ORIGINAL ARTICLE

Mothers Health Mouth Care and Effective to Her Childe Under Five Years

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ABSTRACT

Introduction: The Oral hygiene is the practice of maintaining oral and dental hygiene to prevent teeth problems, diseases possibly affect mouth like (gingivitis, periodontal disease, bad breath, and oral cysts). The goal of the study is to find out some factors that increased mouth contamination in children < 5 years of age. **Methods:** Study enrolled 119 mothers which have children under five years and 238 mouth swab samples were collected from both mothers and their children attending to the Medical Center / Bab Al Madam and the health care center in al-Yarmouk through the period extending from 1/7/2019 to 1/12/2019. **Results:** Study found a high percentage 51.3% of mothers were unaware that breastfeeding at night can cause oral diseases, but 58.8% of mothers have the health knowledge about eating food from unknown sources causes mouth disease. A large percentage of mothers 81.5% were chewing food or put a bottle of milk in their mouth before giving it to their children. Most of bacteria observed in the examination were *streptococci spp*. and followed by *Heamophilus*. **Conclusion:** It could be concluded that a large percentage of mothers had information about bacterial transmission through sharing of food utensils and physical contact but they still chewing the food or putting a bottle of milk in their mouth before giving it to their children.

Keywords: Health Mouth Care, Children, Bacteria

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INTRODUCTION

Mouth care is very important part for keeping health of children under five years and affects nature of life and health issues (1). The problem of infant and children caries persists in many regions of the world and affects certain people in community, particularly socially disenfranchised groups (2). Already at a high risk of contracting this disease for Low-income households are among the variables linked to Early Childhood Care (ECC) (3) various in educational level (4) baby mood (5) time number of dentist check (6). "Lower educational level of the mother" (7). "Low levels of oral health knowledge among mothers" (8). Insufficient mouth health care (9), and flow a highly abusive diet in those children (10). The World Health Organization published an international survey of mouth hygiene and its importance in numerous countries, there are yet international question particularly between destitute people in all developed and developing countries, and mouth infections for example "tooth decay, diseases, gums, tooth loss, mucosal lesions of the mouth, or pharyngeal cancer, human immunodeficiency virus (AIDS), "oral diseases and oral trauma are main common health problems worldwide" (11). Bad mouth health can have a profound effect on the general population. Health and many oral diseases are associated with chronic diseases. such as "diabetes" (12). Experiencing dental pain directly effects on eating and chewing food and missing, deformed and damaged teeth have a great role in our daily lives and practices such as smiling, laughing and communicating with society. Oral diseases can have negative effects on most daily activities and chores (11). Oral disease can be prevented by the following methods: good eating and cleaning the teeth daily (13), reducing alcohol and smoking are very important to prevent mouth cancer. Until now many people do not take advantage of available preventing measures due to, they do not have oral self-care into their daily routine or lack mouth and teeth care and live in environmental devoid of fluorides (14). Prevention gap leads to the large

troubles to mouth disease in country wide. Tooth decay is the most common disease in infancy, nearly "25% of children" in age group (2 to 5) years and 50% of children at age group (12 to 15) that suffers from tooth decay (15). Many studies report about 25% of adults people in age group (20 to 64) having untreated dental Caries (16), this can lead at any time to infection, pain and tooth loss. Other study found that 25% of elderly people (more than 65 years) loss their teeth putting them in a risk group of malnutrition and other complications (17). Previous study finds that < 7,800 people almost every year may be killed by oral and pharyngeal cancers were twice of patients who died from many types of cancers, it is usually diagnosed very late (18). The oral hygiene is the practice of maintaining oral and dental hygiene to reduce teeth infection, diseases possibly affect mouth like (gingivitis, periodontal disease, bad breath, and oral cysts), in addition to the bacteria like: *Streptococcus Spp*. that cause dental decay (19). While *Staphylococcus Spp. (S. aureus*) most of them are harmless and found naturally on the skin and upper respiratory tract of humans and its worldwide (20). They were isolated from the oropharynx in affected individuals (21) as well as *Haemophilus Spp.* that transmitted through mouth causing Osteomyelitis (22).

Aim of the study are to find out some factors such as demographic characteristics, mouth health care, mouth disease and bacterial transmission, that increased contamination of children's mouth.Other than that, determine some bacteria that transmitted from mother to their children under five years of age.

MATERIALS AND METHODS

Cross sectional study was managed in "Baghdad city" from the period between first of July-first of December 2019, in two districts (Bab Al Madam Medical Center and health care center in al-Yarmouk). A convenient 119 of mothers in reproductive age who had at least one child or more under five years of age, attending to primary health care centers during the study period.

Sample technique

To find out some factors that increased contamination of children's mouth and to determine types of bacteria that transmitted from mothers to their children under five years of age. Two hundred thirty-eight mouth swab was collected from randomly selected mothers (119 sample) and their children (119 sample under 5 years of age) who attended the primary health care center for MCH unite, vaccination unite, who seeking treatment or for other purposes.

Data collection

Data collected was through utilization the structured interview technique by taken information from mother`s (face to face) about their knowledge of some health practices with their children under five years of age by questionnaire about health mouth care towards their children. Research point were discussed with mothers who attended the primary health care center were informed that their participation in this study is voluntary and instruction not to write their names, if they agreed to participate in the research and took their verbal consent, the interview will do.

Questionnaire format

Questionnaire was translated and explained to the participants and questions in this study contains, socio demographic characteristics, mothers' knowledge concerning mouth health care towards their children which included:

"Persistent breastfeeding The World Health Organization (WHO) current recommendations advise exclusive breastfeeding during the first six months of the child's life. In addition, the use of artificial nipples (bottles and pacifiers) is not recommended, since it reduces suckling duration, which, in turn, causes an interference in the demand for food along with an alteration in the oral and myofunctional dynamics."(23).

"Persistent artificial feeding: are modified formulas adapted to the need of infant starter milk suitable from birth to 6 month and then follow-on milk from 6 to 12 month."(24).

"unhealthy diet: marked by a deficiency of energy, essential proteins, fats, vitamins, and minerals in a diet."(25)

Sample collection

A total of (238) mouth swabs were collected from each mother and from children the swabs were placed in sterilized cases to avoid contamination, and all the samples were taken to the laboratory within an hour for culturing according to standard method.

The swabs were inoculated on blood, chocolate, saborate agar for identification of bacterial colonies and fungi. Bacteria were identified by standard microbiological procedures. Bacterial colonies were differentiated according to colony morphology and color, gram staining, hemolysis patterns, catalase and coagulase test. Suitable biochemical tests were done for further identification of the bacterial isolates.

Statistical method

Data analysis was carried out using SPSS-25 (social sciences-version 25). Results presented in descriptive measures of frequency, percentage, mean, and standard deviation to find any association between variables.

ETHICAL CLEARANCE

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RESULTS

Table I showed demographical characteristics of the studied participants. Most of the participants mothers were in age group (20 to 29), (44.5%) followed by the age group (30 to 39), (36.1%). Regarding number of children under five years care, 62.2% were with one child and the lowest percentage was recorded (6.7%) with three children. Regarding to the educational level of mothers, university level was accounted (58.0%), the highest percentage of family type were found in nuclear family (58.8), as well as the percentage of the mother's employee in the study was (65.3), and the highest percentage of the fathers employee was (68.9%), finally the percentage of residence in urban was accounted (95.8).

Table I: Demographical characteristics of studied samples.

Demographic items	groups	No.	%
Mother age	20<	11	9.2
	20-29	53	44.5
	30-39	43	36.1
	40-49	12	10.1
The number of children under the age five years care	One	74	62.2
	two	37	31.1
	three	8	6.7
The educational level of the mother	uneducated	16	13.4
	Primary	15	12.6
	Secondary	19	16.0
	university	69	58.0
The educational level of father	uneducated	7	5.9
	Primary	15	12.6
	Secondary	18	15.1
	university	79	66.4
Family type	nuclear	70	58.8
	extended	49	41.2
Mother employee	No	67	56.3
	yes	52	43.7
residency	Urban	114	95.8
	rural	5	4.2

As shown in table II, percentage of mothers that eating food from unknown source was 58.8. About (74.8%) of the mothers, believed that feeding at night not causes mouth diseases. While (44.5%) from the total participants mothers eating unhealthy diet. Our results showed that (51.3%) of mothers left their baby under the care of another person for 8 hours and more.

Table II: Distribution participant mothers (frequencies and percent's) according to concerning mouth health care towards their children under five years.

items	re-sponses	No.	%	Ass.
Basic healthy diet for the growth of a child free from mouth disease				Pass
	No	44	36.9.	
	Yes	75	63	
Breastfeeding at night can cause mouth disease				failure
	No	89	74.8	
	yes	30	25.2	
Artificial feeding at night can cause mouth disease				pass
	No	36	30.3	
	yes	83	69.7	
Persistent breastfeeding can cause mouth disease				failure
	No	93	69.1	
	yes	26	21.8	
Persistent artificial feeding can cause mouth disease				pass
	No	42	35.4	
	yes	77	64.7	
Do you think that your child or your children visit the dentist before the two years				pass
	No	82	68.9	
	yes	37	31.1	
How many hours leaves your child under the care of another person	2-4	61	51.3	Pass
	5-6	30	25.2	
	8 >	28	23.2	
unhealthy diet				failure
	No	66	55.4	
	yes	53	44.5	
Eating food from unknown sources				pass
	No	49	41.2	
	yes	70	58.8	
Drugs and steroids abuse				failure
	No	76	63.9	
	yes	43	36.1	
Do you expect that the general health of the body linked to oral health				pass
	No	26	21.8	
	yes	93	78.2	
The reasons for the bad smell of the mouth: tooth decay	No	48	40.3	pass
	yes	71	59.7	

CONTINUE

Table II: Distribution participant mothers (frequencies and percent's) according to concerning mouth health care towards their children under five years.(CONT.)

items	responses	No.	%	Ass.
The reasons for the bad smell of the mouth: gingivitis	No	35	29.4	pass
	Yes	84	70.6	
The reasons for the bad smell of the mouth: pharyngitis	No	24	20.2	pass
	yes	95	79.8	
kissing the child on the lips	No	15	12.6	Failure
	Yes	104	87.3	
Do you think the health of your mouth protect you from many disease	No	25	21	pass
	yes	94	79	

Our results in table III] revealed that (41.1 %) of the participants mothers take care of cleaning their teeth once daily, while (49.6%) of mothers don't visits the dentist for regular teeth checking, regarding subject of a health practices for bacterial transportation, the results showed that most mothers (87.3%) kissed their children on the lips. In addition, 81.5% of mothers put milk and water bottle nozzle in their mouth before giving it to their child, while 76.5% of mothers were chewing food before giving to their child. Table IV indicates that *Streptococcus spp.* exhibited the highest percentage and followed by *Heamophilus spp.*

Table III: Respondent's mothers about practices regarding mouth disease and bacterial transmission.

items	responses	No.	%	Ass.
Is oral bacteria disease transmitted by sharing eating utensils				pass
	No	22	18.4	
	yes	97	81.5	
How many times necessary for the mother to clean the teeth and mouth wash				failure
	One time	49	41.1	
	Two time	50	42	
	Three time	20	16.8	
Do you visiting the dentist to check your teeth regularly	Yes	60	50.4	Pass
	No	59	49.6	
kissing the child on the lips	No	15	12.6	failure
	Yes	104	87.3	
Chewing food in your mouth and give it to your child	No	28	23.5	failure
	yes	91	76.5	

CONTINUE

Table III: Respondent's mothers about practices regarding mouth disease and bacterial transmission (CONT.)

items	responses	No.	%	Ass.
Put a bottle of milk or water in your mouth before giving it to your child				Failure
	No	22	18.4	
	yes	97	81.5	
Do you think that dental problems affect your child`s health				Pass
	No	33	27.7	
	yes	86	72.3	
Do you expect the presence of bacteria in your mouth				Pass
	No	49	41.1	
	yes	70	58.8	
Do you think oral health linked to respiratory system				pass
	No	21	17.6	
	yes	98	82.4	

Table IV: Types of isolated bacteria from studied samples

Bacterial isolates	E.coli	Klebsiella spp.	Haemophilus spp.	candida	Strep. Spp.	Staph. Spp.	Total %
Mothers	4(4.7)	4 (4.7)	8(9.5)	4(4.7)	14(16.6)	8(9.5)	42 50
Children	_	4(4.7)	6(7.1)	4 (4.7)	14(16.6)	14 (16.6)	42 50
Total %	4(4.7)	8 (9.4)	14(16.6)	4 (9.4)	28(37.2)	14 (26.1)	84 100

DISCUSSION

The mouth important for the body because it touches every aspect of the lives and it's the window into the health of our body, it can see any symptoms regarding nutritional deficiencies of any disease, problem or infection, the causative agent that caused systemic illness inter the body through the mouth those that effect may first become apparent because of oral lesion or infection (26). The present study revealed that most of mothers at age group (20 to 29) years, and according to residence of participants, the majority percentage (95.8%) was from urban.

Regarding to the educational level, this study showed a high percentage was in university level (58 %). Other study correlated the maternal health behavior to age group and educational level (27). However, other study finds that advanced age and the education level appeared to associate with some behavior like twice-

daily tooth brushing and non-smoking (28).

Our study showed that (63%) of mother`s believe that basic healthy diet for the growth of her child free from mouth diseases. Our results are in agreement with other study (29). Health behavior includes many of knowledge, attitudes, and practices can affect on the health. Among participant mothers, some thought that bacteria or any agent cannot transmitted from the mother's oral to their babies. Anyway, some mothers cleaned pacifiers by their mouth synchronization with the mothers believes, while kissing babies was widespread (30). With respect to items of bacterial transmission our study showed that the most mothers are kissing their children on the lips and put a bottle of milk or water and chewing food in their mouth and give it to their child, our findings came in agreement with other studies (31, 32). Nevertheless, teeth decay and oral infection resulted from infectious agents and communicable diseases were significantly associated with health behavior. Previous clinical studies reported that mouth diseases and infection may be a possible risk factor for infection by serious systemic diseases, our study indicated that Streptococcus spp. exhibited the highest percentage followed by Heamophilus spp. Other studies showed that Mutant streptococcus (MS) was the most infectious agent associated with tooth decay, mothers are the important reservoir for infecting children with these pathogens (33, 34). In addition, a previous report that the inflammation of the gums, commonly caused by a bacterial infection (positive cocci and rods) that infected gums, if untreated, it may be caused dangerous infection known as periodontitis, which is the common causes of tooth loss in adults (11).

CONCLUSION

A large percentage of mothers had information about bacterial transmission through the sharing of food utensils and physical contact, as well as that artificial breastfeeding at night and persistent may cause mouth disease.

While a large proportion of mothers were putting a bottle of milk or water in their mouth before giving them to their children or chewing food in their mouth and then give it to their child was one of the biggest wrong health habits.

A large percentage of mothers have the health knowledge that oral diseases and tooth decay affect the health of children and also have the knowledge that oral health protects them from many diseases. They also knew that oral health is linked to respiratory diseases.

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