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Perspective

Oro-Dental Health and Type 2 DiabeteMellitus.

Salud Oro-Dental y Diabetes Tipo 2 Mellitus.

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According to the *World Health Organization* (WHO), diabetes mellitus (DM) remains a public health issue, with an estimated 165 million people living with diabetes in 2000, over 240 million diabetics in 2010, and projected to increase to ~300 million in 2025. Of the 165 million people with diabetes, about 19 million were in Latin America and the Caribbean. DM, whether due to defects in insulin synthesis and secretion, insulin action, or both (absolute or relative insulin insufficiency), is a common non-communicable disease, with irreversible complications to organs vital to the overall general well-being and survival of patients. Indeed, DM involves several metabolic disorders characterized by chronic hyperglycemia, and is a leading cause of disability and death world-wide.

Unfortunately, despite modern advances, the incidence and prevalence of DM continue to increase with an alarming 50%–70% of diabetics undiagnosed both in developed and developing countries. Type 2 DM, the chronic non-insulin dependent type, is a more common disease that Type 1 DM, which is auto-immune in origin, appearing mainly during childhood. Type 2 DM is often associated with obesity leading to hypoglycemia and exhibits deficient insulin secretion, cell resistance to insulin action (and/or ketoacidosis) or high glucose levels in the blood. From an oro-dental perspective, diabetic patients tend to suffer poor oral hygiene, xerostomia, halitosis, burning sensations, infections such as candidiasis, canker sores, herpes, recurrent abscesses and ulcers, and extensive tooth decay/dental caries; other issues include post-surgical bleeding and poor healing response such as post-extraction alveolar osteitis, for example, as well as asymptomatic salivary gland enlargement, and, doubtlessly, progressive gingival and periodontal disease.

In August of 2017, the *World Dental Federation* or FDI (*Fédération Dentaire Internationale*) hosted the World Oral Health Forum during the World Dental Congress in Madrid, Spain where the GPHP (Global Periodontal Health Project) was launched and promoted, to prioritize periodontal health world-wide and help reduce and prevent periodontal disease. Recently, the systemic effects of periodontitis treatment evaluating routine control versus intensive regimens in Type 2 diabetic patients were published in The Lancet[1] suggesting that routine oro-dental health assessment or check-ups, alongside

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the proper treatment of periodontitis, may contribute to the effective management of Type 2 DM. This 12 month, single-centre, parallel-group, investigator-masked, randomized clinical British study1 trial involving 264 patients emphasized and illustrated the two-way relationship between DM and periodontal disease. Basically, diabetics have an increased risk of developing periodontal disease, and intensive treatment of moderate-to-severe periodontitis often improves blood glucose levels as assessed by the levels of glycated hemoglobin in blood (HbA1c test). The protocol for intensive periodontal treatment included whole-mouth sub-gingival scaling and surgical periodontal therapy in addition to supportive periodontal therapy every 3 months, while the control group in the study received supra-gingival scaling and polishing at the same time-points as the treatment group. After 12 months, Type-II diabetic patients randomized to intensive periodontal treatment showed a significant reduction in the levels of HbA1c. Thereby, the benefit of addressing oro-dental conditions and diseases, via an effective national strategy to raise awareness, promote the importance of oro-dental health and prevent disease onset and progression is highlighted, and such strategy can perhaps contribute to preventing, or at least controlling or minimizing the complications and sequelae arising from the leading non-communicable disease that is DM in Chile.

This is particularly pertinent considering the WHO and the Pan-American Health Organization (PAHO) reports that Latin America and the Caribbean are projected to have the highest percentages of DM in the world, thought to eventually reach about 40 million diabetics by 2025, 62% of the predicted 64 Million South American diabetics. To accentuate the importance of this issue, this essay was warranted and therefore written given the scarcity of DM-dental data in Chile.

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