

**Ministry of Higher Education
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The effects of inhaled corticosteroids on oral condition among asthmatic children

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Abstract

Background

Inhaled corticosteroid (ICS) therapy is commonly used for treatment of allergic phenomenon such as asthma. Recently evidences show that there is an association between oral health problems and chronic lung disease.

Aims of the study

The present study was designed to assess the children height, *Candida albicans* (*C.albicans*) colonies count in relation to salivary IL-12 and its level among asthmatic children aged 12 years old; in addition to estimate the changes in arch dimension measurements among them and compare them with the non asthmatic children of the same age and gender.

Materials and methods

The total sample for height measurement and saliva assessment (which include *C. albicans* colonies count and IL-12 level assessment), was composed of 60 children (30 asthmatic who received medium dose of ICS [200-400microgram/day] for 2years and 30 non- asthmatic children) aged 12 years.

The height of children was measured by using stature-for-age index. The un stimulated saliva was collected from the total sample under standardized conditions and then analyzed for counting the colony-forming unit per milliliter (CFU/ ml) and for measuring salivary IL-12 level by special IL-12/p70 kit using ELISA machine .

The sub-sample of 50 children (25 asthmatic and 25 non- asthmatic children) was included for the odontometric measurement. For both upper and lower study models, photographs were taken using special photographic apparatus for each child, and the data were then analyzed using special computer software. For permanent dentition, two liner measurements were utilized for each dental arch including width and length.

Abstract

Results

The results of the current research revealed that the values of stature-for-age index were found to be located between the 5th and the 95th percentiles for asthmatic and non- asthmatic children and for both genders which represent normal growth.

Data analysis of this study showed that the percentage of *C.albicans* in carrier group of asthmatic children was higher than non-asthmatic children and the mean rank of the colonies count in carrier group and in whole sample was found significantly higher among asthmatic than non-asthmatic children. In addition, the mean rank of salivary IL-12 was found to be significantly higher among asthmatic than non- asthmatic children with statistically significant difference. Strong highly significant correlation between the IL-12 concentration and *C. albicans* quantities was found in this research.

Concerning dental arch dimensions, the mean values of dental arches width and length for both maxillary and mandibular dental arches among asthmatic children were lower as compared to non- asthmatic children in both genders.

Conclusion

The findings of the present study showed that ICS treatment in asthmatic children didn't show any effect on children height while it played an important role in elevation *candida* occurrence and salivary IL-12 level in addition to minimize odontometric measurement including dental arch dimensions.