

# The Assessment of Food Habits in Children and the Risk of Premature Tooth Extraction

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**Abstract:** *The improper food habits are one of the most important risk factors for caries development and premature tooth extraction. The aim of this study is to assess the food habits of children with prematurely tooth loss compared to the healthy children. Methods and materials: The study covers 140 children between 6 and 9 years old. The control group consists of 50 children and the clinical group consists of 90 children with prematurely extracted teeth. The patients from the clinical group were divided into three groups of 30 patients. The control group consists of 50 children with intact denture. A special questionnaire was filled from the parents of the examined children about frequency of carbohydrate intake of their children. Results: Only a few percentage of children from the first and control group have a proper food habits and take carbohydrates rarely as a dessert-7, 1% and 14, 3% respectively. Most of the children eat simple sugar between meals-control group 55, 1%; group 1 – 57, 1%; group 2 – 70%; group 3 – 50%. Half of the children from the third group take carbohydrates often, anytime. Conclusions: The both groups of children (with and without prematurely extracted teeth) have unbalanced nutrition, connected with an increased take of simple sugar. The frequent intake of low-molecular carbohydrates, increase for a long period the acidic proliferation of tooth plaque microorganisms, being one of the underlying etiological factors of caries development and premature tooth loss.*

**Keywords:** caries; sugars; eating habits

## 1. Introduction

Proper nutrition is necessary for the growth and development of children. The excessive intake of low-molecular carbohydrates is a serious health issue, which renders, unfavorable impact on the dental health [1, 2, 3]. The premature tooth loss is mainly due to the caries lesions and its complications [4]. The presence of fermentable carbohydrates changes the oral environment. Three main factors play a role in the dental caries process [5, 6, 7, 8]: the cariogenic potential of fermentable carbohydrates, the physical traits of fermentable carbohydrates, and the frequency of intake of, and exposure to, fermentable carbohydrates. When the organic acids reproduced by the bacteria in dental plaque on the tooth surface they readily diffuse in all directions and of course diffuse through the pores of enamel dentine and into the underlying tissue. As the acid diffuses into the tooth it finds acid soluble mineral and begins to dissolve it [9, 10, 11]. If this process progresses long enough, the end result is a cavity. This process in the mouth usually takes many months or years to progress to cavitation, the end-point of the disease process known as dental caries. If adequate measures are not taken caries is complicated in the pulpitis and periodontitis and sometimes leads to premature tooth extraction [12, 13, 14, 15].

**The aim** of this study is to assess the food habits of children with prematurely tooth loss compared to the healthy children.

## 2. Methods and Materials

The study covers 140 children between 6 and 9 years old. The control group consists of 50 children and the clinical group consists of 90 children with prematurely extracted teeth. The patients from the clinical group were divided into three groups of 30 patients.

- Patients that have lost one or more tooth extracted in the dental clinic, of that come to the clinic during the first 2 month after the extraction and have no orthodontic problems.
- Patients with premature temporary teeth extraction 6 or more month before they come to the dental office without severe orthodontic problems.
- Patients with premature temporary tooth extraction and have severe orthodontic problems (II and III class Angle).

The control group consists of 50 children with intact denture.

A special questionnaire was filled from the parents of the examined children about frequency of carbohydrate intake of their children

## 3. Results

The reported results reveal an increased intake of simple sugar in the third surveyed group compared to the control group. Only a few percentage of children from the first and control group have a proper food habits and take carbohydrates rarely as a dessert – 7, 1% and 14, 3% respectively. Most of the children eat simple sugar between meals-control group 55, 1%; group 1 – 57, 1%; group 2 – 70%; group 3 – 50%. Half of the children from the third group take carbohydrates often, anytime. Although not reaching the required level of statistical significance ( $P = 0.06$ ), the difference in the distribution of the groups on the answer to the question "How often child takes carbohydrate foods" tends to more frequent use of carbohydrate foods in the groups studied (Table 1).

**Table 1:** Distribution of children surveyed groups depending on the frequency of carbohydrate intake

Group	How often the child takes carbohydrate foods						Total	
	Rarely, as a dessert		Rarely, between meals		Often, anytime			
	Number	%	Number	%	Number	%	Number	%
Control group	7	14.3	27	55.1	15	30.6	49	100
Group 1	2	7.1	16	57.1	10	35.7	28	100
Group 2	0	0.0	21	70.0	9	30.0	30	100
Group 3	0	0.0	15	50.0	15	50.0	30	100
Statistical significance		$\chi^2=11.89$ , df=6, P=0.06						

## 4. Discussion

These results indicate poor eating habits of most of the children surveyed groups (with premature extracted deciduous teeth). Similar results have been reported in some other studies [5, 6, 8]. On the other hand, the lack of statistical significance, and the equivalent percentage of children in the control and the second study group, who consume carbohydrate often, proves the impact of other factors on premature extraction of primary teeth.

## 5. Conclusions

The both groups of children (with and without prematurely extracted teeth) have unbalanced nutrition, connected with an increased take of simple sugar. The frequent intake of low-molecular carbohydrates, increase for a long period the acidic proliferation of tooth plaque microorganisms, being one of the underlying etiological factors of caries development and premature tooth loss.

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