Evaluation of Parents Knowledge and Attitude Regarding the Importance of Primary Dentition based on their Socio Economic Status- An Original Research

By Sheetal Akula, Aditi Ramesh, Mohammed Tariq, Mohammed Hafeez Ur Rahman, Yamini Chandra & Durga Bai Yendluri

Abstract- Aim: To assess parents’ attitudes towards the dental health of their children, considering the role of the family’s socioeconomic background.

Materials and Methods: A questionnaire was formulated based on the literature review and the objective of the study and was self-administered to 400 parents, oral examination of the child was performed using WHO dentition status and treatment needs. Chi-square test was used for analysis.

Results: The knowledge of parents regarding primary teeth was based on their socioeconomic status. A majority of parents from group II reported that primary teeth stay for 3 to 6yrs of age in contrast to parents from group V who said that primary teeth would remain till 12 yrs of age. A statistically significant difference was found between the various socioeconomic groups (p=0.000).

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Conclusion: This study highlights the importance of prevention to combat dental caries. Prevention programs should target specific groups. However, the best strategy depends on several factors, including cultural, economic, and geographic factors and it is noted that the most suitable method depends on local factors.

Clinical Significance: During a child’s early period of primary socialization, their routine dietary and health behaviors are usually established. These behaviors are both directly and indirectly influenced by the knowledge, attitudes, beliefs and practices regarding oral health of their parents and caregivers. Hence, behavioral and social factors such as attendance patterns, parents' perceptions of their children’s dental anxiety, and the socioeconomic status of the family may influence the parental attitude to dental care.

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1. Introduction

During a child’s early period of primary socialization, their routine dietary and health behaviors are usually established. These behaviors are both directly and indirectly influenced by the knowledge, attitudes, beliefs and practices regarding oral health of their parents and caregivers. Hence, behavioral and social factors such as attendance patterns, parents' perceptions of their children’s dental anxiety, and the socioeconomic status of the family may influence the parental attitude to dental care.

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I. Introduction

During a child’s early period of primary socialization, their routine dietary and health behaviors are usually established. These behaviors are both directly and indirectly influenced by the knowledge, attitudes, beliefs and practices regarding oral health of their parents and caregivers. Hence, behavioral and social factors such as attendance patterns, parents' perceptions of their children’s dental anxiety, and the socioeconomic status of the family may influence the parental attitude to dental care.

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has been extensively used in the Indian scenario and has been quite effective in performing the task under discussion.

The dental attitudes may be influenced by the behavioral and social factors of the population such as attendance patterns, parents’ perceptions of their children’s dental anxiety and the socioeconomic status of the family. The concept of socioeconomic inequalities in oral health can be defined as differences in the prevalence or incidence of oral health problems between individual people of higher and lower socioeconomic status. In the recent studies, health inequalities have been given a new impetus by the development and increasing use of measures of socioeconomic status. Inequalities in health are evident in all countries for which data are available. Within less developed countries, there is a clear relationship between average per capita income and health status measures such as life expectancy. A substantial body of scientific literature from many countries has shown that the oral health of lower socioeconomic status groups is worse than their higher socioeconomic status counterparts. Unfortunately, very little information has been found in the literature to show that a family’s socioeconomic background is related to attitude for the dental care of their children. So this study was conducted to assess parents’ attitudes to the dental care of their children, taking into account the family’s socioeconomic background.

II. Methodology

A descriptive cross-sectional epidemiological survey was conducted among parents and their children between the age groups of 4 to 6 years who were enrolled in primary schools of Vikarabad mandal.

A questionnaire was formulated based on the literature review and the study’s objective and pilot was conducted on a sample of 30 parents. Necessary modifications were made to design the final proforma and validated using Cronbach’s alpha which was found to be 0.72. Prasad’s classification (2013) of socioeconomic status for rural and urban populations was used to classify the socioeconomic status of the parents. With a relative precision of 15%, the final sample size of 400 was calculated. Out of 66 primary schools using simple random lottery method, 16 schools were selected, and the survey was spread over a period of 4 months from January 2021 to April 2021. Clinical examination of the child was performed using WHO dentition status. On the day of the survey, information from parents who have come to the school and who were willing to participate was obtained by a self-administered questionnaire given to them on the school premises after explaining the purpose of the study in detail. Dentition status and treatment needs of the child were recorded using a plane mouth mirror and CPI probe in the school premises in front of the parents.

III. Results

A total of 400 children received the oral examination, and 400 parents filled the questionnaire during the survey with a response rate of 100%.

About 15.8% of parents belonged to socioeconomic group I with an income of INR 5156 above, 21.5% belonged to group II with an income of INR 2578-5155, 19.8% belonged to group III with an income of INR 1547-2577, 23.5% in group IV with an income of INR 773-1546 and 19.5% in group V who had an income of less than INR 773. Many parents belonged to the socioeconomic group IV and lowest number of parents belonged socioeconomic group I. The self-reported dental questionnaire of the parents and the children based on financial status of the family revealed that a majority of the parents (59) were from SES group IV who had never been to a dentist, whereas only 29 parents from the SES group I had never been to a dentist before. There was a significant difference of 

$$\text{p}=0.002$$

between all the socioeconomic groups in relation to their past dental visit. A maximum of SES group III parents had satisfactory dental experience while very few (10) parents from group V had satisfactory past dental experience which was statistically significant 0.0027 between all the socioeconomic groups. Many of parents from group II reported that their past dental experience would affect them in taking their child to a dentist. When the effect of subjective experience of the child with a dentist was considered between all socioeconomic groups, there was no statistically significant difference (p=0.083). The majority of (38) parents from group III, said that milk teeth don’t need any treatment in comparison to a very few of 19 parents from group I agreed with the same and values were statistically significant where p=0.002 between all the socioeconomic groups, and it is both the parents who collectively decide about the dental care of their child. There was a significant difference regarding the decision-maker between all socioeconomic groups ($$P=0.021$$). A Maximum of 14 and 12 children from group III, IV respectively had previously missed the school because of dental problems. However, the values were not statistically significant between all the socioeconomic groups i.e., p=0.445 concerning to child’s absence from the school because of dental problems.

The parents’ knowledge regarding primary teeth based on their socioeconomic status in which majority of parents from group II reported that primary teeth stay for 3 to 6yrs of age in contrast to parents from group V said that primary teeth would stay till 12 yrs of age. A statistically significant difference between the various
Parents from group II told that there would be no effects of early loss of primary teeth. The values were statistically significant i.e., p=0.000 in between all the socioeconomic groups regarding parents’ knowledge on primary teeth.

Parental care towards child’s oral health based on their socioeconomic status was observed in which it was noted that, a majority of the parents from group III preferred to take their child for a regular dental check-up followed by group II parents, whereas group IV and group V parents preferred to have a dental check-up only when the child had any dental problem. A Majority of the parents from group I initiated tooth brushing six months after the tooth started erupting, in contrast, a majority of parents from group IV initiated tooth brushing 1yr after the tooth started erupting. The values were statistically significant i.e., p=0.000 between all the socioeconomic groups when the initiation of tooth brushing of the child was considered. The majority of the parents from groups II and III said that a regular dental check-up, proper brushing and rinsing the mouth, and avoiding sweets in between meals would prevent their child from dental caries. In contrast, only very few of (9) parents from group V agreed with this statement. The values were statistically significant i.e., p=0.000 between all the socioeconomic groups regarding the preventive methods considered to prevent dental caries.

In the 1st scenario, where a black spot is seen on the tooth, but the tooth is not painful, majority of the parents from group IV and V preferred to ignore it. At the same time, parents from group I and II preferred to start supervised brushing and also leave the treatment decision to the dentist in treating the asymptomatic carious tooth. There was a significant difference between all the socioeconomic groups regarding attitude towards asymptomatic carious tooth (P=0.000). In the 2nd scenario, where the teeth are symptomatic majority of parents from group IV preferred to either ignore or relieve the symptoms and monitor the tooth. In contrast, a majority of the parents from group II chose to leave the treatment decision to the dentist. The values were statistically significant i.e., p=0.000 between all the socioeconomic groups regarding the attitude towards treating any symptomatic carious tooth. About 29 parents from group II said that they would ask for other alternative treatments if the dentist suggests for extraction of a symptomatic carious tooth. The values were statistically significant i.e., p=0.000 between all the socioeconomic groups regarding the preventive methods given to the primary teeth by the parents. Parents from group II agreed that early loss of milk teeth is always harmful to permanent teeth and only very few that is 4 parents from group V agreed with it, and the values were statistically significant p=0.000 between all the socioeconomic groups.

Parents from group IV agreed that sweets and chocolates are highly responsible for dental caries. The values were statistically significant i.e., p=0.019 between all socioeconomic groups regarding the knowledge on cariogenic food. A maximum of 28 parents from group V said that caries always transfer from tooth to tooth, while only 17 parents agreed with the same. There was a significant difference between all the socioeconomic groups p=0.0024 regarding knowledge on transfer of caries from tooth to tooth.

The number of carious teeth in children based on their family’s socioeconomic status was noted, where children belonging to SES group IV had maximum carious teeth of 46 followed by 33 carious teeth in group V children and a least score of 14 was found in children belonging to SES group I followed by group II where only 21 children had carious teeth. When the number of carious teeth was compared to the parents’ socioeconomic status, a significant difference was found between all the SES group children (P=0.001).

On assessing, the parental care towards child’s oral health based on the carious status of the child, it was observed that parents who preferred taking their child to a dentist as soon as the teeth erupt had the least i.e., 3 carious teeth, in comparison to parents who chose to take their child to a dentist only when the child had any dental problem were a maximum i.e., 88 carious teeth were present. However, the values were not statistically significant 0.393 between the opinions of the parents for their child’s 1st dental check-up. Children whose parents had initiated tooth brushing immediately after the 1st tooth erupted had the least carious teeth when compared to children whose parents had initiated tooth brushing 1 yr after the teeth had erupted. There was a significant difference between opinions of the parents (p=0.009) regarding the initiation of the tooth brushing. Parents who preferred regular dental checks for their child to prevent dental caries had the least carious teeth than parents who chose proper tooth brushing and rinsing the mouth. Still, there was no significant difference 0.212 between the preventive measures followed by the parents to prevent dental caries.

When parental attitude towards the carious teeth to that of the carious status of the child where a maximum of 67 carious teeth were found among children whose parents chose to ignore asymptomatic carious tooth but the parents who preferred to leave the treatment decision to the dentist had less score, and
there was a significant difference $p=0.037$ between the attitude of the parents in treating an asymptomatic carious tooth. In the second scenario, where the tooth is painful maximum of 147 carious free teeth were found among the children whose parents left the treatment decision to the dentist than the parents who preferred either ignoring the tooth or tried relieving the symptoms and monitoring the tooth and the values were statistically significant i.e., $p=0.041$ regarding the attitude of the parents towards the care of a symptomatic carious tooth.

### IV. Discussion

Oral health habits established during early childhood are maintained and are important for oral health conditions later in life. Young children acquire their health behavior from the environment, and their oral health relies on the parents and support from the dental services. Possible characteristics of parents associated with caries risk in children could be demographic factors of the family\textsuperscript{11}. Children are dependent on their environment to establish favorable health behaviors, and young children's dental health relies on the parents' involvement and support from the dental services\textsuperscript{12}.

The distribution of young children according to caries experience in the deciduous dentition is skewed in the most developed countries. In young children, principal risk factors, such as, diet, the transmission of pathological microorganisms, and oral hygiene, are determined by family values, daily practices, and lifestyles. For young children, who do not make independent decisions, these factors are determined by family values, traditions and lifestyle, which in turn are related to their culture and social class. Factors related to parental norms, knowledge, attitudes, and behavior have been associated with parental abilities, especially the mother’s ability to promote adequate dental health behavior in their children\textsuperscript{13,14}.

Social class may affect caries risk in many ways. Low income affects education, health, values, lifestyles, and access to health care information, thereby increasing susceptibility to caries. Understanding the socioeconomic status (SES) of the community is extremely imperative in order to correlate its impact on health and quality of living standards of that community. The critical determinant of the standard of living and health status is socioeconomic status of the individual/community. The incidence and prevalence of various health-related conditions is directly influenced by socioeconomic status. It not only influences the social security in terms of the accessibility, affordability, acceptability but also has an impact over actual utilization of various health facilities. Numerous different scales to measure the socioeconomic status in both rural and urban areas have been recommended in the literature by several experts. However, Prasad's classification (2013)\textsuperscript{15} based on the per capita monthly income has been widely in use in India. The advantage with Prasad's classification is that it takes into consideration only the income as a variable and it is simple to calculate.

In the present study the parents’ perception regarding primary dentition and their preference regarding dental care of children taking into consideration the family’s socioeconomic background has been examined. Despite the variation in the prevailing dental health practice of the parents for their children, almost 65% of the children in this study did not have dental caries, which is similar to the survey done by Shamata Sufia et al.,\textsuperscript{16} where 60% of the children had caries free mouth though a number of maternal factors such as level of education, families income effect the dentaly related behaviour of the mother.

The link between socioeconomic status and health, including oral health, is well established. It has been already demonstrated in numerous studies that the health of individuals from the lower end of the socioeconomic scale is significantly worse than that of individuals from the upper end of the socioeconomic scale\textsuperscript{17}. Oral health services utilization is a multifactorial phenomenon, and this utilization depends on various factors like dental conditions, socioeconomic conditions, attitude and financial conditions. Social factors are important, as shown in various models. Still, here more emphasis was given to subjective reasons which act as barriers in regular dental care, because the individual himself is mainly responsible for his/her regular dental care, and dental attendance\textsuperscript{18}.

Income is dependent on the employment status of the family members. This in turn dictates the health-related practices as well as the priorities on dental health matters.

The present study did not consider the employment status of the family, but considered the income level of the family to determine the socioeconomic standing of the family. Parental income affects the caries prevalence in children in the present study. Children belonging to low middle followed by lower class had high caries experience than other income groups. This finding is similar to the study conducted by Joyson et al., (2011)\textsuperscript{19}, Nuhu Amin et al., (2005)\textsuperscript{20} unlike Shamata Sufia et al.,\textsuperscript{16} Rahul Naidu et al.,\textsuperscript{21} where more number of children from below the poverty line were observed with a less caries experience. A statistically significant correlation was found between caries prevalence and low socioeconomic status, measured in terms of income. In the low socioeconomic status groups, the prevalence of dental caries was high considering their poor oral hygiene practice, lack of awareness, improper food intake, and family status.

Most of the lower-class parents in the present study stated that milk teeth don’t need any treatment,
followed by lower middle-class parents. The possible reason for this finding could be pertaining to the fact that the individuals from the lower socioeconomic status experience disadvantages financially, socially, and materially which may compromise their ability to care for themselves, and makes it difficult to afford professional health care services, and to live a healthy life in a healthy environment.

In the present study, parents from the upper class preferred to initiate tooth brushing six months after the tooth started erupting, which was not significant to that of carious experience of the child. This is in accordance to the study done by C.H Law et al., where there was a reverse association between initiation and frequency of tooth brushing to that of the proportion of caries-free mouth.

The socioeconomic status of the parents was significantly associated in both the scenarios i.e., in treating an asymptomatic tooth and a symptomatic carious tooth. Parents from the upper-middle class showed interest in asking for other alternative treatment when advised for extraction, while other income group parents agreed to extract the teeth. The reason may be because the low socioeconomic status individuals have more fatalistic beliefs about their health, and they have a lower perceived need for care, thus leading to less self-care and lower utilization of preventive health services.

Parents from all the five income groups preferred to start supervised brushing for asymptomatic carious teeth, similar to the study done in Davangere by Tyagi R6 where 71% of the mothers started supervised brushing when they noticed decay in their children. Previous Studies in the literature have shown that the preschool child lacks the understanding and also the manual dexterity to maintain a good oral hygiene. So, parents must think that if they start supervised brushing black spot noticed on the tooth might disappear. In the present study, knowledge on dental caries was better among high-income group parents. This may be associated with the level of education of the parents. Parents with higher education have a better knowledge regarding the oral hygiene practice and the importance of deciduous teeth. This is similar to a study by Suresh BS23, which reports that mothers who have had a lower level of education also tend to have low levels of knowledge regarding oral health. Hence, it has been suggested that the parents who have had a good or higher level of education may be able to assess the appropriate sources of information in a better form and understand it thoroughly.

The findings of the present study illustrated that parents’ dental-related behaviour, along with socioeconomic background, are essential in their children's dental health. Parents in the present study have relatively better perceptions regarding primary teeth, and their attitude towards treating asymptomatic teeth was affected by the socioeconomic status of the family.

The limitation of the present study is that, as it was a questionnaire-based study there was an inability to probe responses and there may be a memory-based distortion in the participant’s responses. Further, there is no way to tell how much thought a respondent has put in.

V. Conclusion

This study highlights the importance of prevention to combat dental caries. Prevention programs should target specific groups; however, the best method depends on several factors, including cultural, economic, and geographic factors. The most suitable strategy depends on local factors. The early identification of high-risk groups and the approaching of behavioral aspects in preventive and educational programs on oral health should be encouraged.

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