

DATA ABSTRACTION OF PRIORITIZED SYSTEMATIC REVIEWS

Author Year	Search details Study eligibility criteria	Numbers and designs of included studies applicable to present review; sample sizes	Patient characteristics from included studies applicable to present review	Intervention characteristics from included studies applicable to present review	Overall Results
Ata-Ali 2020 ¹⁸	<p>PubMed MEDLINE, Cochrane Library, Scopus and LILACS database. Database inception - Sep 2019</p> <p>P: Pts with T2 diabetes I: Nonsurgical periodontal therapy C: No periodontal therapy O: HbA1c and/or fasting blood glucose T: 3+ months S: SRs: had to perform a meta-analysis; Primary studies: had to be RCTs</p>	11 meta-analyses of 27 primary studies	N=1,341 pts with T2 diabetes in 11 RCTs from author's meta-analysis	Non-surgical periodontal therapy (<i>ie</i> , scaling and root planing with adjunctive treatments such as antibiotics or oral hygiene)	<p>HbA1c: Eight meta-analyses found significant improvement in HbA1c and 2 found non-significant improvement in HbA1c. From meta-analysis of 11 RCTs conducted by review authors: periodontal treatment was associated with significant improvements in HbA1c compared to controls (Mean difference: -.32% [.5, -.15]).</p> <p>FBG: 1 meta-analysis found significant improvement in FBG compared to controls and 2 found a non-significant improvement. From meta-analysis of 6 RCTs conducted by review authors: periodontal treatment associated with significant improvements in FBG compared to controls (Mean difference: -11.59 [-15.2, -8.0]).</p>
Baeza 2020 ¹⁹	<p>PubMed MEDLINE, CENTRAL Database inception - Jul 2018</p> <p>P: Pts with T2 diabetes and periodontitis I: Periodontal treatment (oral hygiene instruction and SRP with or without flap surgery) C: No periodontal therapy O: HbA1c, C-reactive protein (CRP), adverse</p>	9 RCTs	N=623 pts with T2 diabetes and periodontitis	8 RCTs looked at conventional periodontal treatment with nonsurgical SRP, one RCT included surgical debridement at 3 months	<p>HbA1c: Meta-analysis indicated a significant reduction in %HbA1c from the beginning to the end of the follow-up in the intervention group [differences in means (DM)=0.56, 95% CI (0.36-0.75), p<0.00001].</p> <p>CRP: the meta-analysis indicated a significant reduction from the start to the end of follow-up in favor of the intervention group [DM=1.89, 95% CI (1.70-2.08), p<0.00001].</p> <p>Adverse events: None of the included studies reported the occurrence of adverse effects or complications related to periodontal treatment.</p>

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	events T: 3+ months S: RCTs				
Garde 2019 ²⁰	PubMed, MEDLINE via Ovid, EMBASE via Ovid, Web of Science. Up to May 2019 P: Pts with T2 diabetes I: Anti-inflammatory surgical or non-surgical periodontal treatment C: no periodontal treatment or only supragingival scaling and polishing O: Lipid profiles T: NR S: Excluded cross-sectional studies, retrospective studies, and studies that didn't include pre-post data	7 studies	N= 707 pts with T2 diabetes	6 studies looked at non-surgical periodontal treatment, 1 looked at surgical + non-surgical periodontal treatment	Total cholesterol: Based on 4 studies of 235 ppts, periodontal therapy was associated with significant improvements in total cholesterol levels (mean difference $-.47$ mmol/L [$-.75$ to $-.18$ mmol/L], $p=.001$) compared to control group at 3 months. No differences between groups at 6 months based on 3 studies. Triglycerides: Based on 4 studies of 330 ppts, periodontal therapy was associated with significant improvements in triglycerides (mean difference $-.2$ mmol/L [$-.24$ to $-.16$ mmol/L], $p=.00001$) compared to control group at 3 months. No differences between groups at 6 months based on 3 studies. LDL: Based on 4 studies of 330 ppts, there was difference between intervention and control groups in terms of LDL at 3 months. No differences between groups at 6 months based on 3 studies. HDL: Based on 5 studies of 392 ppts, control groups were associated with significant improvements in HDL compared to periodontal therapy (mean difference $.06$ mmol/L [$.03$ to $.08$ mmol/L], $p=.00001$) at 3 months. No differences between groups at 6 months based on 3 studies.
Lima 2019 ²¹	PubMed, Web of Science, Scopus, MEDLINE Ovid, Lilacs. Up to Feb 2018	15 studies	N= 622 pts with T2 diabetes	15 studies looked at periodontal therapy	IL-6: Seven studies demonstrated periodontal therapy contributes to the reduction of serum IL-6, while 9 studies did not find any impact of periodontal intervention on IL-6.

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Liu 2019 ²²	<p>P: Pts with T2 diabetes I: Periodontal treatment C: No periodontal treatment O: Serum IL-6 levels T: NR S: Excluded cross-sectional and case-control studies</p> <p>Cochrane Oral Health's Trial Register, CENTRAL, MEDLINE Ovid, Embase Ovid, CINAHL EBSCO, OpenGrey, CBM, CNKI, and VIP, plus the US National Institutes of Health Trials Register and the WHO Clinical Trials Registry Platform and Sciencepaper Online. Up to Sep 2019</p> <p>P: Pts with chronic periodontitis with or without CVD I: Periodontal therapy subgingival scaling and root planing, with or without systemic antibiotic or host modulation and other active remedies C: Maintenance therapy or no periodontal treatment, with or without same active remedies as</p>	1 RCT of pts with CVD (secondary prevention)	N=303 ppts with ≥50% blockage of one coronary artery or have had a coronary event within the preceding 3 years	Oral hygiene instruction + full mouth scaling and root planing	<p>All-cause and CVD-related death: NR</p> <p>All cardiovascular events, blood test results, adverse events: No useable data due to large loss to follow-up.</p>



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	<p>intervention group O: All-cause and CVD-related death; all cardiovascular events (angina, myocardial infarction, stroke); modifiable CVD risk factors; blood test results; heart function parameters; revascularisation procedures; adverse events T: 1+ years S: RCTs</p>				
D'Autio 2017 ²³	<p>Cochrane, PubMed, OVID Embase, OVID MEDLINE, and OVID PsycInfo. 2005 to 2015</p> <p>P: NR I: NR C: NR O: Link between diabetes and oral health T: NR S: SRs and meta-analyses</p>	<p>8 SRs on periodontal therapy & glycemic control. 2 SRs on periodontal therapy & systemic inflammation.</p>	<p>Patients with type 1 or type 2 diabetes (N=NR)</p>	<p>Periodontal therapy involving scaling and root planing</p>	<p>HbA1c: One high-quality systematic review provides evidence that in patients with type 2 diabetes, intensive periodontal therapy involving scaling and root planing reduced HbA1c by 0.29% [3-4 mmol/l] for up to 3 months; however, after 6 months there was no evidence that this reduction was sustained. Modest improvements in glycemic control, as demonstrated by a reduction in Hb1Ac, are supported by 7 other moderate quality systematic reviews, while 1 was equivocal.</p> <p>Systematic inflammation: One high-quality review suggests that periodontal treatment reduced markers of systemic inflammation in patients with diabetes: serum levels of TNF- α and CRP. Another review found no significant improvements in lipid fractions (total cholesterol, triglycerides and high and low density lipoprotein cholesterol) in patients with diabetes and chronic periodontitis who received scaling and</p>

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Simpson 2015 ²⁴	<p>Cochrane Oral Health Group Trials Registry, CENTRAL, Ovid MEDLINE, Ovid Embase, CINAHL, LILACS, ISI Web of Knowledge, ZETOC. Database inception to Dec 2014</p> <p>P: People 16+ years with T1 or T2 diabetes and periodontitis I: Periodontal treatments that could include oral hygiene instruction or education C: No treatment, usual care, or placebo O: HbA1c, periodontal attachment level, gingival indices, plaque indices, adverse events, quality of life, cost, diabetic complications T: S: RCTs</p>	35 RCTs	N=2,565 ppts, most of which had T2 diabetes (2 studies among those with T1 diabetes were included)	Non-surgical periodontal therapy	<p>root planing.</p> <p>HbA1c: Overall, there was a benefit of periodontal therapy compared to no treatment at 3-4 months with a mean percentage reduction in HbA1c of -0.29 (95% confidence interval (CI) - 0.48 to -0.10; effect P = 0.003). However, at 6 months there was no benefit for periodontal therapy with mean percentage reduction in HbA1c of -0.02 (95% CI -0.20 to 0.16; effect P = 0.84).</p> <p>Adverse events: Twenty-two studies did not report on adverse events. 8 studies reported no adverse events occurred. One study reported adverse events occurred from use of doxycycline. Three studies reported no major adverse occurred. Three studies reported minor adverse events due to treatment in both groups such as diarrhea, headaches, pain, nausea/vomiting, taste change, tooth stain, mouth irritation, swelling, & breathlessness.</p> <p>Quality of life, cost, diabetic complications: No studies reported data on any of these outcomes.</p>
D'Isidoro 2019 ²⁵	<p>PubMed, Google Scholar & Scopus. Up to Dec 2018</p> <p>P: Participants of any age, healthy or affected by CVD I: Periodontal treatment</p>	3 controlled clinical trials examined periodontal treatment exclusively people with periodontal disease + CVD	N=131 people with periodontal disease and CVD (chronic heart disease, refractory hypertension, hyperlipidemia)	Scaling & root planing with or without oral hygiene, non-surgical periodontal treatment	<p>Chronic heart disease/scaling & root planing/TNF-α, IL-6 and CRP: A decrease in analyzed markers (TNF-α, IL-6 and CRP) was observed in the test group that received scaling & root planing, and oral hygiene.</p> <p>Refractory hypertension/non-surgical</p>

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	<p>C: NR O: Plasma levels of surrogate markers, improvement of periodontal parameters, reduction in mm of carotid intima media thickness (CIMT), possible role of periodontal pathogens. T: NR S: Controlled clinical trials</p>				<p>periodontal treatment/variety of biomarkers: CRP, IL-6, and fibrinogen were significantly reduced 6 months after periodontal treatment, as well as other cardiovascular risk markers like left ventricular mass (LVM), arterial stiffness, systolic and diastolic blood pressure</p> <p>Hyperlipidemia/scaling & root planing with or without oral hygiene instructions/LDL and CRP: Non-surgical periodontal therapy improved periodontal health and decreased LDL and CRP levels in hyperlipidemic patients with chronic periodontitis.</p>