

**REGULATION OF HbA1c OF UNCONTROLLED  
DIABETIC OBESE AND NORMAL WEIGHT PATIENTS  
BY SELF-PERFORMED ORAL HYGIENE CONTROL  
(COMPARATIVE STUDY)**

A thesis  
submitted to the council of the College of Dentistry at the University of  
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# *Abstract*

## **Background:**

The association between periodontal diseases incidence and development and the metabolic diseases as Diabetes Mellitus and Obesity recently have attracted great deal of researchers' attention and investigation. A complex bidirectional association between each of them in a manner makes it difficult to discover which the cause is and which the effect is. The periodontal health proved to reduce the systemic inflammatory reactions and positively improve the glyceimic control of diabetes Type2 patients.

**Aim of the study:** To investigate the influence of oral hygiene control on the glyceimic control of obese and normal weight moderately controlled Diabetic Type2 patients (comparative study). In addition to study the association of obesity with the gingival inflammation.

**Materials and Methods:** A comparative, Cross sectional study of three months duration .Included 30 uncontrolled diabetic type2 patients who attended the Specialized Center for Endocrinology and Diabetes - Baghdad Al-Russafa administration / Iraqi Ministry of Health, were grouped into two groups, G1 of normal weight diabetics, and G2 obese moderately controlled diabetics according to their BMI level, the Periodontal status measured by their PLI ,GI ,BOP ,PDI ,and CAL was conducted at each of the five visits of three weeks interval between each till the end of three months duration of the study and the level of their glyceimic control measured by HbA1c level was conducted at the first and the fifth visit of the research duration , BMI was measured at the first and the fifth visit also. Each participant was instructed for the proper self-performed Oral Hygiene Measures in addition to the professional scaling performed at the first visit and repeated whenever needed. Paired t-test, ANOVA, and Pearson correlation statistical analysis were used to investigate the significance of the improved glyceimic control after oral hygiene control (OHC) of both G1 and G2 and Chi-square test used to investigate the association of obesity with the presence or absence of bleeding on propping in obese diabetic Type2 patients.

**Results:** The periodontal parameters of both G1 and G2 were high significantly improved after OHC with a highly significant reduction in HbA1c level of both normal weight and obese patients. Also, obesity showed an association with the presence of Bleeding on propping of obese diabetic Type2 patients.

**Conclusion:**

1. The Oral Hygiene Control (OHC) is sufficient to improve reduction in Diabetes control level with or without overweight.
2. OHC home care and professional measures could improve the gain in periodontal health in normal weight diabetics and overweight diabetics.
3. Obesity has an association with the presence of bleeding on probing as an indicator of the gingival inflammation in diabetic Type2 patients.