

Measurement of Parents' Knowledge toward Oral Health of their Children: An Observational Study from Hail, Saudi Arabia

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ABSTRACT

Aim: Parents' knowledge of oral health maintenance is of crucial importance. Children are dependent on their parents for the maintenance of their oral health. Hence, the present study is aimed to measure parents' knowledge toward the oral health of their children.

Materials and methods: It was an observational study, having a cross-sectional design in which information from 223 participants were collected after obtaining written consent using a convenient sampling technique. Data obtained from the questionnaire were coded and analyzed using the Statistical Package for the Social Sciences (SPSS Version 20). Descriptive and inferential statistics were used. Data were displayed as number and percentage, and the Chi-square test was used to measure association. Ethical approval was obtained from the ethical approval committee of the University of Hail.

Results: The total numbers of parents included in the study were 223, out of which, 91 (40.8%) were males and 132 (59.1%) were females. Around 58.3% of the respondents believed that they would go for a dental visit when the child had dental pain. A majority of the participants (60%) believed that concerns with primary dentition would lead to permanent dentition in the future. Almost 97% of parents knew that sugar and sticky food had a bad effect on oral health. Nearly 50% of parents reported correctly that prolonged bottle-feeding had a negative effect on their children's oral health.

Conclusion: Most parents had satisfactory knowledge about the maintenance of oral hygiene of their children for most of the questions. However, the overall result of this study indicates that parents' information and approach toward oral hygiene and dental care need to be improved.

Clinical significance: Parents' knowledge and positive attitude are central to children's oral health. The present study measured and recommends the need for oral health education and promotion for the parents.

Keywords: Attitude, Children, Knowledge, Oral health, Oral hygiene, Parents.

The Journal of Contemporary Dental Practice (2019): 10.5005/jp-journals-10024-2600

INTRODUCTION

Oral health is an integral part of general health as the early stage is essential for the growth and development of preschool children. It is very important that they are disease free. At this stage of their life, they cannot make their own choices; most of their active time is spent at schools or with parents,¹ which makes parent's role an essential for the maintenance of oral health and hygiene of their children's. Parent's oral health-related knowledge has an impact on a child's future oral health. Parental mindfulness and practices related to oral health and hygiene directly influence a child's oral health. Therefore, parents are ought to be considered a capable social power for guaranteeing the prosperity of young children as they can positively change the general oral well-being of the future generation of the community. Their commitment can expand preventive dental care which a youngster gets at home, and their positive attitude can increase the utilization of professional dental services.² Dental caries is the single most common chronic childhood disease more common than asthma. In Saudi Arabia, the overall prevalence of dental caries in primary teeth was reported to be around 78%.³ Although there is a lack of studies to quote definitive prevalence but still from the above-mentioned available data, the number is very high. It is a preventable disease and since the child depends completely on his/her parents regarding his/her oral health, the measurement of parent's oral health-related knowledge is very imperative as the oral health of a preschool child relies primarily on understanding and awareness of their parents for oral hygiene preservation and future healthy eating habits. The

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How to cite this article: Alshammary F, Aljohani FA, *et al.* Measurement of Parents' Knowledge toward Oral Health of their Children: An Observational Study from Hail, Saudi Arabia. *J Contemp Dent Pract* 2019;20(7):801–805.

Source of support: Nil

Conflict of interest: None

present study was planned to measure that among the respondent of Hail, Saudi Arabia. To the best of our knowledge, this is the first study of its kind in the Hail region.

MATERIALS AND METHODS

This observational study was a cross-sectional survey based on a questionnaire. This study was approved by the Ethics Committee

at the University of Hail, Saudi Arabia, having an ethical approval number H-2016-046. Written informed consent was sought from the participants before collecting data. The data for the present study were collected from February 2019 to April 2019. The criteria for inclusion were parents, either male or female, who had any children with ages between 2 years and 6 years. The parents and their children were to be residents of the Hail region to be included in the study. The exclusion criteria were a non-Saudi resident of Hail, special needs children, and children with any systematic disease. There was no gender, educational, and occupation-based discrimination. The content of the questionnaire was validated by a pediatric and public health dentist. The reliability of the questionnaire was pretested among 10 samples through internal consistency using Cronbach's alpha test using the Statistical Package of Social Sciences SPSS version 20. The reliability score was 0.75 that lies in the acceptable region. The questionnaire consisted of two parts. The first part contained demographic information about the respondents. The second part consisted of questions about parents' knowledge, information, and attitude regarding the oral health of their children in Hail. Data obtained from the questionnaire were coded and analyzed using the SPSS version 20. Data were displayed as a number (*n*), percentage (%), and as graphs. The Pearson Chi-square test was used to measure the association between variables of interest. A *p* value less than 0.05 was considered statistically significant.

RESULTS

Two hundred fifty questionnaires were distributed, of which 223 were returned (response rate: 89.2%) including 91 (40.8%) male and 132 (59.1%) female parents (Fig. 1).

Regarding knowledge of parents about childhood visits to the dentist, around 58.3% of the respondents reported that they would do a dental appointment when the child has dental pain. Whereas there was a statistically significant difference between genders (*p* value = 0.00). Only 13% of parents rightly pointed out that they should take their children to the dentist twice a year (Table 1). Half of the samples understand that primary dentition is a concern of most parents since it can lead to permanent dentition. Roughly, 21.5% of parents did not know whether healthy primary dentition is essential for good permanent dentition. A large percentage (28%) reported negative (Table 1). Results showed that 70.9% of respondents agreed that toothbrushing should be done twice daily,

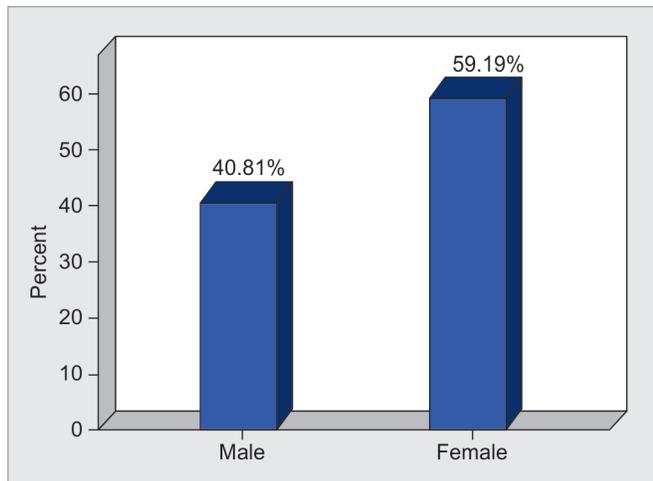


Fig. 1: Gender distribution of the participants

Table 1: Knowledge of parents about child oral health

	Male, N (%)	Female, N (%)	Total, N (%)	<i>p</i> value
How frequently do you take your child to the dentist?				
Once a year	16(17.6)	14(10.6)	30(13.5)	0.00
Twice a year	12(13.1)	17(12.9)	29(13.0)	
Upon pain	37(40.7)	93(70.4)	130(58.3)	
Never	26(28.6)	8(6.1)	34(15.2)	
Do you think that primary teeth are important?				
Yes	57(63.3)	67(50.8)	124(55.9)	0.00
No	9(10.0)	47(35.6)	56(25.2)	
Do not know	24(26.7)	18(13.6)	42(18.9)	
Do you think that problems in primary teeth can affect the permanent teeth?				
Yes	51(56.0)	62(47.0)	113(50.7)	0.00
No	11(12.1)	51(38.6)	62(27.8)	
Do not know	29(31.9)	19(14.4)	48(21.5)	
How often do you think your child should brush his/her teeth?				
Once daily	23(25.3)	28(21.2)	51(22.9)	0.032
Twice daily	58(63.7)	100(75.8)	158(70.9)	
Occasionally	6(6.6)	4(3.0)	10(4.5)	
Never	4(4.4)	0(0.0)	4(1.7)	
Total	91(100)	132(100)	223(100)	

while 22.9% of the respondents think once daily. A few participants, 4.5%, reported that occasionally the child should brush his/her teeth (Table 1).

Of all, 46.19% of parents assumed that the first dental visit is when the child experiences pain. Only 5.83% of parents answered that the first dental visit should be at 18 months. Only 22.8% of parents knew the ideal time for the first dental visit, which is when the first primary tooth erupts (Fig. 2).

Almost 97% of parents think that sweet and sticky food affect their child's dental health (Fig. 3). It reflects good knowledge of parents toward sugary food and dental health.

A majority of the parents (73.54%) reported to observe and guide child oral health whereas 4.48% reported negative (Fig. 4). About 50% of parents think prolonged bottle-feeding affects their child's dental health and 32.7% of parents reported against it, while nearly 18% of parents reported to have no idea about it (Fig. 5).

Around two-thirds or 71.75% of the participants were using a toothbrush with a paste containing fluoride for their children, while a small percentage at 14.80% was using the toothbrush with a non-fluoridated toothpaste. On the one hand, only a few participants used a toothbrush with water only (7.62%) and miswak (2.24%) for cleaning the teeth of children. On the other hand, 0.45% are using dental floss and 3.14% neither used any of the mentioned techniques (Fig. 6).

DISCUSSION

The purpose of this study is to understand and determine the perceived knowledge of parents toward their children oral health in Hail, Saudi Arabia. Oral health has a vital role in the general well-being of individuals. Since verbal health behaviors can affect oral health, attempting to construct good oral health behaviors can affect the public health of individuals. Indeed, the adoption of good oral health habits in childhood often takes place with parents, especially with mothers.⁴



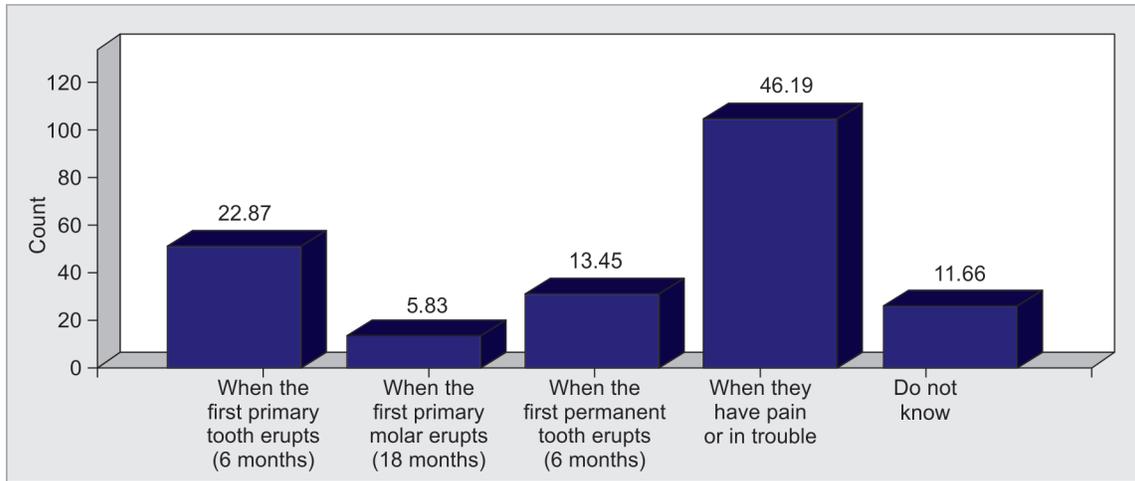


Fig. 2: Parents' knowledge regarding first dental visit of their children

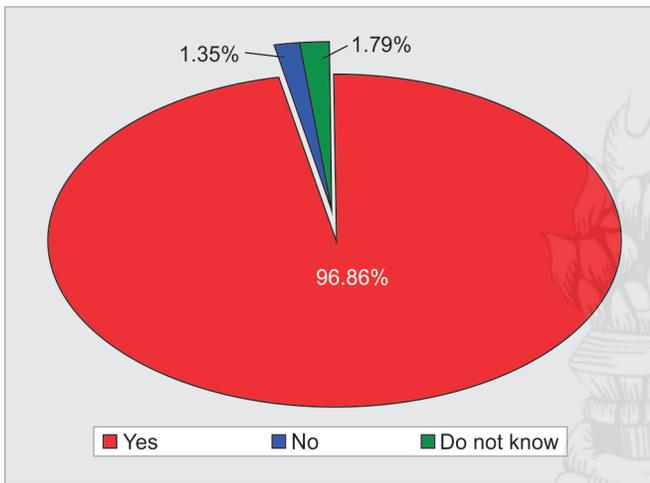


Fig. 3: Knowledge of parents about the effect of sweet and sticky food on their children's oral health

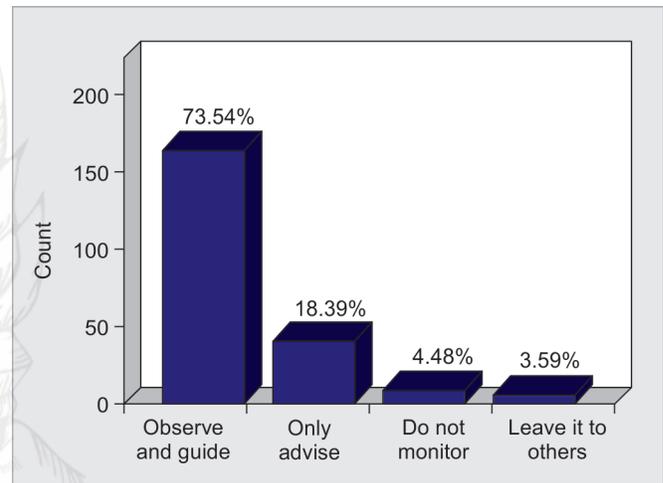


Fig. 4: Perceived role of parents toward dental health at home

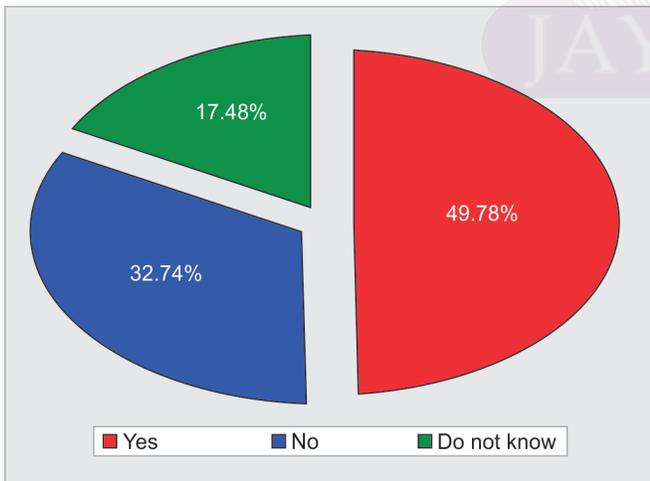


Fig. 5: Effects of prolonged bottle-feeding on children's oral health

A majority of the respondents, 58.3%, in this present study thought that a dental visit is due only when their child has dental pain. This finding is almost similar to the result of a survey done in the Hail region, Saudi Arabia, by Siddiqui et al. who reported 63.7%

of the respondents with the same.⁵ According to the American Academic of Pediatric Dentistry recommendation, a checkup every 6 months is recommended to prevent dental cavities and other dental problems. However, the concerned pediatric dentist can tell you when and how often your child should visit based on their oral health.⁶ Studies showed that dental visits are one of the most critical parameters in determining the state of the dental health of children.⁷ The findings from the present study reported that only 13% of parents favored taking their child to the dentist twice every year. Parents' knowledge in this aspect needs to be improved by using different oral health education messages.

Approximately 56% of parents believe that primary teeth should be a priority above any other care aspects. According to the American Dental Association (ADA), if a child's primary teeth are healthy, it is more likely his adult teeth will be healthy too. Children who have decay in their primary teeth are more likely to have decay in their adult teeth.⁸ The current study showed a satisfactory response in this regard. However, there still exists a wide gap in the improvement of parents' knowledge regarding this critical phase.

The result of this study shows that the majority (73.54%) of parents are genuinely concerned and focused on providing dental healthcare to their children at home. The data are in conjunction with the relevant duties of parents in educating their children,

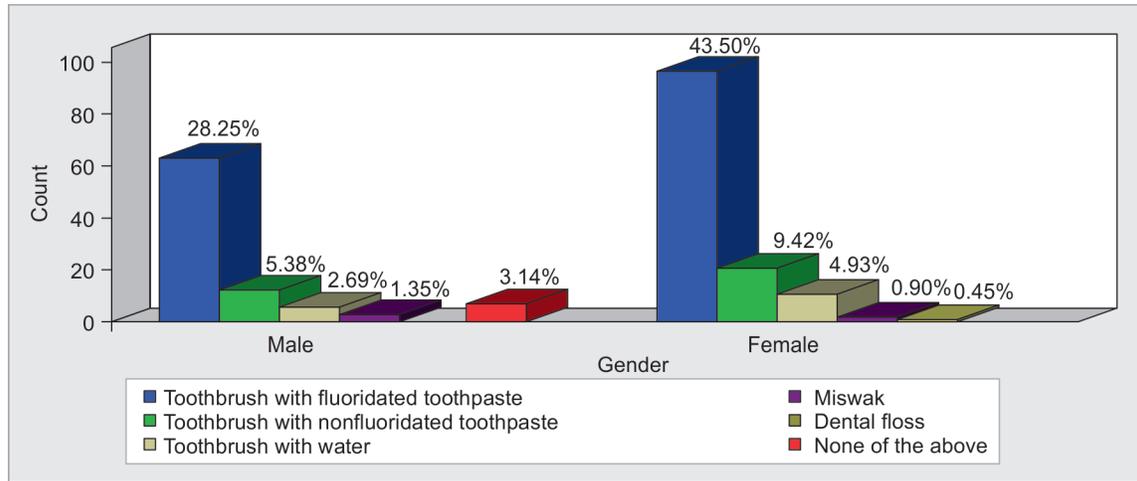


Fig. 6: Different methods of teeth cleansing

especially in cleaning their teeth, controlling snacking behavior, and the parents' role in the dental visit of their children. The dental visit is indicated for the primary dentition and checkup as often as every 6 months which is necessary among children.⁹

In this study, 70.9% of parents knew that their child should brush his/her teeth twice daily and this is in line with the ADA recommendation of brushing teeth twice a day for 2 minutes with fluoride toothpaste.¹⁰ However, in the previous study done in the Hail region by Siddiqui et al., half of the participants brushed their teeth twice daily (51.8%).⁵ Our findings showed a significant improvement of almost 30% over 2 years. However, the concerned population in our study is different, and the present study used a convenient sampling technique having nearly 40% lower sample size than the earlier research done in Hail.

A study by Vanagas et al. has reported that oral hygiene skills and attitudes of parents toward children's oral health are significantly associated with the development of oral hygiene skills, including tooth brushing in their children.¹¹

The present study shows 71.7% of the participants used a toothbrush with a paste containing fluoride to clean their children's teeth. This finding is in agreement with the result of the previous study done in the Hail region by Siddiqui et al., showed (77.3%) with the same.⁵ A similar study in Riyadh compared the effectiveness of plaque removal using either toothpaste or just plain water, and the outcomes manifested that using a toothbrush is far more effective than water alone.¹²

Natural strategies of tooth cleaning using chewing sticks (miswak) selected and prepared from the twigs, stems, or roots from a variety of plant species are practiced for thousands of years in Asia, Africa, the Middle East, and some parts of Central America. Selected clinical studies have shown that chewing sticks, once correctly used, can be as efficient in removing dental plaque as toothbrushes due to the combined effect of mechanical cleaning and increased salivation. It has also been suggested that antimicrobial substances that naturally protect plants against different invasive microorganisms or other parasites may leach out into the oral cavity and that these compounds could profit the users by protection against periodontopathic and cariogenic bacteria.¹³ In this study, only 2.2% used the miswak. We recommend the increased use of miswak as it is an excellent oral hygiene

maintenance tool. Results from the earlier study indicated that there were significant differences in the reduction of plaque by the herbal toothpaste, miswak (*Salvadora persica*), on intragroup and intergroup comparison.¹⁴

Only 0.4% of the respondents asked their children to use dental floss. According to the ADA, the use of dental floss is recommended once a day for effective removal of microbial plaque and the prevention of gingivitis.¹⁰ However, the evidence in the literature showed that professional flossing performed on school days for 1.7 years on predominantly primary teeth in children was associated with a 40% caries risk reduction. Professional flossing in children with low fluoride exposure is highly effective in reducing the interproximal caries risk.¹⁵ Based on the findings of this study, knowledge of this item is almost 0, and practicing the use of dental floss can decrease dental caries by 40%. Future oral health education programs in Hail, Saudi Arabia, should keep this oral health message of prime importance, to achieve good results.

The first visit for a dental checkup is intended for the improvement of oral hygiene and teaching the children about proper eating habits. The American Academy of Paediatric Dentistry recommends having a dental visit at 6 months of age, and/or at the time of first tooth eruption.¹⁶ In our findings, 22.9% of parents think that at 6 months, the child should see a dentist. The majority of subjects (46.1%) believed that the child should see a dentist when the child experiences pain. The result is in agreement with the finding of a study done in the Saudi population in 2018 by Alshahrani et al. in which majority (37.33%) of the participants said that pain was the main reason for them to get their children to the dentist.¹⁷

CONCLUSION

The present study measured the parent's knowledge with regard to their children's oral health maintenance. Most parents had adequate knowledge about the oral hygiene of their children for most of the item asked. Overall results of this study indicate that children's and parents' attitude toward oral health and dental care need to be improved. It is vital to promote regular oral health promotion education a program focusing on the items whose knowledge was reported low, for instance, the ideal time of dental visit, use of dental floss, etc.

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