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ORIGINAL ARTICLE

Comparison of Dental Caries and Oral Hygiene among Children of Working and Non-Working Mothers

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ABSTRACT

Background: Mother's role in improving children's oral hygiene and reducing the risk of tooth decay is undeniable. However, a mother's employment status has been an important yet ignored aspect to study for its potential impact on the oral hygiene of children.

Aim To compare the frequency of dental caries and poor oral hygiene in children of working and non-working mothers

Methods: This cross-sectional study was conducted on 260 children divided in two groups (working and non-working mothers). The data was collected using nonprobability convenience sampling. The mothers were briefed about research and data was collected from them. The data was entered and analyzed using SPSS 21. Descriptives were given in form of mean, median, standard deviations, and interquartile ranges. Chi-square test, independent sample t-test, and Mann Whitney U test were applied for the statistical difference of oral hygiene-related variables in the two groups.

Results: The mean age of working mothers was 30.97 ± 4.204 years and of non-working mothers was 28.59 ±4.86 years. A significant association of the working status of the mother was found in the lesser frequency of brushing, more consumption of sweets as well as bottle feeding. (p-values<0.05). higher knowledge of negative effects of bottle feeding was reported among working mothers (16.2%) compared to nonworking mothers (8.5%), (p-value<0.001), the assistance in brushing was significantly higher in nonworking mothers (37.7%) compared to working mothers (22.3%), (p-value=0.007).

Conclusion:: This study concludes that working mothers have a significantly higher risk of tooth decay, missing tooth, and tooth filling among their children.

Keywords: Dental caries, decay, missing tooth, filled teeth, oral hygiene, brushing, sweets consumption

INTRODUCTION

Dental caries is one of the most prevalent diseases of the oral cavity and the main cause of this decay is due to intake of sugary intake and negligence in taking oral hygiene measures[1]. Children below 7 years of age need supervision in the brushing of their teeth and also recommended by ADA that says brushing should be initiated after the eruption of the first tooth in the oral cavity and to reduce the child's risk of dental caries parents should help their children in brushing as well as guide them how to use the right amount of toothpaste used in brushing[2,3].

Practices of good oral health hygiene among children are mainly influenced by the mother's behavior and knowledge[4]. Poor knowledge regarding oral hygiene practice will lead to early childhood caries as it affects the quality of life as well as the child's well-being too because most of the parents think that the milky (deciduous) teeth exfoliation do not affect the eruption of their permanent teeth[5]. Not a single factor is responsible for caries in young children, it includes environmental, social, behavioral, and most importantly dietary factors which promote the carious process in the teeth of young children[6]. A mother's oral hygiene knowledge has a great impact on children's oral health, despite the fact that the responsibilities of the mother towards her family demand care and attention but mothers are considered to be the most important mediators in their children's health behavior[7,8].

In addition to the other challenges, working mothers face a lot of problems in managing child personal hygiene and oral health[9,10]. Although practices have been improved in the past decade, even then those who do not pay attention to their oral hygiene and self-care, dental pain and discomfort are the most common problems which a child can face during his lifetime[11,12]. it is mainly associated with the educational and socioeconomic status of the working mothers as well as the hours spent with their children[13].

Parents especially mothers are responsible for all their children's health-related issues and they act as role models for their kids and family[14]. Therefore oral hygiene practices among working mothers and their children are the most important factor in controlling the carious disease process and promotion of good oral health practice[15]. Although a number of studies have reported the impact of mother's working status as well as occupational status to impact oral hygiene of children[16], very limited local literature is available in this regard. The available global literature is also non-consensual and does not highlight the potential role of mother's work status in dental caries or overall oral hygiene. Therefore, this study was designed to compare the frequency of dental caries and other indicators of oral hygiene among working and non working mothers in Lahore, Pakistan.

The objective of the study was to compare the frequency of dental caries and oral hygiene in children of working and non-working mothers

MATERIALS AND METHODS

This cross sectional study was conducted for a period of one month after permission from Ethical Review Committee. Total number of subjects were 260 and divided in two groups of children with working and non-working mothers. Children visiting OPD University Hospital were included in the study. The subjects were approached through non probability convenience sampling. Mothers were briefed about the purpose of study in detail and willing mothers were included in the study along with their child as subject. The socio-demographic information, information about oral hygiene and clinical history was taken by researcher herself.

The data was entered and analyzed using SPSS v. 21. Frequency and percentages were calculated for qualitative variables, mean and standard deviation were calculated for quantitative variables. Appropriate charts and graphs were also made where needed. Chi square test was applied to see association between potential variables of oral hygiene with the study groups, whereas, independent sample t-test or Mann Whitney U test was applied to see mean difference in quantitative variables among the two groups for normal or non-normal data respectively. A p-value less than 5% was considered significant.

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RESULTS

Table-1: Comparison of all variables in both study groups

	Non Working	working	Chi-square	p-value
Decay				
Yes	110(84.6%)	124(95.4%)	8.376	0.004*
No	20(15.4%)	6(4.6%)		
Missing teeth				
Yes	74(56.9%)	90(69.2%)	4.228	0.040*
No	56(43.1%)	40(30.8%)		
Filled teeth				
Yes	79(60.8%)	101(77.7%)	8.739	0.003*
No	51(39.2%)	29(22.3%)		
Frequency of brushing				
Never	13(10%)	8(6.2%)	8.052	0.045*
Once	103(79.2%)	98(75.4%)		
Twice	9(6.9%)	22(16.9%)		
Dont Know	5(3.8%)	2(1.5%)		
Frequency of sweet consumption				
Rarely	14(10.8%)	1(0.8%)	14.551	0.006*
Once A day	17(13.1%)	24(18.5%)		
Twice a day	29(22.3%)	37(28.5%)		
Multiple sweet intake between meals	69(53.1%)	65(50%)		
Don't know	1(0.8%)	3(2.3%)		
Bottle feeding				
NEVER	6(4.6%)	2(1.5%)	8.016	0.046*
1 year of age	5(3.8%)	16(12.3%)		
more than one year	100(76.9%)	93(71.5%)		
Sleep with bottle in mouth				
Yes	55(42.3%)	65(50%)	1.548	0.213
No	75(57.7%)	65(50%)		
Knowledge of negative effect of bottle feeding				
Yes	11(8.5%)	21(16.2%)	21.166	<0.001**
No	98(75.4%)	62(47.7%)		
Don't Know	21(16.2%)	47(36.2%)		
Assist child in brushing				
Yes	49(37.7%)	29(22.3%)	7.326	0.007*
No	81(62.3%)	101(77.7%)		
Duration of child brushing				
less than 1min	52(40%)	58(45%)	1.861	0.761
1 to 2 mins	19(14.6%)	22(17.1%)		
2 to 3 mins	24(18.5%)	22(17.1%)		
more than 3 mins	5(3.8%)	5(3.9%)		
dont know	30(23.1%)	22(17.1%)		
Visit dentist during pregnancy				
Yes for dental care	6(4.6%)	11(8.5%)	1.593	0.451
Yes for other reason like pain	19(14.6%)	19(14.6%)		
no	105(80.8%)	100(76.9%)		
When was child's first visit				
on eruption of teeth	0(0%)	1(0.8%)	4.552	0.473
after 3 years	9(6.9%)	6(4.6%)		
after finding dental disease	34(26.2%)	28(21.5%)		
after child complaint of pain	60(46.2%)	72(55.4%)		
don't know	5(3.8%)	7(5.4%)		
never	22(16.9%)	16(12.3%)		

**Highly Significant, *Significant

A total of 260 mothers were included in the study, who were divided into two groups (130 each) of working and non-working. The mean age of working mothers was 30.97 ± 4.204 years and of non working mothers was 28.59 ±4.86 years with statistical mean difference (p-value<0.001). The tooth decay was found in 124(95.4%) children of working mothers and 110(84.6%) children of on working mothers. Similarly, missing teeth and filling in teeth were both higher among working mothers compared to non-working mothers (69.2% vs 56.9% and 77.7% vs 60.8% respectively). Significant association of higher risk of tooth decay, missing teeth and teeth filling were found with working status of mother. (p-values<0.05 in all). Similarly, a significant association of working status of mother was found in lesser frequency of brushing, more consumption of sweets as well as bottle feeding. (p-values<0.05). Although higher knowledge of negative effects of bottle feeding was reported among working mothers (16.2%) compared to non working mothers (8.5%), (p-value<0.001), the assistance in brushing was significantly higher in non working mothers (37.7%) compared to working mothers (22.3%), (p-value=0.007) (Table-1).

Similarly, Mann Whitney U test was applied to see average difference in number of decayed teeth, filled teeth and missing teeth, and both decayed and filled teeth were significantly different whereas, missing teeth were insignificant (Table-2). No significant association could be established in duration of child's brushing, first visit to dentist and visiting dentist during pregnancy among the two groups (Table-1).

Table-2: Comparison of mother's age, no. of missing teeth, decayed teeth and no. of filled in both study groups

	Mean± S.D	Median ±IQR	P-vale
Age of mothers			
Non working	28.59 ±4.86		<0.001
Working	30.97 ± 4.204		
No. of missing teeth			
Non working		3.0 ± 3	0.500
Working		3.0 ± 2	
No. of decayed teeth			
Non working		1.0±1	0.035*
Working		1.0 ± 2	
No. of filled teeth			
Non working		1.0 ± 2	0.023*
Working		1.0 ± 1	

*Significant

DISCUSSION

Dental caries has been afflicting every region since prehistoric times. Being one of the most challenging issue dealt by the dentists, dental caries remains true to its label "the last epidemic"[17]. However, the prevalence of caries has increased dramatically in the last two decades. Drastic changes in dietary patterns and urban lifestyles contributed significantly in increase of its prevalence especially in developing countries like India[18]. Studies have generally seen the effect of socio-demographic variables, area of residence and oral health behaviors on prevalence and severity of dental caries[19]. However, role of mother's occupation if any in development of caries in children and oral hygiene has not been studied much. Therefore, this study was designed to see the frequency of dental caries in children of working mothers.

In current study, out of 260 mothers, the mean age of working mothers was 30.97±4.204 years and of non-working mothers was 28.59 ±4.86 years. Another study conducted in India with the similar objective included 598 mothers, with mean age of 28.1±3.9 years. This study reported the mothers with 25 years or above age had higher knowledge compared to younger mothers (24years or less) (p-value=0.040). But there was no statistical difference in attitude and practice of the two age groups (p-value > 0.05). Hence increasing age may have an impact on the knowledge about oral hygiene of children irrespective of its subsequent impact on attitude and practice[20].

Moreover, current study found Significant association of higher risk of tooth decay, missing teeth and teeth filling were found with working status of mother. (p-values<0.05 in all). Similarly, a significant association of working status of mother was found in lesser frequency of brushing, more consumption of sweets as well as bottle feeding (p-values<0.05). Another study conducted in 2020 reported that status of working mothers was significantly associated with dental caries (p-value<0.01), as well as a significant correlation was found between working mothers and eating habits (p-value<0.05)[21].

One study reported that although form of sugar intake and the timing of intake were not statistically associated with dental

caries among children, however quantity of sugar consumption was significantly associated with tooth caries (p-value=0.002). They also reported that mother's educational status and employment status were significant factors influencing dental carries (p-values<0.003 and <0.001 respectively)[22]. Similarly one study reported that mother's level of education, knowledge about oral hygiene, positive attitude about brushing, healthy eating habits and higher frequent health behaviors were all statistically associated with lower risk of dental caries, tooth decay and better oral hygiene among children[23].

However, one study also stated that due to ethnic and financial disparities, the hectic timing of working mothers makes it difficult to take care of oral hygiene among children irrespective of their knowledge and personal oral habits[24]. It is therefore important to recognize the importance of creating supportive environment of learning and behavior development among children with help of other family members, specially fathers and in schools to minimize the burden of dental caries and help raise a healthier community.

CONCLUSION

This study concludes that working mothers have a significantly higher risk of tooth decay, missing tooth and tooth filling among their children. It is therefore important to give special attention to oral hygiene of their children by encouraging them to consume home-made healthy meals, frequently brush their teeth and adapt healthier habits for oral hygiene.

Conflict of interest: Nil

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