

# DENTAL CARE AWARENESS AMONG MOTHERS OF CHILDREN FROM DISADVANTAGED SOCIOECONOMIC BACKGROUNDS IN ROMANIA

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**Keywords:** dental care, mother, children, socioeconomic factor

**Abstract:** With recent trends in European child welfare policies moving towards shifting more responsibility for children health to parents, this study was intended to learn about parents' knowledge of dental hygiene and the impact of education on oral health practices in economically disadvantaged families in Romania. Data about parent's education, tooth brushing practices, and visits to a dental practice were collected from 64 participants. Data analysis using non-parametric statistical tests suggests that parents from this disadvantaged socio-economic category do not pay appropriate attention to their children's dental hygiene. Activities aimed at increasing awareness are recommended alongside existing community support.

## INTRODUCTION

A recent trend in European child welfare policies is to shift responsibility for the child's health, education and welfare from the state to the parents and families (1,2,3) suggest, the sphere of parenting competence should also include the activities and behaviours related to primary care, carried out with the purpose of giving children autonomy.

The patterns of behaviour learned in early childhood are deeply rooted and are resistant to change. Attempts to change the behaviour at a later stage of development may be difficult because of the earlier indoctrination at home.(4) Parental attitudes have a significant impact on the establishment of positive dental health habits.(5,6,7)

Dental cavities, is one of the most prevalent chronic diseases worldwide which can occur anytime during a person's life.(8) Children from disadvantaged socioeconomic backgrounds have a higher risk of dental cavity incidence.(9) For the purpose of this paper, a socioeconomic disadvantaged background is defined by low-income (10) and low educational levels.(11,12) The parental attitude towards oral hygiene, indulgence, awareness, habits, behaviour and the poor oral health of parents (13) tend to lead to higher cavity incidence in children.(14,15,16)

Dental health prevention aims to decrease the number of dental cavities. Prevention of dental cavities, which attempts to ensure the teeth health, includes a host of methods designed to help increase dental hard tissue resistance and fight against the cariogenic aggressor factors.(17,18) Dental health prevention includes three stages: primary, secondary and tertiary. The primary prevention covers prevention from diseases of the dentomaxillary apparatus. The secondary prevention covers the identification and cessation of the pathogenic process in its early phases. The tertiary prevention includes correction and compensatory measures of the functional consequences.(19) In medicine, primary prevention starts at home, where the rules of hygiene and the habit of going to regular medical check-ups are introduced and fostered. While the parents are the ones who introduce their children to the first hygiene rules, as the child grows, these habits are further developed in school and through special programs.

## PURPOSE

This study was intended to learn about parents' knowledge of dental hygiene and the impact of education on oral health practices in economically disadvantaged families in Romania.

## MATERIALS AND METHODS

While there are many factors that can affect the incidence of dental cavities, for the purpose of this study, the following factors are considered:

- Tooth brushing frequency, because proper tooth brushing, as an effective mechanical method of removing dental plaque, the main cause of cavities, is the most important component in dental hygiene.(20)
- Age at which the child has started tooth brushing.(21)
- Parental supervision of the child's tooth brushing technique.(20)

Beginning and frequency of dental checkups, considering that it requires specialized expertise to detect the onset of dental cavities early, in stages where parents and patients would not notice them.(22)

Research Questions:

1. What is the habitual oral hygiene behaviour of children from families from disadvantaged backgrounds?
2. How does the parents' education level impacts the child's tooth brushing frequency, the age at which the child started brushing his or her teeth, the amount of supervision the child received during tooth brushing, and the frequency of dental check-ups.

The study was performed with support from the SOS Children's Villages Association Romania through its Center for Conciliation and Support for Children and Parents in Cisnădie, Sibiu County, Romania, which helped to define the target population and the selection and recruitment of the study participants. The center provides support to children from families in need coming from urban areas, with a high risk of being institutionalized.

A combination of the following selection criteria was used:

- Families with increased risk of divorce;

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- Low income families
  - With an average of three children
  - Sporadic income
- Families with children who dropped out of school or with children with increased risk of school dropout.
- Single parent families;
- Underage mothers;
- Families which solicited council about child rearing;
- Families with low education level;
- Families with unemployed parents.
- Families with members suffering from poverty-generated health issues.

Of the over 100 invitations extended to potential participants in this study, we received a number of 64 answers, all mothers. After informing the participant of her rights and obtaining her written consent, the participant was instructed to answer the survey questions. This process took place at the local Social Work offices of the Center for Conciliation and Support for Children and Parents in Cislădie, Sibiu County, Romania, part of SOS Children's Villages Association Romania where the available personnel provided guidance and support to help improve response accuracy. The survey questions are presented in table no. 1.

**Table no. 1. Relevant survey questions**

Question	Answer Options
What is your level of education?	No education; Primary school; Secondary school; High school; Professional (Technical) education
How often is your child brushing his or her teeth?	Less than once per day; Once per day; Twice per day; More than two times per day
At what age did your child start brushing his or her teeth?	< 2 years of age; 2-3 years of age; 4-5 years of age; > 5 years of age
Do you supervise your child during tooth brushing?	Yes No
For what reason do you go to the dentist with your child?	I have never been at the dentist; When his/her teeth hurt On a regular basis, for checkups

Descriptive statistics and nonparametric tests (Kruskal-Wallis and Mann-Whitney U) were used to analyse the data. Study variables were mother's educational level, tooth brushing frequency, brushing starting age, brushing supervising, and the reason the mother takes her children to the dentist, all categorical variables.

## RESULTS

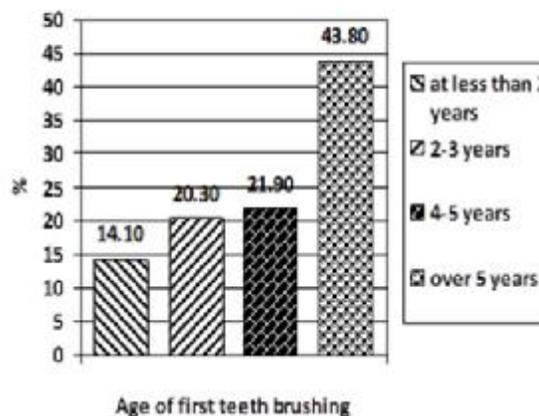
We will first present descriptive statistics of our findings about habitual oral hygiene behaviour of children from families from disadvantaged backgrounds. In the second part we will present the observed relationship between mother educational levels and answers to other survey questions.

Of the 64 participants in this study a majority of 60.9% stated that their children brush their teeth only once a day while only a minority of 3.1% stated that their children brush their teeth less than once a day. The "twice a day" and "several times a day", the desired answers, were provided by 18.8% and 17.2% of the participants, respectively.

The data collected about the age at which children start brushing their teeth reveals that the majority of children included in this study start brushing at age 4 or older, indicating a delay from the expected ideal age of first tooth eruption (figure

no. 1).

**Figure no. 1. Brushing starting age of studied children**  
At what age did your child start brushing his or her teeth?



The question regarding supervision of dental hygiene in children was answered positively by only 43.8% of the participants. Analysis of the data related to frequency of dental checkups reveals that for this study group the vast majority (84.4%) of the participants visit the dentist office with their children occasionally, for treatment. 1.6% of the respondents stated that they never visited a dentist's office while 14.1% do it on a regular basis.

On the question about the mother's level of education, data analysis revealed that 32.8% have secondary education (8 classes), 12.5% indicate no education at all, while 14.1% of the participants had only primary school education (4 classes). 15.6% and 25.0% of the participants indicated high school and technical studies (professional school) respectively.

The second research question was aimed at finding more about the relation between the participant's education level and the four variables considered for this study: the child's tooth brushing frequency, the age at which the child started brushing his or her teeth, the amount of supervision the child received during tooth brushing, and the frequency of dental checkups.

In this respect the Kruskal-Wallis statistical test, using the mother's education level as grouping variable (used throughout), indicated no statistically significant relationship between the mothers' level of education and the frequency of tooth brushing ( $\chi^2(4, N=64) = 1.83, p = 0.767 > 0.05$ ). Alternatively, the same statistical test applied to the child's age when starting tooth brushing shows a significant relationship with the mother's level of education ( $\chi^2(4, N=64) = 11.15, p = 0.025 < 0.05$ ).

The participants' level of education was found to have a significant relationship with the supervision of the children's tooth brushing as well, as indicated by the results provided by the Kruskal-Wallis test ( $\chi^2(4, N=64) = 18.03, p = 0.001 < .05$ ). A statistically significant relationship was also found between the frequency of dental checkups and the participants' education level (Kruskal-Wallis  $\chi^2(4, N=64) = 15.38, p = 0.004 < .05$ ).

The Mann-Whitney U statistical test was used to provide between-groups analysis in situations where Kruskal-Wallis test revealed significant differences. While some statistically significant differences were found, we consider them inadequate to clearly single out an educational level group (table no. 2).

## PUBLIC HEALTH AND MANAGEMENT

**Table no. 2. Significant Mann-Whitney U test results**

Question	Educational level		Test values	
			U	p (<0.05)
At what age did your child start brushing his or her teeth?	No education	Professional education	19.50	0.005
	Secondary school	Professional education	84.50	0.009
Do you supervise your child during tooth brushing?	Primary school	Secondary school	40.50	0.012
	Primary school	Professional education	18	0.001
	Primary school	High school	36.00	0.020
For what reason do you go to the dentist with your child?	Secondary school	Professional education	98.00	0.032

### DISCUSSIONS

Over the years, studies in this field reveal a rather low level of knowledge of oral health prevention among the parents from Romania.(23,24,25) The recommended tooth brushing frequency is twice a day.(26) Only 36 percent of the participants in our study (17.2% several times per day and 18.8% twice a day), coming from disadvantaged backgrounds, indicated that their child or children brush their teeth twice or more every day. In comparison, a study performed in Romania in 2009 on children and parents without accounting for social background revealed percentages of 23.9% and 35.9% respectively for the same brushing frequencies.(15) Another study, which measured the two brushing frequency groups together (brushing twice a day or more often) indicated a percentage of 69% of positive answers.(27) While a significant relationship was not found between the level of education of the participants included in this study and the frequency with which their children brush their teeth, when compared to other studies, the percentage of the population of participants coming from disadvantaged backgrounds who follow the recommended tooth brushing frequency seems to be significantly lower.

Another possible explanation of this finding is population homogeneity, as the participants were purposefully selected based on low income and education levels. As House and Goesling (28) suggest, parents' education level can help improve children health in three ways: work and occupation, lifestyle, and social relationships.

Along with the obligations from school, parents are expected to monitor their children's general hygiene and in particular their oral hygiene. Our study on children from disadvantaged backgrounds indicates that only 43.8 % of the mothers supervise them while brushing. In comparison, a similar study found that 96.49% of the parents of preschool children agreed that children should be guided and supervised by parents while brushing their teeth. Thakare, Ajith Krishnan & Chaware.(29) Kuriakose and Joseph (30) also found that the incidence of dental cavities is significantly lower in children who are assisted by their parents during tooth brushing.

The best age to start tooth brushing is with the eruption of the first tooth.(31) Research shows that people from disadvantaged backgrounds do not seem to be familiar with this recommendation. For example, a study by Akpabio et al., (2008) finds that in the USA only 32,4% of the mothers are aware it. Our study indicates an even more dire situation, with only 14.1% of the participants having started tooth brushing with their children when they were one year of age or younger.

Overall, studies in the USA show a direct significant relationship between family income and the mothers' knowledge of the dental care and oral health-related behaviour.(21) The same study also shows that higher levels of education (more years of education) the respondents had was directly correlated with the level of knowledge of the consequences of poor oral health. That is, the higher the education level, the more they knew about the consequences of poor oral health. Another study, by Skeie et al. (16), suggests that Norway's immigrant population faces the same problems, indicating that the lack of

higher education and having a non-western background were associated with their inclusion in an "attitudinal risk group", prompting to the fact culturally tailored programs for dental health education are necessary to promote more positive attitudes towards oral health.

The children are recommended to have periodical medical check-ups performed starting from age 1 or when their first tooth erupts.(31) The American Academy of Pediatric Dentistry (32) recommends the parents to take children to the dentist twice every year, fact known to only a small extent among people from disadvantaged families in the USA.(21) When periodical medical check-ups are performed, the pain symptoms will be avoided. A study performed in India revealed that parents take their children to emergency treatments to an extent of 58.07%.(29) Unfortunately 84.4% of the mothers from our study indicate that they take their children to the dentist only for emergency treatments.

Experts in various fields related to child welfare consider the parents as partners, actively collaborating with various types of specialists in schools, social services, legal services etc.(2) By participating in educational programs, parents gain new abilities and competencies, which help them further in their relationship with their children. Studies show that parents prefer practical and the group activities, with mothers being more open to such programs.(2)

Prevention courses should be performed in mixed groups of children and parents in order to determine together where the problems are and to learn effectively how to solve them. Dental health education proved to be effective in increasing the knowledge level of children from disadvantaged backgrounds.(18,33)

### CONCLUSIONS

We came to the conclusion that mothers from disadvantaged backgrounds do not pay sufficient attention to their children's learning about the principles of dental hygiene. Their monitoring of the process of dental hygiene as well as the age of starting tooth brushing among their children is unsatisfactory. Our recommendation would be for them to participate in special courses learn more about dental hygiene and to increase awareness of the importance of dental hygiene in their children.

Future work will attempt to include additional factors related to the etiology of dental cavities in children, additional hygiene factors, food, as well as specific cavity prevention options only available in dental practices. It will also be extended to cover a larger geographical area and additional organizations supporting children coming from socioeconomic disadvantaged environments.

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