Short Communication

A Comparative Study on Dental Caries Prevalence in Diabetic Children in Isfahan in the Summer of 2000

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ABSTRACT

Background: There is a relationship between dental caries and high blood sugar. This study was designed to investigate the prevalence of dental caries among diabetic children in Isfahan, Iran.

Methods: Diabetic children from pediatric ward of hospitals were compared to a control healthy group of children.

Results: The mean DMFT was significantly higher in diabetic children compared to the control group.

Conclusion: The result of this study confirms previous researches on prevalence of dental caries in children.

Keywords: Dental Caries, Diabetes Mellitus, Pediatrics

Laboratory tests on animals have shown a relationship between dental caries and high blood sugar[1]. Diabetic patients are susceptible to periodontal diseases and recurrent intraoral abscesses[2]. Xerostomia and enamel hypocalcification and hypoplasia are other problems in such patients[3, 4]. These factors make these patients susceptible to dental caries. There is no exact study in Iran which compares the prevalence of dental caries in normal and diabetic children. The aim of this study was to determine the prevalence of dental caries in type I diabetic patients and to make a comparison with normal children.

Materials and Methods

This study was performed in summer 2000. Children with no systemic disease (6-12 years old, boys and girls) were chosen via cluster method from primary and junior high schools of Isfahan. Also, the diabetic children were selected with this method from pediatric wards of hospitals in Isfahan. The number of specimens in each group was 151. The information was obtained through a questionnaire and a checklist. The Student t test was used to analyze the collected data. A P value < 0.05 was considered as statistically significant.

Results

The mean DMFT for the diabetic group was 4.97 ± 2.76 and 3.91 ± 2.38 for the control group ($P < 0.001$). The mean D was 3.63 ± 2.27 for the diabetic group and 2.76 ± 2.08 for the control group ($P < 0.001$). The mean M was 0.69 ± 1.01 for the diabetic group and 0.38 ± 0.81 for the control group ($P < 0.01$). After all, the mean F was 0.65 ± 1.41 for the diabetic group and 0.77 ± 1.46 for the control group ($P = 0.23$). The differences in mean DMFT, D and M were statistically significant, but the differences in mean F showed no significance (table 1). The Pearson correlation analysis showed that there is a significant negative relationship between the beginning age of the disease and DMFT ($r = -0.44$, $P < 0.001$). The results also showed the longer the duration of the disease was, the greater will be the DMFT ($r = 0.27$, $P < 0.001$).

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Table 1. Comparison of DMFT, D, M and F between diabetic and control groups. Data are mean ± SD.

Group	DMFT	D	M	F
Diabetic	4.97 ± 2.76	3.36 ± 2.27	0.69 ± 1.01	0.65 ± 1.41
Control	3.91 ± 2.38	2.76 ± 2.08	0.38 ± 0.81	0.77 ± 1.46
P Value	< 0.001	< 0.001	< 0.01	0.23

Discussion

These results confirm the previous studies on prevalence of dental caries in diabetic children. Other studies showed that xerostomia, deficiency of saliva, increase of calcium and glucose in saliva and pH changes in diabetics cause predispose them to the development of dental caries[4, 5]. The high prevalence of dental caries in these patients shows the importance of paying special attention to oral hygiene and treatment of caries.

References:

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