



## Is HbA1c an Accurate Predictor for Diabetes Risk in Patients with Chronic Periodontitis?

**Somayeh ANSARI MOGHADAM<sup>1</sup>, \*Sara ABBASI<sup>1</sup>, Esmail SANEI MOGHADDAM<sup>2</sup>,  
Alireza ANSARI- MOGHADDAM<sup>3</sup>**

1. Dental Research Center, Zahedan University of Medical Sciences, Zahedan, Iran

2. High Institute for Education and Research in Transfusion Medicine, Zahedan, Iran

3. Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran

\*Corresponding Author: Tel: +98-541-2414003, Email: Abbasi.sara87@yahoo.com

(Received 21 June 2014; accepted 11 July 2014)

### Dear Editor in Chief

Many studies consider periodontitis as the risk factor for diabetes (1,2) and hyperlipidemia(3). Glycosylated hemoglobin (HbA1c) point out the mean plasma glucose over the past 120 days (3), and in some studies is considered as a more valid assay than other as says in field of assessing plasma glucose levels in diabetic patients (4). In this study, first, the relationship between chronic periodontitis and HbA1c in non-diabetic individuals was evaluated; then the HbA1c and triglycerides (TG) were correlated. This case-control study was conducted on 121 non-diabetics aged 20-50 yr, in Zahedan, southern Iran. Sixty persons were healthy regarding the periodontal status and 61 were affected with severe chronic periodontitis who were assessed in terms of HbA1c, TG, BMI (Body Mass Index) and Extent of periodontal diseases.

Overall, the HbA1c average in the healthy controls was significantly higher than the affected subjects ( $P = 0.002$ ). After controlling the confounding factor (BMI), in participants with BMI < 25, no significant correlation between groups in HbA1c level was observed. In persons with BMI  $\geq 25$ , the HbA1c average in healthy controls was significantly higher than those affected with severe chronic periodontitis ( $P < 0.001$ ). The relationship between HbA1c and extent of periodontal disease was not significant, but there was a significant correlation

between extent of periodontal disease and TG levels ( $P = 0.27$ ). There was neither significant relationship between HbA1c and TG levels neither in healthy controls nor in those affected with severe chronic periodontitis.

It seems that HbA1c is not a reliable marker for the diagnosis of diabetes risk in non-diabetic patients with chronic periodontitis. To achieve a more precise gold standard, different assays in respect of diabetes diagnosis must be enquired in further studies.

### Acknowledgments

The authors declare that there is no conflict of interests.

### Reference

1. Michael GN (2011). *Carranza's clinical periodontology*. 11<sup>th</sup> ed. California. Elsevier Health Sciences.
2. Soslone WA, Klinger A (2001). The relationship between periodontal diseases and diabetes: an overview. *Ann Periodontol*, 6(1):91-98.
3. Cutler CW, Shinedling EA, Nunn M, et al. (1999). Association between periodontitis and hyperlipidemia. *J Periodontol*, 70(12):1429-1434.
4. James WL (2007). *Dental Management of the Medically Compromised Patient-Pageburst on VitalSource*, 7<sup>th</sup> ed. California. Elsevier Health Sciences.