# Knowledge and Practices for Early Childhood Caries Prevention among Parents of the Children Visiting King Abdulaziz University Pediatric Dental Clinics, Kingdom of Saudi Arabia

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## Abstract

Aim: Children's oral health maintenance is influenced by their parents' knowledge and behaviors. Therefore, the aim of this study was to assess the knowledge and practices among parents for prevention of early childhood caries (ECC) in children.

**Materials and methods:** This cross-sectional study interviewed the parents visiting the Pediatric Dental Clinic in King Abdulaziz University, Faculty of Dentistry (KAUFD), from January 1, 2018 to December 31, 2018. The questionnaire was drafted based on the recommendations on strategies for ECC prevention by the American Academy of Pediatric Dentistry in 2018.

**Results:** Of the 549 parents, 283 responded. The mean knowledge score for caries prevention was 2.29 (standard deviation = 1.26) out of 10. In addition, 13.8% of participants scored zero. Knowledge questions that showed the highest correct responses were those associated with fluoride application. However, only 96 (24.4%) participants were aware of fissure sealants, 48 (17%) participants knew that fissure sealants are applied to sound teeth, 35 (12.4%) participants knew the correct age of the first dental visit, and 157 (55.5%) participants practiced snacking between meals. Mothers showed significantly higher mean knowledge score compared with fathers (p < 0.001). In addition, the number of dental visits significantly correlated with the mean parental knowledge score (p < 0.05).

**Conclusion:** Parental dental knowledge and practices were not satisfactory. Anticipatory guidance should be reinforced by oral healthcare providers on each dental visit. In addition, pediatricians and physicians could be involved in improving parental dental knowledge.

**Clinical significance:** This study reported the level of knowledge and awareness of parents visiting the Pediatric Dental Clinic in KAUFD. It could be used as a reference for future community services and caries prevention programs conducted by oral healthcare services for children to prevent ECC.

Keywords: Cross-sectional study, Knowledge, Parents, Practice.

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#### INTRODUCTION

Dental caries is an infectious process involving the breakdown of the tooth enamel.<sup>1</sup> Extensive dental caries influences the health and well-being of young children.<sup>2</sup> Despite preventive methods, dental caries is highly prevalent worldwide.<sup>3,4</sup> Children are susceptible to caries, which is multifactorial in origin, as soon as the first tooth erupts.<sup>5</sup> Early childhood caries (ECC) is a serious dental public health problem in Saudi Arabia. A systematic review in 2013 found that the prevalence of ECC is high and varies with geographic location across Saudi Arabia. The national prevalence is 80% for primary dentition.<sup>6</sup>

Children's oral health maintenance is influenced by the parent's knowledge and behaviors. Children under the age of 5 years generally spend most of their time with the parents, especially the mother.<sup>7</sup> Therefore, the aim of this study was to assess the knowledge and practices for ECC prevention among parents of children with dental caries visiting the Pediatric Dental Clinic in KAUFD.

#### **MATERIALS AND METHODS**

#### Subjects

This cross-sectional study was performed in the Pediatric Dental Clinic at KAUFD, Jeddah, Saudi Arabia. It included all parents of children who attended the pediatric dental clinics between <sup>1</sup>Department of Pediatric Dentistry, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia

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January 1, 2018 and December 31, 2018. The inclusion criteria were (1) healthy children, (2) age  $\leq$ 16 years, (3) at least one visit to a pediatric dentistry resident or specialist, and (4) at least one carious lesion. The exclusion criteria were (1) comprehensive dental treatment under general anesthesia, (2) no dental treatment, (3) visit to clinics other than the Pediatric Dental Clinic at KAUFD, and (4) no carious lesions.

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#### Methods

Approval for this study was obtained from the ethics committee of KAUFD (089-09-18). Parents of the children who met the inclusion criteria (549 parents) were interviewed via telephone by four dental students for 10–15 minutes to complete a questionnaire. Face validity of the questionnaire was performed by two consultants with 20 parents, and the questionnaire was modified accordingly. The questionnaire was drafted based on the recommendations on strategies for ECC prevention by the American Academy of Pediatric Dentistry (AAPD) in 2018. The questionnaire included demographic data of the child and parent, socioeconomic factors (family income, parental education, and parental occupation), and hospital factors (number of dental visits).

#### **Statistical Analysis**

The results included descriptive information of the population, which is expressed as number and percentage. The Chi-square test was used to compare the categorical variables, with a significance level of 0.05. In addition, for each question regarding knowledge that was answered correctly, the participant was awarded a score of 1. Thus, the total knowledge score ranged from 0 to 10. Ordinal regression analysis was performed to assess the adjusted association of demographic predictors and sociodemographic predictors (parental occupation, parental education, and family income) with the dependent factor (knowledge score) reported as *p* value and 95% confidence interval (CI).

## RESULTS

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A total of 283 parents (51.5% response rate) participated in the study. The number of fathers and Saudi citizens were 150 (53%) and 225 (79.5%), respectively. The number of parents with male and female children were 137 (48.4%) and 146 (51.6%), respectively. The mean age of children was 8.6 [standard deviation (SD) = 2.54] years. In terms of educational level, 164 (58%) of the fathers and 142 (50.2%) of the mothers held a bachelor's degree or higher (Table 1). The mean knowledge score for ECC prevention was 2.29 (SD = 1.26) out of 10. In addition, 13.8% of the participants scored zero. Knowledge questions that showed the highest correct responses were those associated with the duration of professional fluoride application [172/283 (60.8%)] and the appropriate amount of toothpaste recommended in children aged 3-6 years [151/283 (53.4%)]. Only 96 (24.4%) participants were aware of fissure sealants, and only 48 (17%) participants knew that it should be applied to sound teeth. In addition, 35 (12.4%) participants knew that the first dental visit should be at the age of 6–12 months. Regarding dietary sugar intake, 67 (23.7%) and 157 (55.5%) participants fed sugary snacks to their children immediately after meals and between meals, respectively. Moreover, 172 (60.8) and 140 (49.5%) participants performed ad libitum breastfeeding and bottle feeding, respectively, until the age of 2 years (Table 2). Mothers showed significantly higher mean knowledge score compared with fathers (p < 0.001). In addition, parents with higher monthly income (p = 0.04), educational level (p = 0.047), and number of dental visits showed significantly higher mean knowledge score (p = 0.008; Table 3).

Regarding practices for ECC prevention, 188 (66.4%) participants did not take their children to a dentist in the absence of dental problems, 53.4% participants brushed their children's teeth twice a day, and only 21 (7.4%) participants used dental floss for their children (Table 2). The parental educational level and number of dental visits significantly correlated with parental ECC prevention practices (p < 0.05; Table 4).

#### Table 1: Sample demographic data and characteristics (n = 283)

Variable		n (%)
Gender	Male	137 (48.4)
	Female	146 (51.6)
Nationality	Saudi	225 (79.5)
	Non-Saudi	58 (20.5)
Who answered the	Father	150 (53.0)
questionnaire	Mother	133 (47.0)
Father education level	Illiterate	7 (2.5)
	Primary/intermediate	31 (11.0)
	High school	81 (28.6)
	University or higher	164 (58.0)
Mother education level	Illiterate	5 (1.8)
	Primary/intermediate	38 (13.4)
	High school	98 (34.6)
	University or higher	142 (50.2)
Father occupation	Not working	3 (1.1)
	Retired	15 (5.3)
	Private sector	102 (36.0)
	Government	83 (29.3)
	Military	33 (11.7)
	Medical field	13 (4.6)
	Teacher	31 (11.0)
	Dentist	3 (1.1)
Mother occupation	Housewife	227 (80.2)
	Retired	3 (1.1)
	Private sector	15 (5.3)
	Government	7 (2.5)
	Teacher	22 (7.8)
	Medical field	5 (1.8)
	Dentist	4 (1.4)
Family income/month	Less than 7,000 SAR	77 (27.2)
	8,000-10,000 SAR	90 (31.8)
	11,000–16,000 SAR	69 (24.4)
	More than 16,000	47 (16.6)
How many children do you	1–2 children	61 (21.6)
have?	3–4 children	139 (49.1)
	More than 5	83 (29.3)
Did your child receive any	Yes	124 (43.8)
dental treatment before	No	159 (56.2)
coming to the pediatric		
specialty clinic?	0	25 (0.0)
Number of treatment session	Une	25 (8.8)
	Two	20(7.1)
	Three Four	41 (14.5)
	FOUR Marathan 4	42 (14.8)
T	More than 4	155 (54.8)
Type of program	Masters and PhD	49(17.3)
	Masters and PhD	151 (55.4)
		75 (20.5)
	Faculty	8 (2.8)
obtained the knowledge of	Dentist	242 (85.5)
oral care methods		10 (5.7)
	Social media	0 (3 9.2)
	Podiatrician	9 (3.2) 15 (E 2)
	Magazino	(3.5) 6 (3.1)
	magazine	0 (2.1)
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**Table 2:** Distribution of participants based on the responses to questions regarding knowledge and practices

**Table 3:** Ordinal regression analysis showing the adjusted association of sociodemographic predictors and number of dental sessions with the dependent factor (mean knowledge score)

Question         Answers         (%)         Mean knowledge update         Adjusted			Prevalence	the dependent factor (mean knowledge score)				
Knowledge questions         Frances         Directors         Directors         Directors         Directors           Atwhat age should the child have the first dental visit?         2 years         63 (2.3)         Male         2.22 (1/1)         0.948         0.416 to -0.444           gender         2 years         63 (2.3)         Hale         2.22 (1/1)         0.948         0.416 to -0.444           gender         4 years         26 (2.2)         Which parent answered the questionnine?         -1.564 to -0.584*           Do you know what are pit and fissure sealants?         Ko         214 (75.6)         Less than         2.06 (1.712)         0.118         -1.564 to -0.584*           On what pit and fissure         Caries teeth         15 (5.3)         7.000 SAR         2.000 -10.000         1.91 (1.458)         0.118         -1.507 to 0.178           gender         Years old         17 (6.0)         Soure         -1.601 to 0.036         SAR           More than         3.62 (2.558)         10.000**         73 (2.69)         Father education         Illiterate         0.107*         -1.601 to 0.324           Special Structure         Smear or rice-size         16 (2.9)         74 (2.69)         0.33         -0.951 to 0.324           gend 3 - years?         Ido not know         73 (2.69)<	Question	Answers	(%)	Dradictors	Mean knowledge	Adjusted	95% confidence	
Art what age should the child have first dental visit?       6-12 months**       35 (12.4)*       Mate 222 (1.71)       0.948       0.416 to -0.444         dental visit?       3 years       49 (7.3)       Fenale**       2.36 (2)       Which parten tanswered the questionnaine?         5 years       5 (11)       16 no throw       59 (20)       Which parten tanswered the questionnaine?       -1.564 to -0.584*         Do yuk know what are pit and fissure sealants?       No       214 (7.6)       Less than       2.06 (1.712)       0.115       -1.717 to 0.188         On what pit and fissure sealants should be applied?       Ido no throw       220 (7.7)       8.000-10.000       1.91 (1.458)       0.118       -1.507 to 0.178         Mote should dental flosing be begun?       When three is contact       43 (15.2)*       11.000-16.000       1.91 (1.458)       0.04*       -1.601 to 0.036         Mate is the amount of toothpatte that should be applied for children full-length bruch       74 (5.7)       SAR       10.000-16.000       2.14 (1.556)       0.04*       -1.601 to 0.036         Smear or rice-size*       16 (5.7)       Nore than       3.02 (2.558)       16.000       2.07       -1.365 to 0.322         Mitat is the amount of toothpatte that should be applied for children under the age 13       Fearsal education       111 (2.9.6)       116 (0.01       0	Knowledge questions			Condor	SCOTE/ TO (SD)	pvalue	Interval	
International relations       2 years       63 (2,3)       number 2,24 (17,1)       0,348       0,410 (1,0,0,0,44)         dental visit?       4 years       26 (2,2)       Which parent sanswered the questionnair?       - 1.564 to -0.584*         D you know what are pit and fissure sealants?       Ke*       96 (24,4)*       Family incommonth       - 1.564 to -0.584*         On what pit and fissure sealants should be sealant should be sealant should be applied for ot know       220 (77,7)       SAR       0.01 (1,458)       0.118       -1.507 to 0.178         When should dental flossing be begun?       Javas old       17 (6,0)       6,047*       -1.601 to 0.036         What is the amount of toothpaste that should       Fasse*       151 (53,4)*       Himerediate       0.710       -1.601 to 0.324         Bachelor and 2,50 (1,027,2)       SAR       2.26 (1,027,2)       .3666 to 0.028       -1.601 to 0.36         What is the amount of toothpaste that should       Fasse*       151 (53,4)*       Himerediate       0.70 (0,077)       -1.661 to 0.282         What is the amount of toothpaste that should       Fasse*       151 (53,4)*       Himerediate       0.70 (0,077)       -3.686 to 0.028         What is the amount of toothpaste that should       Fasse*       12 (39,6)       Himerediate       0.01 (0,070)       0.377       -3.878 to 1.065	At what age should the child have the first dental visit?	6–12 months*	35 (12.4)*	Mala	2 22 (1 71)	0.049	0.416 to 0.444	
description         sygers         dp (r)         rentiate         z.20 (J)           4 years         25 (a)         Which parentanswerd the questionnaire?         -1.564 to -0.584*           5 years         51(18)         Father         1.87 (1.57)         <0.0001*		2 years	63 (22.3)	Ividie	2.22 (1.71)	0.940	0.41010 -0.444	
4 years         2b (92)         (min) partini partiest in the question and questin and questin and question and questin and question and questin q	dental visit.	3 years	49 (17.3)	remaie <sup>**</sup> 2.36 (2)				
Syears         51(18)         Patient         1.27 (12.7)         Coulou         -1.394 10 - u.394           Do you know what are priand fisture sealants?         Yes*         96 (24.4)*         Family income/month.         -1.717 to 0.188           On what pit and fisture sealants should be applied?         Caries teeth         15 (5.3)         7.000 SAR         0.0118         -1.717 to 0.178           Sound teeth*         48 (17.0)*         SAR         8.000-10.000         191 (1.458)         0.118         -1.507 to 0.178           Mens should dental fosing be begun?         When there is contact         43 (15.2)*         SAR         8.000-10.000         191 (1.458)         0.04*         -1.601 to 0.036           Mast is the amount of toothpaste that should be applied for children gaged 3 - gyears         Smear or rice size         15 (5.3)         Pimary and 12 (29.6)         16000**         -3.666 to 0.028           Mits is the amount of toothpaste that should be applied for children guear 15 (29.4)         Smear or rice size*         76 (26.9)*         High school         1.99 (1.609)         0.336         -0.951 to 0.324           Bachelor and 2 series         Size         112 (29.6)         High school         0.92 (1.692)         0.27         -1.365 to 0.324           Bachelor and 2 series         Size         112 (29.6)         High school         1.9		4 years	26 (9.2) Which parent answered the questionnaire?					
Lo orot know         Sp (20)         Monther         C// (2.04)           pit and fissure sealants?         No         214 (75.6)         Less than         2.00 (1.712)         0.115         -1.717 to 0.188           con what pit and fissure         Garies testeh         15 (5.3)         Less than         2.00 (1.712)         0.118         -1.507 to 0.178           spiled?         Ld on tknow         220 (77.7)         No         11,000-16,000         1.91 (1.458)         0.04*         -1.601 to 0.036           When should dental flossing be begun?         Spears old         17 (6.0)         More than         3.62 (2.538)         -1.601 to 0.036         -1.601 to 0.036           be applied for children gillerght brush         16 (53.4)*         11,000-16,000         2.14 (1.556)         0.04*         -1.605 to 0.382           ged 3 - 6 years?         Id on tk now         73 (25.8)         Father education         Illiterate         0.01 (1.009)         0.337         -3.878 to 1.065           be applied for children gilter or hick now         73 (25.8)         Haiph school         1.09 (1.609)         0.337         -3.878 to 1.065           Should a child receiver         Yea*         172 (66.9)*         Nother education         Illiterate         1.00 (1.000)         0.337         -3.878 to 1.065         Primary and<		5 years	51(18)		1.87 (1.57)	<0.0001"	-1.504 10 -0.584"	
Do you know what are Yes*         96 (22.4)*         Framiny incomermonic           pit and fissure sealents?         No         214 (75.6)         Less than         2.06 (1.712)         0.115         -1.717 to 0.188           On what pit and fissure sealents?         Caries teeth         15 (5.3)         7.000 SAR         8.000-10.000         1.91 (1.458)         0.118         -1.507 to 0.178           splied?         Ido not know         220 (7.7)         SAR         8.000-10.000         1.91 (1.458)         0.04*         -1.601 to 0.036           fissing be begun?         between the teeth*         3.928 rold         17 (6.0)         5.42 (1.556)         0.04*         -1.601 to 0.036           More than anount of toothsare that should be applied for children gate 3 - years?         Failer education         100 rot know         73 (25.8)         High school         2.97         -3.686 to 0.028           Yes*         12 (39.6)         Smear or rice-size*         76 (25.9)*         High school         2.97         -3.686 to 0.028           Yes*?         Yes*         12 (26.9)*         High school         2.25 (1.988)         higher**           Yes*         Yes*         12 (26.9)*         High school         2.27         -3.876 to 1.065           Yes*?         Yes*         Yes*         72 (62		I do not know	59 (20)	Mother**	2.77 (2.04)			
pic and issue scalars         No         214 (75.6)         Less fran         2.06 (1.71.2)         0.11 s         -1.717 to 0.188           on what pit and fissue         Sound teeth*         48 (17.0)*         8.000-10,000         1.91 (1.458)         0.118         -1.507 to 0.178           spplied?         Id on throw         220 (77.7)         SAR         0.04*         -1.601 to 0.036           When should dental fossing be begunt         When there is contact         43 (15.2)*         SAR         0.04*         -1.601 to 0.036           When should dental fossing be begunt         Smear or rice-size         16 (5.7)         Private reducation         Illiterate         0.71 (0.756)         0.047*         -3.686 to 0.028           what is the amount of too rhidren the age of 3         Id on t know         73 (25.8)         High school         1.99 (1.609)         0.336         -0.951 to 0.324           bachelor and 1.162 (1.400*)         Faither education         Moter education         Moter education         Moter education         Illiterate         0.367         -3.878 to 1.065           be applied for chidren under the age of 3         Ido not know         73 (25.8)         Moter education         Illiterate         0.369         -0.835 to 0.317           should a child receive topical fuoride every 6         No         40 (14.1)	Do you know what are	Yes*	96 (24.4)*	Family income/m		0 1 1 5	1 717 . 0 100	
On what pit and itsure         Cares teeth         15 (5.3)         7,000 J/M         9,101 (1.458)         0.118         -1.507 to 0.178           applied?         Id on tknow         220 (77.7)         SAR         0.004*         -1.601 to 0.036           Men should detall         When should cetall         When should cetall         43 (15.2)*         11,000-16,000         2.14 (1.556)         0.04*         -1.601 to 0.036           More than         3.62 (2.558)         16,000**         16,000**         16,000**         16,000**         2.06 (1.692)         0.27         -3.686 to 0.028           What is the amount of toothysate that should be applied for children gaged 3-6 years?         Fold not know         73 (25.8)         Bachelor and 2.55 (1.988)         0.336         -0.951 to 0.324           What is the amount of toothysate that should und herevice         Fore arrice size*         76 (26.59)*         High school         1.99 (1.609)         0.336         -0.951 to 0.324           What is the amount of pice folders in the associal a child receive No         You (24.7)         High school         1.99 (1.609)         0.337         -3.878 to 1.065           years?         No         You (24.7)         High school         2.22 (1.529)         0.369         -0.835 to 0.317           giver the age of 3         High school         2.20 (1	pit and fissure sealants?	No	214 (75.6)	Less than	2.06 (1./12)	0.115	-1./1/ to 0.188	
Sound teerth         Sound teerth <th colspan<="" td=""><td>On what pit and fissure</td><td>Carles teeth</td><td>15 (5.3)</td><td>7,000 SAN</td><td>1 01 (1 459)</td><td>0 1 1 0</td><td>1 507 to 0 179</td></th>	<td>On what pit and fissure</td> <td>Carles teeth</td> <td>15 (5.3)</td> <td>7,000 SAN</td> <td>1 01 (1 459)</td> <td>0 1 1 0</td> <td>1 507 to 0 179</td>	On what pit and fissure	Carles teeth	15 (5.3)	7,000 SAN	1 01 (1 459)	0 1 1 0	1 507 to 0 179
burners         Lation to Know         220 (7/.7)         Parts         0.04*         -1.601 to 0.036           When should dental flossing be begun?         between the teeth*         3 (52.2)*         11,000-16,000         2.14 (1.556)         0.04*         -1.601 to 0.036           What is the amount of toothpaste that should be applied for children aged 3-6 years?         mear or rice size         16 (5.2)*         Primary and         2.06 (1.692)         0.27         -1.365 to 0.382           What is the amount of toothpaste that should be applied for children aged 3-6 years?         Smear or rice size*         76 (26.9)*         Primary and         2.06 (1.692)         0.27         -1.365 to 0.382           What is the amount of toothpaste that should be applied for children aged 3-6 years?         Smear or rice size*         76 (26.9)*         Primary and         2.55 (1.908)         0.336         -0.951 to 0.324           Bincher and years?         Id o not know         70 (24.7)         Primary and         1.63 (1.364)         0.151         -1.477 to 0.227           Should a child receive topical flooride every 6         No         40 (4.7)         Bachelor and         2.20 (1.592)         0.369         -0.835 to 0.317           givens to the child?         Between meals         157 (55.5)         Dentist         7.67 (0.58)         0.006*         1.029-6.064	applied?	Sound teeth*	48 (17.0)*	8,000–10,000 SAR	1.91 (1.456)	0.116	-1.507 10 0.178	
When should dental flossing be begun?         When there is contact 3 years old 6 years old 1 do not know         17 (6.0) 17 (6.0) 6 years old 1 do not know         More than 1 (2.39.4) (ab not know         More than 1 (2.39.4) (bo 00* Father education         More than 1 (0.00* Father education           What is the amount of toothpaste that should be applied for children under the age of 3 years?         Same or rice-size 1 do not know         116 (5.7) (ab not know         Primary and 3 (15.2) (do not know         0.047* 3 (15.2) (do not know         -3.686 to 0.028 Primary and 2 .05 (1.692)         0.047* 0.27         -1.365 to 0.382 (net reducation           What is the amount of toothpaste that should be applied for children under the age of 3 years?         For size* 12 (39.6) Fuil-length brush         25 (8.9) 43 (15.2)         More than 3 (1.63 (1.364)         0.336         -0.951 to 0.324 Primary and 1.63 (1.364)           Should a child receive topical fluoride every 6 given to the children under the should ad libitum feastree gip be stopped?         Yes*         172 (60.8)* 40 (14.1)         Hillerate 1 (14.0)         1.00 (1000)         0.337         -3.878 to 1.065 Primary and 1.63 (1.364)         0.151         -1.477 to 0.227 Private           When should ad libitum breastree gip be stopped?         No         40 (14.1)         High school         2.02 (1.528)         0.056*         -0.835 to 0.317           When should ad libitum breastree gip be stopped?         For the should given to the childrengip be stopped?         For the should given to the chi		I do not know	220 (77.7)	11 000-16 000	2 14 (1 556)	0.04*	-1 601 to 0 036	
spears old for point of the mount of toothpaste that should be applied for children aged 3-6 years?         smacr or rice-size full-length brush full-length brush for children full-length brush be applied for children full-length brush for children mear or rice size*         15 (5.7) for size*         Primary and for size*         2.06 (1.692) Primary and for children be applied for children full-length brush full-length brush for children mear or rice size*         3 (15.2) for size*         Primary and for children full-length brush full-length brush full-length brush full-length brush         3 (15.2) for size*         Primary and for children full-length brush full-length brush full on t know         70 (24.7) full fund kone full fund kone fund kone full fund kone full fund kone fund kone full	When should dental flossing be begun?	When there is contact between the teeth*	43 (15.2)*	SAR More than	2.67 (7.550)	0.04	1.001 10 0.000	
6 years old bornet now         112 (39.6) (30 not know         Tabler education           What is the amount of toothpaste that should be applied for childre aged 3-6 years?         Ide not know         73 (25.8) (23.9)         Primary and 2.06 (1.692)         0.247         -3.686 to 0.382           What is the amount of toothpaste that should be applied for childre aged 3-6 years?         Smear or rice size*         76 (26.9)*         High school         1.99 (1.692)         0.336         -0.951 to 0.324           What is the amount of toothpaste that should be applied for childre aged 3         Smear or rice size*         76 (26.9)*         High school         1.99 (1.609)         0.336         -0.951 to 0.324           Muther education         Full-length brush         25 (8.8)         High school         1.99 (1.609)         0.337         -3.878 to 1.065           years?         Full-length brush         25 (8.8)         Hilterate         1.00 (1.000)         0.337         -0.835 to 0.317           gional a child receive topical florid every for months?         No         40 (4.1)         High school         2.02 (1.592)         0.36         -0.835 to 0.317           gional a child receive topical florid every for months?         No time als*         67 (25.7)*         Pateral professionalism         -0.835 to 0.317           gional a child sugge         fints primary molan*         157 (55.5)		3 years old	17 (6.0)	16 000**	3.02 (2.338)			
Ido not know         111 (39.2)         Primary and 2.06 (1.692)         0.047*         -3.686 to 0.028           What is the amount of toothpaste that should be applied for childre under the age of 3 years?         Ido not know         73 (25.8)         Primary and 2.06 (1.692)         0.27         -1.365 to 0.382           What is the amount of toothpaste that should be applied for childre under the age of 3 years?         Smear or rice size*         76 (26.9)*         Bachelor and 2.55 (1.988)         -0.951 to 0.324           Should a child receive topical fluoride every months?         Full-length brush         25 (8.3)*         Motter education         1116 (3.1.000)         0.337         -3.878 to 1.065           When should sugar and cariogenic food by threast*         No         40 (14.1)         High school         2.02 (1.592)         0.369         -0.835 to 0.317           Before going to bed affect going to bed for sprimary molar)*         57 (55.5)         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should <i>di libitum</i> bris (after eruption 25 (8.8)*         Military 1.97 (14.5)         0.65         -1.29 to 0.329         -1.29 to 0.329         -1.29 to 0.329           When should <i>di libitum</i> bris (after eruption 25 (6.8)*         Intermediate         1.029 -6.064         Private         2.22 (1.96)         0.155         -1.61 to 0.255         0.165         -1.61 to 0.255		6 years old	112 (39.6)	Father education				
What is the amount of be applied for children aged 3-6 years?         Smear or rice-size 151 (53.4)*         This (5.7)         Interaction (2.7)         C.300 (1.002)         0.27         -1.365 to 0.382           What is the amount of toothpaste that should be applied for children under the age of 3 years?         Smear or rice size * 12 (39.6)         151 (53.4)*         Primary and 2.05 (1.090)         0.37         -1.365 to 0.382           Should a child receive topical fluoride every 6 months?         Kes*         172 (60.8)*         High school         1.99 (1.600)         0.337         -3.878 to 1.065           When should sugary and cariogenic food be given to the child?         Ves*         172 (60.8)*         Illiterate         1.00 (1.000)         0.337         -3.878 to 1.065           When should ad libitum breastfeeding be stopped?         No         40 (14.1)         High school         2.02 (1.592)         0.369         -0.335 to 0.317           Between meals         157 (55.5)         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         1 year         35 (12.4)         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should bottle feeding be stopped?         1 year         37 (13.1)         Retired**         2.38 (17.2)         0.155         -1.61 to 0.255		l do not know	111 (39.2)	Illitorato	0.71 (0.756)	0.047*	2 696 to 0 029	
tothpaste that should be applied for children aged 3-6 years?         Fill-length brush full-length brush be applied for children under the age of 3 years?         151 (53.4)* (14 on ot know         Fill-length brush full-length brush be applied for children under the age of 3 years?         0.27         -1.303 (10.322           What is the amount of be applied for children under the age of 3 years?         Smear or rice size* 12 (39.6)         76 (26.9)* higher**         High school 3.55 (1.980)         0.336         -0.951 to 0.324           When should a child receive topical fluoride every 6 months?         No         40 (14.1)         Primary and 3.63 (1.364)         0.151         -1.477 to 0.227           When should sugary and cariogenic flood be breastfeeding be stopped?         Any time 16 on ot know         55 (19.4)         Primary and 163 (1.364)         0.0155         -1.61 to 0.255           When should <i>al ibitum</i> breastfeeding be stopped?         6 months (after eruption 172 (60.8)         Private 2.22 (1.62)         0.155         -1.61 to 0.255           When should <i>al ibitum</i> breastfeeding be stopped?         6 months (after eruption 129 (55.5)         Paternal professionalism         0.006*         1.029-6.064           When should breastfeeding be stopped?         6 months (after eruption 199 (1.505)         Paternal professionalism         0.006*         1.029-6.064           When should bottle feeding be stopped?         1 year         35 (12.4)         Medical field	What is the amount of	Smear or rice-size	16 (5.7)	Drimory and	0.71(0.750)	0.047	-3.000 t0 0.020	
be applied for children aged 3-6 years?         Full-length brush I do not know         43 (15.2) (1d on to know         High school (26.9)*         Description         0.336         -0.951 to 0.324           What is the amount of toothpaste that should be applied for children under the age of 3 years?         Full-length brush Full-length brush         25 (8.9)*         High school (24.7)         100 (1.000)         0.337         -3.878 to 1.065           Should a child receive topical fluoride every 6 months?         Yes*         172 (60.8)*         Illiterate         1.00 (1.000)         0.337         -3.878 to 1.065           When should sugary and cariogenic food be given to the child?         Yes*         172 (60.8)*         Illiterate         1.00 (1.000)         0.337         -3.878 to 1.065           When should a dilbitum breastfeeding be stopped?         1/do not know         71 (25.1)         Bachelor and 2.70 (2.069)         0.006*         1.029-6.064           When should a libitum breastfeeding be stopped?         67 (23.7)*         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should a libitum breastfeeding be stopped?         1 year         35 (12.4)         Medical field         2.31 (7.4)         0.65         -1.292 to 0.329           Years         17 (60.8)         Cont know         51 (18.0)         Retired**         2.83 (2.75)         0.033*	toothpaste that should	Pea size*	151 (53.4)*	intermediate	2.00 (1.092)	0.27	-1.505 10 0.562	
adges - byed s?       I do not know       73 (25.8)       Primary and 2.55 (1.988)       backlefor and 2.55 (1.988)         What is the amount of toothpase that should be applied for children under the age of 3 years?       Pea size       112 (39.6)       Mother education         Should a child receive topical fluoride every 6 months?       Full-length brush       25 (8.8)       Illiterate       1.00 (1.000)       0.337       -3.878 to 1.065         When should sugary and carlogenic food be given to the child?       Yes*       172 (60.8)*       High school       2.02 (2.059)       0.369       -0.835 to 0.317         When should ad libiting be given to the child?       With meals*       67 (23.7)*       Paternal professionalism         Before going to bed       4 (1.4)       Private       2.22 (1.62)       0.155       -1.61 to 0.255         When should ad libiting be stopped?       1 year       35 (12.4)       Medical field       2.23 (1.74)       0.066*       -1.029-6.064         When should       1-1.5 years*       67 (23.7)*       Dentist       7.67 (0.58)       0.006*       1.029-6.064         When should ad libiting be stopped?       1 year       35 (12.4)       Medical field       2.23 (1.60)       0.155       -1.61 to 0.255         Up ear stopped?       1 year       35 (12.4)       Medical field       2.23 (1.60)	be applied for children	Full-length brush	43 (15.2)	High school	1 99 (1 609)	0 336	-0.951 to 0.324	
What is the amount of toothpaste that should be applied for children under the age of 3 years?         Smear or rice size* Pea size         76 (26.9)* 12 (39.6)         Delicitor for this bigher**         Hold I.000         0.337         -3.878 to 1.065           years?         Full-length brush topical fluoride every 6 months?         Yes*         172 (60.8)*         Higher**         Mother education           When should sugary and cariogenic food be given to the child?         Yes*         172 (60.8)*         Parental professional 2.70 (2.069)         0.369         -0.835 to 0.317           Bachelor and 2.70 (2.069)         higher**         Bachelor and 2.70 (2.069)         0.369         -0.835 to 0.317           Before going to bed stopped?         4(1.4)         Bachelor and 2.70 (2.069)         0.155         -1.61 to 0.255           When should al libitum breastfeeding be stopped?         6 months (after eruption of first primary molar)*         25 (8.8)*         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should         1-1.5 years*         67 (23.7)*         Medical field         2.22 (1.62)         0.135         -1.61 to 0.255           years         12 (92.0)         25 (8.8)*         Government         2.22 (1.62)         0.135         -1.61 to 0.255           years         17 (26.08)         Retired**         2.83 (2.75)         0.03	aged 5–6 years?	l do not know	73 (25.8)	Bachelor and	2 55 (1 988)	0.550	0.991 10 0.924	
toothpaste that should be applied for children under the age of 3 years?         Pea size Full-length brush Ido not know         12 (39.6) 25 (8.8)         Mother education           Should a child receive topical fluoride every 6 months?         Yes*         172 (60.8)*         Primary and 172 (60.8)*         1.63 (1.364)         0.151         -1.477 to 0.227           Should a child receive topical fluoride every 6 months?         Yes*         172 (60.8)*         High school         2.02 (1.592)         0.369         -0.835 to 0.317           When should sugar and carlogenic food be given to the child?         Any time         55 (19.4)         High school         2.02 (1.592)         0.369         -0.835 to 0.317           Bachelor and given to the child?         Between meals         157 (55.5)         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         6 months (after eruption of first primary molar)*         25 (8.8)*         Government         2.22 (1.62)         0.139         -1.766 to 0.246           When should         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should         1 years         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.231 to 0.082           When should         1 years	What is the amount of	Smear or rice size*	76 (26.9)*	higher**	2.55 (1.500)			
be applied for children under the age of 3 years?         Full-length brush I do not know         25 (8.8) 70 (24.7)         Illiterate Primary and 1.63 (1.364)         0.151         -1.477 to 0.227           Should a child receive topical fluoride every 6 months?         Yes*         172 (60.8)*         Hillerate High school         2.02 (1.592)         0.369         -0.835 to 0.317           When should sugary and cariogenic food be given to the child?         My time         55 (19.4)         High school         2.02 (1.592)         0.369         -0.835 to 0.317           When should ad libitum breastfeeding be stopped?         My time         55 (19.4)         High er**         Patemal professionalism           When should ad libitum breastfeeding be stopped?         6 months (after eruption of first primary molar)*         25 (8.8)*         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should bottle feeding be stopped?         1 years         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should bottle feeding be stopped?         2 years         172 (60.8)         Teacher         2.16 (1.21)         0.069         -2.231 to 0.082 <tr< td=""><td>toothpaste that should</td><td>Pea size</td><td>112 (39.6)</td><td>Mother education</td><td>ı</td><td></td><td></td></tr<>	toothpaste that should	Pea size	112 (39.6)	Mother education	ı			
Under the age of years?         Ido not know         70 (24.7)         Printer of age of a field (1.364) (1.	be applied for children	Full-length brush	25 (8.8)	Illiterate	1 00 (1 000)	0 337	-3 878 to 1 065	
Should a child receive topical fluoride every 6 months?         Yes*         172 (60.8)*         Intermediate         Histor (100 m)         110 m m m m m m m m m m m m m m m m m m	under the age of 3	l do not know	70 (24.7)	Primary and	1.63 (1.364)	0.151	-1 477 to 0 227	
Instant of intervery for topical fluoride every for months?         No         40 (14,1)         High school         2.02 (1.592)         0.369         -0.835 to 0.317           When should sugary and cariogenic food be given to the child?         Any time         55 (19.4)         Bachelor and         2.70 (2.069)         higher**           When should ad libitum breastfeeding be stopped?         Any time         55 (19.4)         Paternal professionalism         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         Between meals         157 (55.5)         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         1 year         35 (12.4)         Medical field         2.22 (1.62)         0.139         -1.766 to 0.246           When should         1-1.5 years*         67 (23.7)*         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           years         172 (60.8)         Teacher         2.16 (1.21)         0.069         -2.231 to 0.082           bottle feeding be stopped?         3 years         37 (13.1)         Retired**         2.83 (2.75)         0.033*         0.121-2.849           stopped?         3 years         37 (13.1)         Retired         0.67 (1.155)         0.033*         -4.952 to	Should a child receive	Voc*	172 (60.8)*	intermediate	1.00 (1.00 l)	0.151	11177 10 0.227	
months?         No         To (1,1)         Bachelor and 2.70 (2.069) higher**           When should sugary and cariogenic food be given to the child?         Any time         55 (19.4)         Paternal professionalism           When should ad libitum breastfeeding be stopped?         Before going to bed 4 (1.4)         Private         2.25 (1.62)         0.155         -1.61 to 0.255           When should ad libitum breastfeeding be stopped?         6 months (after eruption of first primary molar)*         25 (8.8)*         Government 2.22 (1.62)         0.139         -1.766 to 0.246           When should ad libitum breastfeeding be stopped?         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should         1 -1.5 years*         67 (23.7)*         Maternal professionalism         0.069         -2.231 to 0.082           When should         1 -1.5 years*         67 (23.7)*         Maternal professionalism         0.069         -2.231 to 0.082           When should         1 -1.5 years*         67 (23.7)*         Maternal professionalism         0.033*         0.121-2.849           stopped?         3 years         37 (13.1)         Retired*         2.20 (1.60)         0.821         -1.117 to 0.878           when do you take your child to visit a dentist?         Rarely         17 (6.0)	topical fluoride every 6	No	40 (14 1)	High school	2.02 (1.592)	0.369	-0.835 to 0.317	
When should sugary and cariogenic food be given to the child?         Any time between meals         157 (55.5)         Paternal professionalism           When should ad libitum breastfeeding be stopped?         67 (23.7)*         Patist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         67 (14.4)         Private         2.22 (1.62)         0.139         -1.766 to 0.255           When should ad libitum breastfeeding be stopped?         67 (15.7)         Government         2.22 (1.62)         0.139         -1.766 to 0.246           When should         67 (15.7)         Government         2.22 (1.62)         0.139         -1.766 to 0.246           When should         67 (15.7)         Government         2.22 (1.62)         0.139         -1.766 to 0.255           When should         1-12 sears         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should         1-1.5 years*         67 (23.7)*         Maternal professionalism         -	months?	I do not know	71 (25 1)	Bachelor and	2.70 (2.069)			
Informer and cariogenic food be given to the child?       Why time meals       52 (12.7)* 67 (23.7)*       Paternal professionalism         given to the child?       With meals*       67 (23.7)* 8 Between meals       Dentist       7.67 (0.58)       0.006*       1.029-6.064         When should ad libitum breastfeeding be stopped?       6 months (after eruption of first primary molar)*       25 (8.8)*       Dentist       7.67 (0.58)       0.006*       1.029-6.064         When should ad libitum breastfeeding be stopped?       1 year       35 (12.4)       Medical field       2.23 (1.64)       0.139       -1.766 to 0.246         When should ad libitum breastfeeding be stopped?       1 year       35 (12.4)       Medical field       2.23 (1.74)       0.126       -2.475 to 0.305         When should bottle feeding be stopped?       1 -1.5 years*       67 (23.7)*       Maternal professionalism       0.003*       0.121-2.849         stopped?       3 years       140 (49.5)       Dentist       7.75 (0.957)       0.033*       0.121-2.849         stopped?       3 years       37 (13.1)       Retired       0.67 (1.155)       0.033*       -4.952 to -0.207         Years and more child to visit a dentist?       If pain or trauma       188 (66.4)       Housenife**       2.12 (1.660)       0.321       -1.117 t	When should sugary	Any time	55 (19 <i>4</i> )	higher**				
given to the child?         Minimess         of (25.7) Between meals         Dentist         7.67 (0.58)         0.006*         1.029-6.064           When should ad libitum breastfeeding be stopped?         6 months (after eruption of first primary molar)*         25 (8.8)*         Government 225 (8.8)*         0.0155         -1.61 to 0.255           When should ad libitum breastfeeding be stopped?         1 year         35 (12.4)         Government 222 (1.62)         0.139         -1.766 to 0.246           When should         1 year         35 (12.4)         Government 222 (1.62)         0.139         -1.766 to 0.246           When should         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           When should         1-1.5 years*         67 (23.7)*         Maternal professionalism         0.069         -2.231 to 0.082           bottle feeding be stopped?         2 years         140 (49.5)         Dentist         7.75 (0.957)         0.033*         0.121-2.849           do not know         32 (11.3)         Government         2.00 (1.826)         0.145         -2.517 to 0.371           Parental practices questions         Faion or trauma         188 (66.4)         Houserife**         2.12 (1.660)         0.301         -0.811 to 2.636           When do you take your	and cariogenic food be	With meals*	67 (73 7)*	Paternal professionalism				
Between mass         157 (3.3)         Private         2.25 (1.96)         0.155         -1.61 to 0.255           When should <i>ad libitum</i> breastfeeding be stopped?         6 months (after eruption of first primary molar)*         28 (8.8)*         Government Allitary         2.22 (1.62)         0.139         -1.766 to 0.246           When should <i>ad libitum</i> breastfeeding be stopped?         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           2 years         172 (60.8)         Teacher         2.16 (1.21)         0.069         -2.231 to 0.082           When should         1-1.5 years*         67 (23.7)*         Maternal professionalism	given to the child?	Between meals	157 (55 5)	Dentist	7.67 (0.58)	0.006*	1.029-6.064	
When should al libitum breastfeeding be stopped?         Government first primary molar)*         2.22 (1.62)         0.139         -1.766 to 0.246           Military         1.97 (1.45)         0.65         -1.929 to 0.329           stopped?         1 year         35 (12.4)         Medical field         2.23 (1.74)         0.126         -2.475 to 0.305           2 years         172 (60.8)         Teacher         2.16 (1.21)         0.069         -2.231 to 0.082           When should         1-1.5 years*         67 (23.7)*         Maternal professionalism	5	Before going to bed	A (1 A)	Private	2.25 (1.96)	0.155	-1.61 to 0.255	
When should ab bottom       of first primary molar)*       Military       1.97 (1.45)       0.65       -1.929 to 0.329         stopped?       1 year       35 (12.4)       Medical field       2.23 (1.74)       0.126       -2.475 to 0.305         2 years       172 (60.8)       Teacher       2.16 (1.21)       0.069       -2.231 to 0.082         When should       1-1.5 years*       67 (23.7)*       Maternal professionalism       0.033*       0.121-2.849         stopped?       3 years       37 (13.1)       Retired*       2.40 (2.165)       0.033*       -4.952 to -0.207         y apers and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         When do you take your       Ido not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*	When should ad libitum	6 months (after eruntion	-+ (1.+) 25 (0 0)*	Government	2.22 (1.62)	0.139	-1.766 to 0.246	
stopped?       1 year       35 (12.4)       Medical field       2.23 (1.74)       0.126       -2.475 to 0.305         years       172 (60.8)       Teacher       2.16 (1.21)       0.069       -2.231 to 0.082         When should       1-1.5 years*       67 (23.7)*       Maternal professionalism       0.033*       0.121-2.849         bottle feeding be stopped?       2 years       140 (49.5)       Dentist       7.75 (0.957)       0.033*       -4.952 to -0.207         4 years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         I do not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         child brushes teeth?       No brushing       46 (16.3)       One       1.68 (1.572)       0.001*       -1.841 to -0.497         bo you use dental floss       Yes*       21 (7.4)*       Four	breastfeeding be	of first primary molar)*	23 (0.0)	Military	1.97 (1.45)	0.65	-1.929 to 0.329	
And an analysis	stopped?	1 vear	35 (12.4)	Medical field	2.23 (1.74)	0.126	-2.475 to 0.305	
When should       1–1.5 years*       67 (23.7)*       Maternal professionalism         bottle feeding be stopped?       2 years       140 (49.5)       Dentist       7.75 (0.957)       0.033*       0.121–2.849         3 years       37 (13.1)       Retired       0.67 (1.155)       0.033*       -4.952 to -0.207         4 years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         I do not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         2 or more per day*       151 (53.4)*       Three       1.68 (1.572)       0.001*       -1.618 to -0.329         Do you use dental floss for your child?       No       139 (49.1)       More than 4**       2.60 (1.868)       <		2 years	172 (60.8)	Teacher	2.16 (1.21)	0.069	-2.231 to 0.082	
When should bottle feeding be stopped?       1-1.5 years*       67 (23.7)*       Maternal professionalism         Maternal professionalism       0.033*       0.121-2.849         Stopped?       3 years       37 (13.1)       Retired       0.67 (1.155)       0.033*       -4.952 to -0.207         A years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         Ido not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss for your child?       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         No       139 (49.1)       More than 4**       2.60 (1.868)       *Significant at 0.05       *Significant at 0.05 <t< td=""><td></td><td>L do not know</td><td>51 (18.0)</td><td>Retired**</td><td>2.83 (2.75)</td><td></td><td></td></t<>		L do not know	51 (18.0)	Retired**	2.83 (2.75)			
bottle feeding be stopped?       2 years       140 (49.5)       Dentist       7.75 (0.957)       0.033*       0.121-2.849         stopped?       3 years       37 (13.1)       Retired       0.67 (1.155)       0.033*       -4.952 to -0.207         4 years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         I do not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         for your child?       No       139 (49.1)       More than 4**       2.60 (1.868)       -1.618 to -0.329         More than 4**       2.60 (1.868)       **Reference	When should	1–1.5 vears*	67 (23.7)*	Maternal professi	onalism			
stopped?       3 years       37 (13.1)       Retired       0.67 (1.155)       0.033*       -4.952 to -0.207         4 years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         I do not know       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         If pain or trauma       188 (66.4)       Housewife**       2.12 (1.660)       -2.517 to 0.371       -0.897 to 0.929         When do you take your       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         If pain or trauma       188 (66.4)       Housewife**       2.12 (1.660)       -       -       -         How many times your       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         child brushes teeth?       Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*       Fou	bottle feeding be stopped?	2 vears	140 (49.5)	Dentist	7.75 (0.957)	0.033*	0.121-2.849	
4 years and more       7 (2.5)       Private       2.40 (2.165)       0.821       -1.117 to 0.878         Parental practices questions       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Ooy ou use dental floss for your child?       No       139 (49.1)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         No       139 (49.1)       More than 4**       2.60 (1.868)       -1.618 to -0.329         **Significant at 0.05       More than 4**       2.60 (1.868)       **Reference		3 years	37 (13.1)	Retired	0.67 (1.155)	0.033*	-4.952 to -0.207	
Parental practices questions       32 (11.3)       Government       2.00 (1.826)       0.145       -2.517 to 0.371         Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       Ido not know what denti floss is       123 (42.5)       *Significant at 0.05       **Reference		4 years and more	7 (2.5)	Private	2.40 (2.165)	0.821	-1.117 to 0.878	
Parental practices questions       Teacher       2.82 (1.842)       0.97       -0.897 to 0.929         When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss for your child?       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       Ido not know what dental floss is       123 (42.5)       *Significant at 0.05       **Reference		I do not know	32 (11.3)	Government	2.00 (1.826)	0.145	-2.517 to 0.371	
When do you take your child to visit a dentist?       Rarely       17 (6.0)       Medical field       4.40 (2.793)       0.301       -0.811 to 2.636         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       123 (42.5)       *Significant at 0.05       *Significant at 0.05	Parental practices question	5	(	Teacher	2.82 (1.842)	0.97	-0.897 to 0.929	
child to visit a dentist?       If pain or trauma       188 (66.4)       Housewife**       2.12 (1.660)         Low many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       Ido not know what dental floss is       123 (42.5)       *Significant at 0.05       **Reference	When do you take your	Barely	17 (6.0)	Medical field	4.40 (2.793)	0.301	-0.811 to 2.636	
How many times your child?       No brushing       46 (16.3)       One       1.60 (1.354)       0.008*       -1.885 to -0.284         How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354)       0.485       -0.557 to 1.173         Do you use dental floss for your child?       Yes*       21 (7.4)*       Three       1.68 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       More than 4**       2.60 (1.868)       *Significant at 0.05	child to visit a dentist?	lf pain or trauma	188 (66.4)	Housewife**	2.12 (1.660)			
How many times your child brushes teeth?       No brushing       46 (16.3)       One       1.60 (1.354) <b>0.008*</b> -1.885 to -0.284         Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         2 or more per day*       151 (53.4)*       Three       1.68 (1.572) <b>0.001*</b> -1.841 to -0.497         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945) <b>0.003*</b> -1.618 to -0.329         More than 4**       2.60 (1.868)       Ido not know what dental floss is       123 (42.5)       *Significant at 0.05       **Reference		Every 3–6 months*	78 (27.6)*	Number of treatm	nent sessions			
child brushes teeth?       Once/day       86 (30.4)       Two       2.95 (2.114)       0.485       -0.557 to 1.173         2 or more per day*       151 (53.4)*       Three       1.68 (1.572)       0.001*       -1.841 to -0.497         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)       More than 4**       2.60 (1.868)       *Significant at 0.05	How many times your child brushes teeth?	No brushina	46 (16.3)	One	1.60 (1.354)	0.008*	-1.885 to -0.284	
2 or more per day*       151 (53.4)*       Three       1.68 (1.572)       0.001*       -1.841 to -0.497         Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         for your child?       No       139 (49.1)       More than 4**       2.60 (1.868)       -1.618 to -0.329         I do not know what dental floss is       123 (42.5)       *Significant at 0.05       **Reference		Once/dav	86 (30.4)	Two	2.95 (2.114)	0.485	-0.557 to 1.173	
Do you use dental floss       Yes*       21 (7.4)*       Four       1.86 (1.945)       0.003*       -1.618 to -0.329         More than 4**       2.60 (1.868)         I do not know what dental floss is       123 (42.5)       *Significant at 0.05		2 or more per dav*	151 (53 4)*	Three	1.68 (1.572)	0.001*	-1.841 to -0.497	
for your child?     No     139 (49.1)     More than 4**     2.60 (1.868)       I do not know what     123 (42.5)     *Significant at 0.05       dental floss is     **Reference	Do vou use dental floss	Yes*	21 (7.4)*	Four	1 86 (1 945)	0.003*	-1.618 to $-0.329$	
I do not know what     123 (42.5)     *Significant at 0.05       dental floss is     **Reference	for your child?	No	139 (49 1)	More than 4**	2 60 (1 868)	0.000	1.010 to -0.529	
dental floss is **Reference		l do not know what	123 (42 5)	*Significant at 0.05	2.00 (1.000)			
*Correct response	*Correct response	dental floss is		**Reference	the significant value	es		

Correct response

Fable 4: Distribution of included parents with correct responses based on their demographic data, socioeconomic status (parental education,
profession, and income), and treatment session characteristics (number of visits and history of previous treatment)

	When do you take y	our child to dentist?	How many times your child brushes?		Do you use dental floss for your child?	
		p value, OR and	_	p value, OR and	_	p value, OR and
Variable	Correct answers	(95% CI)	Correct answers	(95% CI)	Correct answers	(95% CI)
Child gender						
Male	39/137 (28.46%)	0.741, 1.09 (0.544–1.543)	109/137 (79.56)	0.065, 0.547 (0.959–3.481)	10/137 (7.29%)	0.940, 0.966, (0.425–2.520)
Female**	39/146 (26.7%)		128/146 (87,67)		11/146 (7.5%)	
Who answered the ques	tionnaire?					
Father	36/150 (24%)	0.183, 0.68 (0.866–2.467)	121/150 (80.66%)	0.136, 0.612 (0.853–3.135)	11/150 (7.33%)	0.953, (0.422–2.502)
Mother**	42/133 (31.5%)		116/133 (87.2%)		10/133 (7.52%)	
Family income/month						
Less than or equal to 7,000 SAR	13/77 (16.88%)	0.156, 0.531 (0.222–1.27)	62/77 (80.5%)	0.2, 0.492 (0.166–1.457)	7/77 (9.1%)	0.778, 0.84 (0.25–2.816)
8,000–10,000 SAR	26/90 (28.88%)	0.88 1.063 (0.485–2.33)	73/90 (81.1%)	0.726, 1.24 (0.37–4.16)	5/90 (5.56%)	0.285, 0.494 (0.136–1.08)
11,000–16,000 SAR	26/69 (37.6%)	0.264, 1.58 (0.71–3.532)	60/69 (86.95%)	0.697, 0.794 (0.248–2.54)	4/69 (5.797%)	0.135, 0.354 (0.09–1.38)
More than or equal	13/47 (27.6%)		42/47 (89.36%)		5/47 (10.64%)	
Mother educational leve	2					
Illiterate	1/5 (20%)	0.566, 0.522	5/5 (100%)	0.81, a	0/5 (0%)	0.928, a
Primary/ intermediate	5/38 (13.1%)	0.025*, 0.316	29/38 (76.3%)	0.055, 0.41 (0.165–1.02)	6/38 (15.79%)	0.101, 2.475 (0.838–7.312)
High school	26/98 (26.5%)	0.331, 0.754	77/98 (78.57%)	0.035*, 0.466	5/98 (5.10%)	0.543, 0.71
University or	46/142 (32.3%)	(0.120 1.55)	126/142 (88.7%)	(0.22) 0.9477	10/142 (7.04%)	(0.21 2.113)
Father education level						
Illiterate	0/7 (0%)	0.02*, 0.033	7/7 (100%)	0.002*, a	1/7 (14.29%)	0.555, 1.94 (0.216–17.32)
Primary/ intermediate	4/31 (12.9%)	<0.001, 0.073 (0.024–0.22)	21/31 (67.7%)	0.021*, 0.36 (0.151–0.858)	3/31 (9.68%)	0.74, 1.245
High school	20/81 (24.69%)	<0.001, 0.161 (0.088–0.29)	69/81 (85.18%)	0.97, 0.986	4/81 (4.94%)	0.391, 0.603
University or higher	54/164 (32.9%)	n ya	140/164 (85.36)		13/164 (7.93%)	
Mother professionalism						
Dentist	3/4 (75%)	0.059	4/4 (100%)	0.703, a	0/4 (0%)	0.831, a
Retired	3/3(100%)	0.056*	3/3 (100%)	0.83, a	0/3 (0%)	0.73, a
Private sector	7/15 (46.6%)	0.0576, 2.61 (0.906–7.52)	12/15(80%)	0.709, 0.779 (0.21–2.9)	1/15 (6.67%)	0.907, 0.882 (0.109–7.12)
Government sector	2/7 (28.57%)	0.836, 1.193 (0.335–6.32)	6/7 (85.7%)	1.17, 1.168 (0.14–9.992)	1/7 (14.29%)	0.772, 0.097 (0.097–6.18)
Teacher	5/22 (22.7%)	0.805, 0.877	18/22 (81.8%)	0.82, 0.876	2/22 (9.091%)	0.267, 2.47
Medical field	1/5 (20%)	0.795, 0.746	4/5 (80%)	0.825, 0.779	0/5 (0)	0.935, a
Housewife**	57/227 (25.1%)	. ,	190/227 (83.7%)	. ,	17/227 (7.49%)	
Father professionalism	. ,				- *	
Dentist	3/3 (100%)	0.021*	3/3 (100%)	0.511, a	0/3 (0)	0.972, a
Private sector	29/102 (28.4%)	0.706, 1.341 (0.29–6.14)	88/102 (86.27%)	0.141, 2.42 (0.75–7.833)	5/102 (4.90%)	0.314, 0.412 (0.074–2.31)
Government	27/83 (32.5%)	0.086, 3.86 (0.827–17.993)	66/83 (79.5%)	0.5, 1.49 (0.468–4.768)	6/83 (7.23%)	0.583, 0.623 (0.115–3.38)

Contd...



	When do you take your child to dentist?		How many times your child brushes?		Do you use dental floss for your child?	
Variable	Correct answers	p value, OR and (95% Cl)	Correct answers	p value, OR and (95% Cl)	Correct answers	p value, OR and (95% Cl)
Military	5/33 (15.15%)	0.69, 1.429 (0.248–8.23)	27/33 (81.8%)	0.43, 1.73 (0.445–6.735)	3/33 (9.090%)	0.817, 0.8 (0.121–5.29)
Medical field	2/13 (15.38%)	0.727, 1.45 (0.177–11.94)	12/13 (92.3%)	0.19, 4.616 (0.47–45.39)	0/13 (0%)	0.376, a
Teacher	10/31 (32.2%)	0.113, 3.81 (0.73–19.869)	28/31 (90.3%)	0.112, 3.59 (0.743–17.346)	5/31 (16.13%)	0.63, 1.538 (0.266–8.89)
Retired**	2/18 (11.1%)		13/18 (72.2%)		2/18 (11.11%)	
Number of treatment se	essions					
More than four	37/155 (23.9%)	(0.196, 2.3 (0.65–8.12)	86/155 (55.5%)	0.078, 2.2 (0.923–5.3)	15/155 (9.7%)	0.37, 2.5 (0.32–20.38)
Four	17/42 (40.5%)	0.02*, 4.98 (1.287–19.32)	28/42 (66.7%)	0.017*, 3.56 (1.26–10.04)	2/42 (4.8%)	0.88, 1.2 (0.1–13.9)
Three	17/41 (42.5%)	0.017*, 5.19 (1.337–20.18)	23/41 (56.1%)	0.116, 2.27 (0.82–6.3)	3/41 (7.3%)	0.59, 1.895 (0.54–19.28)
Two	4/20 (20.0%)	0.46, 1.83 (0.351–9.35)	5/20 (25.05%)	0.43, 0.59 (0.16–2.176)	1/20 (5.0%)	0.87, 1.263 (0.074–21.54)
One**	3/25 (12.0%)		9/25 (36.0%)		1/25 (4.0%)	

OR, odd ratio; CI, confidence interval

\*Significant at 0.05

\*\*Reference

Contd...

<sup>a</sup>Odd ratio and confidence interval could not be calculated as there were cells with zero value

The bold values are significant values

# DISCUSSION

Parental knowledge and practices play an important role in preventing oral diseases and improving dental health in children. In addition, maintenance of oral health is initially a parental responsibility, which later involves both parents and children.<sup>8</sup> In this study, the parents' mean dental knowledge score was low. This was similar to studies performed in Saudi Arabia<sup>9–11</sup> and other countries.<sup>7,12</sup> In addition, mothers scored significantly higher (2.77 ± 2.04) compared with fathers (1.87 ± 1.57). This could be because mothers usually accompany children to dental visits and are more involved in their children's healthcare. Accordingly, Pani et al.<sup>13</sup> reported that mothers' perception of their children's oral health-related quality of life (HRQoL) was higher compared with fathers.

Similar to a previous study,<sup>9</sup> the highest parental knowledge mean score was reported in questions associated with fluoride application. However, 75.6% of participants was not aware of pit and fissure sealants. In addition, only 12.4% of participants was aware that the first dental visit should be made within 6–12 months of tooth eruption. Relatively similar findings have been previously reported.<sup>7,10,14,15</sup> This suggests the importance of increasing parental awareness regarding the first dental visit and fissure sealants.

Moreover, although AAPD reported that frequent consumption of sugar-containing snacks or drinks (e.g., juice, formula, soda) between meals increased the risk of caries, more than half the parents (55.5%) believed that sugary and cariogenic foods are better consumed between meals than at the end of meals.<sup>16</sup> This finding is important, as the role of sugary and cariogenic foods in the etiology and initiation of caries is crucial.<sup>17</sup>

Regarding baby feeding, most parents thought that *ad libitum* breastfeeding should be stopped at the age of 2 years. However, AAPD reports that *ad libitum* nocturnal breastfeeding should be avoided after the first primary tooth begins to erupt.<sup>18</sup>

Parental behavior training on oral hygiene practices is important, as healthy practices develop early in life, during childhood, and continue to adulthood, with numerous oral and general health benefits.<sup>19</sup> However, most participants in this study reported that their children brushed teeth two or more times a day. This apposed the reports on school children in Jizan, Saudi Arabia, where most children brushed irregularly.<sup>20</sup> This could be explained by Theunissen et al.<sup>21</sup> who reported that in most cases, children report significantly poor oral HRQoL, motor function, cognitive function, and physical complaints compared with their parents, though reports of both child and parents were valid.

In addition, more than half the participants (66.4%) took their children to dental visits only when there was pain or trauma. In another study in Riyadh, less than one third (28%) of the participants made dental visits for their children in the absence of pain.<sup>9</sup> However, AAPD guidelines advise early and regular dental visits for early detection of caries, reinforcing and motivating parents regarding the importance of oral hygiene.<sup>8</sup>

Similar to previous studies,<sup>22,23</sup> this study also found an association between socioeconomic status and the level of parental dental knowledge and practices. Parental knowledge and behavior were significantly associated with the frequency of dental visits, similar to other studies reporting that changing a behavior needs multiple reinforcements and extended duration.<sup>24–26</sup> Therefore, it is important to reiterate anticipatory guidance at each dental visit. Moreover, this study suggested that the lack of parental awareness followed the same pattern as the lack of pediatricians' awareness. Studies have shown pediatricians lacked awareness regarding the frequency of dental visits and fissure sealants. However, knowledge was better regarding fluoride application and sugar cariogenicity.<sup>15,27-29</sup> In addition, Anand et al.<sup>30</sup> reported that children are consulted by physicians more than 10 times before the age of 3 years.<sup>30</sup> This suggests that the key to imparting parental education

is to establish dental awareness programs for pediatricians, family physicians, and general practitioners. Therefore, future awareness campaigns are necessary for dental caries prevention for all those involved in children's healthcare. This was previously recommended by Al-Shalan et al.<sup>10</sup> in Riyadh and Sabbagh et al.<sup>15</sup> in Jeddah. However, the efforts put since then do not seem satisfactory.

This study reported the level of knowledge and awareness of parents visiting the Pediatric Dental Clinic in KAUFD. It could be used as a reference for future community services and caries prevention programs conducted by oral healthcare services for children. However, a limitation of this study is that it did not investigate the reason for dental visits, the treatment involved, and whether anticipatory guidance was provided in the dental visits. Further studies with greater sample size and from other dental healthcare services are recommended to measure parental knowledge and practices after the children undergo a full dental treatment, and a comparison should be made with the findings of this study.

# CONCLUSION

Parental dental knowledge and practices were not satisfactory. Anticipatory guidance should be reinforced by oral healthcare providers, on each dental visit. In addition, the role of pediatricians and physicians could be critical in improving parental dental knowledge.

# **C**LINICAL **S**IGNIFICANCE

This study reported the level of knowledge and awareness of parents visiting the Pediatric Dental Clinic in KAUFD. It could be used as a reference for future community services and caries prevention programs conducted by oral healthcare services for children to prevent ECC.

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