

THE IMPORTANCE OF THE OHI-S FOR CHILDREN WITH PREMATURE TOOTH LOSS

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ABSTRACT

In spite of all the methods of prevention, there still are untreated or improperly treated caries and it's followed by complications. This often leads to premature loss of teeth.

The premature loss of the deciduous teeth depends on different factors such as oral hygiene, traumas, complicated caries. The aim of this study is to compare the OHI-S between children with premature loss and those without premature loss of deciduous teeth. Subject of the monitoring of the clinical research were 140 children between ages 6 and 9. The clinical group consisted of 90 children with prematurely extracted teeth, divided into three groups. The control group consisted of 50 children with intact denture. The oral hygiene status was examined and registered by the Greene-Vermillion index-simplified. There was a statistically significant difference in the OHI-S between the control group (1.86 ± 0.05) and the clinical groups (1.90 ± 0.08 and 2.01 ± 0.05). The children with premature extraction of the primary teeth had higher OHI-S compared to the control group (children without premature extraction of teeth). The third group of children, with prematurely extracted temporary teeth and severe orthodontic deformation, have the highest OHI-S. These results demonstrate the connection between OHI, the orthodontic deformations and the need for prevention.

Keywords: *premature loss, caries, premature extraction, OHI-S, oral hygiene*

INTRODUCTION

In spite of all the methods of prevention, there are still untreated or improperly treated caries and it's followed by complications. This often leads to premature loss of teeth (1).

The premature loss of the deciduous teeth depends on different factors such as oral hygiene, traumas, complicated caries (5).

The carious lesion is a disease of the hard dental tissues with a wide prevalence among the young population (1). The premature extraction of the primary teeth is the way of treatment of complicated caries in many countries (3,4). It often leads to a lack of space for the permanent teeth. The poor oral hygiene is one of the main etiological factors for the occurrence of carious lesions, which are the main factor for premature tooth loss (10). There is a close relationship between the oral hygiene, caries activity and the premature tooth loss. According to the literature a significant part of the school children have carious lesions – about 60-90% - WHO, (2012). A lot of temporary teeth can be preserved from premature extraction if the oral hygiene is adequate.

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AIM

The aim of this article is to compare the OHI between children with premature extraction and those without such problems.

MATERIALS AND METHODS

The subject of monitoring of the clinical research were 140 school children. The clinical group consisted of 90 children with prematurely extracted teeth. The patients from the clinical group were divided into three groups of 30 patients. The control group consisted of 50 children with intact denture.

- ❖ Patients who have lost one or more tooth through extraction, who have come to the clinic during the first 2 month after the extraction and have no orthodontic problems.
- ❖ Patients with prematurely extracted temporary teeth, 6 or more months prior, with mild orthodontic problems.
- ❖ Patients with premature temporary tooth loss, 6 or more months prior, who had severe orth-

amed children are too young (6-9 years old) and have no calculus. Criteria for classifying the amount of plaque:

0 - No plaque or stain present.

1 - Plaque covering not more than one third of the tooth surface, or presence of extrinsic stains without other debris regardless of the surface area covered.

2 - Plaque covering more than one third, but not more than two thirds, of the exposed tooth surface.

3 - Plaque covering more than two thirds of the exposed tooth surface.

The index is calculated as an average sum of the estimates of the explored surfaces and their number.

The index is based on clinical observation of the stained teeth of patients with dental mirror, cotton pellets and suction (2,5).

RESULTS AND DISCUSSION

The differences in the OHI, between the control group and the clinical groups are presented in Table 1.

Table 1. Comparison of the OHI index, between the control group and the clinical group

groups	control (n=50)	Group 1 (n=30)	Group 2 (n=30)	Group 3 (n=30)	P
index	mean±SEM	mean±SEM	mean±SEM	mean±SEM	
OHI Greene Vermillion	1.86±0.05	1.78±0.06	1.90±0.08	2.01±0.05	0,01

odontic problems (II and III class Angle).

- ❖ The control group consisted of 50 children of the same age, who had no premature extraction.

The oral hygiene status is examined and registered according to the WHO by the Greene-Vermillion OHI-S. This index is one of the most often used in the epidemiology to estimate the distribution of plaque, by coloring the teeth. The OHI-S, like the OHI, has two components, the Plaque Index and the Calculus Index. Each of these indexes, in turn, is based on numerical determinations representing the amount of plaque or calculus found on the preselected tooth: the vestibular surfaces of the teeth (1,3,5,8) and the lingual surfaces of the teeth (4,6). We haven't used the Calculus Index in our study, because the ex-

There is a statistically significant difference in the OHI -S of the control group and the clinical groups as well as between the clinical groups.

The children of the control group (without prematurely extracted teeth) and the first clinical group have the lowest OHI - S 1.86±0.05 and 1.78±0.06, respectively. The results are shown in a graph by Box-plot diagram on Fig. 1.

On the Box-plot diagram the statistically significant differences between the OHI Green Vermillion of the controlled and the clinical groups are seen. There are some cases from the control group, the second and the third group with an extremely high OHI-S index of more than 2.5. The values of the OHI-S Green Vermillion of the control and the

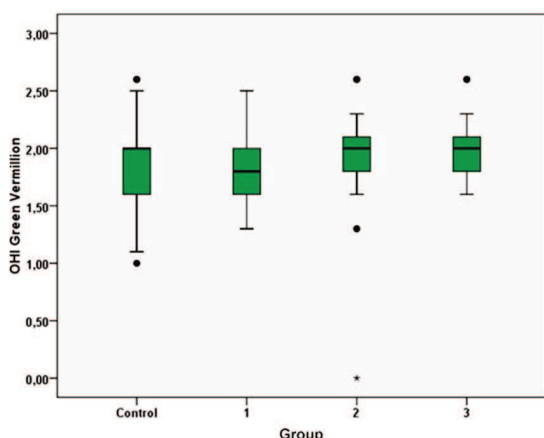


Fig. 1. Box-plot diagram for the OHI-S index in the control group and the clinical groups

clinical groups are relatively close. The third clinical group has the highest average values of the OHI-S index (2.01). It means that they have the worst oral hygiene. The explanation of this result is that the patients with malocclusions could hardly have proper oral hygiene, because of the many retentive for the plaque places on their teeth. The poor oral hygiene of these children could also be because of the pain, when they are brushing their teeth, as a result of their neglected oral health. The OHI-S index for the second group is 1.90. The children from the control and the first clinical groups have lower OHI-S of Greene Vermillion (1.86 and 1.78) than the other two groups, because of their better oral hygiene.

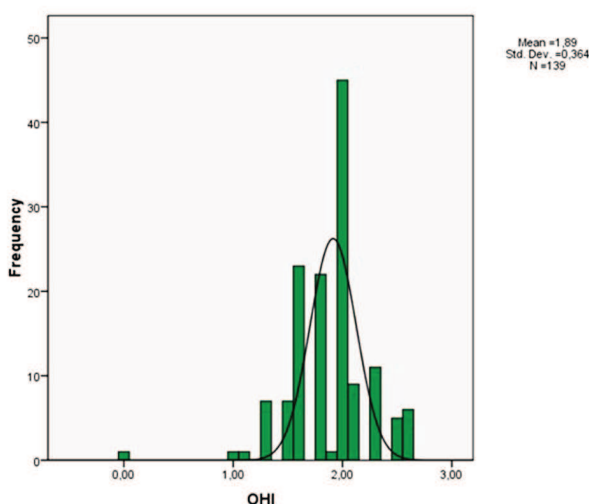


Fig. 2. Histogram of the OHI-S

This result confirms that the relationship between the oral hygiene, caries activity and the orthodontic deformation is in both directions. Children with orthodontic deformation have higher plaque retention and a higher risk of caries as a result. The caries complication also leads to premature tooth extraction which is one of the risk factors for the development of orthodontic deformation. Our results are confirmed by Ribagin and other authors (6,7,9,10). The results of the statistical analysis show the uneven distribution of the OHI-S index (Fig. 2).

There are children with very high and very low OHI-S indexes - under 1.00 and above 3.00, which differ significantly from the average values – about 2.00. That is why for the intergroup analyses we have used Kruskal Wallis's method.

CONCLUSION

The data from the oral hygiene status show that children with premature extraction of the temporary teeth have poor oral hygiene compared to control group (children without early loss of teeth). The children from the third group, with prematurely extracted temporary teeth and severe orthodontic deformation have the worst oral hygiene. This results demonstrate the connection between the oral hygiene, the malocclusions and the need of prophylaxis.

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