

# Oral Health of Pre-School Aged Children in Dhanbad District, Jharkhand, India- A Peek into their Mother's Attitude

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## ABSTRACT

**Introduction:** Mothers are directly responsible for the dental health of their children and play a major role in shaping the dental health behaviors of their children. They also play an important role in preventing oral diseases in them.

**Objective:** To assess the level of attitude of mothers in relation to their pre-school aged children, which in turn can influence the level of oral health.

**Method:** A cross-sectional study was carried out among 312 mothers, selected randomly from eight blocks of Dhanbad district, Jharkhand, India. They were administered with a

structured questionnaire on attitude, by an interviewer.

**Results:** The overall data indicated that the attitude of mothers about oral health in their pre-school children increased as their age increased which was not statistically significant ( $p > .066$ ). Mothers who had less than higher secondary school education and belonged to socio-economically lower groups had poor knowledge of oral health which was statistically significant ( $p < .001$ ).

**Conclusion:** Mothers should be motivated so that their attitude about their child's oral health is enhanced which in turn would improve their oral health related quality of life.

**Key words:** Attitude, Oral health, Pre-school children

## INTRODUCTION

There has been a decline in the the severity and prevalence of oral diseases in developed countries in recent times [1-3]. This has been possible through organized dental care which has improved the dental health amongst youngsters and the children in particular [4,5]. This is evident from the changing pattern of dental caries among these populations. Overall, this has helped them to retain their natural dentition in a functional manner until an advanced age [6-11].

Mothers play a significant role in taking decisions on matters that affect their children's health [12,13]. A positive attitude towards oral health will go a long way in the prevention of dental diseases. Dental caries prevention in children is vital to avoid premature loss of primary teeth and thereby decrease the risk of disease burden in later years [14,15].

Opinions and beliefs of mothers are valuable considerations in forays into children's oral health initiatives [16]. Available literature on oral health perception has been focussed mainly on school-going children and the adults. However, in the State of Jharkhand, India, no such studies are available, especially for children aged six years or younger. Research on oral health perceptions has focused on school going children and adults. With respect to the State of Jharkhand no population-based study has been reported on the mothers' perceptions of oral health of children younger than six years of age. However, a few studies have investigated the mothers' appraisal of their children's general health.

## MATERIAL AND METHODS

This cross-sectional study was conducted using a structured questionnaire which was administered to the mothers of the pre-school children. The study was conducted on a randomly selected sample of rural mothers in Dhanbad, Jharkhand, India. Around 312 mothers were selected based on the following sampling process. The age group of the sample ranged from 18-35 years and was divided into three sub-groups viz., 18-25 years, 26-35 years and above 35 years. The education of the mothers was classified as

illiterate, primary school, intermediate, and above. The income of the families was classified as below Rs.5000, Rs.5000-Rs.10000, Rs.10000-Rs.15000 and above Rs.15000. The samples were taken from 08 blocks of Dhanbad and from each block 39 samples were taken for the study.

## STATISTICAL ANALYSIS

The data was statistically analysed and tabulated using the SPSS 12 (Statistical Package for Social Sciences, Version 12). Chi-square test was used for comparing attitude of the subjects in relation to the oral health.

## RESULTS

The study was conducted in Dhanbad, a major district of Jharkhand State. A total of 312 mothers of pre-school children participated in the study. The mothers' age ranged between 18-25 years (35%), 26-35 years (59%) and above 35 years (9%). The level of education of the mothers ranged from illiterate (45%), upto primary school (44%), upto intermediate (8%) and above intermediate (3%). The monthly family income was below Rs 5000 among 80% of the subjects, between Rs 5000-Rs 10,000 among 19% subjects, between Rs10,000-Rs15,000 among 0.3% subjects and above Rs 15,000 among 0.7 % subjects [Table/Fig-1]. Around 35% of the children were present in the 3- and 4- year age groups, respectively, followed by 27.4 % and 3.8 % children among the 5- and 6- year age groups, respectively. The data on feeding practices revealed the children were breast fed during the initial period and weaned off later to bottle feeding in the present study group of children younger than 6 years.

### The role of mother's age in influencing her attitude towards oral health

The mothers across the three age groups expressed that the permanent teeth were more important than the deciduous teeth, which was seen among 52%, 54% and 57% mothers, respectively. In a similar manner they opined that it was worth spending money on issues related to oral health and this was observed among 42.6%,

Age Group (Years)	Number (n)	Percentage (%)
Between 18-25	109	35
Between 26-35	184	59
Above 35	19	6
<b>Education Level</b>		
Illiterate	141	45
Upto Primary School	137	44
Upto Intermediate	25	08
Above Intermediate	09	03
<b>Family Income (Rs)</b>		
Below 5000	247	80
Between 5000-10000	58	19
Between 10000-15000	03	0.3
Above 15000	04	0.7

**[Table/Fig-1]:** Distribution of mothers based on age group, education and family income

47.8 %, 57.3 % mothers, respectively [Table/Fig-2]. However, there was no significant difference in the responses of the mothers according to age ( $\chi^2= 5.82, p> 0.66$ ).

In consonance with the above they agreed that it was necessary to visit the dentist only when they were beset with pain in the tooth. This mindset was observed among 56.5%, 51.1% and 63.2% mothers, respectively, while only 1.9% of the 18-25 year age group strongly disagreed to visit the dentist in such a condition.

A slightly higher number of mothers were of the view that the dentist could manage to treat all the oral diseases, which was evident among 60%, 72% and 65% mothers, respectively.

The mothers also felt that oral diseases in children required equal attention as systemic diseases and there was a general agreement among 66.7%, 61.5% and 73.7% mothers, respectively. However, there was no statistically significant difference in the responses of the mothers according to age. ( $\chi^2=4.62, p> 0.79$ ).

They also felt that oral hygiene practices should be inculcated at an early age in the children and there was a general agreement among 66.7%, 57.4% and 47.3% mothers, respectively. However, a statistically significant difference was not observed in the responses of the mothers according to age.

A majority of the mothers across the age groups felt that they lacked adequate information on the prevention of oral diseases and desired to have more inputs for the same and this was seen among 65%, 68 % and 71% mothers, in the three age groups.

### The role of mother's education in influencing her attitude towards oral health

When the mothers from the initial three groups were asked about

Age Group (Years)	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	X <sup>2</sup> , p value
18-25	26.8	42.6	17.6	9.3	3.7	X <sup>2</sup> =5.82, p>.66, Not Significant
26-35	18.7	47.8	20.3	13.2	0	
Above 35	10.5	57.3	15.8	15.8	0	
<b>Education</b>						
Illiterate	15	50	17.9	15	2.1	X <sup>2</sup> =32.33, p<.001 Significant
Upto Primary school	25.7	47.8	16.9	8.8	0.7	
Upto Intermediate	40	24	32	4	0	
Above Intermediate	22.2	0	44.5	33.3	0	
<b>Family Income (Rs)</b>						
Below 5,000	15.8	51.9	17.4	13.7	1.2	X <sup>2</sup> =30.98, p<.002 Significant
5,000-10,000	39.7	31	25.9	3.4	0	
10,000-15,000	60	40	0	0	0	
Above 15,000	100	0	0	0	0	

**[Table/Fig-2]:** Maternal attitude towards expenditure on oral health with respect to age, education and family income

their opinion on whether permanent teeth were more important than the deciduous teeth, there was a general agreement by a majority (40.6%) of the mothers. However, the mothers from the fourth group (44.5%) were not sure about the importance of either group of teeth. In a similar manner the mothers from the initial three groups had no inhibitions in spending money for betterment of oral health and this was observed among 50%, 47.8% and 24% of the mothers, respectively. A very high statistically significant difference ( $\chi^2= 32.33, p< 0.001$ ) was seen in the responses of the mothers according to education [Table/Fig-2].

In consonance with the above they agreed that their visitation to the dentist was pain driven and there was a general agreement by 56.4%, 61.2%, 28% and 33.3% mothers, respectively. There was a significant difference seen ( $\chi^2= 42.27, p< 0.00$ ) in the responses of the mothers according to education. A slightly higher number of mothers expressed confidence in the dentist's ability to manage all the oral diseases, and there was a strong agreement among 35%, 40%, 45% and 50% of the mothers, respectively. A majority of the mothers also felt that oral diseases in children could not be relegated to systemic diseases, but deserved equal attention. There was a general agreement among 68.6%, 62.5%, 72% and 66.7% of the mothers, respectively. A large section the mothers opined that it was beneficial to instill oral hygiene practices during the early years. There was a general agreement among 60.7%, 62.5%, 48% and 66.7% of the mothers, respectively. A significant number of mothers across the age groups desired for more exposure to preventive health information and there was a general agreement among 30%, 40%, 50% and 66.7% of the mothers, respectively.

### The role of mother's family income in influencing her attitude towards oral health

Almost half of the mothers believed that permanent teeth were more important than the deciduous teeth. There was a strong agreement among 45%, 55%, 60% and 25% mothers, respectively. With regard to spending on oral health the mothers from the initial three groups thought it essential, to do so and there was a general agreement among 51.9%, 31% and 40% of the mothers, respectively. There was a significant difference ( $\chi^2=30.98, p< 0.002$ ) in the responses of the mothers according to family income [Table/Fig-2].

The mothers' preference to visit the dentist only in painful situations was equivocal with around 53.8% mothers in the initial three groups while the mothers with family income above Rs 15,000 strongly preferred (100%) to visit the dental facility. Opinions varied with regard to the dentist's acumen in treating the oral conditions and there was a general agreement among 51.9%, 39.7%, 60% and 100% of the mothers, respectively. Similarly, the mothers' opinions were diverse in viewing the dental diseases at par with systemic diseases and there was a general agreement among 67.6%, 58.6%, 34.4% and 25% of the mothers, respectively.

It was surprising to note that the benefit of beginning it early with regard to oral hygiene practices was followed more by the mothers belonging to the lower socio-economic strata than the higher strata. There was a general agreement among 63.6%, 51.7%, 33.3% and 25% of the mothers, respectively. When the mothers across the income groups were asked whether they felt a need for further information regarding the prevention of oral diseases, there was general agreement among 30%, 40%, 50% and 33.3% of the mothers, respectively.

## DISCUSSION

In the present study, parents who belonged to the educationally and economically disadvantaged group with less than high school education were over-represented and had probably had a poor perception about oral health. In the present study the attitude of the mothers about oral health amongst their pre-school children varied with age, which was in accordance with the findings of the study conducted by Talekar BS et al.,[17].

Socio-economic status is usually evaluated by education, occupation and income among population groups. It has been shown that higher the mother's education level, the lower their child's caries experience. These findings are similar to the results observed in the study conducted by Pacharuniti N et al.,[18].

The findings of the present study confirmed the fact that parents living in deprived areas and parents who had no higher education, all seemed to have less chances of having high levels of dental knowledge and positive dental attitudes. These observations were similar to the findings of the study conducted by NJ Williams et al., [19]. It was observed that children from disadvantaged groups had the lowest level of dental health. Parents' age and education levels were the key social background factors in the pre-school children's dental health, which was in accordance with the findings of the study conducted by ML Mattila et al.,[20]. Although there was no statistically significant association between age group of the mothers and preventive behavior towards oral health, the oral health preventive behavior observed among the older mothers was better than those of the younger mothers. This could perhaps be explained on the premise that the older mothers were more likely to have had various experiences about oral health care as compared to the younger peers. This was in accordance with the findings of the study conducted by N Pacharuniti et al.,[19].

## LIMITATIONS

The present study was conducted as a pathfinder survey to assess the ground realities. The study area included a tribally dominated predominantly rural area. Almost half of the studied population was illiterate and a whopping 80% were socio-economically marginalized. Inherent in any research interviewer bias and recall bias might have contributed their share to the findings of the study. With a view to the foregoing limitations of the study further studies could cover the entire gamut of the socio-economic status including feeding habits to bring out any hitherto unseen finding.

## CONCLUSIONS

Mothers can play an important role in preventing oral disease and promoting oral health in children and should thus be well educated about oral health. A majority of the mothers across age groups, family income and education levels had a low perception about the child's oral health and thus steps should be taken to educate the mothers as they are the most important link in improving the oral health in the new generation.

The organized sector should take a proactive role in identifying the key areas to be improved in relation to the overall health of the masses. This holistic view requires a joint effort from all the sectors concerned. The need for inter-sectoral co-ordination cannot be over emphasized.

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