Knowledge, Attitude of Mothers towards Infant Oral Healthcare in Baghdad City/ Al-Karkh

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Abstract

Background: Oral health is a key pointer of overall health, and quality of life, most oral health problems are preventable. Mothers, significantly impact their infant's oral health and play a vital role in prevention of dental caries among their children.

Aim of the Study: To evaluate knowledge, attitude of mothers towards infant oral healthcare in Baghdad city / Al-Karkh.

Patients and Methods: A cross-sectional study was conducted among convenient sample of 300 mothers with a child aged less than one year who were attending the primary healthcare centers in Baghdad city/ Al-Karkh. Data were collected using a self-administered questionnaire composed of questions regarding knowledge, attitude of mothers toward infant oral healthcare. The data analyzed using Statistical Package for Social Sciences (SPSS) version 25.

Results: In this study, 88 (29.3%) of participant mothers had good knowledge, which was significantly higher among the participant mothers aged ≥ 35 years (42.9%), live in urban areas (40.6%), highly educated (54.1%), employed (45.5%), had ≥ 3 children (41.3%), and mothers whose child aged ≥ 6 months (34.2%).166 (55.3%)of mothers had good attitudes, which was significantly higher among the participant mothers aged between (30 – 34) years (83.3%), live in the urban areas (69.8), highly educated (91.8%), employed (81.8%,), had ≥3 children (65.1%), and mothers who had child aged ≥6 months (64.9%).

Conclusions: Mothers had fair knowledge, good attitude toward infant oral healthcare. Pediatric dentists and any health care professionals like pediatricians and family physicians who care for infant need to be trained to disseminate appropriate infant oral health care information and in the prevention of early childhood caries.

Keywords: Early childhood caries, Infant oral health care, Knowledge, Attitude,, Mothers.

Introduction

Dental caries is one of the most common, prevalent and chronic infectious diseases affecting infants and children(1). Early childhood caries (ECC) is a severe form of tooth decay affecting the primary tooth of young children, and has a long- lasting harmful effect on the dental health(2). The ECC caused by the complex collaboration of numerous factors such as diet, cariogenic bacteria most commonly Streptococcus mutans (SM), the host (tooth surface)

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and time[3]. So, ECC attributed by several risk factors including; night time bottle-feeding, frequent and prolong breast feeding, consumption of high sugar diet, lack of parental receptiveness regarding their infant oral health, absence of access for dental care[4]. Right oral health throughout infancy is significant for the general health and well-being of a child, and is one of the structure blocks for a life free of disease[5].

The primary concentration of infant oral health care is prevention of teeth diseases which should be started in infancy because poor oral hygiene and unsuitable infant feeding practices produce an environment that encourages the colonization of cariogenic bacteria *streptococcus mutans* in the infant's mouth.

Aim of the Study To evaluate knowledge, attitude of mothers towards infant oral healthcare in Baghdad city / Al-Karkh.

Pateints and Methods

Setting and design: A cross-sectional study was conducted at (5) primary healthcare centers which were chosen conveniently in (3) sectors for primary healthcare in Baghdad city/Al-Karkh.

The time of the study was extended from February 2022 -june2022.

Sampling and sampling size: A convenient sample size of 300 mothers who were attending the chosen primary health care centers in Baghdad city/ Al-Karkh, during period (February – June)2022. during routine visits for regular check-up and vaccinations of their children or for pediatrics consultation.

Inclusion criteria: Mothers of child bearing age (according to annual statistical report of Ministry of Health in Iraq 2020) who had a child aged less than one year and Mothers who agreed to participate in the study and who completed the questionnaire.

Data collection: from March 2022 – May 2022 during the working hours for 3 days per week. Data was collected using a self-administered structured questionnaire, which was validated by community and family medicine specialists and was pre- tested by the pilot study.

The questionnaire composed is of two main sections:- socio-demographic variables related to mother and child; child age, gender, presence or absence of child's primary teeth, type of feeding. Mother age, education, occupation and number of children. and Section two: - consist of 13 questions which sub divided into two parts: the Eight questions related to mothers' knowledge about infant oral health care including time to start cleaning infant mouth, dental caries causes and preventive measures and when to start use toothbrush. Also, the Five questions related to mothers' attitude toward dental caries risk including night-time bottle feeding, frequent and prolonged nocturnal breast feeding, sweetened liquids also attitude toward importance to clean the infant's mouth.

Statistical analysis: In the (knowledge subsection) each correct answer was given (one score) and each wrong answer (zero scores). total scores were represented in percentages. Assessing the level of knowledge. Data analyzed using Statistical Package for Social Sciences (SPSS) version 25. The data presented as mean, standard deviation and ranges. Categorical data presented by frequencies and percentages. Chi square test was used to assess the association between knowledge, attitude, and practice scores with certain information, while fisher exact test was used instead when the expected frequency was less than 5. A level of P – value less than 0.05 was considered significant.

Results

Socio-demographic characteristics

Participants' age ranged from 16 to 44 years with a mean of 28year and standard deviation (SD) of ±6.01years, 192 (64%) live in urban areas, 134 (44.7%) were with primary school level, and 212 (70.7%) were unemployed. All participant mothers had at least one child, 82 (27.3%) had one child, 92 (30.7%) had two children, while the remaining 126 (42%) had ≥ three children (Table 1).

Table 1: Distribution of the participants by socio-demographic characteristics

Socio-demographic Characteristics	No. (n= 300)	%
Age (Years)		
< 25	96	32.0
25 – 29	64	21.3
30 – 34	84	28.0
≥ 35	56	18.7
Residence		
Urban	192	64.0
Rural	108	36.0
Educational Level		
Primary School	134	44.7
Secondary School	44	14.7
University or Higher	112	40.6
Occupation		
Employed	88	29.3
Unemployed	212	70.7
Number of Children		
1	82	27.3
2	92	30.7
≥ 3	126	42

Age of the last child ranged from 1 to 12 months with a mean of 8.40 ± 6.01 months, and more than three quarters 228 (76%) were aged (6–12) months. Regarding child's gender, there were 180 males (60%), and 120 females (40%). In the present study, 236 (78.7%) of the participant mothers reported that their children were with erupted primary teeth, while the remaining 64 (21.3%) were without eruption of primary teeth. Mixed feeding with semisolid food was the most frequent type of feeding among 116 mothers (38.7%), followed by bottle feeding with semisolid food in 64 (21.3%), and breastfeeding in 54 (18%) of mothers (Table 2).

Table 2: Distribution of mothers by certain characteristics of their children

Infant's characteristics	No. (n= 300)	Percentage (%)
Age of Child (Months)		
< 6	72	24.0
6 – 12	228	76.0
Gender of Child		
Male	180	60.0
Female	120	40.0
Child's Primary Teeth Eruption		
Yes	236	78.7
No	64	21.3
Type of Feeding		
Breastfeeding & Semisolid Food	48	16.0
Bottle-feeding & Semisolid Food	64	21.3
Mixed Feeding & Semisolid Food	116	38.7
Breastfeeding	54	18.0
Bottle-feeding	8	2.7
Mixed Feeding	10	3.3

The overall knowledge score of the participant mothers about infant oral healthcare was 88 (29.3%) had good knowledge, 116 (38.7%) had fair knowledge, and the remaining 96 (32%) were with poor knowledge (Figure 1).

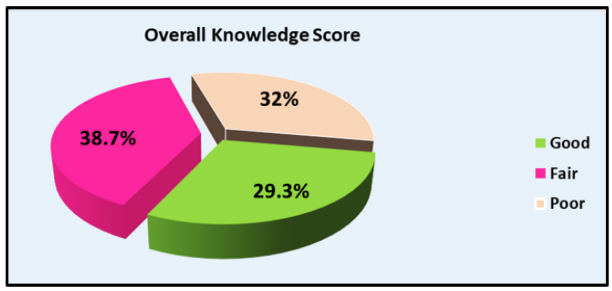

Figure 1: Overall knowledge score towards infant oral healthcare.

In this study, there was a statistically significant association (P < 0.05) between knowledge score and age of the participants, residence, educational level, occupation, number of children, and age of the last child. Good knowledge about infant oral healthcare was significantly higher among the participant mothers aged ≥ 35 years (42.9%, P= 0.004), live in urban areas (40.6%, P= 0.001), highly educated (54.1%, P= 0.001), employed (45.5%, P= 0.002), had ≥ 3 children (41.3%, P= 0.014), and mothers whose child aged ≥ 6 months (34.2%, P= 0.001), while gender

and infant's primary teeth eruption and showed no significant association (P ≥ 0.05) with knowledge score (Table 3).

Table 3: Association of participant's knowledge score with certain sociodemographic characteristics

Socio-demographic Characteristics	Knowledge Score			Total (%) n= 300	P- value
	Poor (%) n= 96	Fair (%) n= 116	Good (%) n= 88		
Age (Years)					
< 25	52 (54.2)	28 (29.2)	16 (16.7)	96 (32.0)	0.004
25 – 29	16 (25.0)	32 (50.0)	16 (25.0)	64 (21.3)	
30 – 34	18 (21.4)	34 (40.5)	32 (38.1)	84 (28.0)	
≥ 35	10 (17.9)	22 (39.3)	24 (42.9)	56 (18.7)	
Residence					
Urban	20 (10.4)	94 (49)	78 (40.6)	192 (64.0)	0.001
Rural	76 (70.4)	22 (20.4)	10 (9.3)	108 (36.0)	
Educational Level					
Primary School	74 (55.2)	50 (37.3)	10 (7.5)	134 (44.7)	0.001
Secondary School	12 (27.3)	20 (45.5)	12 (27.3)	44 (14.7)	
University or Higher	10 (8.2)	46 (37.7)	66 (54.1)	122 (40.6)	
Occupation					
Employed	12 (13.6)	36 (40.9)	40 (45.5)	88 (29.3)	0.002
Unemployed	84 (39.6)	80 (37.7)	48 (22.6)	212 (70.7)	
Number of Children					
1	36 (43.9)	30 (36.6)	16 (19.5)	82 (27.3)	0.014
2	26 (28.3)	46 (50)	20 (21.7)	92 (30.7)	
≥ 3	34 (27.0)	40 (31.7)	52 (41.3)	126 (42.0)	
Age of Child (Months)					
< 6	42 (58.3)	20 (27.8)	10 (13.9)	72 (24.0)	0.001
6 – 12	54 (23.7)	96 (42.1)	78 (34.2)	228 (76.0)	
Gender of Child					
Male	66 (36.7)	68 (37.8)	46 (25.6)	180 (60.0)	0.069
Female	30 (25.0)	48 (40.0)	42 (35.0)	120 (40.0)	
Child's Primary Teeth Eruption					
Yes	78 (33.1)	87 (36.9)	71 (30.1)	236 (78.7)	0.466
No	18 (28.1)	29 (45.3)	17 (26.6)	64 (21.3)	

Regarding the overall attitude score, 166 mothers (55.3%) had good attitudes, and 134 (44.7%) had poor attitudes about infant oral healthcare (Figure 2).

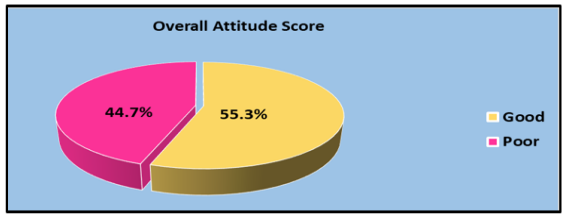

Figure 2: Overall attitude score about infant oral healthcare.

It was clear that the attitude score of the participants towards infant oral healthcare was significantly associated with age of the participants, residence, educational level, occupation, number of children, age of the last child. The proportion of good attitude was significantly higher among the participant mothers aged between (30 – 34) years (83.3%, P= 0.001), live in the urban areas (69.8%, P=0.001), highly educated (91.8%, P=0.001), employed (81.8%, P= 0.001), had ≥ 3 children (65.1%, P= 0.026), and mothers who had child aged ≥ 6 months (64.9%, P= 0.001) (Table -4).

Table 4: Association of the participants attitude score with certain sociodemographic characteristics

Socio-demographic Characteristics	Attitude Score		Total (%) n= 300	P- Value
	Good (%) n= 166	Poor (%) n= 134		
Age (Years)				
< 25	26 (27.1)	70 (72.9)	96 (32.0)	0.001
25 – 29	42 (65.6)	22 (34.4)	64 (21.3)	
30 – 34	70 (83.3)	14 (16.7)	84 (28.0)	
≥ 35	26 (27.1)	70 (72.9)	56 (18.7)	
Residence				
Urban	134 (69.8)	58 (30.2)	192 (64.0)	0.001
Rural	32 (29.6)	76 (70.4)	108 (36.0)	
Educational Level				
Primary School	30 (22.4)	104 (77.6)	134 (44.7)	0.001
Secondary School	24 (54.5)	20 (45.5)	44 (14.7)	
University or Higher	112 (91.8)	10 (8.2)	122 (40.6)	
Occupation				
Employed	72 (81.8)	16 (18.2)	88 (29.3)	0.001
Unemployed	94 (44.3)	118 (55.7)	212 (70.7)	
Number of Children				
1	30 (36.6)	52 (63.4)	82 (27.3)	0.026
2	54 (58.7)	38 (41.3)	92 (30.7)	
≥ 3	82 (65.1)	44 (34.9)	126 (42.0)	

Discussion

This study reported that knowledge score of the mothers was good in 29.3%, fair knowledge in 38.7%, and poor in the remaining 32% as shown in (Figure 1).

A different result observed in Jaafar *et al.*,2018 study in Lebanon, in which based on the total score category calculation the results showed that, most of the expected mothers (69.5%) had fair, while 17.4% had poor, and 13.1% had good knowledge[6,7,8].

(Table 4) showed that good knowledge was significantly higher among the participant mothers aged ≥ 35 years (P= 0.004), live in urban areas (P= 0.001), highly educated (P= 0.001), employed (P= 0.002), had ≥ 3 children (P= 0.014), and mothers whose child aged ≥ 6 months (P= 0.001), while gender and infant's primary teeth eruption and showed no significant association with knowledge score (P ≥ 0.05).

In Chala *et al.*,, 2018 study in Morocco, the adjusted linear regression model showed that the knowledge score was significantly related to mother's age (P < 0.001), education level (P < 0.001) [9].

Rossato *et al.*, study in Brazil, in 2021 reported that Mothers' knowledge score was associated with sociodemographic parameters, being those mothers aged from 20 to 29 years and with higher education who presented higher levels of oral health care knowledge [6].

The reasons for these results might be related to that mother's knowledge toward infant health improves with more than one child and with increase child age as they become more experienced, also related to educational level of mothers as the higher the education the more they tend to seek knowledge. Living in urban areas mothers tend to have more contact with availability of doctors, PHC, and dentists. In this study as shown in (table 3), mothers said that most common medical problem suffered by child during teething was fever (80.7%), followed by gum biting or scratching and increasing saliva in 78.7% and 68.7% of mothers, respectively.

Regarding the overall attitude score in the present work, more than half had good attitudes (55.3%), and (44.7%) had poor attitudes about infant oral healthcare as shown in (Figure 4).

Also, in attitude response in Shinde *et al*., 2018 study in India, almost all mothers had positive attitude toward their infant's oral care[7]. A discrepancy observed in Jaafar *et al*., 2018 study in Lebanon, in which results showed that in regard to attitude score most of the expected mothers (69.5%) had fair, while 17.4% had poor, and 13.1% had good attitude score [8].

The differences reported among attitude scores in above studies may have related to the difference in sample size or different study design and also to the difference in culture, environment, education, awareness of mothers toward infant oral health care. The current study (Table 7) observed that proportion of good attitude was significantly higher among those aged between (30–34) years (P= 0.001), live in the urban areas (P= 0.001), highly educated (P= 0.001), employed (P= 0.001), had ≥ 3 children (P= 0.026), and mothers who had child aged ≥ 6 months (P= 0.001).

Chala *et al*., 2018 study in Morocco, observed that oral-health related attitudes were significantly related to the mother's employment status, having at least one child with a health concern and education level (P<0.05) [9].

Jaafar *et al*., 2018 study in Lebanon, observed that only educational level has a significant effect on the total score (P<0.05) there was no significant effect on the attitude score by age (P= 0.568) [8], While mothers who live in the urban areas, and mothers had a child aged ≥ 6 months, there are no other studies similar to this study that compared the attitude score with these parameters. The reasons for these results might be related to that mother's attitude toward infant oral health improves with increase child age as teeth tend to erupt, they become more experienced with increased number of children which may lead to better parental awareness of and attention to overall health,also higher educational level and being employed which allows for more sharing of information and experiences among colleagues.

Conclusions

Mothers had fair knowledge, good attitude toward infant oral health care. Also significant association was found between knowledge score of the participants towards infant oral healthcare and age of the participants, residence, educational level, occupation, number of children, and age of the last child being≥ 6 months.as well as the significant association was found between attitude score of the participants towards infant oral healthcare with age of the participants, residence, educational level, occupation, number of children, age of the last child. The proportion of good attitude was significantly higher among the participant mothers aged between (30 – 34) years, live in the urban areas, highly educated, employed, had ≥ 3 children, and mothers who had child aged ≥ 6 months.

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