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Original Research

Association of maternal oral health-related knowledge, attitude, and socioeconomic status with dental caries status of Pre - School Children

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ABSTRACT

Background: The present study was conducted to assess association of maternal oral health-related knowledge, attitude, and socioeconomic status with dental caries status of pre- school children.
Materials & Methods: The present study was conducted on 430 preschool children and their mothers. It comprised of 7 questions on the knowledge and attitude of mothers about the oral health of their preschool children. Socioeconomic status (SES) of mothers was recorded.
Results: Age group 3 years had 85 boys and 80 girls, age group 4 years had 70 boys and 50 girls and age group 5 years had 75 boys and 70 girls. In response to question teeth of more importance for care, 82% replied correct answer, 90% gave correct answer that teeth should be cleaned, 72% replied correct answer to the food items that can lead to dental caries, 56% knew about ideal time to visit a dentist, 70% knew that dirty teeth can cause gum bleeding, 65% replied that sweets should be consumed and 71% gave correct answer about best method to keep teeth clean. The difference was significant ($P< 0.05$). There was significant higher number of children with dental caries whose mother knowledge and attitude was poor as compared to those who had good knowledge and attitude ($P< 0.05$). There was higher prevalence of dental caries in children whose mothers had lower SES ($P< 0.05$).
Conclusion: Authors found that mothers had poor knowledge and attitude about their children oral health and dental caries. There was significant higher number of children with dental caries whose mothers' knowledge and attitude was poor.

INTRODUCTION

Oral diseases are common in many societies worldwide, with dental caries being the most prevalent affecting all age groups. Dental caries is a multifactorial, bacteriologically mediated chronic disease which is present around the globe in low-income, middle-income, and high-income countries and affects 60%–90% of children in industrialized nations.[1] It can cause a child to suffer a significant degree of pain, and if left untreated, the disease may lead to further complications including sepsis. Severe untreated caries has also been found to have links to general health and well-being, affecting young children's body weight and growth and smooth progression to adulthood.[2]

The environment plays a pivotal role in establishing positive health behaviours. Although frequent consumption of sugary foods and beverages, poor oral hygiene, and inadequate health service utilization are important factors in the incidence of caries, the role of parental education and oral health-related knowledge and

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behaviours are undeniable.[3] Considering the fact that children spend most of their time with parents, especially their mothers, dietary habits and healthy behaviours are acquired from them. It seems that the dental health of young children depends on the parents' involvement and support of dental services. Previous research indicates that the knowledge, attitudes and health behaviour of parents play a key role in the prevention, control and treatment of diseases, or the unintended exacerbation of conditions, in their children.[4] The present study was conducted to assess association of maternal oral health-related knowledge, attitude, and socioeconomic status with dental caries status of pre- school children.

MATERIALS & METHODS

The present study was conducted in the department of Pedodontics. It included 430 preschool children and their mothers. Parents were informed regarding the study and informed written consent was obtained. Ethical clearance was taken from institutional ethical committee.

General information such as name, age, gender etc, was recorded. A self-structured questionnaire was used to record the knowledge and attitude of mothers regarding the oral health of their children. It comprised of 7 questions on the knowledge and attitude of mothers about the oral health of their preschool children. Socioeconomic status (SES) of mothers was recorded. Results were tabulated and subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

Table I: Age wise distribution of children

Age group (Years)	Boys	Girls	P value
3	85	80	0.92
4	70	50	0.02
5	75	70	0.98
Total	230	200	

Table I shows that age group 3 years had 85 boys and 80 girls, age group 4 years had 70 boys and 50 girls and age group 5 years had 75 boys and 70 girls.

Table II: Assessment of knowledge of mothers

Question	Correct	Wrong	P value
Teeth of more importance for care	82%	18%	0.01
Teeth should be cleaned	90%	10%	0.01
Food items that can lead to dental caries	72%	28%	0.01
Ideal time to visit a dentist	56%	44%	0.12
Dirty teeth can cause gum bleeding	70%	30%	0.05
Sweets should be consumed	65%	35%	0.02
Best method to keep teeth clean	71%	29%	0.01

Table II shows that in response to question teeth of more importance for care, 82% replied correct answer, 90% gave correct answer that teeth should be cleaned, 72% replied correct answer to the food items that can lead to dental caries, 56% knew about ideal time to visit a dentist, 70% knew that dirty teeth can cause gum bleeding , 65% replied that sweets should be consumed and 71% gave correct answer about best method to keep teeth clean. The difference was significant ($P< 0.05$).

Table III: Assessment of attitude of mothers

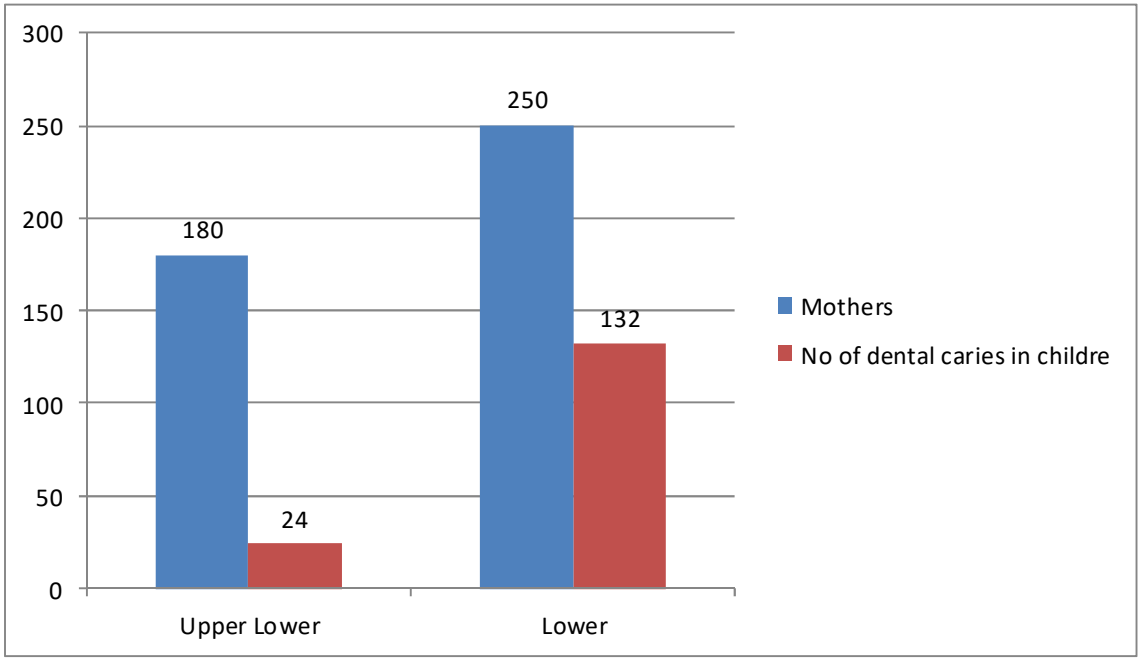
Question	Favourable	Unfavourable	P value
Oral and general health are inter-related	80%	20%	0.01
Milk teeth should not be looked after	70%	30%	0.02
Decay in milk teeth causes harm to permanent teeth	74%	26%	0.05
Using a hard brush cleans teeth better	60%	40%	0.12
It is necessary to rinse mouth with water after each meal	72%	28%	0.01
Bacteria are responsible for dental caries	62%	38%	0.02
Dentist should be visited only during toothache	75%	25%	0.01

Table III shows that 80% mother gave favourable response to that question that oral and general health are inter-related, 70% replied that milk teeth should not be looked after, 74% gave favourable response that decay in milk teeth causes harm to permanent teeth, 60% replied favourable response to question that using a hard brush cleans teeth better, 72% replied that it is necessary to rinse mouth with water after each meal, 62% replied that bacteria are responsible for dental caries and 75% replied that dentist should be visited only during toothache. The difference was significant (P< 0.05).

Table IV: Association of dental caries with knowledge and attitude of mothers

Parameter	Children with dental caries	Children without dental caries	Total	P value
Knowledge				
Good	20	90	110	0.01
Fair	80	40	120	0.03
Poor	156	44	200	0.001
Attitude				
Good	20	80	100	0.02
Fair	90	60	150	0.01
Poor	146	34	180	0.001

Table IV shows that there was significant higher number of children with dental caries whose mother knowledge and attitude was poor as compared to those who had good knowledge and attitude (P< 0.05).



Graph I: Socio- economic status of mother and dental caries in children

Graph I shows that there was higher prevalence of dental caries in children whose mothers had lower SES (P< 0.05).

DISCUSSION

Children have been shown to adopt individual lifestyle, dietary patterns, and feeding preferences from their mothers during their early childhood. Mothers are the primary role model for developing and shaping oral health behaviors in their children during early years of life.[5] Children more often share similar oral bacterial strains with their mothers than with any other family members, and children of mothers who are highly infected with Mutans streptococci usually show high infection levels and vice versa. Early establishment of Mutans streptococci in young children is predictive of early and extensive development of caries in the primary dentition.[6] Therefore, it becomes imperative for a mother to be well aware regarding the importance of healthy oral health practices in children. However, previous studies have cited the need to carry out detailed assessment of maternal awareness and attitude taking into consideration the socioeconomic class to which the mothers belong so as to effectively target mothers.[7] The present study was conducted to assess association of maternal oral health-related knowledge, attitude, and socioeconomic status with dental caries status of pre- school children.

In this study, age group 3 years had 85 boys and 80 girls, age group 4 years had 70 boys and 50 girls and age group 5 years had 75 boys and 70 girls. Saied et al[8] reported that parent-related factors such as having one or both parents of non-Western origin with low education, parental laxness about the child's toothbrushing, parents' brushing less than twice a day and having parents with frequent sugar intake were significant risk indicators for a child's caries experience severity. Those authors concluded that parents' socioeconomic status, dental behaviours and attitudes should be considered when planning dental services for young children.

We found that there was significant higher number of children with dental caries whose mother knowledge and attitude was poor as compared to those who had good knowledge and attitude (P< 0.05). Mehta et al[9] conducted a study among 618 mother–child pairs. The mean correct oral health-related knowledge and attitude scores of mothers were 6.59 ± 2.35 and 7.28 ± 1.83, respectively. Preschoolchildren had a mean untreated dental caries score of 2.73 ± 1.63 and decayed, missing, and filled teeth score of 3.13 ± 1.79. Untreated dental caries in children was found to be statistically significantly associated with maternal oral health-related knowledge (P = 0.021) and attitude (P = 0.006). Mothers who were having better knowledge and favorable attitude toward oral health had significantly lower odds of developing dental caries in their children as reflected by the logistic regression analysis (odds ratio = 0.33 [0.22–0.52] and 0.36 [0.24–0.53], respectively).

We found that there was higher prevalence of dental caries in children whose mothers had lower SES (P< 0.05). Yazdani et al[10] found that the average age of children and mothers were 5.1 and 31 years, respectively. The mothers' and children's mean DMFT and dmft were 12 and 6, respectively. The mean level of mothers' knowledge was 31.5 out of 40, while the mean attitude was 24.5 out of 30 points. There was a statistically significant inverse correlation between mothers' knowledge and their DMFT (r = –0.7), and between mothers' knowledge and children's dmft (r = –0.6). Also, there was an inverse correlation between mothers' attitude and DMFT (r = –0.8), and between mothers' attitude and dmft (r = –0.7). A direct correlation between mothers' DMFT and children's dmft (r = +0.6) was observed.

CONCLUSION

Authors found that mothers had poor knowledge and attitude about their children oral health and dental caries. There was significant higher number of children with dental caries whose mothers' knowledge and attitude was poor.

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