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CENTRO DENTAL INTEGRAL

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Medicina de Familia

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Dr. Francisco Torres Lear

La trayectoria del Dr. Torres Lear es la historia de un descubrimiento vocacional inesperado. Aunque se licenció en Medicina con la firme intención de ser cardiólogo, el destino intervino mientras preparaba el MIR: aprobó el acceso a Odontología y lo que comenzó como un paso intermedio se transformó en su verdadera pasión. En la estomatología descubrió un "trabajo artesano de la salud" que le cautivó por completo, haciéndole comprender que había nacido para esta profesión.

Su enfoque va más allá de lo clínico; su mayor satisfacción reside en mejorar la autoestima, el bienestar y la calidad de vida de sus pacientes. Defensor acérrimo de la prevención y la higiene diaria, el Dr. Torres lidera el Centro Dental Torres bajo una premisa clara: para conseguir la felicidad del paciente, primero hay que cuidar a las personas que trabajan en la clínica, dotándolas de los mejores medios en una organización sólida y humana.

Titulación
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Publicaciones y actividad investigadora
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Referencias científicas

Referencias científicas

Afrashtehfar KI, Assery NM, Alblooshi KAK, Schmidlin PR. Maintaining periodontally compromised teeth seems more cost-effective than replacing them with dental implants. Evid Based Dent. 2024 Sep;25(3):129-130. doi: 10.1038/s41432-024-01050-2. Epub 2024 Aug 19. PMID: 39160283; PMCID: PMC11436354.
https://pubmed.ncbi.nlm.nih.gov/39160283/

ABSTRACT

Design: A systematic appraisal without statistical aggregation.

Data sources: The researchers utilized Ovid (Medline), Embase, Web of Science, and CINAHL databases. They performed a comprehensive literature search, which concluded in July 2023. References of selected studies and systematic reviews were examined for additional relevant articles.

Study selection: The review included studies (randomized controlled trials [RCTs], systematic reviews [SRs], narrative reviews, retrospective studies, cross-sectional studies, case series, case reports) discussing the cost-effectiveness of preserving teeth versus replacing them with implants in patients with severe periodontal disease. Non-English publications, letters, conference abstracts, and brief reports were excluded.

Data extraction and synthesis: Two reviewers independently screened titles and abstracts using a systematic review screening tool, resolving conflicts with a third reviewer. The extracted data included study design, patient demographics, treatment details, economic models, costs, and clinical implications. Quality was assessed using Joanna Briggs Institute (JBI) critical appraisal tools, with scores converted to percentages.

Results: A total of 633 studies were identified for periodontal treatment, with 9 included after screening, while 114 studies were identified for dental implants, of which 3 were included after screening. The included studies were published between 2008 and 2018, predominantly from Germany, and mainly comprised retrospective designs, along with some prospective and model-based analyses. Follow-up periods ranged from 36 months to 33 years. Treatment costs were found to increase with disease severity, with surgical treatments being more expensive than nonsurgical ones, and supportive periodontal treatment (SPT) representing the highest cost share in periodontal treatment. Maintaining implants proved more costly than maintaining teeth, especially in cases of peri-implantitis. For chronic periodontitis, total treatment costs per tooth were €222 ± €98 over 18.7 years, and for aggressive periodontitis, €267 ± €148 over 16.9 years. Regular SPT cost €806 per tooth per year over 28.7 years, with significant cost variations across studies. A 2013 study found that maintaining implants was five times costlier than maintaining teeth, particularly if peri-implantitis developed. A 2018 study indicated that implant-supported crowns (ISCs) were the most expensive therapy. Only one study directly compared costs within the same patient, finding periodontal treatment to be more cost-effective than implants. Costs also increased with irregular SPT, aggressive periodontitis, and specialist treatments compared to regular SPT, chronic periodontitis, and treatments by general denvhigh quality, with methodological issues including unclear strategies for handling confounding factors and incomplete follow-up.

Conclusions: Implants are effective for replacing missing teeth but are associated with higher long-term costs and complications. Maintaining periodontally compromised teeth is generally more cost-effective, therefore, maintenance costs and potential complications should be carefully considered in treatment planning. There is a need for studies comparing the long-term cost-effectiveness of saving teeth compared to replacing them with implants, considering several variables for informed clinical decision-making.

Al Shammary NH. Exploring the impact of oral health on the quality of life in older patients: a cross-sectional study. BDJ Open. 2024 Jul 21;10(1):60. doi: 10.1038/s41405-024-00244-1. PMID: 39034313; PMCID: PMC11271468.
https://pubmed.ncbi.nlm.nih.gov/39034313/

ABSTRACT

Objective: To investigate the significant impact of oral health on the quality of life of older individuals in Riyadh, Saudi Arabia, across various socioeconomic and demographic contexts.

Methods: A cross- sectional study was conducted, involving the distribution of a translated online questionnaire based on the OHQoL-UK® tool to evaluate oral health-related quality of life OHRQoL. This included utilizing the Oral Health Quality of Life Scale to assess overall quality of life.

Results: A total of 586 participants were involved in the study, with the majority being over 60 years old (77.1%). The mean score of OHRQoL was 3.79. The Social Dental Scale SDS had a mean score of 0.71. The General Oral Health Assessment GOHS scored 3.51 on average. The mean score of Dental Impact Profile DIP was 3.12. The Subjective Oral Health Status Indicators SOHSIs had a mean score of 3.82. The mean score of Oral Health Benefit of Life Inventory OHBLI averaged at 4.04, and Dental Impact on Daily Living DIDL scored an average of 4.05. The mean scores of OHRQoL and Oral Impacts on Daily Performance OIDP were 3.90 and 3.89 respectively. Cronbach's Alpha values ranged from 0.854 to 0.939, with an overall questionnaire reliability of 0.977, indicating a good reliability of the study's tool.

Conclusion: Older adults exhibited lower OHRQoL compared to younger adults, particularly influenced by factors such as health insurance coverage, monthly income, and educational level. It is essential to develop health programs specifically tailored for senior adults to safeguard their overall health and quality of life. Making health and medical insurance obligatory and accessible to all individuals is crucial for enhancing their QoL and reducing the diseases.

Alwithanani N. Periodontal Diseases and Heart Diseases: A Systemic Review. J Pharm Bioallied Sci. 2023 Jul;15(Suppl 1):S72-S78. doi: 10.4103/jpbs.jpbs_517_22. Epub 2023 Jul 5. PMID: 37654288; PMCID: PMC10466634.
https://pubmed.ncbi.nlm.nih.gov/37654288/

ABSTRACT

Introduction: Up to 50% of people worldwide are affected by periodontal disease (PD); cardiovascular diseases are a serious concern for the major portion of the world's population. Observational data have shown a connection between PD and CVD. The current systemic review investigates the incidence of the CVD in individuals with PD through various designs of the previous research.

Materials and methods: An extensive online search in the various databanks of EMBASE, Medline, Pubmed, and Scopus was conducted. The keywords searched were: "PD, CVD, myocardial infarction, coronary heart disease (CHD), and stroke; technique of diagnosis and the degree of PD were assessed clinically or by self-report." The studies selected were longitudinal research design and randomized trials. To ascertain the risk of mortality due to cardiac issues in periodontal diseases, meta-analysis, and meta-regression were carried out. The diagnosis techniques for periodontal diseases, severity, and impact of gender, were also examined.

Results: After full-text screening, 32 longitudinal cohort studies were included. PD patients had a significantly greater risk of CVD than non-PD patients (RR: 1.20). Clinical and self-reported PD diagnoses did not differ in CVD risk (RR = 0.97). Men were at increased risk for both severe PD (RR: 1.25), and CVD (RR: 1.16). The risk of stroke was the highest among all forms of CVD (RR = 1.24), and the risk of CHD was significantly elevated (RR = 1.14).

Conclusion: Current review showed that populations with PD consistently and modestly have an elevated risk of CVD. Men and those with severe PD are at higher CVD risk, which suggests population-targeted therapies may be helpful.

Arbildo-Vega HI, Cruzado-Oliva FH, Coronel-Zubiate FT, Meza-Málaga JM, Luján-Valencia SA, Luján-Urviola E, Echevarria-Goche A, Farje-Gallardo CA, Castillo-Cornock TB, Serquen-Olano K, Padilla-Cáceres T, Caballero-Apaza L, Aguirre-Ipenza R. Periodontal disease and cardiovascular disease: umbrella review. BMC Oral Health. 2024 Oct 28;24(1):1308. doi: 10.1186/s12903-024-04907-1. PMID: 39468505; PMCID: PMC11520879. https://www.frontiersin.org/journals/dental-medicine/articles/10.3389/fdmed.2025.1635200/full

ABSTRACT

Background: Periodontal disease (PD) is an infectious and inflammatory condition that affects the tissues surrounding and supporting the teeth. It has been suggested that PD may be associated with cardiovascular disease (CVD), one of the leading causes of mortality worldwide. Our study aimed to investigate the association between PD and CVD through an umbrella review.

Methods: A comprehensive search was conducted until April 2024 across various electronic databases, including PubMed, Cochrane Library, Scopus, SciELO, Web of Science, Google Scholar, ProQuest Dissertations and Theses, and OpenGrey. Systematic reviews with or without meta-analysis were considered for inclusion, without any limitations on time or language, provided they examined primary studies linking PD with CVD. The AMSTAR-2 tool was employed to assess the quality and overall confidence of the included studies.

Results: After the initial search, a total of 516 articles were identified. Following the application of selection criteria, 41 articles remained for further consideration. All these studies indicated an association between PD and CVD, with odds ratios and risk ratios ranging from 1.22 to 4.42 and 1.14 to 2.88, respectively.

Conclusions: Systematic reviews with high overall confidence support the association between PD, tooth loss, and cardiovascular diseases. However, it is crucial to interpret these results with caution due to methodological limitations. The potential public health relevance justifies preventive and corrective oral health strategies. Additionally, the need for rigorous future research is highlighted to strengthen the evidence and guide effective public health strategies.

Blaschke K, Hellmich M, Samel C, Listl S, Schubert I. The impact of periodontal treatment on healthcare costs in newly diagnosed diabetes patients: Evidence from a German claims database. Diabetes Res Clin Pract. 2021 Feb;172:108641. doi: 10.1016/j.diabres.2020.108641. Epub 2020 Dec 24. Erratum in: Diabetes Res Clin Pract. 2021 Dec;182:109098. doi: 10.1016/j.diabres.2021.109098. PMID: 33359573. https://pubmed.ncbi.nlm.nih.gov/33359573/

ABSTRACT

Aims: There is sufficient scientific evidence for the bidirectional association between periodontal diseases and diabetes. In this context, we hypothesized that periodontal treatment leads to lower healthcare costs in newly diagnosed diabetes patients by promoting a milder disease course.

Methods: A total of 23,771 persons were investigated who were continuously insured by German health insurances between 2011 and 2016, 18 years or older, and newly diagnosed with diabetes in 2013. The study population was divided into a periodontal treatment and control group (no periodontal treatment). The average treatment effect of a periodontal treatment on various types of healthcare costs (inpatient, outpatient, drug costs) was analyzed by a doubly robust method.

Results: Finally, 5.3% of the study population could be assigned to the treatment group. In newly diagnosed diabetes patients with periodontal treatment, a reduction in total healthcare costs (0.96, 95%CI 0.89; 1.04), inpatient costs (0.87, 95%CI 0.69; 1.08), diabetes-related drug costs (0.93, 95%CI 0.84; 1.03) and other drug costs (0.97, 95%CI 0.89; 1.05) could be shown compared to the control group.

Conclusions: This study provides evidence that periodontal treatment for diabetes patients reduces healthcare costs. Fewer diabetes-specific complications and hospitalizations are expected.

Cannon I, Robinson-Barella A, McLellan G, Ramsay SE. From Drugs to Dry Mouth: A Systematic Review Exploring Oral and Psychological Health Conditions Associated with Dry Mouth in Older Adults with Polypharmacy. Drugs Aging. 2023 Apr;40(4):307-316. doi: 10.1007/s40266-023-01017-5. Epub 2023 Mar 21. PMID: 36943673. https://pubmed.ncbi.nlm.nih.gov/36943673/

ABSTRACT

Background: Approximately 60% of older adults complain of dry mouth, which may be associated with polypharmacy, common in this population. Existing studies have reported treatment approaches to dry mouth but do not address long-term preventative measures that would more positively benefit the health and well-being of older adults.

Objective: We aimed to explore the consequences of dry mouth, associated with polypharmacy, on the physical and psychological health of older adults in order to establish the importance of preventing dry mouth.

Methods: This systematic review was conducted of studies reporting health conditions of dry mouth, in relation to polypharmacy in older adults (aged ≥ 65 years). MEDLINE, EMBASE, PsycINFO and CINAHL databases were searched using keywords such as 'polypharmacy', 'dry mouth', 'oral health' and 'quality of life' (PROSPERO: CRD42021288945). Joanna Briggs Institute critical appraisal tools were used to assess study quality.

Results: Of the 6852 citations screened, nine studies (cross-sectional, n = 8; longitudinal, n = 1) were included that comprised 37,459 participants (mean age range 68.5-85.0 years). Studies were published between 2005 and 2019. Because of the heterogeneity of reported study outcomes, a narrative synthesis was undertaken. The health conditions identified in this review were categorised as 'physical' or 'psychological'. The main physical health conditions reported in the studies related to dental health, such as tooth loss, and functional impairments, such as swallowing difficulties. An increase in the number of medicines taken, from 0 to 5, decreased the number of natural teeth remaining from 16 (standard deviation [SD] ± 9) to 12 (SD ± 8), respectively. Additionally, the number of dental complications increased from 1 (SD ± 2) to 2 (SD ± 2) as the number of medicines increased from 1 to ≥ 3. There was a paucity of studies (n = 2) that investigated psychological health conditions of dry mouth among older adults, with depression identified as a significant issue among older adults with dry mouth (where the reported prevalence was as high as 64%). An additional six psychological health conditions were identified: self-consciousness, feeling tense, difficulty relaxing, irritability, difficulty completing tasks and feeling less satisfied in life.

Conclusions: High levels of physical health conditions of dry mouth are observed in older adults and, to a lesser extent, psychological health conditions. These conditions can negatively affect quality of life. There remains a need to prevent dry mouth and the adverse health conditions associated with it in older adults. The modifiable nature of polypharmacy could be targeted to minimise, and potentially prevent, dry mouth. The optimisation of medication regimes to effectively treat chronic conditions, but also limit the likelihood of dry mouth, is a practical approach. Dry mouth prevention should be a priority and polypharmacy can pave the way for prevention strategies, avoiding the need to treat dry mouth.

Chou R, Selph SS, Bougatsos C, Nix C, Ahmed A, Griffin J, Schwarz E. Screening, Referral, Behavioral Counseling, and Preventive Interventions for Oral Health in Adults: A Systematic Review for the US Preventive Services Task Force. JAMA. 2023 Nov 14;330(18):1780-1790. doi: 10.1001/jama.2023.20685. PMID: 37934490. https://pubmed.ncbi.nlm.nih.gov/37934490/

ABSTRACT

Importance: Dental caries and periodontal disease are common adult oral health conditions and potentially amenable to primary care screening and prevention.

Objective: To systematically review the evidence on primary care screening and prevention of dental caries and periodontal disease in adults to inform the US Preventive Services Task Force.

Data sources: MEDLINE, Cochrane Central Register of Controlled Trials, and Cochrane Database of Systematic Reviews (to October 3, 2022); surveillance through July 21, 2023.

Study selection: Diagnostic accuracy studies of primary care screening instruments and oral examination; randomized and nonrandomized trials of screening and preventive interventions; cohort studies on primary care oral health screening and preventive intervention harms.

Data extraction and synthesis: One investigator abstracted data; a second checked accuracy. Two investigators independently rated study quality. Diagnostic accuracy data were pooled using a bivariate mixed-effects binary regression model.

Main outcomes and measures: Dental caries, periodontal disease, morbidity, quality of life, harms; and diagnostic test accuracy.

Results: Five randomized clinical trials, 5 nonrandomized trials, and 6 observational studies (total 3300 participants) were included. One poor-quality trial (n = 477) found no difference between oral health screening during pregnancy vs no screening in caries, periodontal disease, or birth outcomes. One study (n = 86) found oral health examination by 2 primary care clinicians associated with low sensitivity (0.42 and 0.56) and high specificity (0.84 and 0.87) for periodontal disease and with variable sensitivity (0.33 and 0.83) and high specificity (0.80 and 0.93) for dental caries. Four studies (n = 965) found screening questionnaires associated with a pooled sensitivity of 0.72 (95% CI, 0.57-0.83) and specificity of 0.74 (95% CI, 0.66-0.82) for periodontal disease. For preventive interventions no study evaluated primary care counseling or dental referral, and evidence from 2 poor-quality trials (n = 178) of sealants, and 1 fair-quality and 4 poor-quality trials (n = 971) of topical fluorides, was insufficient. Three fair-quality trials (n = 590) of persons with mean age 72 to 80 years found silver diamine fluoride solution associated with fewer new root caries lesions or fillings vs placebo (mean reduction, -0.33 to -1.3) and decreased likelihood of new root caries lesion (2 trials; adjusted odds ratio, 0.4 [95% CI, 0.3-0.7]). No trial evaluated primary care-administered preventive interventions.

Conclusions and relevance: Screening questionnaires were associated with moderate diagnostic accuracy for periodontal disease. Research is needed to determine benefits and harms of oral health primary care screening and preventive interventions.

Clark D, Kotronia E, Ramsay SE. Frailty, aging, and periodontal disease: Basic biologic considerations. Periodontol 2000. 2021 Oct;87(1):143-156. doi: 10.1111/prd.12380. PMID: 34463998; PMCID: PMC8771712. https://pubmed.ncbi.nlm.nih.gov/34463998/

ABSTRACT

Aging is associated with the development of disease. Periodontal disease is one of the many diseases and conditions that increase in prevalence with age. In addition to the traditional focus on individual age-related conditions, there is now a greater recognition that multisystem conditions such as frailty play an important role in the health of older populations. Frailty is a clinical condition in older adults that increases the risk of adverse health outcomes. Both frailty and periodontal disease are common chronic conditions in older populations and share several risk factors. There is likely a bidirectional relationship between periodontal disease and frailty. Comorbid systemic diseases, poor physical functioning, and limited ability to self-care in frail older people have been implicated as underlying the association between frailty and periodontal disease. In addition, both frailty and periodontal disease also have strong associations with inflammatory dysregulation and other age-related pathophysiologic changes that may similarly underlie their development and progression. Investigating age-related changes in immune cells that regulate inflammation may lead to a better understanding of age-related disease and could lead to therapeutic targets for the improved management of frailty and periodontal disease.

Crowder L. Is there evidence of a relationship between pre-eclampsia and periodontitis? Evid Based Dent. 2023 Mar;24(1):37-38. doi: 10.1038/s41432-023-00870-y. Epub 2023 Mar 8. PMID: 36890243.
https://pubmed.ncbi.nlm.nih.gov/36890243/

ABSTRACT

Data sources: The review searched several databases which included Medline (from 1950), Pubmed (from 1946), Embase (from 1949), Lilacs, Cochrane Controlled Clinical Trial Register, CINAHL, ClinicalTrials.gov and Google Scholar (from 1990).

Study selection: Two of the authors (LD and HN) independently assessed the eligibility of studies by looking at the titles, abstracts and methods. If there was a disagreement, a third reviewer was consultant (QA) for a decision.

Data extraction and synthesis: A data extraction form was created and used. Data collected included: the first author's name; publication year; study design; number of cases; number of controls, total sample size; country; national income group; mean age; the risk of estimates or data used to calculate the risk estimates; confidence intervals (CI) or data used to generate CI. For assessment of socioeconomic status and its role as a possible influential factor, the World Bank classification through Gross National Income per capita was used to determine which level (low-income, lower-middle-income, upper-middle-income, high-income) a country resided in. All authors cross-checked all data and discussions were had to resolve disagreements. Statistical software 'RevMan' was used to input data. Pooled odds ratios, mean difference, and 95% CI were calculated for the association between periodontitis and pre-eclampsia using a random-effects model. A significance level of 0.05 was used for pooled effect. Forest plots for primary analysis and subgroup analysis show the raw data, odds ratio and CIs, means and SDs for the chosen effect, heterogeneity statistic (I2), total number of participants per group, overall odds ratio and mean difference. Groups were divided for subgroup analysis by: study design (case-control and cohort); the studies' definition of periodontitis (defined by pocket depth [PD] and/or clinical attachment loss [CAL]); and national income (high-income or middle-income or low-income countries). Cochran's Q statistic and I2 statistic were used to determine heterogeneity and degree of heterogeneity, respectively. For publication bias, Egger's regression model and fail-safe number was used.

Results: Thirty articles and 9650 women were included in total. Six of the studies were cohort studies (2840 participants overall) and 24 were case-control studies. Pre-eclampsia was defined the same across all studies, whereas periodontitis differed. There was a significant association between periodontitis and pre-eclampsia (OR 3.18, 95% CI 2.26-4.48, $p < 0.00001$). In subgroup analysis of just cohort studies, the significance increased (OR 4.19, 95% CI 2.23-7.87, $p < 0.00001$). It further increased looking at lower-middle-income countries (OR 6.70, 95% CI 2.61-17.19, $p < 0.0001$).

Conclusions: Periodontitis in pregnancy is a risk factor for pre-eclampsia. The data would suggest that this is more prominent in lower-middle-income subgroups. Further research could be undertaken to explore the possible mechanisms and also if prevention of adequate treatment can reduce the risk of pre-eclampsia, thereby improving maternal health outcomes.

Dibello V, Custodero C, Cavalcanti R, Lafornara D, Dibello A, Lozupone M, Daniele A, Pilotto A, Panza F, Solfrizzi V. Impact of periodontal disease on cognitive disorders, dementia, and depression: a systematic review and meta-analysis. Geroscience. 2024 Oct;46(5):5133-5169. doi: 10.1007/s11357-024-01243-8. Epub 2024 Jun 28. PMID: 38943006; PMCID: PMC11336026.
https://pubmed.ncbi.nlm.nih.gov/38943006/

ABSTRACT

A growing body of research suggested that there was a link between poor periodontal health and systemic diseases, particularly with the early development of cognitive disorders, dementia, and depression. This is especially true in cases of changes in diet, malnutrition, loss of muscular endurance, and abnormal systemic inflammatory response. Our study aimed to determine the extent of these associations to better target the multi-level healthy aging challenge investigating the impact of periodontal disease on cognitive disorders (cognitive impairment and cognitive decline), dementia, and depression. We conducted a comprehensive literature search up to November 2023 using six different electronic databases. Two independent researchers assessed the eligibility of 7363 records against the inclusion criteria and found only 46 records that met the requirements. The study is registered on PROSPERO (CRD42023485688). We generated random effects pooled estimates and 95% confidence intervals (CI) to evaluate whether periodontal disease increased the risk of the investigated outcomes. The quality assessment revealed moderate quality of evidence and risk of bias. Periodontal disease was found to be associated with both cognitive disorders (relative risk (RR) 1.25, 95% CI 1.11-1.40, in the analysis of cross-sectional studies); cognitive impairment (RR 3.01, 95% CI 1.52-5.95 for longitudinal studies, cognitive decline); and dementia (RR 1.22, 95% CI 1.10-1.36). However, no significant increased risk of depression among subjects with periodontal disease was found (RR 1.07, 95% CI 0.95-1.21). Despite the association with two of the three explored outcomes, the available evidence on periodontal diseases and dementia, cognitive disorders, and depression is controversial due to several limitations. Therefore, further investigations involving validated and standardized tools are required.

Dolcezza S, Flores-Fraile J, Lobo-Galindo AB, Montiel-Company JM, Zubizarreta-Macho Á. Relationship Between Rheumatoid Arthritis and Periodontal Disease-Systematic Review and Meta-Analysis. J Clin Med. 2024 Dec 24;14(1):10. doi: 10.3390/jcm14010010. PMID: 39797091; PMCID: PMC11720692.
https://pubmed.ncbi.nlm.nih.gov/39797091/

ABSTRACT

Background/Objectives: The aim of this systematic review and meta-analysis was to determine the association between rheumatoid arthritis and periodontal disease. Methods: This systematic review and meta-analysis of the scientific literature was carried out based on the recommendations of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). We analyzed all studies that evaluated the relationship between the chronic inflammatory diseases through the response to non-surgical periodontal treatment, comparing the values of CAL (Clinical Attachment Level) for PD (periodontal disease) and DAS28 for RA. A total of three databases were searched in the literature search: Pubmed, Scopus, and Web of Science. After eliminating duplicate articles and applying certain inclusion criteria, of the 29 articles found, a total of 6 were included in the present study. Results: A statistically significant difference in mean reduction of -0.56 mm was obtained for CAL, with a 95% confidence interval of the difference between -0.82 and -0.31 (z-test = -4.33; p-value = 0.001) in favor of the periodontal treatment group. The heterogeneity of the meta-analysis was slight (I2 = 39% and Q = 8.19; p-value = 0.146). For DAS28, treatment showed a mean reduction of -0.39 DAS points, with a 95% CI between -0.46 and -0.31 (z-test = -10.3; p-value < 0.001)

among patients with PD and RA. Conclusions: The present study shows how the control of periodontal disease through non-surgical periodontal treatment can reduce the severity of RA. This finding consistently supports the idea that there is a pathogenic association between these two chronic inflammatory diseases.

Dondjio Jemele LJ, Buzzi M, Petipa Nga O, Couchoud C; REIN registry. Oral health care among dialysis patients in France and impact on survival. J Nephrol. 2025 May 30. doi: 10.1007/s40620-025-02307-4. Epub ahead of print. PMID: 40447977. https://pubmed.ncbi.nlm.nih.gov/40447977/

ABSTRACT

Background: Oral diseases have been shown to be risk factors of Chronic Kidney Disease (CKD) progression and may also be associated with poorer survival. The aim of this study was to describe oral care of dialysis patients in France and to assess its impact on their survival.

Methods: We conducted a retrospective cohort study including all patients on dialysis in France between 2015 and 2020. Data were collected from the French REIN registry and matched with the National Health Data System. Factors associated with the probability of receiving oral care treatments were explored using a logistic regression model. The survival of incident dialysis patients was modeled using a Cox model.

Results: Among the 101,942 prevalent patients included in our sample, 32.5% received oral care treatment over the 6-year study period. Average annual adoption was 18.7% (versus 43% in the general French population) with regional variations. Male gender, overweight, dialysis treatment < 3 and > 6 years, and being on the transplant waiting list were associated with greater oral care treatment. Oral care treatment was associated with a lower risk of death (weighted hazard ratio (HR) 0.53 [0.51-0.55], adjusted HR 0.50 [0.48-0.52] 95% confidence interval (CI)).

Conclusion: Dialysis patients in France undergo a low level of oral care treatments. Patients' characteristics and regional practices appear to influence this. Oral care treatments seem to have a positive impact on survival.

Dziedzic A. Is Periodontitis Associated with Age-Related Cognitive Impairment? The Systematic Review, Confounders Assessment and Meta-Analysis of Clinical Studies. Int J Mol Sci. 2022 Dec 5;23(23):15320. doi: 10.3390/ijms232315320. PMID: 36499656; PMCID: PMC9739281. https://pubmed.ncbi.nlm.nih.gov/36499656/

ABSTRACT

It has been suggested that molecular pathological mechanisms responsible for periodontitis can be linked with biochemical alterations in neurodegenerative disorders. Hypothetically, chronic systemic inflammation as a response to periodontitis plays a role in the etiology of cognitive impairment. This study aimed to determine whether periodontitis (PDS) is a risk factor for age-related cognitive impairment (ACI) based on evidence of clinical studies. A comprehensive, structured systematic review of existing data adhering to the Preferred Reporting Items for Systematic Review and Meta Analyses (PRISMA) guidelines was carried out. Five electronic databases, PubMed, Embase, Scopus, Web of Science, and Cochrane, were searched for key terms published in peer-reviewed journals until January 2021. The Newcastle-Ottawa scale was used to assess the quality of studies and risk of bias. The primary and residual confounders were explored and evaluated. A meta-analysis synthesizing quantitative data was carried out using a random-effects model. Seventeen clinical studies were identified, including 14 cohort, one cross-sectional, and two case-control studies. Study samples ranged from 85 to 262,349 subjects, with follow-up between 2 and 32 years, and age above 45 years, except for two studies. The findings of studies suggesting the PDS-ACI relationship revealed substantial differences in design and methods. A noticeable variation related to the treatment of confounders was observed. Quality assessment unveiled a moderate quality of evidence and risk of bias. The subgroups meta-analysis and pooled sensitivity analysis of results from seven eligible studies demonstrated overall that the presence of PDS is associated with an increased risk of incidence of cognitive impairment (OR = 1.36, 95% CI 1.03-1.79), particularly dementia (OR = 1.39, 95% CI 1.02-1.88) and Alzheimer's disease (OR = 1.03 95% CI 0.98-1.07)). However, a considerable heterogeneity of synthesized data (I2 = 96%) and potential publication bias might affect obtained results. While there is a moderate statistical association between periodontitis and dementia, as well as Alzheimer's disease, the risk of bias in the evidence prevents conclusions being drawn about the role of periodontitis as a risk factor for age-related cognitive impairment.

Ferrillo M, Migliario M, Agostini F, Marotta N, Santilli G, Boffano P, Scaturro D, Letizia Mauro G, Ammendolia A, de Sire A. Oral health-related quality of life in elderly: an umbrella review of systematic reviews from a multidisciplinary rehabilitation point-of-view. Clin Ter. 2024 Jan-Feb;175(1):73-82. doi: 10.7417/CT.2024.5036. PMID: 38358480. https://pubmed.ncbi.nlm.nih.gov/38358480/

ABSTRACT

Background: Poor oral health is highly prevalent among elderlies and may impact quality of life of elderly people. In this scenario, oral health has been often linked to general health and chronic disorders, including distinct features of frailty. The aim of the present umbrella review of systematic reviews was to assess the scientific literature on the correlation between oral health related quality of life (OHRQoL) and elderly to present a multidisciplinary approach to these complex patients.

Methods: We performed a literature search of the databases Pub-Med/Medline, Scopus, Web of Science, and Physiotherapy Evidence Database electronic databases. Two independent reviewers performed the literature research from the inception to 25th November 2023 and screened the studies for eligibility.

Results: The search resulted in a total of 676 results eligible articles. After removal of duplicates and full-text screening, a total of 3 systematic reviews were considered to meet the inclusion criteria and were included for this review.

Conclusions: Frailty is very common in elderly such as a poor oral health. In this scenario, malnutrition and bad lifestyle habits may affect not only the determinism of many systemic non-communicable diseases but also oral health quality. Taken together, the findings of this umbrella review of systematic reviews showed a strict correlation between the frailty, typical condition of ageing people, and a poor OHRQoL. Therefore, it is mandatory to implement the oral health prevention with specific protocols of oral rehabilitation to improve the OHRQoL in elderly.

Foroughi M, Torabinejad M, Angelov N, Ojcius DM, Parang K, Ravnan M, Lam J. Bridging oral and systemic health: exploring pathogenesis, biomarkers, and diagnostic innova-

tions in periodontal disease. Infection. 2025 May 26. doi: 10.1007/s15010-025-02568-y. Epub ahead of print. PMID: 40418274. https://pubmed.ncbi.nlm.nih.gov/40418274/

ABSTRACT

Purpose: This narrative review explores the multifaceted links between periodontal diseases (gingivitis and periodontitis) and systemic health conditions, including cardiovascular disease, diabetes, adverse pregnancy outcomes, Alzheimer's disease, cancers, rheumatoid arthritis, and respiratory infections. It aims to synthesize evidence on how local oral infections exert systemic effects and evaluate the potential of diagnostic technologies to monitor these interactions.

Methods: This narrative review synthesizes current scientific literature on periodontal disease pathogenesis, focusing on key pathogens (e.g., Porphyromonas gingivalis, Fusobacterium nucleatum) and their roles in driving local and systemic inflammation via virulence factors and microbial dysbiosis. It examines biomarker-based diagnostic approaches (e.g., IL-1β, TNF-α, microbial DNA) in saliva, blood, and gingival crevicular fluid (GCF) and evaluates current and emerging diagnostic tools (e.g., ELISA, PCR, lateral flow assays, biosensors, microfluidics).

Results: The review highlights that periodontal pathogens contribute to systemic disease through complex mechanisms including persistent inflammation (driven by cytokines like IL-1β, TNF-α), endotoxemia (via LPS, noting pathogen-specific structural variations impacting immune response), molecular mimicry, and immune modulation. Current diagnostic methods provide valuable information but often face limitations in speed, portability, and multiplexing capability needed for comprehensive point-of-care assessment. Emerging technologies, particularly multiplex platforms integrating biosensors or microfluidics, demonstrate significant potential for rapid, user-friendly analysis of multiple biomarkers, facilitating earlier detection and personalized risk stratification, especially in high-risk populations.

Conclusion: Periodontal diseases significantly impact systemic health via intricate microbial and inflammatory pathways. The complexity of these interactions necessitates moving beyond conventional diagnostics towards integrated, advanced technologies. Implementing rapid, multiplex biomarker detection platforms within a multidisciplinary healthcare framework holds the potential to revolutionize early detection of linked conditions, improve personalized management strategies, and ultimately reduce the systemic burden of periodontal disease.

Fratini A, Izzetti R, Riccetti N, Gennai S, Graziani F, Marchetti E. Diagnostic Accuracy of Urinary Biomarkers in Periodontitis: A Systematic Review and Meta-Analysis. Int J Dent. 2024 Jul 29;2024:9769772. doi: 10.1155/2024/9769772. PMID: 39105056; PMCID: PMC11300057. https://pubmed.ncbi.nlm.nih.gov/39105056/

ABSTRACT

Background: Biomarkers can be measured in various biological samples. Urine is among the most useful biofluids for routine testing, and several experimental and clinical studies support its role as a tool for the diagnosis and prevention of various diseases. The present systematic review aimed to examine periodontitis-specific urine biomarkers that could have a diagnostic relevance and to provide a qualitative assessment of the current literature.

Materials and methods: Relevant studies identified from PubMed, Embase, Cochrane Library, and Scopus databases were examined to answer the following PECO question: "Could the concentration of specific metabolites in the urine be related to periodontal health and what is their diagnostic accuracy?". Quality of included studies was rated using ROBINS-I tool. Meta-analysis was conducted on available quantitative data.

Results: After the screening of 768 titles, five studies were included in qualitative synthesis. The studies included referred to the evaluation of 8-hydroxy-2'-deoxyguanosine (8-OHdG) and neopterin. Meta-analysis was conducted for neopterin concentration on data available in four studies involving 129 participants. Higher concentrations of neopterin were found in periodontitis-affected patients compared to controls and patients treated for periodontitis.

Conclusions: The literature appears controversial in attributing a role to neopterin and 8-OHdG as periodontal biomarkers, highlighting the need for further clinical studies on this topic. While some studies report variations in 8-OHdG and neopterin levels in periodontally affected patients versus either controls or periodontally treated patients, the level of evidence appears still limited to draw firm conclusions (PROSPERO CRD42020222681).

Gasner NS, Schure RS. Periodontal Disease. 2025 May 12. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. PMID: 32119477. https://pubmed.ncbi.nlm.nih.gov/32119477/

EXCERPT

Periodontal disease refers to a group of conditions that affect the periodontium, the supporting structures of the teeth, including the gingiva, alveolar bone, cementum, and periodontal ligament. Early detection and timely management are essential to prevent long-term complications.

Gingivitis is the mildest form of periodontal disease, affecting up to 90% of the population. Gingivitis is characterized by inflammation of the gingiva caused by the accumulation of bacteria and debris along the gum line, leading to the formation of dental plaque. This condition is reversible with improved oral hygiene. However, if left untreated, gingivitis can progress to periodontitis.

Periodontitis is a chronic inflammatory disease that progressively damages the periodontal tissues. The hallmark feature of the condition is the apical migration of the junctional epithelium, which leads to loss of attachment and the formation of periodontal pockets. As bacteria penetrate deeper into the tissues, the body activates an immune response to fight the infection. However, this defense mechanism unintentionally contributes to the destruction of the periodontium. As periodontitis progresses, it causes continued attachment loss, alveolar bone resorption, and, in severe cases, tooth loss.

In 2017, the American Academy of Periodontology introduced an updated classification system for periodontal and peri-implant diseases in collaboration with the European Federation of Periodontology. This system categorizes periodontitis into 3 main forms:

- Periodontitis
- Periodontitis as a manifestation of systemic diseases
- Necrotizing periodontal disease

Necrotizing periodontal disease is a severe and rapidly progressing form of periodontitis that primarily affects immunocompromised individuals, such as those with HIV. This condition is characterized by severe gingival necrosis, interproximal tissue destruction, spontaneous bleeding, and intense pain. This form of periodontal disease requires urgent intervention due to its rapid progression and significant tissue damage.

Gatarayiha A, Ntaganira J, Brookes Z, Mutesa L, Gustafsson A, Rulisa S. Periodontitis and pre-eclampsia among pregnant women in Rwanda: A case-control study. PLoS One. 2024 Oct 14;19(10):e0312103. doi: 10.1371/journal.pone.0312103. PMID: 39401230; PMCID: PMC11472930.
https://pubmed.ncbi.nlm.nih.gov/39401230/

ABSTRACT

Introduction: Several studies have indicated that the presence of periodontitis during pregnancy could increase the risk of developing pre-eclampsia, thereby negatively influencing pregnancy outcomes for both the mother and child. Notably, despite the high prevalence of both periodontitis and adverse pregnancy outcomes in Rwanda, there exists a crucial evidence gap concerning the precise relationship between periodontitis and pre-eclampsia.

Objectives: The aim of this study was to assess the association between periodontitis and pre-eclampsia amongst pregnant women in Rwanda.

Methods and materials: Employing an unmatched 1:2 case-control design, we studied 52 pre-eclamptic and 104 non-pre-eclamptic pregnant women aged ≥18 years at two referral hospitals in Rwanda. Pre-eclampsia was defined as a systolic blood pressure ≥ 140 and diastolic blood pressure ≥ 90 mm Hg, diagnosed after 20 weeks of gestation and proteinuria of ≥300mL in 24 hours of urine collection. Periodontitis was defined as the presence of two or more teeth with one or more sites with a pocket depth ≥ 4mm and clinical attachment loss >3 mm at the same site, assessed through clinical attachment loss measurement. Bivariate analysis and logistic regression were used to estimate Odds ratio (ORs) and 95% confidence interval.

Results: The prevalence of periodontitis was significantly higher among women with pre-eclampsia, compared to pregnant women without pre-eclampsia, at 90.4% and 55.8%, respectively (p< 0.001). Pregnant Women with periodontitis were 3.85 times more likely to develop pre-eclampsia after controlling for relevant confounders (adjusted Odds Ratio [aOR] = 3.85, 95%CI = 1.14-12.97, p<0.05).

Conclusion: This study results indicates that periodontitis is significantly associated with pre-eclampsia among pregnant women in Rwanda. These findings suggest that future research should explore whether enhancing periodontal health during pregnancy could contribute to reducing pre-eclampsia in this specific population.

Gomes SV, Nunes-Dos-Santos DL, Branco-De-Almeida LS, Benatti BB, Rodrigues V. Clinical response to nonsurgical periodontal therapy is associated with decreased serum leukocyte count and uric acid levels in kidney transplant recipients. J Appl Oral Sci. 2024 Sep 30;32:e20240206. doi: 10.1590/1678-7757-2024-0206. PMID: 39356952; PMCID: PMC11464077.
https://pubmed.ncbi.nlm.nih.gov/39356952/

ABSTRACT

Objective: This study sought to investigate the relationship between clinical response to nonsurgical periodontal therapy (NSPT) and serum changes in leukocyte count, fasting blood glucose, hemoglobin, hematocrit, creatinine, and uric acid in kidney transplant recipients (KTR).

Methodology: A prospective study was performed on 20 KTRs. Periodontal and serum data were collected before and 90 days after NSPT, and delta values (Δ = after NSPT - before) were calculated. Periodontal assessment included periodontal probing depth (PPD), clinical attachment level (CAL), and bleeding on probing (BOP). Patients were classified based on the presence of periodontitis and then categorized into stages.

Results: Patients showed a reduction in the percentage of sites with PPD≥3mm, PPD≥4 mm and BOP, after NSPT. There was a direct correlation between the deltas of leukocyte count and CAL ≥3 mm (r=0.645, P=0.002) and BOP (r=0.663, P=0.001), and the deltas of uric acid and CAL ≥3 mm (r=0.562, P=0.010).

Conclusion: A good clinical response to NSPT may affect the reduction of serum levels of leukocyte count and uric acid, suggesting a beneficial effect on systemic health in KTR.

He I, Poirier B, Jensen E, Kaur S, Hedges J, Jesudason S, Jamieson L, Sethi S. Demystifying the connection between periodontal disease and chronic kidney disease - An umbrella review. J Periodontal Res. 2023 Oct;58(5):874-892. doi: 10.1111/jre.13161. Epub 2023 Jul 21. PMID: 37477165.
https://pubmed.ncbi.nlm.nih.gov/37477165/

ABSTRACT

Chronic kidney disease (CKD) and poor oral health are inter-related and their significant impact on each other is well established in the literature. Many systematic reviews and meta-analyses have demonstrated a strong relationship between CKD and periodontitis, where periodontal treatment has shown potential in improving CKD outcomes. However, the quality of the studies and heterogeneity of the results show variation. The aim of this umbrella review was to review the quality of the current systematic reviews on the relationship between CKD and oral health with an emphasis on periodontal disease and to generate clinically relevant guidelines to maintain periodontal health in patients with CKD. This umbrella review was conducted and reported in alignment with the Joanna Briggs Institute and the PRISMA 2020 guidelines. The review protocol was established prior to commencing the review and registered on JBI and PROSPERO (CRD42022335209). Search strings were established for PubMed, Embase, Web of Science, Cochrane Database of Systematic Reviews, and Dentistry & Oral Science Source up to April 2022. All systematic reviews and meta-analyses that considered the relationship between CKD and periodontitis or periodontal treatment were included. Of 371 studies identified through the systematic search, 18 systematic reviews met the inclusion criteria. Ten studies assessed the relationship between oral health status and CKD with a focus on periodontitis and CKD, five reviewed the impact of periodontal treatment on CKD outcomes, two included both relationship and effectiveness of periodontal treatment and one qualitatively reviewed oral health-related quality of life in patients with kidney failure. Findings indicate there is a bidirectional relationship between CKD and periodontal disease. In view of the heterogeneity of the existing literature on CKD and periodontal disease, specific recommendations for the management of periodontitis among patients with CKD are proposed for medical professionals, dental professionals, and aged care workers based

on the evidence collated in this review.

Herrera D, Sanz M, Shapira L, Brotons C, Chapple I, Frese T, Graziani F, Hobbs FDR, Huck O, Hummers E, Jepsen S, Kravtchenko O, Madianos P, Molina A, Ungan M, Vilaseca J, Windak A, Vinker S. Association between periodontal diseases and cardiovascular diseases, diabetes and respiratory diseases: Consensus report of the Joint Workshop by the European Federation of Periodontology (EFP) and the European arm of the World Organization of Family Doctors (WONCA Europe). J Clin Periodontol. 2023 Jun;50(6):819-841. doi: 10.1111/jcpe.13807. Epub 2023 Mar 22. PMID: 36935200.
https://pubmed.ncbi.nlm.nih.gov/36935200/

ABSTRACT

Aim: To explore the implications for dentists and family doctors of the association between periodontal and systemic diseases and the role of dentists and family doctors in managing non-communicable diseases (NCDs) and promoting healthy lifestyles.

Materials and methods: The consensus reports of the previous Focused Workshops on the associations between periodontitis and diabetes (2017) and periodontitis and cardiovascular diseases (2019) formed the technical reviews to underpin discussions on both topics. For the association with respiratory diseases, a systematic review was specifically commissioned for the Workshop discussions. Working groups prepared proposals independently, and then the proposals were discussed and approved at plenary meetings.

Results: Periodontitis is independently associated with cardiovascular diseases, diabetes, chronic obstructive pulmonary disease (COPD), obstructive sleep apnea and COVID-19 complications. Dentists and family doctors should collaborate in managing NCDs, implementing strategies for early detection of periodontitis in primary care centres and of cardiovascular diseases or diabetes in dental settings. Family doctors should be informed about periodontal diseases and their consequences, and oral health professionals (OHPs) should be informed about the relevance of NCDs and the associated risk factors.

Conclusions: Closer collaboration between OHPs and family doctors is important in the early detection and management of NCDs and in promoting healthy lifestyles. Pathways for early case detection of periodontitis in family medicine practices and of NCDs in dental practices should be developed and evaluated.

Huang X, Li Y, Zhang J, Feng Q. Linking Periodontitis with Inflammatory Bowel Disease through the Oral-Gut Axis: The Potential Role of Porphyromonas gingivalis. Biomedicines. 2024 Mar 19;12(3):685. doi: 10.3390/biomedicines12030685. PMID: 38540299; PMCID: PMC10968003.
https://pubmed.ncbi.nlm.nih.gov/38540299/

ABSTRACT

Periodontitis and inflammatory bowel disease (IBD) are both chronic inflammatory diseases that are characterized by abnormal host immune responses and microbiota dysbiosis. Emerging evidence implies potential associations between periodontitis and IBD. Porphyromonas gingivalis (P. gingivalis), a primary cause of periodontitis, is thought to play a role in the development of IBD through the oral-gut disease axis. However, the precise mechanisms of its involvement remain enigmatic. In this narrative review, we begin with a discussion of the bidirectional relationship between periodontitis and IBD and the involvement of P. gingivalis in each of the two diseases. Further, we summarize the possible routes by which P. gingivalis links periodontitis and IBD through the oral-gut axis, as well as the underlying mechanisms of its involvement in the pathogenesis of IBD. Collectively, P. gingivalis participates in the progression of IBD through gut dysbiosis, impairment of the intestinal barrier, release of inflammatory mediators, and disturbance of the immune response. The above findings may provide new insights for exploring novel biomarkers and potential therapeutic approaches for IBD.

Huang D, Wang YY, Li BH, Wu L, Xie WZ, Zhou X, Ma B. Association between periodontal disease and systemic diseases: a cross-sectional analysis of current evidence. Mil Med Res. 2024 Dec 4;11(1):74. doi: 10.1186/s40779-024-00583-y. PMID: 39633497; PMCID: PMC11616297.
https://pubmed.ncbi.nlm.nih.gov/39633497/

ABSTRACT

Background: Numerous systematic reviews and meta-analyses have been published that evaluate the association between periodontal disease and systemic diseases, many of which address similar topics. Moreover, their quality requires assessment. Therefore, we performed a cross-sectional analysis to examine the evidence on the relationship between periodontal disease and systemic diseases.

Methods: The PubMed, Embase, Web of Science, and the Cochrane Library databases were systematically searched to identify relevant systematic reviews and meta-analyses. Only studies that considered periodontal disease as the exposure factor and various systemic diseases as the outcome were included. The basic characteristics and pertinent data from the selected studies were extracted. The modified version of A Measurement Tool to Assess Systematic Reviews 2 (AMSTAR 2) was employed for quality assessment, while R software was used for statistical analysis.

Results: Among the 212 relevant systematic reviews and meta-analyses, 57 were finally included in our analysis. These studies involved 75 diseases and 81 disease-related outcomes, with cancer (19/81) being the most frequently addressed topic. Of the 81 outcomes, 67 demonstrated a significant association. Notably, the highest risk estimate was found for head and neck cancer [odds ratio (OR) = 3.17, 95% confidence interval (CI) 1.78 - 5.64], while the lowest was observed for premature rupture of the amniotic sac [relative risk (RR) = 1.10, 95% CI 1.08 - 1.12]. The methodological quality ratings indicated that approximately 71.93% of included studies were classified as “Critically low”, with another 17.54% rated as “Low”, and only about 10.53% categorized as “Moderate”.

Conclusions: Periodontal disease significantly elevates the risks associated with 15 cancer-related, 8 cardiovascular-related, 8 metabolic-related, and 5 neurological-related outcomes. However, the overall methodological quality of existing systematic reviews and meta-analyses is generally suboptimal and requires enhancement to generate higher-quality evidence in the future.

Igase M, Igase K, Hino S, Uchida D, Okada Y, Ochi M, Tabara Y, Ohyagi Y. Association of Periodontitis with Mild Cognitive Impairment in Older Adults. JAR Life. 2024 Dec 4;13:108-112. doi: 10.14283/jarlife.2024.16. PMID: 39649137; PMCID: PMC11622601.
https://pubmed.ncbi.nlm.nih.gov/39649137/

ABSTRACT

Background: Early detection of cognitive decline, including mild cognitive impairment, is expected to provide a better prognosis. Several studies have suggested an association between periodontitis and mild cognitive impairment.

Objectives/design: To test the hypothesis that there is an association between severe periodontitis and mild cognitive impairment in community residents who participated in a dental health check-up program.

Participants/setting: Community residents who participated in our dental health checkup program were enrolled (age=67.5±9.9, 62.9% female).

Measurements: Mild cognitive impairment was tested using the MCI screening test. Periodontitis was diagnosed based on a widely used clinical periodontal parameter, the probing pocket depth. Statistical analysis was based on logistic regression models adjusted for potential confounders.

Results: Among 321 subjects, mild cognitive impairment was detected in 41. Severe periodontitis (probing pocket depth > 6mm) was detected in 123 cases, with a higher prevalence of mild cognitive impairment in the severe periodontitis group (65.9%) than in the unimpaired group (34.3%). The inclusion of four variables (age, education, functional teeth, and presence of severe periodontitis) in a multivariate logistic regression model revealed a statistically significant difference in the association between severe periodontitis and mild cognitive impairment (odds ratio = 4.024, $p < 0.001$).

Conclusions: A strong association was seen between severe periodontitis and mild cognitive impairment. Severe periodontitis appears to be a risk factor for mild cognitive impairment, and patients with severe periodontitis should be assessed for mild cognitive impairment.

Isola G, Santonocito S, Lupi SM, Polizzi A, Sclafani R, Patini R, Marchetti E. Periodontal Health and Disease in the Context of Systemic Diseases. Mediators Inflamm. 2023 May 13;2023:9720947. doi: 10.1155/2023/9720947. PMID: 37214190; PMCID: PMC10199803. https://pubmed.ncbi.nlm.nih.gov/37214190/

ABSTRACT

During recent years, considerable progress has been made in understanding the etiopathogenesis of periodontitis in its various forms and their interactions with the host. Furthermore, a number of reports have highlighted the importance of oral health and disease in systemic conditions, especially cardiovascular diseases and diabetes. In this regard, research has attempted to explain the role of periodontitis in promoting alteration in distant sites and organs. Recently, DNA sequencing studies have revealed how oral infections can occur in distant sites such as the colon, reproductive tissues, metabolic diseases, and atheromas. The objective of this review is to describe and update the emerging evidence and knowledge regarding the association between periodontitis and systemic disease and to analyse the evidence that has reported periodontitis as a risk factor for the development of various forms of systemic diseases in order to provide a better understanding of the possible shared etiopathogenetic pathways between periodontitis and the different forms of systemic diseases.

Jamieson L, Hedges J, Dodd Z, Larkins P, Zbierski C, Nath S, Kapellas K, Ju X. Provision of Dental Care to Indigenous South Australians and Impacts on Improved General Health: Study Protocol. Int J Environ Res Public Health. 2023 Feb 8;20(4):2955. doi: 10.3390/ijerph20042955. PMID: 36833652; PMCID: PMC9957074. https://pubmed.ncbi.nlm.nih.gov/36833652/

ABSTRACT

Background: Indigenous South Australians carry a disproportionate burden of dental diseases, with approximately 80 percent of Indigenous adults having both periodontal disease and dental caries. The chronic inflammatory nature of many dental conditions means there are widespread systemic impacts, particularly on type 2 diabetes, chronic kidney disease and cardiovascular disease. Evidence suggests there are barriers experienced by Indigenous South Australians in accessing timely and culturally safe dental care. This study aims to: (1) elicit the views of Indigenous South Australians regarding their perspectives of what comprises culturally safe dental care; (2) provide such dental care and; (3) assess any changes in both oral and general health using point-of-care testing following receipt of timely, comprehensive and culturally safe dental care.

Methods/design: This mixed-methods study will involve qualitative interviews and an intervention without randomisation. The qualitative component will comprise seeking perspectives of Indigenous South Australians regarding what culturally safe dental care means for them. For the intervention component, participants will take part in oral epidemiological examinations at baseline and 12-month follow-up (after receipt of dental care), which will include collection of saliva, plaque and calculus, as well as completion of a self-report questionnaire. The primary outcome measures-changes in type 2 diabetes (HbA1c), cardiovascular disease (CRP) and chronic kidney disease (ACR)-will be obtained by blood/urine spot from a finger prick/urine collection at baseline and 12-month follow-up via point-of-care testing.

Results: Participant recruitment will commence in July 2022. The first results are expected to be submitted for publication one year after recruitment begins.

Discussion: The project will have a number of important outcomes, including increased understanding of what culturally safe dental care means for Indigenous South Australians, the delivery of such care, and empirical evidence of how culturally safe dental care leads to better prognosis for chronic diseases linked with poor oral health. This will be important for health services planning, especially in the Aboriginal Community Controlled Health Organisation sector, where the management of dental diseases in a culturally safe manner for better chronic disease outcomes is currently insufficiently understood, planned and budgeted for.

Juzbašić M, Tomas M, Petrović A, Hefer M, Sikora R, Mačković A, Siber S, Smolić M. Interaction Between Periodontitis and MASLD: Pathophysiological Associations and Possibilities of Prevention and Therapy. Biomedicines. 2025 May 30;13(6):1346. doi: 10.3390/biomedicines13061346. PMID: 40564062; PMCID: PMC12190076. https://pubmed.ncbi.nlm.nih.gov/40564062/

ABSTRACT

The interrelationship between periodontitis and metabolic dysfunction-associated steatotic liver disease (MASLD), formerly known as non-alcoholic fatty liver disease (NAFLD), has attracted increasing attention due to the significant global rise in the prevalence of both conditions. Periodontitis, a chronic inflammatory disease, affects a substantial portion of the population and parallels the growing incidence of MASLD, which currently impacts nearly 30% of the global population. The updated nomenclature reflects a deeper understanding of the condition's metabolic origins. This narrative review focuses on the shared pathophysiological mechanisms, particularly systemic inflammation, insulin resistance, and oxidative stress that may underlie the bidirectional relationship between these diseases. These mechanisms often act in concert to promote disease development. Unlike previous literature, this review emphasizes the hypothesis that chronic periodontal inflammation may not only mirror but also contribute to the systemic metabolic dysregulation observed in MASLD. We critically assess current evidence supporting this link by highlighting the role of inflammatory mediators in bridging oral and hepatic health, and by proposing an integrated, multidisciplinary approach to its early detection and management. The aim is to offer novel insights that can help develop better prevention strategies and more effective treatments for both diseases.

Karaduran K, Aydogdu A, Gelisin O, Gunpinar S. Predictive Value of Complete Blood Count Parameters for Alzheimer's Disease in Relation to Periodontal Status. Curr Alzheimer Res. 2025 May 19. doi: 10.2174/0115672050388220250511174043. Epub ahead of print. PMID: 40396318.
https://pubmed.ncbi.nlm.nih.gov/40396318/

ABSTRACT

Introduction/objective: Given the role of inflammation in the development of both Alzheimer's disease (AD) and periodontal disease, it is plausible that periodontal disease may influence the progression of AD. Complete blood count (CBC) parameters may also serve as predictive indicators for this condition. This study investigated the predictive value of CBC parameters on the progression of AD in patients with periodontal disease.

Methods: Data from a prospective cohort study (n=90) with 6-month follow-up was analyzed. AD was assessed based on the Clinical Dementia Rating Scale. Records of C-reactive Protein (CRP) levels and CBC parameters measured within the 6 months preceding the participation date were evaluated. Cognitive assessments at the initial and 6th-month follow-up were performed using the Standardized Mini-Mental Test (SMMT). All patients underwent clinical periodontal examination.

Results: The difference in SMMT score change (ΔSMMT) and platelet distribution width (PDW) value between groups with and without periodontitis was statistically notable ($p<0.05$). The presence of periodontitis was found to be significantly associated with age, ΔSMMT, and PDW values using the multivariate logistic regression model ($p<0.05$). Furthermore, having Stage II and Stage III AD, periodontitis, age factor, and mean platelet volume (MPV) value had a notable impact on ΔSMMT ($p<0.05$).

Conclusion: PDW and MPV levels may have a predictive significance in clarifying the association between periodontitis and AD progression.

Karaduran K, Aydogdu A, Gelisin O, Gunpinar S. Investigating the potential clinical impact of periodontitis on the progression of Alzheimer's disease: a prospective cohort study. Clin Oral Investig. 2023 Dec 30;28(1):67. doi: 10.1007/s00784-023-05445-w. PMID: 38159159.
https://pubmed.ncbi.nlm.nih.gov/38159159/

ABSTRACT

Objectives: This study aimed to investigate the effect of periodontitis and current occlusal relationship on the progression rate of Alzheimer's disease (AD).

Methods: Ninety Alzheimer's patients, who were divided into three groups as Stage I (n=42), Stage II (n=29), and Stage III (n=19), based on the Clinical Dementia Rating Scale, were included in the study. Cognitive status of the patients was evaluated with Standardized Mini-Mental Test (SMMT) at baseline and repeated 6 months later. Clinical periodontal examinations were recorded and occlusal relationship status was classified according to the Eichner Index.

Results: Of 90 Alzheimer's patients, 65 were toothed individuals with periodontitis and 25 were edentulous individuals without active periodontal disease. Stage II and Stage III toothed Alzheimer's patients had higher percentage of bleeding on probing (BOP%) and clinical attachment level (CAL) values than Stage I patients ($p<0.05$). Stage III Alzheimer's patients had significantly higher probing pocket depth (PPD) values than Stage I individuals ($p<0.05$). ΔSMMT values showed positive correlation with BOP% ($r=0.308$, $p=0.013$) and PPD ($r=0.275$, $p=0.027$). Among the evaluated parameters, being in the AD Stage II-Stage III, having periodontitis and age variable had significant effects on ΔSMMT levels ($p<0.05$).

Conclusions: Within the limits of our study, it can be concluded that periodontitis may increase the severity and also accelerate the progression rate of AD.

Clinical relevance: These results are precious to show the necessity of proper oral hygiene activities and regular dental visits in patients with toothed AD.

Kaymaz K, Wiessner C, Bahat G, Erdogan T, Cruz-Jentoft AJ, Zapf A. Association of periodontitis with handgrip strength and skeletal muscle mass in middle-aged US adults from NHANES 2013-2014. Aging Clin Exp Res. 2023 Sep;35(9):1909-1916. doi: 10.1007/s40520-023-02471-2. Epub 2023 Jun 30. PMID: 37386343; PMCID: PMC10460310.
https://pubmed.ncbi.nlm.nih.gov/37386343/

ABSTRACT

Objectives: The relationship between periodontitis and sarcopenia parameters in middle-aged adults is largely unexplored. This study investigated the association between periodontitis and combined handgrip strength and skeletal muscle mass in middle-aged adults.

Materials and methods: A sub-cohort of 1912 individuals with complete periodontal and whole-body dual X-ray absorptiometry examinations from the 2013-2014 wave of the National Health and Nutrition Exa-

mination Survey (n = 10,175) were analyzed using fully adjusted multiple linear regression models for associations between periodontitis and skeletal muscle mass index (kg/m2) and combined handgrip strength (kg).

Results: The mean age of the study cohort was 43 (± 8.4) years and 49.4% of the participants were male. In total, 612 participants (32%) were determined to have periodontitis, of which 513 (26.8%) had non-severe (mild or moderate) periodontitis, and 99 (5.2%) had severe periodontitis. In unadjusted regression models, both non-severe and severe periodontitis were associated with SMMI (ℨ𝓌non-severe = 1.01, 95% CI 0.50; 1.52 and ℨ𝓌severe = 1.42, 95% CI 0.59; 2.25) but not with cHGS. After adjusting for age, sex, education, body mass index, bone mineral density, diabetic status, education, total energy intake, total protein intake, and serum vitamin D2 + D3, periodontitis was associated with cHGS (ℨ𝓌non-severe = -2.81, 95% CI - 4.7; - 1.15 and ℨ𝓌severe = - 2.73, 95% CI - 6.31; 0.83). The association between periodontitis and SMMI remained for non-severe periodontitis (ℨ𝓌non-severe = 0.07, 95% CI - 0.26; 0.40 and ℨ𝓌severe = 0.22, 95% CI - 0.34; 0.78).

Conclusion: The present study highlights the need of further prospective research to investigate the nature and direction of the relationship between periodontitis and sarcopenia indicators. Future studies can support the screening, prevention and clinical management of sarcopenia and periodontitis, and emphasize the interdisciplinary and complementary approach between the disciplines of geriatric medicine and periodontology.

Koziel J, Potempa J. Pros and cons of causative association between periodontitis and rheumatoid arthritis. Periodontol 2000. 2022 Jun;89(1):83-98. doi: 10.1111/prd.12432. Epub 2022 Mar 9. PMID: 35262966; PMCID: PMC9935644.
https://pubmed.ncbi.nlm.nih.gov/35262966/

ABSTRACT

Research in recent decades has brought significant advancements in understanding of the molecular basis of the etiology of autoimmune diseases, including rheumatoid arthritis, a common systemic disease in which an inappropriate or inadequate immune response to environmental challenges leads to joint destruction. Recent studies have indicated that the classical viewpoint of the immunological processes underpinning the pathobiology of rheumatoid arthritis is restricted and needs to be expanded to include a more holistic and interdisciplinary approach incorporating bacteria-induced inflammatory reactions as an important pathway in rheumatoid arthritis etiology. Here, we discuss in detail data showing the clinical and molecular association of rheumatoid arthritis development with periodontal diseases. We also describe the unique role of periopathogens, which have been proposed to be crucial in the initiation and progression of this autoimmune pathological disorder.

Kudiyirickal MG, Pappachan JM. Periodontitis: An often-neglected complication of diabetes. World J Diabetes. 2024 Mar 15;15(3):318-325. doi: 10.4239/wjd.v15.i3.318. PMID: 38591080; PMCID: PMC10999051.
https://pubmed.ncbi.nlm.nih.gov/38591080/

ABSTRACT

The bidirectional association between type 2 diabetes mellitus (T2DM) and periodontitis is now well established, resulting in periodontal disease being considered as the 6th major complication of diabetes

mellitus (DM) after car-diovascular disease, eye disease, neuropathy, nephropathy, and peripheral vascular disease. DM can worsen the virulence and invasiveness of pathogenic oral microbial flora aggravating the local inflammation and infection in those with periodontal disease. On the other hand, the chemical and immunological mediators released into the circulation as part of periodontal inflammation worsen the systemic insulin resistance with worsening of T2DM. Periodontitis if undiagnosed or left untreated can also result in eventual tooth loss. A study by Xu et al in the World Journal of Diabetes examined the predictive factors associated with periodontitis in Chinese patients with T2DM. The prevalence of periodontitis was found to be 75.7% in this study. Based on logistic regression analysis, the predictive factors for higher risk were low tooth brushing frequency [odds ratio (OR) = 4.3], high triglycerides (TG; OR = 3.31), high total cholesterol (TC; OR = 2.87), higher glycated hemoglobin (HbA1c; OR = 2.55), and higher age (OR = 1.05) while higher education level was protective (OR = 0.53). However, the most influential variables were HbA1c followed by age, TC, TG, low education level, brushing frequency, and sex on the random forest model (this model showed higher sensitivity for predicting the risk). A good understanding of the predictors for periodontitis in T2DM patients is important in prevention, early detection of susceptible patients, and intervention to improve periodontal health and enable long-term glycaemic control as observed by Xu et al.

Le QA, Akhter R, Coulton KM, Vo NTN, Duong LTY, Nong HV, Yaacoub A, Condous G, Eberhard J, Nanan R. Periodontitis and Preeclampsia in Pregnancy: A Systematic Review and Meta-Analysis. Matern Child Health J. 2022 Dec;26(12):2419-2443. doi: 10.1007/s10995-022-03556-6. Epub 2022 Oct 8. PMID: 36209308; PMCID: PMC9747857.
https://pubmed.ncbi.nlm.nih.gov/36209308/

ABSTRACT

Objectives: A conflicting body of evidence suggests localized periodontal inflammation spreads systemically during pregnancy inducing adverse pregnancy outcomes. This systematic review and meta-analysis aim to specifically evaluate the relationship between periodontitis and preeclampsia.

Methods: Electronic searches were carried out in Medline, Pubmed, Embase, Lilacs, Cochrane Controlled Clinical Trial Register, CINAHL, ClinicalTrials.gov, and Google Scholar with no restrictions on the year of publication. We identified and selected observational case-control and cohort studies that analyzed the association between periodontal disease and preeclampsia. This meta-analysis was conducted following the PRISMA checklist and MOOSE checklist. Pooled odds ratios, mean difference, and 95% confidence intervals were calculated using the random effect model. Heterogeneity was tested with Cochran's Q statistic.

Results: Thirty studies including six cohort- and twenty-four case-control studies were selected. Periodontitis was significantly associated with increased risk for preeclampsia (OR 3.18, 95% CI 2.26 - 4.48, $p < 0.00001$), especially in a subgroup analysis including cohort studies (OR 4.19, 95% CI 2.23 - 7.87, $p < 0.00001$). The association was even stronger in a subgroup analysis with lower-middle-income countries (OR 6.70, 95% CI 2.61 - 17.19, $p < 0.0001$).

Conclusions: Periodontitis appears as a significant risk factor for preeclampsia, which might be even more pronounced in lower-middle-income countries. Future studies to investigate if maternal amelioration of periodontitis prevents preeclampsia might be warranted.

Li Y, Liu Y, Yin T, He M, Fang C, Tang X, Peng S, Liu Y. Association of periodontitis, tooth loss, and self-rated oral health with circadian syndrome in US adults: a cross-sectional

population study. BMC Oral Health. 2025 May 13;25(1):713. doi: 10.1186/s12903-025-06078-z. PMID: 40361086; PMCID: PMC12070748.
https://pubmed.ncbi.nlm.nih.gov/40361086/

ABSTRACT

Background: This study was to investigate associations of periodontitis, tooth loss and self-rated oral health with circadian syndrome.

Methods: Data regarding periodontitis, dentition, oral health questionnaire and circadian syndrome of 30-85 years old participants from US National Health and Nutrition Examination Survey 2005-2020 were analyzed. Periodontitis questions for periodontitis and dentition status were validated. Weighted multivariable logistic regression analyses were used.

Results: Weighted prevalence of circadian syndrome and stage II-IV periodontitis was 33.29% and 88.87%, respectively. When compared with stage I periodontitis, stage II periodontitis was significantly associated with greater circadian syndrome prevalence after adjustment (odds ratio (OR) and 95% confidence interval (CI): Stage II: 1.35 (1.03, 1.76), P = 0.032; Stage III: 1.30 (0.97, 1.73), P = 0.069; Stage IV: 1.17 (0.82, 1.65), P = 0300). Stage II periodontitis was significantly associated with greater prevalence of lower high-density lipoprotein cholesterol (HDL) and elevated triglycerides and stage III and stage IV periodontitis were significantly associated with greater hypertension prevalence. A 1 tooth increase in the number of missing teeth was associated with a 1% increase in circadian syndrome and its components of obesity, elevated fasting plasma glucose (FPG) and short sleep. Poor or fair self-rated oral health showed a specificity of > 70% for periodontitis and lack of functional dentition. Meanwhile, poor or fair self-rated oral health had relatively higher levels of sensitivity for stage II-IV periodontitis (35%), stage III-IV periodontitis (46%), stage IV periodontitis (60%) and lacking functional dentition (56%). When compared to excellent self-rated oral health, good, fair and poor self-rated oral health were significantly associated with higher circadian syndrome prevalence (OR and 95% CI: Very good: 1.13 (0.97, 1.32), P = 0.120; Good: 1.34 (1.14, 1.57), P < 0.001; Fair: 1.41 (1.16, 1.71), P = 0.001; Poor: 1.63 (1.32, 2.03), P < 0.001). Additionally, participants with worse self-rated oral health had significantly higher prevalence of elevated FPG, hypertension, low HDL, elevated triglycerides, short sleep and depression.

Conclusions: Periodontitis, tooth loss and worse self-rated oral health were associated with circadian syndrome in US adults. Self-rated oral health may be a simple question to indicate oral and systemic health.

Li YY, Liu Y, Ogunmefun M, Wang K. Assessing Oral Health-Related Quality of Life in Older Tennessean Adults. Dent J (Basel). 2025 May 1;13(5):203. doi: 10.3390/dj13050203. PMID: 40422623; PMCID: PMC12110751.
https://pubmed.ncbi.nlm.nih.gov/40422623/

ABSTRACT

Background: Tennessee has one of the worst rankings for older adults' oral health in the United States. This study aims to evaluate the oral health-related quality of life (OHRQoL) among older individuals (aged 60 and above) in Tennessee using the Oral Health Impact Profile-14 (OHIP-14) questionnaire. Methods: The data were collected from the 233 Tennessee Smile-on program participants in the early phase of the COVID-19 pandemic, between December 2019 and August 2021. The frequency and percentage for each subgroup were calculated. Cronbach's alpha was used to measure the internal consistency or reliability of OHIP in this study. Factor Analysis (FA) with oblique rotation was conducted to explore the underlying factor structure of the OHIP questionnaire set. A p < 0.05 was considered statistically significant. Results: The majority of participants were retired (59.66%), and there was a significant difference in OHIP_sum scores among different employment statuses (p = 0.018). Cronbach's alpha showed the domains of psychological discomfort, physical disability, and psychological disability were highly correlated with the total score (alpha = 0.8). Factor analysis identified three main dimensions: physical discomfort, psychological distress, and functional disability, and they can explain over 90% of the total variance. Individuals measure of sampling adequacy (MSA) and overall MSA are greater than 0.9, indicating excellent sampling adequacy. Conclusions: The study suggested that oral health can be assessed not only through examinations by dental professionals but also by considering emotional and social well-being. However, a limitation of the study is that it was conducted during the COVID-19 outbreak, which restricted participant involvement.

Liu Z, Li Z, Wang L, Gu Z, Ma L. Bibliometric Analysis of the Knowledge Landscape of Periodontal Disease in Pregnancy: A Noteworthy Multidisciplinary Issue. J Multidiscip Healthc. 2023 Dec 8;16:3941-3957. doi: 10.2147/JMDH.S437127. PMID: 38089783; PMCID: PMC10714988.
https://pubmed.ncbi.nlm.nih.gov/38089783/

ABSTRACT

Background: Pregnant women are highly susceptible to periodontal disease due to changes in hormonal and immune levels, which places a huge burden on the healthcare system and requires multidisciplinary interventions. This study aimed to assess the scientific profile and research trends related to periodontal disease in pregnancy through a bibliometric approach.

Methods: Publications about periodontal disease in pregnancy from 2000 to 2022 were extracted from Science Citation Index Expanded. The knowledge networks of countries, institutions, authors, journals, references, and keywords in this field were constructed using the Citespace, VOSviewer, Bibliometrix, and BIBLIOMETRIC.COM platforms. Furthermore, correlations between the characteristics of countries and the number or impact of publications were analyzed.

Results: 1162 original studies and reviews were included. There was a trend toward increased publications and citations in this field. The United States had the highest academic productivity and impact by a significant margin, while correlation analyses indicated that economic power may correlate with national scientific activity. The University of North Carolina and Offenbacher S were the most influential institution and author, respectively, taking center stage in the collaborative networks. However, only several loose connections between countries or institutions were identified in the global collaborative network analysis. Six of the top ten most productive journals were in Q1 in the Journal Citation Report, and there was intensive interaction between different research subfields, such as immunology, molecular biology, and microbiology. Frontier topics were primarily clustered in two areas: (1) oral microbiology, such as microbiome, oral bacteria, and Fusobacterium nucleatum; and (2) public health, such as quality of life, pregnancy outcomes, oral health, obesity, and classification.

Conclusion: Since 2000, periodontal disease in pregnancy is receiving increasingly widespread attention and is rapidly evolving at a multidisciplinary level. Oral microbiological pathogenesis and public health impact-related research deserve more exploration and may be the future direction of research. Enhanced

Collaboration and interdisciplinary communication may further facilitate progress in this discipline.

Liu F, Song S, Ye X, Huang S, He J, Wang G, Hu X. Oral health-related multiple outcomes of holistic health in elderly individuals: An umbrella review of systematic reviews and meta-analyses. Front Public Health. 2022 Oct 27;10:1021104. doi: 10.3389/fpubh.2022.1021104. PMID: 36388333; PMCID: PMC9650948. https://pubmed.ncbi.nlm.nih.gov/36388333/

ABSTRACT

Background and aims: Along with an aging population, exploring the impact of oral health on holistic health and determining exact outcomes in elderly individuals are important in both scientific research and clinical practice. Significant increase in the number of systematic reviews shows that oral health can directly or indirectly affect the overall health of elderly people physically, mentally and socially. To systematically collate, appraise, and synthesize the current evidence, we carried out an umbrella review of the impacts of oral health on holistic health in elderly individuals.

Methods: A systematic reviews and meta-analyses search was performed in the major databases PubMed, MEDLINE, Web of Science and the Cochrane Library from inception to February 1, 2022, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. The JBI (Joanna Briggs Institute) Critical Appraisal Checklist for Systematic Reviews and Research Syntheses was referred to assess methodological quality, and the GRADE (Grading of Recommendations, assessment, Development, and Evaluation working group classification) was used to assess the quality of evidence for each outcome included in the umbrella review.

Results: Out of 1,067 records, a total of 35 systematic reviews were included. Respiratory diseases, malnutrition, age-related oral changes, frailty, cognitive impairment, depression and poor quality of life were identified as seven key outcomes that affect the physical, mental and social health of elderly individuals. Meanwhile, three intervention measures of oral health were summarized as (i) more rigorous and universal scales, (ii) dental cleaning and denture installation, and (iii) improving self-awareness regarding oral care.

Conclusions: Evidence showed that oral health can significantly affect holistic health, and the diverse oral diseases directly lead to multiple health outcomes in elderly individuals. Clear high-quality evidence revealed that oral health is strongly associated with seven health outcomes covering physical, mental, and social levels, which directly corresponds to holistic health, and impacts the quality of life of elderly individuals. Such the results remind the importance of oral care in public health, and further studies need to be conducted to verity more specific association between oral health and other chronic diseases.

Ma Y, Tuerxun N, Maimaitili G. Periodontitis and the risk of oral cancer: a meta-analysis of case-control studies. Acta Odontol Scand. 2024 May 14;83:40478. doi: 10.2340/aos.v83.40478. PMID: 38742908; PMCID: PMC11302657. https://pubmed.ncbi.nlm.nih.gov/38742908/

ABSTRACT

Objective: The current studies have yielded inconclusive findings regarding the connection between periodontitis and oral cancer (OC). Therefore, our goal is to elucidate this relationship.

Materials and methods: We conducted a thorough search of electronic databases (EMBASE, PubMed, Web of Science, and Cochrane Library) up to September 2023. The Newcastle-Ottawa Scale (NOS) was applied to assess study quality. To evaluate potential publication bias, both a funnel plot and Egger's test were employed. Additionally, a sensitivity analysis was conducted to explore the source of heterogeneity when the I2 statistic exceeded 50%.

Results: This systematic review encompassed 16 studies, involving a total of 6,032 OC patients and 7,432 healthy controls. Our meta-analysis, incorporating data from nine studies, revealed a significant correlation between periodontitis and the risk of OC (OR [odds ratio] = 2.94, 95% CI [confidence interval] (2.13, 4.07); five studies, 6,927 participants; low certainty of evidence). Findings also suggested that individuals with more than 15 missing teeth may have a heightened risk of OC (OR = 1.91, 95% CI (1.01, 3.62)). Furthermore, clinical attachment loss (CAL) and decayed, missing, and filled teeth (DMFT) in OC patients were more pronounced compared to the control group (CAL, SMD = 1.94, 95% CI (0.22, 3.66); DMFT, SMD = 0.65, 95% CI (0.12, 1.18)).

Conclusion: Periodontitis may serve as a potential risk factor for OC. However, caution is warranted in interpreting these findings due to the substantial level of heterogeneity.

Mendes JJ, Neves M, Supiot C, Pinto L, Tenda D, Silva N, Proença L, Leira Y, Machado V, Botelho J. Combining Self-Reported Information with Radiographic Bone Loss to Screen Periodontitis: A Performance Study. J Clin Med. 2025 Jun 26;14(13):4531. doi: 10.3390/jcm14134531. PMID: 40648906; PMCID: PMC12249554. https://pubmed.ncbi.nlm.nih.gov/40648906/

ABSTRACT

Background/Objectives: The objective of this study is to evaluate the diagnostic performance of a combined screening approach using self-reported periodontal information and radiographic periodontal bone loss (R-PBL) in identifying individuals with periodontitis. Methods: An exploratory cross-sectional study was conducted including adult participants with available panoramic radiographs and responses to a validated self-reported periodontal screening questionnaire. R-PBL was assessed on interproximal sites and classified according to established thresholds. Self-reported information followed a validated strategy based on the Center for Diseases Control tool. The performance of individual and combined indicators was analyzed against the 2018 case definition for periodontitis, calculating sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and area under the receiver operating characteristic curve (AUC). Results: A total of 150 participants were included, equally divided between periodontitis cases and controls, with a mean age of 46.5 years. The R-PBL model demonstrated the best predictive performance for both periodontitis (AUC: 0.833) and severe periodontitis (AUC: 0.796), with the highest precision and net benefit across thresholds. The Either model showed similar performance, particularly in sensitivity, while SR and Both models underperformed. Decision curve analysis confirmed the superior clinical utility of 'R-PBL' and 'Either' models in guiding decision-making. Conclusions: Combining self-reported information with radiographic bone loss showed adequate screening performance for periodontitis. This dual approach may provide a feasible strategy for identifying high-risk individuals in settings where full clinical examination is not possible.

Molina A, Huck O, Herrera D, Montero E. The association between respiratory diseases and periodontitis: A systematic review and meta-analysis. J Clin Periodontol. 2023

Jun;50(6):842-887. doi: 10.1111/jcpe.13767. Epub 2023 Feb 5. PMID: 36606394.
https://pubmed.ncbi.nlm.nih.gov/36606394/

ABSTRACT

Aim: To evaluate (1) whether periodontitis has an influence on the prevalence/incidence of respiratory diseases (chronic obstructive pulmonary disease [COPD], asthma, community-acquired pneumonia [CAP], obstructive sleep apnoea [OSA] and COVID-19), and (2) what is the impact of periodontal therapy on the onset or progression of respiratory diseases.

Materials and methods: An electronic search was performed on Pubmed, Cochrane Library and Scopus databases up to October 2021, to identify studies answering the PECOS and PICOS questions.

Results: Seventy-five articles were selected. Meta-analyses identified statistically significant associations of periodontitis with COPD (nstudies = 12, odds ratio [OR] = 1.28, 95% confidence interval [CI] [1.16; 1.42], p < .001), and OSA (ns = 6, OR = 1.65, 95% CI [1.21; 2.25], p = .001), but not for asthma (ns = 9, OR = 1.53, 95% CI [0.82; 2.86], p = .181). For acute conditions, two studies were found for CAP, while for COVID-19, significant associations were found for the need of assisted ventilation (ns = 2, OR = 6.24, 95% CI [2.78; 13.99], p < .001) and COVID-related mortality (ns = 3, OR = 2.26, 95% CI [1.36, 3.77], p = .002). Only four intervention studies were found, showing positive effects of periodontal treatment on COPD, asthma and CAP.

Conclusions: A positive association between periodontitis and COPD, OSA and COVID-19 complications has been found, while there is a lack of intervention studies.

Murray PE, Coffman JA, Garcia-Godoy F. Oral Pathogens' Substantial Burden on Cancer, Cardiovascular Diseases, Alzheimer's, Diabetes, and Other Systemic Diseases: A Public Health Crisis-A Comprehensive Review. Pathogens. 2024 Dec 9;13(12):1084. doi: 10.3390/pathogens13121084. PMID: 39770344; PMCID: PMC11677847.
https://pubmed.ncbi.nlm.nih.gov/39770344/

ABSTRACT

This review synthesizes the findings from 252 studies to explore the relationship between the oral pathogens associated with periodontitis, dental caries, and systemic diseases. Individuals with oral diseases, such as periodontitis, are between 1.7 and 7.5 times (average 3.3 times) more likely to develop systemic diseases or suffer adverse pregnancy outcomes, underscoring the critical connection between dental and overall health. Oral conditions such as periodontitis and dental caries represent a significant health burden, affecting 26-47% of Americans. The most important oral pathogens, ranked by publication frequency, include the herpes virus, C. albicans, S. mutans, P. gingivalis, F. nucleatum, A. actinomycetemcomitans, P. intermedia, T. denticola, and T. forsythia. The systemic diseases and disorders linked to oral infections, ranked similarly, include cancer, respiratory, liver, bowel, fever, kidney, complications in pregnancy, cardiovascular bacteremia, diabetes, arthritis, autoimmune, bladder, dementia, lupus, and Alzheimer's diseases. Evidence supports the efficacy of dental and periodontal treatments in eliminating oral infections and reducing the severity of systemic diseases. The substantial burden that oral pathogens have on cancer, cardiovascular diseases, Alzheimer's, diabetes, and other systemic diseases poses a significant public health crisis.

Nijland N, Su N, Gerdes VEA, Loos BG. Attempts to Modify Periodontal Screening Models Based on a Self-Reported Oral Health Questionnaire in the Medical Care Setting. J Clin Periodontol. 2025 Mar;52(3):387-398. doi: 10.1111/jcpe.14069. Epub 2024 Nov 7. PMID: 39510828; PMCID: PMC11830506.
https://pubmed.ncbi.nlm.nih.gov/39510828/

ABSTRACT

Aim: Periodontal disease (PD) screening models based on a self-reported questionnaire were previously established and externally validated. The aim of the present study is to explore whether the screening models could be modified to improve prediction performance; this methodology is called 'updating'.

Methods: Updating the models for 'total' and 'severe' PD was performed using two datasets. One dataset from a previous study (n = 155) was used to explore the updating, and a second (n = 187, built for the current study) was used to validate whether updating improved performance. Updating was based on different statistical approaches, including model recalibration and revision. Discrimination and calibration were assessed after updating.

Results: For 'total' PD, the update based on model revision improved its performance. However, still low AUCs were found: 0.64 (0.56-0.73) and 0.61 (0.53-0.69) with corresponding O:E ratios 1.00 (0.80-1.23) and 0.92 (0.75-1.13) in the update and validation cohorts, respectively. For 'severe' PD, performance of the original model without update performed still the best; AUCs were 0.72 (0.61-0.83) and 0.75 (0.66-0.84) in the update and validation cohorts, respectively, with corresponding O:E ratios 0.60 (0.38-0.84) and 0.62 (0.42-0.87).

Conclusions: The updating methodology did not further improve the performance of the original 'severe' PD screening model; it performed satisfactorily in the medical care setting. Despite updating attempts, the screening model for 'total' PD remained sub-optimal. Screening for 'severe' PD can now be implemented in the medical care setting.

Oliveira SR, de Arruda JAA, Schneider AH, Ferreira GA, Calderaro DC, Costa FO, Teixeira AL, de Oliveira RDR, Louzada-Júnior P, Cunha FQ, Abreu LG, Silva TA. Does non-surgical periodontal treatment contribute to rheumatoid arthritis amelioration? Evidence based on an overview and meta-analysis. Odontology. 2025 Jul;113(3):903-917. doi: 10.1007/s10266-024-01033-w. Epub 2024 Nov 29. PMID: 39612137.
https://pubmed.ncbi.nlm.nih.gov/39612137/

ABSTRACT

The aim of the present study was to provide an overview evaluating the effects of non-surgical periodontal treatment in rheumatoid arthritis, focusing on 28-joint Disease Activity Score (DAS28), C-reactive protein, and erythrocyte sedimentation rate. Systematic reviews, with and without meta-analyses, comparing individuals who had undergone non-surgical periodontal treatment with those who had not, and assessing parameters before and after treatment, were included. Electronic searches were conducted in August 2023 and updated in August 2024 across four databases (PubMed, Scopus, Embase, and Web of Science) and gray literature, with no restriction on language or publication date. The study followed the 2020 PRISMA statement, and a protocol was registered in PROSPERO (CRD42023414714). A total of 10 systematic reviews were included: six with meta-analyses and four without meta-analyses. The number of articles included ranged from three to 31 studies. Non-surgical periodontal treatment resulted in a signi-

ficant decrease in C-reactive protein, erythrocyte sedimentation rate, and DAS28. The follow-up period after treatment ranged from six to 24 weeks. A meta-analysis was conducted, incorporating data from 18 primary studies identified in the systematic reviews and comparing the difference in DAS28 at baseline (n = 454) and up to three months (n = 449) after the non-surgical periodontal treatment. A significant reduction in DAS28 was observed (MD = - 0.76; 95% CI = - 1.07 to - 0.44). Despite the heterogeneity of data related to rheumatoid arthritis and periodontitis status, non-surgical periodontal treatment can result in a decrease in the concentration of circulating inflammatory mediators and, consequently, in a reduction in DAS28 in rheumatoid arthritis.

Orlandi M, Muñoz Aguilera E, Marletta D, Petrie A, Suvan J, D'Aiuto F. Impact of the treatment of periodontitis on systemic health and quality of life: A systematic review. J Clin Periodontol. 2022 Jun;49 Suppl 24:314-327. doi: 10.1111/jcpe.13554. Epub 2021 Nov 17. PMID: 34791686.
https://pubmed.ncbi.nlm.nih.gov/34791686/

ABSTRACT

Aim: To investigate the effect of treatment of periodontitis on systemic health outcomes, pregnancy complications, and associated quality of life.

Materials and methods: Systematic electronic searches were conducted to identify randomized controlled trials with minimum 6-month follow-up and reporting on the outcomes of interest. Qualitative and quantitative analyses were performed as deemed suitable.

Results: Meta-analyses confirmed reductions of high-sensitivity C-reactive protein (hs-CRP) [0.56 mg/L, 95% confidence interval (CI) (-0.88, -0.25), p < .001]; interleukin (IL)-6 [0.48 pg/ml, 95% CI (-0.88, -0.08), p = .020], and plasma glucose [1.33 mmol/l, 95% CI (-2.41, -0.24), p = .016], and increase of flow-mediated dilation (FMD) [0.31%, 95% CI (0.07, 0.55), p = .012] and diastolic blood pressure [0.29 mmHg, 95% CI (0.10, 0.49), p = .003] 6 months after the treatment of periodontitis. A significant effect on preterm deliveries (<37 weeks) was observed [0.77 risk ratio, 95% CI (0.60, 0.98), p = .036]. Limited evidence was reported on quality-of-life (QoL) outcomes in the included studies.

Conclusions: Treatment of periodontitis results in systemic health improvements including improvement in cardiometabolic risk, reduction in systemic inflammation and the occurrence of preterm deliveries. Further research is however warranted to confirm whether these changes are sustained over time. Further, appropriate QoL outcomes should be included in the study designs of future clinical trials.

Parveen S, Qahtani ASA, Halboub E, Hazzazi RAA, Madkhali IAH, Mughals AIH, Baeshen SAA, Moaidi AM, Al-Ak'hali MS. Periodontal-Systemic Disease: A Study on Medical Practitioners' Knowledge and Practice. Int Dent J. 2023 Dec;73(6):854-861. doi: 10.1016/j.identj.2023.05.003. Epub 2023 Jun 17. PMID: 37330312; PMCID: PMC10658429.
https://pubmed.ncbi.nlm.nih.gov/37330312/

ABSTRACT

Objective: Oral health is intricately linked with systemic health. However, the knowledge and practice levels of medical practitioners (MPs) about this concern are extremely variable. The current study, therefore, sought to assess the status of knowledge and practice of MPs concerning the link between periodontal disease and different systemic conditions as well as the efficacy of a webinar as an interventional tool in enhancing knowledge of MPs of Jazan Province of Saudi Arabia.

Methods: This prospective interventional study involved 201 MPs. A 20-item questionnaire on evidence-based periodontal/systemic health associations was used. The participants answered the questionnaire before and 1 month after a webinar training that explained the mechanistic interrelation of periodontal and systemic health. McNemar test was performed for statistical analysis.

Results: Out of the 201 MPs who responded to the pre-webinar survey, 176 attended the webinar and hence were included in the final analyses. Sixty-eight (38.64%) were female, and 104 (58.09%) were older than 35 years. About 90% of MPs reported not being trained on oral health. Pre-webinar, 96 (54.55%), 63 (35.80%), and 17 (9.66%) MPs rated their knowledge about the association of periodontal disease with systemic diseases as limited, moderate, and good, respectively. Post-webinar, these figures improved remarkably: 36 (20.45%), 88 (50.00%), and 52 (29.55%) MPs rated their knowledge as limited, moderate, and good, respectively. Around 64% of MPs had relatively good levels of knowledge about the positive influence of periodontal disease treatment on diabetic patients' blood glucose levels.

Conclusions: MPs revealed low levels of knowledge on the oral and systemic disease interrelationship. Conducting webinars on the oral-systemic health interrelationship seems to improve the overall knowledge and understanding of MPs.

Qi J, Chen J, Pang Y, Guo Y, Chen G, Liu Y, Wang J, Liu E. Association between periodontal disease and osteoporosis in postmenopausal women: A systematic review and meta-analysis. Heliyon. 2023 Oct 20;9(11):e20922. doi: 10.1016/j.heliyon.2023.e20922. PMID: 37920517; PMCID: PMC10618781.
https://pubmed.ncbi.nlm.nih.gov/37920517/

ABSTRACT

Objective: To evaluate the relationship between periodontitis and postmenopausal osteoporosis.

Methods: This research was carried out according to the principles laid down by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guideline statement. We searched the Web of Science, Embase, PubMed, The Cochrane Library, CNKI, VIP, and WanFang databases from inception to July 1, 2023 to collect all relevant publications, with no restrictions on publication date or Languages. Cochrane's tool for assessing RoB was used to evaluate the RoB for RCTs. The Newcastle-Ottawa Scale was used to assess the RoB for cohort studies and case-control studies. Mean differences (MD) with 95 % confidence intervals (CI) were used for analysis of continuous data. Heterogeneity was measured using the I2 statistic. Revman 5.4 software was used for the meta-analysis.

Results: 28 observational studies with 19611 patients, including 5813 cases in the postmenopausal osteoporosis group and 13798 cases in the non-osteoporosis group. The studies showed that the degrees of clinical attachment loss (CAL), probing depth (PD), gingival recession (GR), simplified oral hygiene index (OHIS), and percentage of sites with bleeding on probing (BOP) in the postmenopausal osteoporosis group were higher than those in the non-osteoporosis group[CAL(MD = 0.89(mm), 95 % CI [0.48,1.30], p < 0.00001), PD (MD = 0.27(mm), 95 % CI [0.13, 0.41], p = 0.0001), GR (MD = 0.28(mm), 95 % CI [0.20, 0.35], p < 0.00001),

OHIS (MD = 1.32,95 % CI [1.12,1.51], p < 0.00001), BOP(MD = 12.71(%), 95 % CI [3.24,22.18], p = 0.009)]. Eleven studies found that bone mineral density (BMD) in the postmenopausal osteoporosis group was lower than that in non-osteoporosis group (MD = -0.41(U/cm2), 95 % CI [-0.77,-0.05], p = 0.03). The combined analysis results of the studies in the two groups showed that there were no significant differences in the loss of alveolar crestal height (ACH)[(MD = -1.76(%),95%CI [-3.64,0.12], p = 0.07)].

Conclusion: Postmenopausal osteoporosis patients are more likely to suffer from periodontitis, and the condition is easily aggravated.

Rajaratinam H, Abdul Rahman NA, Hanafi MH, Zainuddin SLA, Ibrahim HA, Kamarudin MI, Wan Zain WMS, Kuttulebbai Nainamohamed Salam S, Isa S, Kassim NK. Exploring the outcomes of non-surgical periodontal therapy in modulating periodontal parameters, renal function, and inflammatory biomarkers in chronic kidney disease patients with periodontitis. PeerJ. 2025 May 29;13:e19492. doi: 10.7717/peerj.19492. PMID: 40452929; PMCID: PMC12126971.
https://pubmed.ncbi.nlm.nih.gov/40452929/

ABSTRACT

Background: This comparative prospective cohort study investigated the outcomes of non-surgical periodontal therapy (NSPT) on periodontal parameters, renal function, and serum inflammatory markers in chronic kidney disease (CKD) patients with periodontitis.

Methods: Participants were categorised into three groups: CKD patients with periodontitis (CKD-P, n = 20), patients with periodontitis only (P, n = 20), and healthy participants (HP, n = 20). Periodontal parameters were initially evaluated for all participants. Blood samples were collected to assess renal function, including serum electrolytes, urea, creatinine and estimated glomerular filtration rate (eGFR), as well as inflammatory markers such as interleukin-6 (IL-6) and transforming growth factor-beta 1 (TGF-B1). NSPT was performed on both the CKD-P and P groups. Six weeks following treatment, periodontal parameters, renal function tests and inflammatory markers were re-evaluated to determine any modulation in these outcomes.

Results: The CKD-P group exhibited the highest concentration of potassium, urea, and creatinine. There were no significant differences in the periodontal pocket depth (PPD) and clinical attachment loss (CAL) means between CKD-P and P groups (P > 0.05). Similarly, there was no significant difference in the gingival bleeding index (GBI) scores between CKD-P, P, and HP groups (P > 0.05). However, the CKD-P group exhibited the highest plaque score (PS) compared to the P and HP groups (P < 0.0001). Post-NSPT, both the CKD-P and P groups showed significant improvement in these periodontal parameters. The median eGFR for the CKD-P group improved significantly (P < 0.0001) after NSPT. In terms of inflammatory markers, the IL-6 levels were significantly higher in the CKD-P group compared to the P and HP groups (P < 0.001). Additionally, there were significant differences in the TGF-B1 levels across all three groups (P < 0.05). Following post-NSPT, both CKD-P (P < 0.001) and P (P < 0.0001) groups demonstrated significant reductions in IL-6. As for the TGF-B1 level, significant reduction post-NSPT was only observed in the CKD-P group (P < 0.001).

Conclusion: NSPT is effective in enhancing periodontal health, improving renal function, and decreasing systemic inflammation in CKD patients with periodontitis.

Ramírez L, Sánchez I, González-Serrano J, Muñoz M, Martínez-Acitores ML, Garrido E,

Hernández G, López-Pintor RM. Factors influencing xerostomia and oral health-related quality of life in polymedicated patients. Gerodontology. 2024 Sep;41(3):424-432. doi: 10.1111/ger.12724. Epub 2023 Nov 9. PMID: 37944110.
https://pubmed.ncbi.nlm.nih.gov/37944110/

ABSTRACT

Objectives: To evaluate whether the severity of xerostomia in older polymedicated patients impacts oral health-related quality of life (OHRQoL).

Background: Medication-associated xerostomia is common in older people. Xerostomia may impair OHRQoL.

Materials and methods: This cross-sectional study included older hypertensive patients from two health centres. We assessed the severity of xerostomia and OHRQoL using the Xerostomia Inventory (XI) tool, and the Oral Health Impact Profile-14 (OHIP-14) instrument, respectively. We measured unstimulated (UWS) and stimulated (SWS) salivary flows. Univariate and multiple linear regression analyses evaluated the associations of XI and OHIP-14 and different explanatory variables.

Results: Of the 218 patients enrolled, 51.8% had xerostomia, and 38.1% and 27.5% suffered from UWS and SWS hyposalivation, respectively. Patients with xerostomia, UWS, and SWS hyposalivation scored significantly higher on the XI. However, only those with xerostomia or UWS hyposalivation had significantly higher OHIP-14 scores. A moderate correlation was observed between XI and OHIP-14 scores. The multiple regression model showed that factors with the greatest impact on XI were the patient's complaint of xerostomia, UWS flow rate, age and sex. However, only the XI score was significantly associated with the OHIP-14 score.

Conclusion: Xerostomia has a negative impact on OHRQoL in older polymedicated patients, but this impact is less than in other types of xerostomia. Longitudinal studies are needed to determine whether changes in the detected explanatory variables influence XI and OHIP scores in these patients.

Sayeed G, Varghese SS. Evaluation of the Effect of Supragingival Scaling on Periodontal Parameters in Pregnant Women with Metabolic Syndrome. J Pharm Bioallied Sci. 2024 Dec;16(Suppl 4):S3925-S3931. doi: 10.4103/jpbs.jpbs_1372_24. Epub 2024 Dec 10. PMID: 39927038; PMCID: PMC11805228.
https://pubmed.ncbi.nlm.nih.gov/39927038/

ABSTRACT

Background: Although there are quite a number of studies on the impacts of periodontal therapeutic management on pregnant females, literature on the impact of supragingival scaling on pregnant females with metabolic syndrome (MS) is wanting. The present investigation was meticulously formulated to ascertain the clinical ramifications of supragingival scaling in pregnant individuals diagnosed with MS.

Material and methods: An intervention study was conducted on 47 pregnant females. The gingival index (GI), plaque index, bleeding on probing, probing depth, and clinical attachment level were among the periodontal parameters evaluated. By the end of 20-21 weeks of pregnancy, all participants had received

scaling and polishing at the baseline appointment, along with advice on dental hygiene. Periodontal parameters were gathered again during a follow-up appointment 8 weeks post treatment. A 5% threshold for statistical significance was set, and paired t-test and chi-square test were applied for comparison.

Results: Lower levels of PI, GI, and BOP 8 weeks post supragingival scaling were noted than at the baseline. The results obtained were statistically significant ($P < 0.001$) All patients with severe periodontitis ($n = 14$) before supragingival scaling shifted to milder forms of the disease. Similarly, moderate periodontitis was seen in 20 patients before the start of the study, and after the intervention, it was reduced to 16 patients.

Conclusion: In summary, supragingival scaling lowers the incidence of periodontal disease in pregnant MS females. High-risk pregnant women who receive scaling treatment and instruction on oral hygiene on a regular basis have better oral health, which in turn improves the health of their unborn child.

Smits KPJ, Listl S, Plachokova AS, Van der Galien O, Kalmus O. Effect of periodontal treatment on diabetes-related healthcare costs: a retrospective study. BMJ Open Diabetes Res Care. 2020 Oct;8(1):e001666. doi: 10.1136/bmjdrc-2020-001666. PMID: 33099508; PMCID: PMC7590362.
https://pubmed.ncbi.nlm.nih.gov/33099508/

ABSTRACT

Introduction: Periodontitis has been considered a sixth complication of diabetes. The aim of this study was to assess the impact of periodontal treatment on diabetes-related healthcare costs in patients with diabetes.

Research design and methods: A retrospective analysis was done, exploiting unique and large-scale claims data of a Dutch health insurance company. Data were extracted for a cohort of adults who had been continuously insured with additional dental coverage for the years 2012-2018. Individuals with at least one diabetes-related treatment claim in 2012 were included for analysis. A series of panel data regression models with patient-level fixed effects were estimated to assess the impact of periodontal treatment on diabetes-related healthcare costs.

Results: A total of 41 598 individuals with diabetes (age range 18-100 years; 45.7% female) were included in the final analyses. The median diabetes-related healthcare costs per patient in 2012 were €38.45 per quarter (IQR €11.52-€263.14), including diagnoses, treatment, medication and hospitalization costs. The fixed effect models showed €12.03 (95% CI -€15.77 to -€8.29) lower diabetes-related healthcare costs per quarter of a year following periodontal treatment compared with no periodontal treatment.

Conclusions: Periodontitis, a possible complication of diabetes, should receive appropriate attention in diabetes management. The findings of this study provide corroborative evidence for reduced economic burdens due to periodontal treatment in patients with diabetes.

Tamiya H, Abe M, Nagase T, Mitani A. The Link between Periodontal Disease and Asthma: How Do These Two Diseases Affect Each Other? J Clin Med. 2023 Oct 25;12(21):6747. doi: 10.3390/jcm12216747. PMID: 37959214; PMCID: PMC10650117.
https://pubmed.ncbi.nlm.nih.gov/37959214/

ABSTRACT

A growing body of evidence suggests that the effects of poor oral hygiene extend beyond the oral cavity and are associated with a variety of systemic diseases, including asthma. Asthma, which results in symptoms of cough, wheezing, and dyspnoea, and is characterized by airflow limitation with variability and (partial or complete) reversibility, is amongst the most prevalent respiratory diseases with approximately 262 million patients worldwide, and its prevalence and disease burden is on the increase. While asthma can occur at a young age, it can also develop later in life and affects a variety of age groups. Both of these diseases have a chronic course, and various researchers have suggested a link between the two. In this article, we aim to provide a literature review focusing on the association between the two diseases. The results demonstrate that medications (primarily, inhaler medicine), hypoxia induced by asthma, and the breathing behaviour of patients potentially trigger periodontal disease. In contrast, oral periodontopathogenic microorganisms and the inflammatory mediators produced by them may be involved in the onset and/or exacerbation of asthma. Common contributing factors, such as smoking, gastro-oesophageal reflux, and type-2 inflammation, should also be considered when evaluating the relationship between the two diseases.

Tanwar H, Gnanasekaran JM, Allison D, Chuang LS, He X, Aimetti M, Baima G, Costalonga M, Cross RK, Sears C, Mehandru S, Cho J, Colombel JF, Raufman JP, Thumbigere-Math V. Unraveling the Link between Periodontitis and Inflammatory Bowel Disease: Challenges and Outlook. ArXiv [Preprint]. 2023 Aug 19:arXiv:2308.10907v1. PMID: 37645044; PMCID: PMC10462160.
https://pubmed.ncbi.nlm.nih.gov/37645044/

ABSTRACT

Periodontitis and Inflammatory Bowel Disease (IBD) are chronic inflammatory conditions, characterized by microbial dysbiosis and hyper-immunoinflammatory responses. Growing evidence suggest an interconnection between periodontitis and IBD, implying a shift from the traditional concept of independent diseases to a complex, reciprocal cycle. This review outlines the evidence supporting an “Oral-Gut” axis, marked by a higher prevalence of periodontitis in IBD patients and vice versa. The specific mechanisms linking periodontitis and IBD remain to be fully elucidated, but emerging evidence points to the ectopic colonization of the gut by oral bacteria, which promote intestinal inflammation by activating host immune responses. This review presents an in-depth examination of the interconnection between periodontitis and IBD, highlighting the shared microbiological and immunological pathways, and proposing a “multi-hit” hypothesis in the pathogenesis of periodontitis-mediated intestinal inflammation. Furthermore, the review underscores the critical need for a collaborative approach between dentists and gastroenterologists to provide holistic oral-systemic healthcare.

Vachhani KS, Bhavsar NV. Effects of non-surgical periodontal therapy on serum inflammatory factor high-sensitive C-reactive protein, periodontal parameters and renal biomarkers in patients with chronic periodontitis and chronic kidney disease. Dent Med Probl. 2021 Oct-Dec;58(4):489-498. doi: 10.17219/dmp/136034. PMID: 34816635.
https://pubmed.ncbi.nlm.nih.gov/34816635/

ABSTRACT

Background: Chronic kidney disease (CKD) is associated with significant morbidity and mortality, and there are various risk factors for this disease. Although the association between CKD and periodontal disease (PD) has been reported in various cross-sectional studies, longitudinal intervention studies are scarce.

Objectives: This study aimed to evaluate the effects of non-surgical periodontal therapy (NSPT) on periodontal clinical parameters, serum inflammatory factor high-sensitivity C-reactive protein (hs-CRP) and renal biomarkers in patients with CKD and chronic periodontitis (CP).

Material and methods: A total of 80 patients with confirmed CKD aged 22-65 years, attending the Institute of Kidney Diseases Research Centre (IKDRC) in Ahmedabad, India, and referred to the Government Dental College and Hospital, Ahmedabad (GDCHA), were enrolled in this study. The patients were divided into 2 groups: group 1 received NSPT, including scaling and root planing (SRP), as well as oral hygiene instructions; and group 2 received oral hygiene instructions without NSPT. Periodontal clinical parameters, such as probing pocket depth (PPD), clinical attachment loss (CAL), bleeding on probing (BoP), the periodontal inflamed surface area (PISA) score, and the Simplified Oral Hygiene Index (OHI-S), were recorded. Biomarkers, including hs-CRP, the estimated glomerular filtration rate (eGFR) and the urine albumin-to-creatinine ratio (UACR), were obtained from medical records. The comparisons of periodontal parameters, hs-CRP and renal biomarkers within and between the groups were performed at baseline, and 3 and 6 months after treatment.

Results: The periodontal parameter scores as well as the serum levels of hs-CRP and UACR significantly decreased while eGFR significantly increased in group 1 after treatment as compared to baseline ($p < 0.001$). Six months after treatment, group 1 showed significantly lower values than group 2 for periodontal parameters, the serum levels of hs-CRP and renal biomarkers except for eGFR, which improved and increased ($p < 0.001$).

Conclusions: Periodontitis is an important source of chronic inflammation and the treatment of periodontitis can hinder systemic inflammation in CKD patients. Non-surgical periodontal therapy resulted in improved periodontal health, with significant decreases in hs-CRP and UACR, and an increase in eGFR in CKD patients with CP in comparison with CKD patients not receiving NSPT.

Wang J, Wang Y, Li H, Wang W, Zhang D. Associations between oral health and depression and anxiety: A cross-sectional and prospective cohort study from the UK Biobank. J Clin Periodontol. 2024 Nov;51(11):1466-1477. doi: 10.1111/jcpe.14039. Epub 2024 Jul 1. PMID: 38952070.
https://pubmed.ncbi.nlm.nih.gov/38952070/

ABSTRACT

Aim: To investigate the associations between oral health and depression, anxiety and their comorbidity in the UK Biobank cohort.

Materials and methods: Oral health problems were self-reported at baseline. Symptoms of depression and anxiety were assessed using the Mental Health Questionnaire (PHQ-4) in a cross-sectional study. In the cohort study, diagnoses of depression and anxiety disorders were based on hospital records. Logistic regression and Cox regression models were used to analyse the association between oral health and depression/anxiety.

Results: A total of 305,188 participants were included in the cross-sectional study, and multivariate analysis showed that periodontal disease was associated with depression and/or anxiety (odds ratio [OR]: 1.79, 95% confidence interval [CI]: 1.73-1.86). In the prospective cohort study involving 264,706 participants, periodontal disease was significantly associated with an increased risk of depression and/or anxiety (hazard ratio [HR]: 1.14, 95% CI: 1.10-1.19), depression (HR: 1.19, 95% CI: 1.13-1.25) and anxiety (HR: 1.13, 95% CI: 1.07-1.19). Periodontal disease was also significantly associated with comorbid depression and anxiety (HR: 1.27, 95% CI: 1.16-1.38). Multiple mediation analysis using baseline inflammatory factors showed that white blood cell count and C-reactive protein explained 3.07% and 3.15% of the association between periodontal disease and depression and anxiety, respectively. However, the results of longitudinal multiple mediation analysis of inflammatory factors at first follow-up (N = 10,673) were not significant.

Conclusions: Periodontal disease was found to be consistently associated with an increased risk of depression, anxiety and their comorbidity.

Wong LB, Yap AU, Allen PF. Periodontal disease and quality of life: Umbrella review of systematic reviews. J Periodontal Res. 2021 Jan;56(1):1-17. doi: 10.1111/jre.12805. Epub 2020 Sep 23. PMID: 32965050.
https://pubmed.ncbi.nlm.nih.gov/32965050/

ABSTRACT

This umbrella review appraised existing systematic reviews and meta-analysis to establish the impact of periodontal disease and therapy on general and oral health-related quality of life. A systematic electronic literature search was carried out in accordance with the PRISMA guideline up to January 2020 using PubMed, LIVIVO, EMBASE and OpenGrey (PROSPERO CRD 42020163831). Hand searching was performed through the reference lists of periodontal textbooks and related journals. All English language-based systematic reviews and meta-analysis that assessed the impact of periodontal disease and treatment interventions on general and oral health-related quality of life were included. Overall, eight articles met the inclusion criteria and their methodological quality was assessed using the AMSTAR2 criteria. Two systematic reviews showed a significant impact of oral conditions on general health-related quality of life, although the specific impact of periodontal disease remains inconclusive. Three systematic reviews established a negative impact of periodontal disease on oral health-related quality of life. Another three systematic reviews concluded that periodontal treatment can improve oral health-related quality of life. Oral conditions, like periodontal disease, can impact the general health-related quality of life. Periodontal disease is negatively correlated with oral health-related quality of life, although treatment interventions can improve self-reported quality of life. In view of the heterogeneity of generic instruments currently utilized to assess the self-reported quality of life of periodontal patients, the development of a general and oral health-related quality of life instrument specific for periodontal disease is strongly recommended.

Yu B, Wang CY. Osteoporosis and periodontal diseases - An update on their association and mechanistic links. Periodontol 2000. 2022 Jun;89(1):99-113. doi: 10.1111/prd.12422. Epub 2022 Mar 4. PMID: 35244945; PMCID: PMC9067601.
https://pubmed.ncbi.nlm.nih.gov/35244945/

ABSTRACT

Periodontitis and osteoporosis are prevalent inflammation-associated skeletal disorders that pose significant public health challenges to our aging population. Both periodontitis and osteoporosis are bone disorders closely associated with inflammation and aging. There has been consistent intrigue on whether a systemic skeletal disease such as osteoporosis will amplify the alveolar bone loss in periodontitis. A survey of the literature published in the past 25 years indicates that systemic low bone mineral density (BMD) is associated with alveolar bone loss, while recent evidence also suggests a correlation between clinical attachment loss and other parameters of periodontitis. Inflammation and its influence on bone remodeling play critical roles in the pathogenesis of both osteoporosis and periodontitis and could serve as the central mechanistic link between these disorders. Enhanced cytokine production and elevated inflammatory response exacerbate osteoclastic bone resorption while inhibiting osteoblastic bone formation, resulting in a net bone loss. With aging, accumulation of oxidative stress and cellular senescence drive the progression of osteoporosis and exacerbation of periodontitis. Vitamin D deficiency and smoking are shared risk factors and may mediate the connection between osteoporosis and periodontitis, through increasing oxidative stress and impairing host response to inflammation. With the connection between systemic and localized bone loss in mind, routine dental exams and intraoral radiographs may serve as a low-cost screening tool for low systemic BMD and increased fracture risk. Conversely, patients with fracture risk beyond the intervention threshold are at greater risk for developing severe periodontitis and undergo tooth loss. Various Food and Drug Administration-approved therapies for osteoporosis have shown promising results for treating periodontitis. Understanding the molecular mechanisms underlying their connection sheds light on potential therapeutic strategies that may facilitate co-management of systemic and localized bone loss.

Zhang Z, Wen S, Liu J, Ouyang Y, Su Z, Chen D, Liang Z, Wang Y, Luo T, Jiang Q, Guo L. Advances in the relationship between periodontopathogens and respiratory diseases (Review). Mol Med Rep. 2024 Mar;29(3):42. doi: 10.3892/mmr.2024.13166. Epub 2024 Jan 19. PMID: 38240101; PMCID: PMC10828996.
https://pubmed.ncbi.nlm.nih.gov/38240101/

ABSTRACT

Periodontitis is a common chronic inflammatory and destructive disease in the mouth and is considered to be associated with systemic diseases. Accumulating evidence has suggested that periodontitis is a risk factor for pulmonary diseases such as pneumonia, chronic obstructive pulmonary disease (COPD), asthma, coronavirus disease 2019 (COVID-19) and lung cancer. The presence of common periodontal pathogens has been detected in samples from a variety of pulmonary diseases. Periodontal pathogens can be involved in lung diseases by promoting the adhesion and invasion of respiratory pathogens, regulating the apoptosis of respiratory epithelium and inducing overexpression of mucin and disrupting the balance of immune systemin respiratory epithelium cells. Additionally, measures to control plaque and maintain the health of periodontal tissue can decrease the incidence of respiratory adverse events. This evidence suggests a close association between periodontitis and pulmonary diseases. The present study aimed to review the clinical association between periodontitis and pneumonia, COPD, asthma, COVID-19 and lung cancer, and propose a possible mechanism and potential role of periodontal pathogens in linking periodontal disease and lung disease. This could provide a direction for further research on the association between periodontitis and lung disease and provide novel ideas for the clinical diagnosis and treatment management of these two diseases.

Zhang K, He C, Qiu Y, Li X, Hu J, Fu B. ASSOCIATION OF ORAL MICROBIOTA AND PERIODONTAL DISEASE WITH LUNG CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS. J Evid Based Dent Pract. 2023 Sep;23(3):101897. doi: 10.1016/j.jebdp.2023.101897. Epub 2023 Jun 14. PMID: 37689446.
https://pubmed.ncbi.nlm.nih.gov/37689446/

ABSTRACT

Objectives: Evidence of oral microbiota perturbations has been accumulated for lung cancers. This review focused on the oral microbiota alterations in population suffering from lung cancer. In addition, we also discussed conflicting data about the association between oral microbiota dysbiosis and risk of lung cancer.

Methods: A systematic search was conducted in Medline, Embase, PubMed, and Cochrane Library databases. The studies evaluated diversity and abundance of oral microbes in healthy and lung cancer individuals as well as association of periodontal disease and pathogens with lung cancer. Of 3559 studies, 28 included studies were performed in qualitative analysis, and 25 studies were used in meta-analyses for quantitative assessment. Heterogeneity was analyzed by using I^2 and chi-squared Q test statistics. Statistical analyses were performed by using the RevMan 5.4 software.

Results: Compared with the control, lung cancer patients had lower alpha diversity (Shannon: SMD = -0.54; 95% CI, -0.90 to -0.19; P < .01, I2 = 71%). In nested case-control studies, individuals with decreased alpha diversity tended to have an increased risk of lung cancer (observed species: HR = 0.90; 95% CI, 0.85-0.96; P < .01, I2 = 0%; Shannon: HR = 0.89; 95% CI, 0.83-0.95; P < .01, I2 = 0%). Overall, no strong evidence of association of relative abundance with specific oral microbes with lung cancers was found because of inconsistent data. No associations were found between periodontal pathogens and lung cancer risk (red complex: HR = 1.12, 95% CI: 0.42-3.02, P = .82, I2 = 62%; orange complex: HR =1.77, 95% CI: 0.78-3.98, P = .17, I2 = 36%), expect for Fusobacterium nucleatum (HR = 2.27, 95% CI: 1.13-4.58, P = .02, I2 = 0%). The positive association of periodontal disease with lung cancer risk was found (HR = 1.58, 95% CI: 1.25-2.00, P < .001, I2= 0%) with increase of periodontal diseases severity (HR = 2.39, 95% CI: 1.57-3.66, P < .001, I2 = 0%). However, such association was not found in never-smoker participants (HR = 1.00, 95% CI: 0.76-1.31, P = .37, I2= 7%).

Conclusions: Lower alpha diversity of oral microbiome may be associated with a greater risk of lung cancer and might serve as a predictive signal of lung cancer risk. There was no strong evidence of relative abundance of oral microbial taxa and periodontal pathogens in lung cancer patients. Fusobacterium nucleatum might be a potential microbial candidate of biomarkers in lung cancer. Periodontal disease may be positively associated with lung cancer risk by confounding of smoking, but not an independent risk factor.

torres
CENTRO DENTAL INTEGRAL

02

Conclusiones destacadas

Conclusiones destacadas

1. La salud periodontal impacta en el curso de enfermedades crónicas
2. Enfermedad periodontal y riesgo cardiovascular
3. Respiratorio y covid: riesgo respiratorio aumentado
4. Fragilidad, sarcopenia y osteoporosis
5. Polifarmacia, xerostomía y calidad de vida
6. Salud mental y deterioro cognitivo
7. Embarazo y complicaciones obstétricas
8. Artritis reumatoide y patología inflamatoria
9. Screening y educación desde consulta médica
10. Coste-efectividad y ahorro sanitario

1. LA SALUD PERIODONTAL IMPACTA EN EL CURSO DE ENFERMEDADES CRÓNICAS

Diabetes, síndrome metabólico y ERC muestran mejoras clínicas tras el tratamiento periodontal (mejor HbA1c, PCR, control glucémico, función renal).

La enfermedad periodontal debe considerarse un factor modificable en protocolos de pacientes con comorbilidades.

Aplicación clínica: incluir evaluación periodontal básica en revisiones de crónicos.

2. ENFERMEDAD PERIODONTAL Y RIESGO CARDIOVASCULAR

Varios estudios confirman asociación con hipertensión, ECV, infarto, ictus y eventos trombóticos mayores (MACE).

El tratamiento periodontal reduce biomarcadores inflamatorios sistémicos.

Aplicación clínica: priorizar higiene oral en pacientes con riesgo vascular y ofrecer consejo activo.

3. RESPIRATORIO Y COVID: RIESGO RESPIRATORIO AUMENTADO

La periodontitis se asocia a EPOC, apnea del sueño y mayor severidad en COVID-19, probablemente por disbiosis y aspiración de bacterias orales.

Aplicación clínica: sospechar riesgo periodontal en pacientes con patología pulmonar crónica.

4. FRAGILIDAD, SARCOPENIA Y OSTEOPOROSIS

Existe asociación entre periodontitis, fuerza muscular reducida, masa ósea baja y fragilidad física.

En mujeres posmenopáusicas, la pérdida ósea periodontal es mayor si hay osteopenia u osteoporosis.

Aplicación clínica: integrar salud oral en la valoración geriátrica integral.

5. POLIFARMACIA, XEROSTOMÍA Y CALIDAD DE VIDA

Polimedicados (IECA, benzodiacepinas, antidepresivos...) presentan mayor xerostomía y disconfort oral que empeora su salud general.

El impacto es físico (dolor, caries) y funcional (sueño, habla, alimentación).

Aplicación clínica: revisar medicación y preguntar activamente por síntomas orales.

6. SALUD MENTAL Y DETERIORO COGNITIVO

La periodontitis se asocia a mayor riesgo de depresión, ansiedad y deterioro cognitivo leve (MCI).

Posible vínculo a través de neuroinflamación crónica y disbiosis.

Aplicación clínica: considerar salud oral en pacientes con quejas cognitivas o anímicas persistentes.

7. EMBARAZO Y COMPLICACIONES OBSTÉTRICAS

Elevado riesgo de preeclampsia, parto prematuro y bajo peso al nacer en gestantes con periodontitis no tratada.

El tratamiento no farmacológico mejora desenlaces.

Aplicación clínica: reforzar consejo sobre cepillado y derivar a revisión periodontal en embarazo.

8. ARTRITIS REUMATOIDE Y PATOLOGÍA INFLAMATORIA

Periodontitis comparte con la AR vías inflamatorias, citrulinación, y microbiota patógena.

El tratamiento periodontal reduce el DAS28 y mejora la respuesta al tratamiento farmacológico.

Aplicación clínica: colaborar con reumatología y monitorizar signos orales.

9. SCREENING Y EDUCACIÓN DESDE CONSULTA MÉDICA

Cuestionarios validados permiten cribado periodontal eficaz en atención primaria (sensibilidad >70 %).

Tras formación breve, los médicos aumentan su implicación y eficacia en promover cepillado.

Aplicación clínica: incluir consejo oral en revisiones de crónicos y protocolos de acogida.

10. COSTE-EFECTIVIDAD Y AHORRO SANITARIO

El tratamiento periodontal genera ahorro sanitario significativo (menos hospitalizaciones, urgencias, medicación).

Estudios demuestran menor gasto en pacientes con diabetes o enfermedades cardiovasculares si reciben tratamiento periodontal.

Aplicación clínica: promover protocolos preventivos integrados; respaldar iniciativas institucionales de salud bucal.

torres
CENTRO DENTAL INTEGRAL

03

Conclusiones destacadas individuales

03

Conclusiones destacadas individuales

1. Afrashtehfar et al., 2024
2. Al Shammary, 2024
3. Alwithanani, 2023
4. Arbildo-Vega et al., 2024
5. Blaschke et al., 2021
6. Cannon et al., 2023
7. Chou et al., 2023
8. Clark et al., 2021
9. Crowder, 2023
10. Dibello et al., 2024
11. Dolcezza et al., 2024
12. Dondjio Jemele et al., 2025
13. Dziedzic, 2022
14. Ferrillo et al., 2024
15. Foroughi et al., 2025
16. Fratini et al., 2024
17. Gasner & Schure, 2025
18. Gatarayiha et al., 2024
19. Gomes et al., 2024
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AFRASHTEHFAR ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39160283/

Tema: Coste-efectividad de mantener dientes con periodontitis frente a reemplazarlos por implantes.

Contenido: Este análisis sistemático revisa 12 estudios que comparan el coste de mantener dientes comprometidos periodontalmente frente al tratamiento con implantes. La evidencia sugiere que, aunque ambos tratamientos pueden ser eficaces, los implantes conllevan mayores costes a largo plazo, especialmente si aparece periimplantitis. El mantenimiento periodontal con tratamiento de soporte regular es más rentable que el tratamiento con implantes.

Resumen: Mantener dientes con periodontitis suele ser más rentable que sustituirlos por implantes, especialmente a largo plazo.

AL SHAMMARY, 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39034313/

Tema: Impacto de la salud oral en la calidad de vida de adultos mayores.

Contenido: Estudio transversal con 586 adultos mayores en Riad, Arabia Saudí, usando el cuestionario OHQoL-UK®. Los resultados muestran que una peor salud oral se asocia con una menor calidad de vida, especialmente influida por factores como ingresos, educación y acceso a seguros de salud.

Resumen: La salud oral deteriorada reduce la calidad de vida en mayores, con especial impacto de factores sociales y económicos.

ALWITHANANI, 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37654288/

Tema: Relación entre enfermedades periodontales y cardiovasculares.

Contenido: Revisión sistemática de 32 estudios longitudinales. Las personas con periodontitis tienen mayor riesgo de enfermedad cardiovascular (RR 1.20), especialmente los hombres y quienes presentan periodontitis grave. El riesgo es mayor para el ictus y la cardiopatía isquémica.

Resumen: La periodontitis aumenta el riesgo cardiovascular, sobre todo en hombres y casos graves.

ARBILDO-VEGA ET AL., 2024

https://www.frontiersin.org/journals/dental-medicine/articles/10.3389/fdmed.2025.1635200/full

Tema: Relación entre periodontitis y enfermedades cardiovasculares – revisión paraguas.

Contenido: Esta revisión paraguas incluyó 41 revisiones sistemáticas que encontraron una asociación significativa entre periodontitis, pérdida dental y enfermedades cardiovasculares. Los OR y RR oscilaron entre 1.14 y 4.42. La calidad metodológica fue variable, pero los hallazgos fueron consistentes.

Resumen: Existe una asociación clara entre periodontitis y riesgo cardiovascular, aunque con limitaciones metodológicas.

BLASCHKE ET AL., 2021

https://pubmed.ncbi.nlm.nih.gov/33359573/

Tema: Efecto del tratamiento periodontal en los costes sanitarios de pacientes con diabetes reciente.

Contenido: Análisis de 23.771 personas recién diagnosticadas con diabetes en Alemania. Quienes recibieron tratamiento periodontal tuvieron menores costes sanitarios totales, especialmente en hospitalizaciones y medicación para la diabetes.

Resumen: El tratamiento periodontal reduce costes sanitarios en pacientes con diabetes reciente.

CANNON ET AL., 2023

https://pubmed.ncbi.nlm.nih.gov/36943673/

Tema: Boca seca en adultos mayores polimedicados: impacto físico y psicológico.

Contenido: Revisión de 9 estudios con más de 37.000 mayores. La polimedicación se asocia con pérdida dental, dificultad al tragar y síntomas psicológicos como depresión, irritabilidad y menor satisfacción vital. La prevención de la boca seca debe ser prioritaria.

Resumen: La polimedicación favorece la boca seca, con consecuencias físicas y emocionales importantes en mayores.

CHOU ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37934490/

Tema: Intervenciones desde atención primaria para prevenir caries y periodontitis.

Contenido: Revisión para el USPSTF. Los cuestionarios de cribado mostraron sensibilidad y especificidad moderadas. No hay evidencia suficiente sobre beneficios ni riesgos de cribado o prevención oral desde atención primaria.

Resumen: Faltan pruebas sólidas sobre el impacto del cribado oral en adultos desde atención primaria.

CLARK ET AL., 2021

Enlace: https://pubmed.ncbi.nlm.nih.gov/34463998/

Tema: Fragilidad, envejecimiento y enfermedad periodontal.

Contenido: Revisión que explora el vínculo entre fragilidad y periodontitis. Ambas condiciones comparten factores de riesgo como inflamación crónica, disfunción inmune y limitaciones funcionales. Existe una posible relación bidireccional.

Resumen: La periodontitis y la fragilidad comparten causas comunes y podrían influirse mutuamente.

CROWDER, 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/36890243/

Tema: Relación entre preeclampsia y periodontitis.

Contenido: Revisión de 30 estudios con más de 9600 mujeres. La periodontitis en embarazadas se asocia significativamente con preeclampsia, especialmente en países de ingresos medios-bajos.

Resumen: La periodontitis aumenta el riesgo de preeclampsia, sobre todo en países con menos recursos.

DIBELLO ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38943006/

Tema: Periodontitis y riesgo de deterioro cognitivo, demencia y depresión.

Contenido: Revisión sistemática de 46 estudios. La periodontitis se asocia con mayor riesgo de deterioro cognitivo y demencia, aunque no con depresión. Las limitaciones metodológicas requieren más investigación.

Resumen: La periodontitis se vincula con deterioro cognitivo y demencia, pero no con depresión.

DOLCEZZA ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39797091/

Tema: Artritis reumatoide y periodontitis.

Contenido: Meta-análisis de 6 estudios que muestra cómo el tratamiento periodontal no quirúrgico mejora tanto los parámetros periodontales (reducción de CAL) como la actividad de la artritis (disminución del DAS28). Refuerza la conexión inflamatoria entre ambas enfermedades.

Resumen: Tratar la periodontitis puede ayudar a controlar la artritis reumatoide.

DONDJIO JEMELE ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40447977/

Tema: Cuidado oral y supervivencia en pacientes en diálisis.

Contenido: Estudio nacional francés con más de 100.000 pacientes en diálisis. Solo un tercio recibió atención oral, pero quienes la recibieron presentaron menor riesgo de mortalidad (HR ajustado 0.50).

Resumen: El tratamiento oral mejora la supervivencia en pacientes con diálisis, aunque su acceso es muy limitado.

DZIEDZIC, 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/36499656/

Tema: Periodontitis y deterioro cognitivo asociado a la edad.

Contenido: Revisión sistemática y metaanálisis de 17 estudios clínicos. La periodontitis se asoció con mayor riesgo de deterioro cognitivo y demencia, aunque con heterogeneidad elevada y posible sesgo.

Resumen: Existe relación entre periodontitis y deterioro cognitivo, pero la evidencia aún no es concluyente.

FERRILLO ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38358480/

Tema: Calidad de vida oral en mayores.

Contenido: Umbrella review de revisiones sistemáticas que asocia fragilidad, malnutrición y hábitos de vida con mala salud oral en mayores. Sugiere protocolos específicos de rehabilitación oral para mejorar su calidad de vida.

Resumen: La salud oral deficiente afecta gravemente la calidad de vida de los mayores frágiles.

FOROUGHI ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40418274/

Tema: Impacto sistémico de la periodontitis y diagnóstico avanzado.

Contenido: Revisión narrativa sobre mecanismos por los que la periodontitis afecta al organismo (inflamación, endotoxinas, disbiosis) y herramientas emergentes de diagnóstico (biosensores, microfluídica).

Resumen: La periodontitis tiene efectos sistémicos relevantes; nuevos biomarcadores podrían mejorar su diagnóstico precoz.

FRATINI ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39105056/

Tema: Biomarcadores urinarios en periodontitis.

Contenido: Revisión de 5 estudios sobre neopterina y 8-OHdG en orina. Aunque se encontraron niveles más altos en pacientes con periodontitis, la evidencia es limitada y contradictoria.

Resumen: Neopterina y 8-OHdG podrían ser útiles como biomarcadores urinarios de periodontitis, pero faltan estudios sólidos.

GASNER & SCHURE, 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/32119477/

Tema: Definición y progresión de la periodontitis.

Contenido: Revisión general sobre gingivitis y periodontitis, su progresión, mecanismos inmunológicos y clasificación actual (AAP-EFP 2017), incluyendo periodontitis necrosante.

Resumen: La periodontitis progresa desde gingivitis no tratada y puede conllevar daño tisular grave si no se maneja adecuadamente.

GATARAYIHA ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39401230/

Tema: Periodontitis y preeclampsia en mujeres embarazadas.

Contenido: Estudio caso-control en Ruanda con 156 embarazadas. La periodontitis se asoció con un riesgo 3.85 veces mayor de preeclampsia tras ajustar por confusores.

Resumen: La periodontitis multiplica el riesgo de preeclampsia durante el embarazo.

GOMES ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39356952/

Tema: Periodontitis y marcadores séricos en trasplantados renales.

Contenido: Estudio en 20 pacientes trasplantados. El tratamiento periodontal no quirúrgico redujo leucocitos y ácido úrico, correlacionando con la mejora clínica periodontal.

Resumen: Mejorar la periodontitis puede beneficiar la salud sistémica en pacientes trasplantados renales.

HE ET AL., 2023

https://pubmed.ncbi.nlm.nih.gov/37477165/

Tema: Periodontitis y enfermedad renal crónica (ERC).

Contenido: Umbrella review de 18 revisiones sistemáticas. Confirma relación bidireccional entre periodontitis y ERC. Se proponen recomendaciones específicas para médicos, dentistas y personal geriátrico.

Resumen: La relación entre periodontitis y ERC es clara; se necesitan protocolos interdisciplinares de manejo.

HERRERA ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/36935200/

Tema: Asociación con ECV, diabetes y enfermedades respiratorias

Contenido: Informe conjunto EFP-WONCA que demuestra una asociación clara entre periodontitis y enfermedades cardiovasculares, diabetes, EPOC, apnea del sueño y COVID grave. Propone colaboración activa entre dentistas y médicos de familia para la detección precoz y promoción de estilos de vida saludables.

Resumen: Periodontitis debe ser considerada un marcador precoz y actuar como oportunidad de prevención compartida médico-dentista.

HUANG ET AL., 2024 (BIOMEDICINES)

Enlace: https://pubmed.ncbi.nlm.nih.gov/38540299/

Tema: Periodontitis y enfermedad inflamatoria intestinal (EII)

Contenido: Revisión narrativa sobre el papel de Porphyromonas gingivalis como nexo entre periodontitis e inflamación intestinal. A través del eje oral-intestinal, se describe cómo esta bacteria contribuye a disbiosis, permeabilidad intestinal y alteración inmunitaria.

Resumen: P. gingivalis puede ser un biomarcador y diana terapéutica para la EII con origen oral.

HUANG ET AL., 2024 (MIL MED RES)

Enlace: https://pubmed.ncbi.nlm.nih.gov/39633497/

Tema: Meta-revisión sobre asociaciones con enfermedades sistémicas

Contenido: Análisis transversal de 57 revisiones sistemáticas que identifican 81 desenlaces patológicos asociados a periodontitis, con especial frecuencia en cáncer, ECV y metabólicas. Sin embargo, la mayoría de revisiones eran de baja calidad metodológica.

Resumen: La evidencia sobre periodontitis como factor de riesgo sistémico es sólida pero necesita mejores estudios de base.

IGASE ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39649137/

Tema: Periodontitis y deterioro cognitivo leve

Contenido: Estudio transversal en mayores de 65 años que encuentra asociación fuerte entre periodontitis severa (PPD >6 mm) y deterioro cognitivo leve. La regresión logística muestra OR = 4.0, incluso ajustando por edad y nivel educativo.

Resumen: La periodontitis severa es un factor de riesgo para deterioro cognitivo temprano.

ISOLA ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37214190/

Tema: Vías comunes entre periodontitis y enfermedades sistémicas

Contenido: Revisión sobre mecanismos que conectan la periodontitis con enfermedades como aterosclerosis, diabetes, cáncer o patologías metabólicas. Describe el papel del ADN bacteriano y mediadores inflamatorios como nexos etiopatogénicos.

Resumen: Las infecciones orales pueden actuar a distancia promoviendo enfermedades crónicas por inflamación sistémica.

JAMIESON ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/36833652/

Tema: Salud bucal y enfermedades crónicas en población indígena

Contenido: Protocolo de estudio para evaluar cómo la atención dental culturalmente segura mejora diabetes, enfermedad renal y cardiovascular en adultos aborígenes australianos. Se mide HbA1c, CRP y ACR antes y después del tratamiento.

Resumen: Cuidar la salud bucal reduce marcadores sistémicos y mejora la equidad sanitaria.

JUZBAŠIĆ ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40564062/

Tema: Periodontitis y MASLD (hígado graso de origen metabólico)

Contenido: Revisión sobre mecanismos que conectan inflamación periodontal con disfunción hepática metabólica: insulinoresistencia, estrés oxidativo y mediadores sistémicos. Se propone enfoque multidisciplinar para cribado precoz.

Resumen: La inflamación oral puede contribuir directamente a la disfunción hepática metabólica.

KARADURAN ET AL., 2025 (CURR ALZHEIMER RES)

Enlace: https://pubmed.ncbi.nlm.nih.gov/40396318/

Tema: Parámetros hematológicos y periodontitis en Alzheimer

Contenido: Estudio prospectivo que analiza si variables como MPV y PDW predicen evolución cognitiva en pacientes con periodontitis. Se encuentra correlación entre peor evolución y valores anormales de estos biomarcadores.

Resumen: Parámetros sanguíneos podrían detectar interacción entre periodontitis y deterioro cognitivo.

KARADURAN ET AL., 2023 (CLIN ORAL INVESTIG)

Enlace: https://pubmed.ncbi.nlm.nih.gov/38159159/

Tema: Periodontitis y progresión del Alzheimer

Contenido: Estudio en 90 pacientes con Alzheimer que muestra relación entre parámetros periodontales (BOP, PPD, CAL) y deterioro cognitivo a 6 meses. Mayor gravedad de periodontitis ≈ mayor pérdida cognitiva.

Resumen: La enfermedad periodontal puede acelerar la progresión del Alzheimer.

KAYMAZ ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37386343/

Tema: Periodontitis y sarcopenia (fuerza y masa muscular)

Contenido: Estudio NHANES sobre 1912 adultos de mediana edad. Encuentra asociación entre periodontitis y menor fuerza de agarre manual (HGS) y menor masa muscular ajustada. La relación persiste tras ajustar por múltiples factores.

Resumen: La periodontitis puede ser un marcador precoz de pérdida funcional muscular.

KOZIEL, 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/35262966/

Tema: Asociación entre periodontitis y artritis reumatoide

Contenido: Revisión detallada del vínculo clínico y molecular entre enfermedades periodontales y artritis reumatoide. Se destaca el papel de Porphyromonas gingivalis y otras bacterias orales en la inflamación sistémica que podría iniciar o agravar procesos autoinmunes.

Resumen: La periodontitis puede ser un factor causal en la artritis reumatoide mediante mecanismos inmunoinflamatorios compartidos.

KUDIYIRICKAL, 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38591080/

Tema: Periodontitis como complicación subestimada de la diabetes tipo 2

Contenido: Se explora la relación bidireccional entre T2DM y periodontitis. Se enfatiza el impacto de la periodontitis en el control glucémico y el agravamiento de la resistencia a la insulina. También se identifican factores predictivos para el desarrollo de periodontitis en pacientes diabéticos.

Resumen: La periodontitis debe considerarse una complicación más del control glucémico inadecuado en T2DM.

LE, 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/36209308/

Tema: Periodontitis y preeclampsia durante el embarazo

Contenido: Metaanálisis de 30 estudios que muestra una fuerte asociación entre periodontitis y preeclampsia, especialmente en países de renta media-baja. Se propone la necesidad de abordar la salud oral como parte del control prenatal.

Resumen: La periodontitis triplica el riesgo de preeclampsia, sobre todo en entornos vulnerables.

LI, 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40361086/

Tema: Periodontitis, pérdida dental y síndrome circadiano

Contenido: Estudio transversal en adultos estadounidenses. Se relaciona la periodontitis con alteraciones metabólicas como hipertensión, dislipemia, obesidad y alteraciones del sueño. También destaca el valor predictivo de la autoevaluación de salud oral.

Resumen: La salud oral pobre se asocia a trastornos sistémicos agrupados en el síndrome circadiano.

LI YY, 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40422623/

Tema: Calidad de vida relacionada con salud oral en ancianos de Tennessee

Contenido: Evaluación con OHIP-14 de los factores psicosociales, funcionales y físicos que afectan la calidad de vida oral en mayores. Se destaca la utilidad del autoinforme emocional y funcional como indicador clínico.

Resumen: La calidad de vida oral de los ancianos refleja bienestar físico y psicológico general.

LIU Z, 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/38089783/

Tema: Análisis bibliométrico sobre periodontitis en el embarazo

Contenido: Estudio bibliométrico con más de 1100 publicaciones. Se identifican como áreas clave la microbiota oral, los efectos sistémicos durante el embarazo y las colaboraciones internacionales insuficientes.

Resumen: El estudio de periodontitis en el embarazo es cada vez más multidisciplinar y relevante.

LIU F, 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/36388333/

Tema: Salud oral y salud integral en ancianos (umbrella review)

Contenido: Revisión de 35 metaanálisis sobre los efectos de la salud oral en enfermedades respiratorias, nutrición, fragilidad, cognición, depresión y calidad de vida. Se resumen tres estrategias de intervención clínica.

Resumen: La salud oral incide en la salud física, mental y social de los mayores.

MA, 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38742908/

Tema: Periodontitis como factor de riesgo para cáncer oral

Contenido: Metaanálisis de 16 estudios que muestra que la periodontitis y la pérdida dental están significativamente asociadas con mayor riesgo de cáncer oral. También se observan mayores pérdidas óseas y

caries.

Resumen: La periodontitis duplica el riesgo de cáncer oral.

MENDES, 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40648906/

Tema: Evaluación combinada de autoinforme y pérdida ósea radiográfica

Contenido: Estudio de validación diagnóstica que compara cuatro modelos de cribado de periodontitis. El uso de radiografías interproximales junto al cuestionario mejora la precisión del diagnóstico.

Resumen: La combinación de autoinforme y radiografía es útil para detectar periodontitis en atención primaria.

MOLINA, 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/36606394/

Tema: Periodontitis y enfermedades respiratorias

Contenido: Revisión sistemática y metaanálisis que muestra asociación entre periodontitis y EPOC, apnea del sueño y complicaciones de COVID-19. Se identifican efectos positivos de la terapia periodontal sobre enfermedades respiratorias.

Resumen: La salud periodontal influye en enfermedades respiratorias crónicas y agudas.

MURRAY ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39770344/

Tema: Carga sistémica de patógenos orales

Contenido: Revisión de 252 estudios que vinculan patógenos orales con cáncer, enfermedades cardiovasculares, Alzheimer, diabetes y más. Individuos con enfermedades orales tienen entre 1,7 y 7,5 veces más riesgo de desarrollar enfermedades sistémicas. Se identifican los principales microorganismos (P. gingivalis, F. nucleatum, etc.) y se destacan los beneficios del tratamiento dental para reducir esa carga sistémica.

Resumen: La periodontitis representa una carga sistémica significativa y debe considerarse una prioridad de salud pública.

NIJLAND ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/39510828/

Tema: Validación de modelos de cribado periodontal basados en autoinforme

Contenido: Se probaron actualizaciones en modelos de cribado para periodontitis usando cuestionarios y datos previos. El modelo para enfermedad severa mantiene buen rendimiento, mientras que el general sigue siendo subóptimo pese a ajustes estadísticos.

Resumen: El cribado de periodontitis severa mediante cuestionarios puede aplicarse en atención médica general.

OLIVEIRA ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/39612137/

Tema: Tratamiento periodontal no quirúrgico en pacientes con artritis reumatoide

Contenido: Meta-análisis de 10 revisiones sistemáticas que muestran reducciones en PCR, velocidad de sedimentación y DAS28 tras tratamiento no quirúrgico periodontal. El seguimiento varió entre 6 y 24 semanas.

Resumen: El tratamiento periodontal mejora la inflamación sistémica en pacientes con artritis reumatoide.

ORLANDI ET AL., 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/34791686/

Tema: Impacto del tratamiento periodontal en salud sistémica y calidad de vida

Contenido: Meta-análisis de estudios controlados que confirma reducción de marcadores inflamatorios, glucosa plasmática, y riesgo de partos prematuros tras 6 meses. Mejora la vasodilatación dependiente del endotelio.

Resumen: Tratar la periodontitis mejora marcadores de riesgo cardiometabólico y complicaciones en el embarazo.

PARVEEN ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37330312/

Tema: Conocimiento médico sobre la relación periodonto-sistémica

Contenido: Estudio prospectivo con médicos de Arabia Saudí mostró bajo conocimiento antes de un seminario web. Tras la formación, se incrementó notablemente el conocimiento percibido sobre la conexión entre periodontitis y enfermedades sistémicas como la diabetes.

Resumen: Formar a médicos mejora su comprensión sobre el vínculo entre salud oral y sistémica.

QI ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37920517/

Tema: Periodontitis y osteoporosis postmenopáusica

Contenido: Meta-análisis de 28 estudios observacionales con más de 19.000 pacientes. Las mujeres con osteoporosis postmenopáusica tienen peores parámetros periodontales y menor densidad mineral ósea.

Resumen: Las mujeres postmenopáusicas con osteoporosis presentan más periodontitis y pérdida ósea.

RAJARATINAM ET AL., 2025

Enlace: https://pubmed.ncbi.nlm.nih.gov/40452929/

Tema: Terapia periodontal y función renal en pacientes con ERC

Contenido: Estudio prospectivo que mostró mejoría en parámetros periodontales, función renal (eGFR) y reducción de IL-6 tras tratamiento no quirúrgico en pacientes con enfermedad renal crónica.

Resumen: El tratamiento periodontal mejora inflamación y función renal en pacientes con ERC.

RAMÍREZ ET AL., 2024

https://pubmed.ncbi.nlm.nih.gov/37944110/

Tema: Xerostomía y calidad de vida en pacientes polimedicados

Contenido: En pacientes mayores con múltiples medicamentos, la xerostomía impacta negativamente la calidad de vida relacionada con la salud oral. La queja subjetiva fue el predictor más relevante.

Resumen: La xerostomía reduce la calidad de vida oral en mayores polimedicados.

SAYEED ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/39927038/

Tema: Raspado supragingival en embarazadas con síndrome metabólico

Contenido: En 47 mujeres embarazadas con síndrome metabólico, el raspado supragingival redujo significativamente los índices periodontales y la severidad de la periodontitis.

Resumen: El raspado mejora la salud periodontal en embarazadas con riesgo metabólico.

SMITS ET AL., 2020

Enlace: https://pubmed.ncbi.nlm.nih.gov/33099508/

Tema: Costes sanitarios en diabetes tras tratamiento periodontal

Contenido: Estudio retrospectivo con más de 41.000 pacientes con diabetes en Países Bajos. El tratamiento periodontal redujo los costes sanitarios asociados a la diabetes en 12€ por trimestre.

Resumen: El tratamiento periodontal reduce el coste económico de la diabetes tipo 2.

TAMIYA ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37959214/

Tema: Relación bidireccional entre periodontitis y asma

Contenido: Revisión de la evidencia que vincula la enfermedad periodontal con el asma. Se analizan mecanismos como el efecto de los inhaladores, la hipoxia crónica y los patrones respiratorios en la agravación periodontal, y cómo las bacterias periodontales y sus mediadores inflamatorios pueden inducir o exacerbar el asma. También se consideran factores comunes como tabaquismo, reflujo gastroesofágico y la inflamación tipo 2.

Resumen: La enfermedad periodontal y el asma pueden influirse mutuamente a través de mecanismos inflamatorios y conductuales compartidos, lo que sugiere la necesidad de abordajes clínicos integrados.

TANWAR ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37645044/

Tema: Eje oral-intestinal entre periodontitis y enfermedad inflamatoria intestinal

Contenido: Revisión del eje “oral-gut”, donde bacterias orales colonizan el intestino y desencadenan inflamación. Se propone un modelo de múltiples impactos (multi-hit) que conecta la disbiosis oral con brotes intestinales. Se subraya la importancia del trabajo conjunto entre odontólogos y gastroenterólogos.

Resumen: La conexión entre periodontitis e inflamación intestinal puede requerir manejo médico integrado oral-digestivo.

VACHHANI ET AL., 2021

Enlace: https://pubmed.ncbi.nlm.nih.gov/34816635/

Tema: Tratamiento periodontal y función renal en pacientes con ERC

Contenido: Estudio comparativo que demuestra que la terapia periodontal no quirúrgica reduce significativamente la proteína C reactiva ultrasensible y mejora la tasa de filtrado glomerular. También mejoran otros biomarcadores renales.

Resumen: Tratar la periodontitis ayuda a reducir inflamación y mejorar función renal en pacientes con enfermedad renal crónica.

WANG ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38952070/

Tema: Periodontitis, depresión y ansiedad

Contenido: Estudio cruzado y prospectivo con más de 300.000 pacientes. La periodontitis se asocia con mayor riesgo de depresión, ansiedad y su comorbilidad. Se sugiere que parte del efecto se explica por inflamación sistémica (PCR, leucocitos).

Resumen: La enfermedad periodontal incrementa el riesgo de trastornos mentales comunes, posiblemente mediado por inflamación.

WONG ET AL., 2021

Enlace: https://pubmed.ncbi.nlm.nih.gov/32965050/

Tema: Calidad de vida y enfermedad periodontal

Contenido: Revisión de revisiones sistemáticas. La periodontitis impacta negativamente en la calidad de vida relacionada con la salud oral. El tratamiento periodontal puede mejorarla, aunque se necesita una escala específica para periodontitis.

Resumen: La calidad de vida mejora tras tratar la periodontitis, pero falta una herramienta adecuada para medirlo bien.

YU & WANG, 2022

Enlace: https://pubmed.ncbi.nlm.nih.gov/35244945/

Tema: Conexión entre osteoporosis y periodontitis

Contenido: Revisión que propone mecanismos compartidos como inflamación crónica, estrés oxidativo, envejecimiento y deficiencia de vitamina D. La pérdida ósea sistémica puede reflejarse en el periodonto y viceversa.

Resumen: Periodontitis y osteoporosis comparten mecanismos inflamatorios que agravan la pérdida ósea generalizada.

ZHANG Z ET AL., 2024

Enlace: https://pubmed.ncbi.nlm.nih.gov/38240101/

Tema: Patógenos periodontales y enfermedades respiratorias

Contenido: Revisión que vincula periodontitis con neumonía, EPOC, asma, COVID-19 y cáncer de pulmón. Se explican mecanismos como la disrupción epitelial y sobreexpresión de mucinas inducidas por bacterias orales.

Resumen: La higiene periodontal puede reducir eventos respiratorios adversos, especialmente en poblaciones vulnerables.

ZHANG K ET AL., 2023

Enlace: https://pubmed.ncbi.nlm.nih.gov/37689446/

Tema: Microbiota oral, periodontitis y cáncer de pulmón

Contenido: Meta-análisis que relaciona la baja diversidad microbiana oral y Fusobacterium nucleatum con mayor riesgo de cáncer de pulmón. La asociación no se mantiene en no fumadores.

Resumen: La periodontitis se asocia con mayor riesgo de cáncer pulmonar, especialmente en fumadores y con disbiosis oral.

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04

Preguntas y Respuestas

04

Preguntas y respuestas

1. ¿QUÉ PAPEL PUEDE TENER EL MÉDICO DE FAMILIA EN LA DETECCIÓN PRECOZ DE ENFERMEDADES PERIODONTALES?

El médico de familia es muchas veces el primer contacto del paciente con el sistema sanitario. Su papel es clave para identificar signos de alerta como inflamación de encías, movilidad dental o halitosis persistente. A través de cuestionarios breves o revisiones rutinarias puede detectar factores de riesgo y derivar al dentista, ganando tiempo frente a complicaciones mayores.

2. ¿QUÉ SIGNOS O SÍNTOMAS ORALES PUEDEN SER RELEVANTES PARA UNA REVISIÓN MÉDICA GENERAL?

Síntomas como sangrado espontáneo de encías, dolor al masticar, recesión gingival o mal aliento persistente pueden indicar periodontitis, pero también reflejar alteraciones sistémicas como diabetes mal controlada o inmunosupresión. Por eso deben abordarse con una mirada integral.

3. ¿PUEDE UNA ENCUESTA BREVE SUSTITUIR A UNA EXPLORACIÓN ODONTOLÓGICA BÁSICA EN ATENCIÓN PRIMARIA?

Las encuestas validadas permiten identificar riesgo de periodontitis con bastante fiabilidad. Aunque no sustituyen una revisión odontológica completa, sí son una herramienta útil para filtrar y derivar adecuadamente desde atención primaria.

4. ¿QUÉ SE PUEDE HACER DESDE ATENCIÓN PRIMARIA CON RECURSOS LIMITADOS?

Implementar un cuestionario validado de riesgo, dedicar un minuto a preguntar por encías y derivar con criterios claros puede marcar la diferencia. Además, enseñar técnicas básicas de cepillado e higiene es un acto de salud pública simple y eficaz.

5. ¿SE ESTÁN DISEÑANDO HERRAMIENTAS DIAGNÓSTICAS SIMPLES PARA EL ENTORNO MÉDICO?

Sí. Ya hay modelos de cribado mediante autoinforme validados para detectar periodontitis severa. Son una buena puerta de entrada desde la consulta médica para priorizar derivaciones al dentista sin necesidad de exploración.

6. ¿QUÉ BARRERAS FRENAN LA COLABORACIÓN ENTRE MEDICINA Y ODONTOLOGÍA?

Las principales barreras son la falta de formación específica, la separación de sistemas sanitarios y la idea errónea de que la boca es solo competencia del dentista. Superar esto requiere formación conjunta y protocolos compartidos.

7. ¿CÓMO SE RELACIONA LA PERIODONTITIS CON LA DIABETES TIPO 2?

Existe una relación bidireccional: la diabetes mal controlada empeora la salud periodontal, y la periodontitis eleva los niveles de inflamación sistémica, dificultando el control glucémico. El tratamiento periodontal puede reducir los niveles de HbA1c, mejorando la evolución del paciente diabético.

8. ¿TIENE SENTIDO INCLUIR EL CONTROL PERIODONTAL DENTRO DEL MANEJO DE PACIENTES CON ENFERMEDAD CARDIOVASCULAR?

Sí, diversos estudios muestran que la periodontitis contribuye a la inflamación sistémica crónica y al desarrollo de aterosclerosis. Tratar la periodontitis puede mejorar parámetros cardiovasculares como la presión arterial, la dilatación endotelial o los niveles de PCR ultrasensible.

9. ¿SE HA VISTO BENEFICIO EN PACIENTES RENALES TRAS TRATAR LA PERIODONTITIS?

Sí. En pacientes con insuficiencia renal crónica, el tratamiento periodontal no solo mejora la salud bucal, sino que se asocia con reducción de marcadores inflamatorios y mejor función renal estimada (eGFR), lo que refuerza su integración en el cuidado global del paciente.

10. ¿LA PERIODONTITIS PUEDE INFLUIR EN ENFERMEDADES AUTOINMUNES COMO LA ARTRITIS REUMATOIDE?

Sí, hay evidencia sólida de que tratar la periodontitis mejora marcadores inflamatorios y la actividad clínica de la artritis. Compartiendo citocinas, patógenos y vías inmunológicas, ambas enfermedades se alimentan mutuamente si no se tratan de forma coordinada.

11. ¿EXISTE RELACIÓN CON ASMA U OTRAS ENFERMEDADES RESPIRATORIAS?

Sí. La inhalación de bacterias orales, la inflamación cruzada y el uso de ciertos inhaladores aumentan el riesgo de periodontitis en asmáticos, y viceversa. Mantener una buena salud oral puede prevenir exacerbaciones respiratorias.

12. ¿Y CON ENFERMEDAD INFLAMATORIA INTESTINAL?

La disbiosis oral puede migrar al intestino y empeorar la EII. Ambas enfermedades comparten mecanismos inflamatorios y desequilibrios inmunes. Algunos estudios proponen que el control periodontal mejora los brotes intestinales.

13. ¿QUÉ RELACIÓN EXISTE ENTRE SALUD PERIODONTAL Y TRASTORNOS DEL ESTADO DE ÁNIMO?

Pacientes con periodontitis tienen mayor riesgo de sufrir depresión y ansiedad, y viceversa. La inflamación crónica, el dolor, el aislamiento social y el deterioro estético impactan directamente en el bienestar mental y la calidad de vida del paciente.

14. ¿LA SALUD BUCAL AFECTA DE VERDAD A LA CALIDAD DE VIDA?

Sí, la literatura demuestra que la periodontitis reduce significativamente la calidad de vida relacionada con la salud oral y general. Tras tratamiento periodontal, muchos pacientes refieren mejoras en autoestima, alimentación, sueño y relaciones personales.

15. ¿QUÉ DEBE SABER EL MÉDICO DE FAMILIA SOBRE PERIODONTITIS EN EL EMBARAZO?

La periodontitis se ha asociado con parto prematuro, preeclampsia y bajo peso al nacer. Una higiene oral deficiente o la presencia de patógenos periodontales puede inducir inflamación sistémica y complicaciones obstétricas. Es fundamental educar y tratar precozmente.

16. ¿HAY RELACIÓN ENTRE ENFERMEDAD PERIODONTAL Y OSTEOPOROSIS EN MUJERES POSTMENOPÁUSICAS?

Sí. Las mujeres con osteoporosis tienen más pérdida de inserción periodontal y mayor riesgo de perder dientes. La densidad ósea sistémica influye en el hueso alveolar, y viceversa. Controlar ambos factores mejora los resultados generales.

17. ¿QUÉ IMPACTO TIENE LA PERIODONTITIS EN PERSONAS POLIMEDICADAS?

En pacientes mayores, la xerostomía inducida por fármacos agrava la periodontitis. Además, la combinación de enfermedades crónicas y tratamientos múltiples hace necesario un enfoque coordinado entre medicina y odontología para evitar deterioros mayores.

18. ¿CUÁL SERÍA TU MENSAJE FINAL PARA LOS MÉDICOS DE FAMILIA RESPECTO A LA SALUD PERIODONTAL?

Que las encías no son un detalle estético. Son un marcador de salud general. Incluirlas en la valoración clínica del paciente crónico puede mejorar su pronóstico y su calidad de vida, con un coste muy bajo. Basta con mirar la boca... y actuar.

19. ¿CÓMO PUEDE AYUDAR LA SALUD PERIODONTAL A REDUCIR COSTES SANITARIOS?

En patologías crónicas como diabetes, se ha comprobado que los pacientes tratados periodontalmente generan menos gastos sanitarios al reducir hospitalizaciones y complicaciones. Es una medida preventiva eficaz y rentable.

20. ¿HAY EVIDENCIA DE QUE LAS CAMPAÑAS EDUCATIVAS FUNCIONAN EN MÉDICOS Y PACIENTES?

Sí. Intervenciones breves como webinars o talleres sobre salud oral mejoran significativamente el conocimiento de los médicos y su actitud ante la derivación o consejo preventivo, especialmente en entornos rurales o con escasa cobertura odontológica.

21. ¿LA PERIODONTITIS PUEDE SER UNA CAUSA DE HALITOSIS PERSISTENTE?

Sí. La halitosis de origen oral se asocia frecuentemente a periodontitis por la acumulación de bacterias anaerobias en bolsas periodontales profundas. Estas bacterias generan compuestos sulfurados volátiles, responsables del mal aliento. Tratar la enfermedad periodontal suele mejorar notablemente el problema, aunque debe descartarse también un origen digestivo, respiratorio o sistémico.

22. ¿QUÉ IMPACTO TIENE EN PACIENTES CON ENFERMEDADES NEURODEGENERATIVAS COMO ALZHEIMER?

Varios estudios han encontrado una relación entre periodontitis crónica y riesgo de enfermedad de Alzheimer. La inflamación sistémica persistente, la presencia de patógenos como P. gingivalis en tejido cerebral, y el aumento de citoquinas proinflamatorias podrían acelerar la neurodegeneración. Aunque no se establece causalidad directa, mantener una buena salud oral podría ayudar a reducir el riesgo o la progresión.

23. ¿ES SEGURO TRATAR PERIODONTALMENTE A PACIENTES CON INMUNOSUPRESIÓN?

Sí, pero requiere coordinación. Pacientes inmunodeprimidos (por trasplante, VIH, quimioterapia, etc.) tienen más riesgo de infecciones orales, y la periodontitis puede agravar su situación sistémica. El tratamiento periodontal, especialmente no quirúrgico, está indicado, siempre ajustando antibióticos y evitando procedimientos invasivos si hay neutropenia o trombocitopenia severa.

24. ¿QUÉ PRECAUCIONES TOMAR EN PACIENTES ANTICOAGULADOS?

Los tratamientos periodontales no quirúrgicos como el raspado y alisado radicular suelen ser seguros sin necesidad de suspender anticoagulación. En caso de cirugía periodontal, se valora el INR o se consulta con el médico si hay anticoagulantes directos. Siempre debe minimizarse el trauma y utilizar técnicas de control local del sangrado, como compresión o ácido tranexámico tópico.

25. ¿CÓMO INFLUYE EL TABAQUISMO EN LA EVOLUCIÓN PERIODONTAL?

El tabaco es uno de los principales factores de riesgo para la periodontitis. Aumenta la colonización bacteriana, reduce la respuesta inflamatoria visible (por eso puede enmascarar el sangrado), altera la cicatrización y disminuye la respuesta al tratamiento. Dejar de fumar mejora claramente el pronóstico periodontal y la respuesta al tratamiento, por lo que debe ser una prioridad clínica.

26. ¿EXISTE EVIDENCIA DE RELACIÓN ENTRE MICROBIOTA ORAL Y CÁNCER?

Sí. Se ha encontrado Fusobacterium nucleatum y otras bacterias periodontales en tejidos tumorales de colon, páncreas y pulmón. Se cree que estas bacterias favorecen el entorno inflamatorio y la evasión inmune en el microambiente tumoral. Aunque no se establece aún un vínculo causal directo, la disbiosis oral puede considerarse un factor de riesgo modificable.

27. ¿QUÉ IMPORTANCIA TIENE LA VITAMINA D EN LA SALUD PERIODONTAL?

La vitamina D regula la respuesta inmune y el metabolismo óseo, ambos fundamentales en la salud periodontal. Su déficit se ha asociado a mayor riesgo de periodontitis y peor evolución clínica. Además, niveles adecuados pueden mejorar la respuesta al tratamiento y reducir la inflamación gingival. Es recomendable monitorizarla en pacientes con periodontitis avanzada o recidivante.

28. ¿EL MÉDICO DE FAMILIA PUEDE APLICAR TRATAMIENTOS DE HIGIENE BUCAL BÁSICOS?

En general, no está dentro de sus competencias realizar tratamientos como tartrectomía o raspado. Sin embargo, sí puede —y debe— reforzar el consejo de higiene oral, recomendar cepillos eléctricos, técnicas de cepillado adecuadas y el uso de colutorios o sedas, además de derivar a odontología cuando haya sospecha clínica o factores de riesgo acumulados.

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