ROLE OF PARENTS IN NURSING CARIES AMONG THEIR YOUNG CHILDREN

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Abstract: Although dental caries appears to be almost universal disease, rampant caries in the infant and very young children is one of the most frustrating and difficult conditions to treat. It exacts an alarming toll in terms of the child’s comfort, health and development. Milk in particular is responsible for major account of the damage, although pacifiers and nipples dipped in sweetening agents will have a similar effects. Bathing the teeth with agents creates an excellent medium for bacterial and chemical reaction. Since these conditions are prevalent in children of younger age, the problems are further compounded. Parents may be totally unaware of the dental condition until the child is in pain or the esthetic appearance of the teeth makes the need for attention imperative. A causal relationship between bottle feeding and rampant caries is accepted, it was felt that an effort should be made to confirm this theory statistically.

Keywords: bottle feeding, nursing caries, parents.

INTRODUCTION

Despite the success of preventive dentistry there is decline in the quality of very young children’s teeth. One frequently mentioned cause is the use of a baby bottle. Prolonged nocturnal bottle feeding appears to be a prime etiologic factor in rampant caries. The condition may be found as early as age 16 months. The risk factor other than the bottle with have been reported: falling asleep with a pacifier dipped with honey or jam, breast feeding prolonged beyond the normal age for weaning or regular use of syrups for therapeutic reasons during chronic or recurring illness. Generally parents have not taken the child to a dentist and they may be totally unaware of the dental condition until the child is in pain or esthetic appearance of the teeth makes the need for attention imperative. In every case, the carious destruction is spectacular and responsible for medical, emotional repercussions. The purpose of this explorative study is to map not only the dental factors, but also the psychological mechanism that are involved in nursing caries. Because parents are crucial to the child’s early development.
The focus of this study is summarized under following questions:

a. Is it possible to distinguish parents who give their children a bottle from parents who do not?

b. Why do parents give their children a bottle up to higher age?

c. Is it possible to distinguish parents with a child that suffers from nursing caries from parents with a child that does not?

d. Do children that suffers from nursing bottle caries differ from that children that do not?

**Material & method**

A questionnaire consisting of five section was constructed. The first part request the medical history of the child, the second part concerned the teeth of the child. In the third part questions were asked about the parents behaviour and attitude concerning their personal dental hygiene and their concern about their child’s teeth. The purpose of the fourth section was to identify the parenting style. The last section consisted of items that measured background. The final version of the questionnaire was pretested. For each section, some example of questions are listed in table 1.

The questionnaire was given to the parents of sixty eight children varying the age from eight months to three years who were treated for nursing bottle caries at Department of Pedodontics & Preventive Dentistry, another ninety parents of children in the same age, but with no known clinical history regarding dental problems, also received the questionnaire.

The goal was to obtain three groups of respondents: a group consisting of parents of children who suffered from nursing bottle caries, a group consisting of parents with children who receive a bottle on a regular basis but never treated for dental problem and a group of parents of children who have never used a bottle (the control group).

To check whether there is a differences in the distributions of the three groups on the variables and to check a relationship exists between the classification variable “group and the variables of the questionnaire, the collected data will be analysed, using the two way chi-square test.

**Results**

The response rate for the two groups of parents was moderate: twenty seven of the sixty eight parents and forty six of the ninety parents did send back the questionnaire.

Contrary to expectation, an initial analysis showed that only four parents in the last group have given a bottle. Table 2 shows the result of the two way chi square test for a relationship between group membership and the variables of the questionnaire. Only the most relevant differences are reported.
Although the differences concerning the reasons why parents give a bottle for a long period of time did not reach statistical significance ($\chi^2(3) = 9.53, p<0.023$), parents in caries group showed a tendency to give the bottle out of health considerations. Parents in non-caries group in the other hand, give more reason indicating they forced to continue to give the bottle because of negative social behaviour of the child. This result is probably related to the fact that parent of caries children more often try to stop giving a bottle ($\chi^2(1) = 9.86, p<0.02$), but their attempts are less successful. More successful attempts of parents of non caries children ($\chi^2(2) = 13.12, p<0.001$).

In comparison with the non caries group, fewer parents in the caries group have breast fed their children ($\chi^2(1)=8.80, p<0.03$) while more caries children received a bottle straight from birth ($\chi^2(1)=10.06, p<0.02$). Moreover the bottles of the caries children more often contain sugared drinks ($\chi^2(1)=10.30, p<0.01$) these also receive more carbohydrate ($\chi^2(1)=9.30, p<0.002$). Another finding is that the parents in the non caries group give the bottle more often during the day time whereas the parents in the caries group give the bottle both during the day and at night ($\chi^2(1)=23.36, p<0.001$). The background variables showed that more often both parents of non-caries children are employed ($\chi^2(1)=12.52, p<0.001$) and the partners of the respondent parent have a higher level of education ($\chi^2(2)=13.55, p<0.001$) the two group of parents did not differ in applied parenting style ($\chi^2(2)=1.49, p<0.476$).

Finally caries children are older than non-caries children ($\chi^2(3) = 34.23, p<0.001$) and these caries children are sick more often than non-caries children ($\chi^2(2)=21.12, p<0.001$).

<table>
<thead>
<tr>
<th>Section</th>
<th>Examples</th>
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<tbody>
<tr>
<td>1. General health of the child</td>
<td>Up until now, how often has your child been sick?</td>
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<tr>
<td>2. Aspects related to the teeth of the child</td>
<td>Do or did you give your child a nursing caries bottle?</td>
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<td>What is the content of the bottle generally?</td>
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<td>3. Parents and dental hygiene</td>
<td>What is your opinion of the quality of your teeth?</td>
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<td></td>
<td>Did you receive education concerning dental hygiene?</td>
</tr>
<tr>
<td>4. Parenting style</td>
<td>In this section ten stories were presented, in each story a fictional situation was described in which a child displayed some sort of negative behaviour. Respondents were asked how they would react if they were placed in that situation?</td>
</tr>
<tr>
<td>5. Background variable</td>
<td>Are you employed?</td>
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<td>Do you have a partner?</td>
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Table 1- Examples of questions that appeared in the questionnaire.

**Discussion**

The combination of results indicates that the primary reason why parents give a bottle to their children up to a
relatively high age, is that the use of the bottle has become a habit. Parents of caries children have more trouble breaking this habit, perhaps due to a combination of a very demanding child and so very persistent parent, the habit is stronger in that group. The inability to stop giving the bottle can ultimately result in the use of bottle up to a relatively high age, which in turn increases the chances of developing nursing bottle caries.

The analysis showed that parents of a child that suffers from nursing bottle caries differ from parents of a child that does not in a number of ways. The results showed that in caries group more given parents bottle straight from birth and in contrast fewer parents have breastfeed the child, suggest that caries children have been exposed longer to the possible effects of the bottle than non caries children.

These findings contradict the previous studies in which prevalence of nursing bottle caries was higher for children who were weaned from birth. With the previous studies it was found that caries children receive more carbohydrate through other nutrients making their teeth even more vulnerable.¹²³⁴.

Contrary to expectation, no differences in parenting style found. This is
because parenting style is not related to bottle caries and part of questionnaire did not measure parenting style adequately. These questions were only validated at face value,

The last question that needs to be answered is whether children that suffers from nursing caries differ from children that do not. The results showed that caries and non-caries children differ in two respects. Caries children on the whole are older than non-caries children. Similar results were reported by Tsubouchi et al (1994) and Roberts et al (1993). The caries children have been sick more often. The last differences remains significant, even when correcting for age differences between groups. Based on the differences found, the above given characterization of both caries children and their parents can be helpful in identifying high risk groups. These findings can also be helpful in setting up educational programs for high risk parents so that improve the quality of teeth of children.

Conclusion
Habit and the inability to break with it, see to be main reason why parents give their children a bottle up to high age.

Based on differences between the caries and the non caries groups, an educational program should be developed in order to stop the baby bottle as soon as possible.

References