

Oral health conditions and medical complications of type 2 diabetics

[R.C.Y. LEE](#)¹, S.C. SIU², W.K. LEUNG¹, F.C.S. CHU¹, and C.K.W. WONG², ¹University of Hong Kong, Hong Kong SAR, China, ²Tung Wah Eastern Hospital, Hong Kong SAR, Hong Kong

Objectives: To study the oral health conditions of type 2 diabetes and to evaluate the associations between tooth and gum conditions with diabetic control and complication history of a cohort of subjects surveyed. Methods: A cross-sectional oral health survey was conducted using a sample of 525 individuals aged ≥ 41 years old, including 364 individuals with type 2 diabetes attending out-patient clinic of a regional hospital. Random plasma glucose test, glycosylated haemoglobin (HbA1c) and diabetic medical complications, if any, were recorded. The 161 age- and sex-matched control individuals did not suffer from diabetes and any one of the diabetic medical complications except essential hypertension. Results: The subjects surveyed were of predominantly low socioeconomic class (79% subjects < US \$7,700 family income p.a.). 121 (33%) of the diabetic subjects were new cases and 73 (20%) failed the subsequent medical follow-up. Both groups were of poor oral health; > 45% or 100% of subjects needed treatment for caries or periodontal disease respectively. Diabetic subjects appeared to suffer from more edentulism (13% vs 3%, $p=0.0002$), and missing teeth while dental decay as % carious teeth was similar. 241 (83%) of the 291 successfully follow-up diabetic individuals had at least one medical complication. Multiple linear regression analysis showed periodontitis (highest CPI score) was significantly associated with diabetic nephropathy ($p<0.003$, $r^2=0.29$). Conclusions: Dental caries and periodontal treatment need of the surveyed predominantly low socioeconomic class subjects were high. The type 2 diabetes subjects appeared to be affected more by missing teeth and periodontitis while the periodontal disease severity appeared to be associated with co-existence of diabetic nephropathy. Further investigations are required to elucidate the association of diabetic nephropathy with the diabetic oral complication.

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