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Parents' awareness of their children's oral-dental health: Knowledge, attitudes and practices

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Abstract

This study aimed to determine parental knowledge and behavior about oral health and dental care. For this purpose, we also examined the relationship between demographic characteristics and the oral-dental health behavior of parents. This study consisted of 269 parents who visited the pediatric outpatient clinic of the hospital between December 2017-January 2019. Data were collected using the researchers' prepared oral health and dental care assessment form. To determine the parents' level of knowledge and behavior regarding oral and dental health, a total of 45 questionnaires were administered with face-to-face interview technique, including demographic characteristics (4 questions), knowledge (19 questions), oral-dental behavior (18 questions), and personal opinion (4 questions). 269 parents (231 females and 38 males) participated in the study. The average age of the parents was 30.6 ± 6.9 years (range: 18-62 years). 118 parents (43.9%) graduated from middle-high school, 109 parents (40.5%) were primary school graduates, 33 parents (12.3%) were university graduates, and five parents were illiterate people (1.9%). The parents did not have enough information about nutrition, fluoride therapy, and dental flossing. There was no statistically significant difference between education level and the number of correct answers ($p=0.133$). As a result, providing accurate and appropriate knowledge to children by their parents will affect oral-dental health positively. Whether it is a child or adolescent, regular periodic education programs for the protection and development of oral and dental health, as well as the contribution of the school and the family, are essential.

Keywords: Oral health, children, parents, knowledge

Introduction

Oral and dental health problems can be seen anytime, from infancy to the elderly. World Health Organization (WHO) advises oral-dental health evaluation at 5 years, 12 years, and 15 years of age To determine countries' oral-dental health status [1]. In 2000, WHO had targeted that 50% of children would have no tooth decay by 5-6 years, and 85% of teenagers at 18 years would have all their teeth in place [2]. For 2025, this target is updated. The new target is that 90% of children at age 5 will be without any tooth decay [3]. A study from Turkey in 2004; found that 47% of Turkey's population had no dentist visit in the previous year, and 12.5% never had a dental examination. In the presence of any complaint, 51% would go to a dentist, and only 10% of the participants would go routinely

for regular dental checkups [4]. Regular educational programs; and school and parents' participation have essential roles in the protection and sustainability of oral dental health. Children learn their first knowledge and behavior about their oral and dental health from their parents at younger ages and then from their educators at schools, and they try to simulate. Positive behavior acquisition about dental health learned at young ages facilitates permanent habits about teeth brushing and good nutrition for life [5]. Early childhood is a period for the parents to be good role models for their children. Recent studies demonstrated an association between socio-demographic characteristics, dental health knowledge, and parents' behavior. Some factors such as maternal age, education status, deprivation, and the current behavior of parents affected their children's oral health directly [6,7]. This study aims to investigate the knowledge and attitudes of parents about oral and dental health. The first aim of this study was to assess what parents know about improving their children's dental health to determine what information they need. Getting a better understanding of the knowledge of parents and what they know and what they don't know can help point out the topics for dental care providers when

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educating parents. The second aim of this study was to investigate if any background factors, such as socio-demographic and parents' oral health-related factors, impact their knowledge and behavior. Parents and primary caregivers must be educated to prevent oral diseases in children. Educational activities should be promoted not only by the dentist but also by general practitioners and pediatricians. Prevention of oral diseases is more cost-effective than treatment. Community health centers and primary health care services can play an active role in preventive health services and education. In this regard especially in the peripheral areas, their responsibilities can be increased.

Material and Methods

A cross-sectional study was carried out among parents who visited the general pediatric outpatient clinics during the period between December 2017 and January 2019. Data were collected from 269 parents who brought their children for regular check-ups. In the scale validity and reliability studies, the accepted sample size was accepted as a minimum of 5 times the total number of items, 0.05 probability of error and 95% power requirement were calculated, and 225 patients were reached. The parents were asked to fill out the questionnaire and parents were enrolled voluntarily and were not remunerated for participation. No names or other identifying information were collected. The investigator herself administered the questionnaire to the study participants. The questionnaire was developed by findings from the literature research [7,8]. The data obtained through face-to-face questionnaires with 45 questions consisted of four sections about oral-dental health care. Four questions were about demographic features (age, gender, education level, number of children), 18 questions about parents and children's dental care practices, 19 about knowledge, and, four questions about their attitudes. Healthcare professionals (doctors, nurses, dental care professionals, etc.) were excluded from the survey. Children with chronic diseases affecting oral-dental health, oral anatomic defects, and growth retardation, and children with neurological, gastrointestinal, and endocrinologic diseases were also excluded from the study. The ethics committee approved

the study (Date:17.09.2010. Number:1435) (Date:06.07.2022. Number 85).

Statistical analyses were performed using SPSS version 20 (IBM SPSS Statistics, Chicago, IL). Descriptive statistics are given as mean \pm standard deviation or number of cases (%). In comparisons between groups, a t-test was used when the number of independent groups was two and with one-way analysis of variance when there were more than two. Pearson's chi-square test was used in the analysis of categorical variables. The statistical significance level was accepted as $p < 0.05$.

Results

A total of 269 parents; were enrolled in the study. The mean age of the participants was 30.6 ± 6.9 years (range:18-62 years). A total of 269 parents; 231 mothers and 38 fathers, were enrolled in the study. The mean age of the participants was 30.6 ± 6.9 years (range:18-62 years). 43.9% (n=118) of parents graduated from secondary school and 40.5% (n=109) from primary school. Only 33 parents (12.3%) graduated from a university, and five parents (1.9%) were illiterate. 125 families (46.5%) had two children. The age range of the children was 1 to 8 years. 125 families (46.5%) had two children. The age range of the children was 1 to 8 years.

Data about parents' knowledge

None of the parents answered all the 19 questions about oral dental care knowledge. The median correct answer was 11 (range 0-18 answers). Table 1 shows the questions and answers about parents' knowledge. The number of correct answers about knowledge based on different educational statuses was as follows: 10.7 ± 3.2 (3-17 answers) by primary school-graduated parents, 11.5 ± 3.1 (4-18 answers) by secondary school-graduated parents, 11.6 ± 3.1 (0-18 answers) by university graduated-parents and 9.2 ± 1.8 (7-12 answers) by illiterate parents. ($p = 0.023$). Fathers and mothers had a mean of 10.1 ± 3.1 and 11.3 ± 3.1 correct answers, respectively. There was a significant relationship between the number of correct answers and gender ($p = 0.03$).

Table 1. Questions and answers about oral-dental health

Questions	Yes n(%)	No n(%)	Do not know n(%)
Early childhood tooth decay can be seen only with bottle-fed babies	62(23.0)	89(*33.1)	115(42.8)
Tooth decays if untreated can affect the child's health	221(*82.2)	20(7.4)	27(10)
Bacteria causing tooth decay can be transmitted from mother to child	141(*52.4)	57(21.2)	70(26)
Children under 3 years of age should not use toothpaste with fluoride	157(*58.4)	36(13.4)	73(27)
The first signs of tooth decay are white lines and pittings on the tooth surface	136(*50.4)	34(12.6)	94(34.9)
Baby teeth are important for oral dental health during adulthood	198(*73.6)	27(10)	43(16)
Oral health care should be given before baby teeth erupt	159(*59.1)	41(15.2)	66(24.5)
Nutrition during pregnancy affects a child's dental health	159(*52.0)	41 (17.8)	66(29)
Frequent feeding with milk/formula is good for teeth	159(60.2)	41(*10.4)	66(28.3)
Frequent feeding with fruit juices is good for teeth	68(25.3)	130(*48.3)	68(25.3)
Babies should be fed during the night	101(37.5)	112(*41.6)	54(20.1)
Sweet and sugar can be eaten every time during the day	29(10.8)	215(*79.9)	24(8.9)
Pediatricians have important roles in the oral dental health of children	29(*79.9)	215(11.2)	24(8.6)
Tooth brushing reduces tooth decay	231(*85.5)	21(7.8)	17(6.3)
Acidic/carbonated beverage is harmful to teeth	220(*81.8)	20(7.4)	28(10.4)
Treatment of fluoride reduces tooth decay	111(*41.3)	29(10.8)	123(45.7)
Children should use dental floss for cleaning	69(*25.7)	124(46.1)	74(27.5)
In case of dental trauma children should be referred to the dentist immediately	217(*80.7)	22(8.2)	26(9.7)
After one year of age, children should drink from a glass	223(*82.5)	20(7.4)	23(8.6)
Questions left blank were not taken into consideration			

Parents' practices about oral-dental care

Table 2 shows the parent's practices regarding oral-dental care.

Most of the parents had tooth problems despite their belief in correct brushing practices. Most of the parents (79.6%) knew that their children should brush his/her teeth after 3 years of age. 20.5% of parents went to routine dentist visits yearly for their own and 19.3% visited dentists for their children's dental health checkups. When having dental complaints, 63.6% of parents went for their own and 48% brought their children to the dentist's office. The most common reasons for a dentist visit were toothache, dental filling, and dental root treatment. Fear of a dentist and having no complaint were reasons for avoidance of dentist visits. Table 3 shows the questions about oral dental care practices of parents of their own and their children.

Table 2. Parents' practices about oral-dental care

Questions	Answers	n(%)
Tooth brushing frequency	Once a day	12(4.5)
	Twice a day	110(41.3)
	More than twice a day	38(14.5)
Reason for tooth brushing	To prevent tooth decay	196(74)
	To feel better	41(15.4)
Teeth brushing time	Less than two minutes	90(33.9%)
	Two minutes	175(66%)
The best time for teeth brushing	Morning and before sleep	185(70)
Toothbrush replacement frequency	Three months	112(41.6)
	Six months	105(39)
	When it gets old	20(7.4)
Used in dental cleaning	Mouth rinse solution and floss	9(3.3)
	Toothbrush and toothpaste	241(90)
Teeth cleaning for children under three years old	Only with water	31(12.4)
	Kid's toothpaste	79(31.6)
	Adult toothpaste	67(32.6)
	toothbrush	28(13.6)
Brushing control of children over three years old	Helping for brushing	69(34.5)
	Observing while brushing teeth	56(28)
Having children routinely checked by the dentist	Yes	44(20.5)
	Rarely or never	170(79.4)
Routine check-ups of parent's with their dentist	Yes	52(19.6)
	Rarely or never	212(80.3)
Questions left blank were not taken into consideration		

Table 3. Questions about parents' dental problems and practices

Questions	Yes n(%)	No n(%)
Has everyone at home had his/her toothbrush?	239(88.8)	29(10.8)
Do you have any absent teeth, tooth decay, dental filling, or staining?	206(76.6)	62(23)
Do you use the same spoon, fork or glass, etc with your children?	73(27.1)	193(71.7)
Do you clean your baby's pacifier in your mouth and then give it into your baby's mouth to suck?	49(18.2)	213(79.2)
Do you chew your child's meal in your mouth and then give it to your child?	23(8.6)	245(91.1)
Questions left blank were not taken into consideration		

Parents' self-knowledge and attitudes

Most of the parents (72.5%) were aware that they should bring their children to the dentist but the appropriate time for dental examination was known only by a few parents. Answers to the question "When to bring your child to a dentist?" were: before one year of age (22.3%), 1-3 years of age (34.6%), and after 3 years of age (34.6%). Most of the parents mentioned that they have no idea about dental trauma management and local fluoride and dental fissure sealant application practices.

Discussion

In this study, we investigated the knowledge and attitudes of parents about oral dental health. 60% of parents believed that frequent feeding with mother milk or formula was healthier. The percentage of correct answers to this question was 10%. Knowledge of parents about fluoride application and dental floss use was not enough. There were inconsistencies in parents' oral-dental health practices.

Childhood is a critical period for the acquisition of life-long-containing behaviors. Parents are role models for their children in this period. Astrom and Jacobsen determined that children copy the practices and habits of dental health [9]. Tooth brushing and proper nutrition reduce tooth decay.

It was shown that persons brushing their teeth two times/day and having this as a habit from early childhood would result in less tooth decay [10]. Suresh et al. showed mothers with higher educational status have more knowledge about oral dental health practices. Williams et al. reported that higher educational level plays important role in gaining knowledge and for the persistence of knowledge [11]. Educational programs about oral dental health were effective in increasing knowledge but this knowledge usually was not long-lasting [12]. Face-to-face education of consulting practices was found to be more effective than conventional education methods [13]. We observed that there was a weak correlation between parents' educational status and the number of correct answers in our study.

Mothers had higher scores of correct answers than fathers. Parents especially mothers are in great effort to protect their children's health. In Turkey, 40% of the population brush their teeth and 26% of society does not brush 2-3 times a day [14]. There was an inconsistency in the teeth-brushing practices of parents. In our questionnaire, we found that 4.5% of parents brush their teeth only once a day, and 41.3% twice a day. The percentage of teeth brushing 3 or more times was 14.5%. Our results were the following literature. In 2016, Özyürek et al. investigated oral-dental healthcare knowledge and practices of primary school children and their mothers [15]. Mothers in that study reported that 39.1% of them brush twice a day and 32.6% brush three times a day. Another study by university students showed 54% of students brush two times daily and 12% do not brush regularly [16]. Kuru et al. investigated the tooth brushing habits of 200 children, aged between 4 and 8 years, living in a suburb with a low socioeconomic income level and reported that 56% of children brush their teeth a few times and 6.5% never brush their teeth [5]. A study from the Turkish Ministry of Health, Department of Health Project Coordination, detected the average frequency of dentist visits as 0.7 in Turkey, while it is 5 in developed countries. According to

Turkish dentists' data, 47.11% of the population had no dentist visit in the previous year and 12.5% of the population never had a dentist visit in their lifetime [17].

Although mothers had pointed out that dentist visits should be every three months (20.65%) and every six months (53.26%), 56.5% of mothers brought their children to the dentist's office when a dental problem arises [13]. In our study, 12.3% of parents routinely visit dentists in six months period for their dental status, while 8.9% of parents visit for their children's dental status. This result is similar to the study of Özbek et al. which involved 256 individuals (126 children) in 2015. They determined that 88.1% of parents and 53.9% of children go for dental examinations if there is a complaint. Only 3.1% of parents and 19.8% of children go to a dental checkup every six months [18].

Another study reported that children had been brought to a dentist when they have any complaint (90.7%) and 1-2 times a year for routine control (9.3%) [19]. Efforts must be given to acquire the habit of routine oral-dental health examinations. The limitation of our study was, that study was made in a single center, the findings of the study are influenced by the limited sample size, only parents who signed the consent forms were included in the study sample and although made by a face-to-face method the parents should not give the right answer. The results may not reflect the practices of entire the population in Turkey. The other limitation of the study was, the part of the questionnaire asking for demographic data did not include the financial situation of the parents.

Conclusion

This study examines the question of what parents know. The results found in our study fall behind the target set by WHO. Knowledge and practices of a parent about oral-dental health, correct feeding, and a periodic dental check-up are not enough. Although most of the parents stated that they practiced correctly, they had a high rate of dental problems, and the study showed that the dentist is the most consultant when there is a complaint. The families need to be informed about the importance of utilizing for routine dental examinations and educated about promoting their children's oral health. Finally, the high fear of dentists should not be overlooked. Prevention of oral diseases is more cost-effective than treatment. Whether it is child or adult, regularly periodic education programs are important for the protection, and development of oral and dental health.

Conflict of interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical approval

This study adhered to the Declaration of Helsinki, and was approved by the Ministry of Health of Turkey and the Ethics Committee of Zeynep Kamil Maternity and Children's Diseases Training and Research Hospital (approval number:1435

; approval date:September 09,2010). (approval number: 85; approval date: July 06,2022).

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