ABSTRACT

Aim: The aim of this cross-sectional study was to compare the prevalence of apical periodontitis and endodontic treatment between patients with type 2 diabetes and those without diabetes.

Materials and Methods: 40 diabetics and 80 non diabetics (age and sex matched), with ages ranging from 40 to 65 years, who were attending the oral medicine department for routine dental care, were included in the study. All the subjects in both the groups, underwent a digital panoramic radiograph of the jaws to evaluate the periapical and endodontic status. Grossly decayed teeth were considered as absent, patients with total number of teeth less than 14 were excluded and the third molars were also excluded. Periapical index (PAI) score was used to assess the periapical status. A score greater than 2 (PAI ≥3) was considered to be a sign of periapical pathology. Four observers who were blinded, assessed the radiographs independently and the true mean score was calculated. The prevalence of apical periodontitis in root canal treated and untreated teeth, between both the groups were compared and tabulated. Glycated hemoglobin (HbA1c) levels were measured in diabetics to assess their glycemic control. An attempt was made to find out if the level of glycemic control had any effect on the prevalence of apical periodontitis. Random blood sugar (RBS) levels were measured for the non diabetic group, to pick up undiagnosed type 2 diabetes mellitus. Data were statistically analyzed to evaluate the significance in the differences between both the groups. Wilcoxon signed rank test and Mc Nemar tests were used when the individual was the unit of analysis, whereas the chi – square test with Yates correction was used when the tooth was the unit of analysis. A p value < 0.05 was considered as significant.
**Results:** There was a higher prevalence of apical periodontitis in patients with type 2 diabetes mellitus. Diabetics also had a higher prevalence of apical periodontitis in the root canal treated teeth. Diabetics with good glycemic control had a lesser incidence of acquiring apical periodontitis.

**Conclusion:** Within the limitations of the study, it can be concluded that apical periodontitis was significantly more prevalent in teeth from type 2 diabetic individuals. Diabetics also have a higher chance of apical periodontitis in root canal treated teeth. Diabetics with good glycemic control have a lower risk of acquiring apical periodontitis.

**Key Words:** Type 2 Diabetes Mellitus, Apical Periodontitis, Periapical Index score, Glycated hemoglobin (HbA1C)