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Glycemic control in type-2 diabetes mellitus patients through non-surgical periodontal therapy – A randomized controlled trial

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Statement of the Problem: Researchers have suggested that treating periodontitis may improve glycemic control of patients suffering from uncontrolled diabetes mellitus. Therefore, this trial was conducted to investigate the effects of non-surgical periodontal therapy (NSPT) on glycemic control in type-2 diabetes mellitus (T2DM) patients suffering from moderate to severe periodontitis.

Methodology & Theoretical Orientation: A single blind, parallel group, three-arm randomized controlled trial was conducted on 150 participants (50 in each group). The interventions included scaling and root planing (SRP) along with metronidazole (MET) 400 mg x 3 for 10 days and oral hygiene instructions (OHI) in test group-1 included. Test group-2 with SRP and OHI, control group only OHI. Diagnosed patients of T2DM, aged between 35-65 years, with moderate to severe periodontitis having baseline HbA1c level between 6.5% -14% were recruited in the trial. Participants were followed up at 1-month, 3-months and 6-months interval. Stata software version 14.0 was used for analysis. Post intervention changes in periodontal [bleeding on probing (BOP), pocket probing depth (PPD), clinical attachment loss (CAL)] and glycemic measures [fasting blood glucose (FBG), fasting serum insulin (FSI) and Homeostasis Model Assessment of Insulin Resistance (HOMA-IR)] were assessed.

Findings: Crude result showed a reduction of HbA1c level by 1.22% [95% CI=-1.95,-0.50] and 0.98% [95% CI=-1.69,-0.26] in test group-1 and test group-2 respectively at 3-months with reference to control group. These levels were further reduced by 2.18% [95% CI=-3.06%,-1.31] and 1.84% [95%CI=-2.69,-0.98] in both test groups respectively at 6 months.

Conclusion & Significance: This trial has revealed that NSPT improves not only the periodontal status but also helps control glycemic levels in patients suffering from T2DM. This finding may help to formulate an evidence based policy to gain a sustained glycemic control in T2DM patients by controlling periodontitis.

Biography

Qureshi has her expertise in evaluation of oral health in connection with systemic conditions with an aim in improving the health and wellbeing of individuals and communities. Her focus is more on prevention rather than invasive treatments and creates new pathways for improving healthcare through prevention and primary oral health care. She has built this model after years of experience in research, evaluation, teaching and administration both in public sector hospitals and education institutions. Her approach is responsive to all stakeholders including communities, health care workers, students and patients in private and public settings.

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