in an Indian population: A quantitative study. *Eur. Arch Pediatr Dent.* 2012;13(2):76-82.
 20. Harrison RL, Wong T. An oral health promotion program for an urban minority population of preschool children. *Comm Dent Oral Epidemiol* 2003;31(5):392-9.
 21. Riedy CA, Weinstein P, Milgrom P, Bruss M. An ethnographic study for understanding children's oral health in a multicultural community. *Int Dent J* 2001;51(4):305-12.
 22. Kaur B. Evaluation of oral health status in parents of preschool children. *Indian J Dent Res.* 2009;20(4):463-5.
 23. American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC). Classifications, consequences and preventive strategies. The Reference Manual of Pediatric Dentistry. Chicago III. American Academy of Pediatric Dentistry 2016:50-2.
 24. Mouth Healthy, Thumb Sucking, American Dental Association. 2016.
 25. Adair PM, Pine CM, Burnside G, Nicoll AD, Gillet A, Anwar S, *et al.* Familial and cultural perceptions and beliefs of oral hygiene and dietary practices among ethnically and socio-economically diverse groups. *Comm Dent Health* 2004;21(1):102-11.

