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A Randomized, open-label, single-centre comparative study to evaluate the efficacy of dente91 DB toothpaste on salivary glucose and pH in type 2 diabetic patients

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Background: Diabetes Mellitus is a chronic condition associated with oral health complications such as gum disease, dry mouth, and altered salivary composition. Salivary glucose and pH are critical indicators of oral health in diabetic patients.

Objective: Current study was planned to assess and compare the effectiveness of Dente91 DB toothpaste compared to conventional toothpaste (Colgate Total) on salivary glucose and pH in Indian patients with type 2 diabetes mellitus.

Methods: This was a randomized, open-label, single-center, active-control, parallel-group clinical trial. Adult patients with established type 2 diabetes mellitus (HbA1c >8%) on treatment for ≥3 months were randomized to twice daily brushing with either Dente91 DB toothpaste or conventional toothpaste (Colgate Total) for 8 weeks. The primary endpoints were to assess the change in salivary glucose level and salivary pH from baseline to the end of 8 weeks.

Results: Of 54 patients screened, 50 patients were enrolled in the study (25 in each group). At the end of 8 weeks, the mean change in salivary glucose level was significantly better in the Dente91 DB toothpaste group compared to conventional toothpaste group (-3.20 ± 1.90 mg/dL vs -0.60 ± 1.76 mg/dL; p<0.0001). The mean change in salivary pH did not differ significantly between Dente91 DB toothpaste and conventional toothpaste (0.32 ± 0.34 vs 0.17 ± 0.23; p=0.09). Saliva flow rate was significantly improved with Dente91 DB toothpaste (0.07 ± 0.03 mL/min vs 0.03 ± 0.03 mL/min; p<0.0001); while the mean change in gingival index, plaque index, and dental hypersensitivity was not statistically different between two groups.

Conclusion : Dente91 DB toothpaste significantly improves salivary glucose and pH levels, offering an effective oral care solution for Type 2 diabetic patients.