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CENTRO DENTAL INTEGRAL

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Pediatría

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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
Licenciado en Medicina y Cirugía. Universidad de Zaragoza
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Cuatro proyectos de investigación en distintos temas de la especialidad

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Referencias científicas

Referencias científicas

Acar B, Demir S, Özşin-Özler C, Tan Ç, Özbek B, Yaz İ, Karabulut E, Batu ED, Tezcan İ, Nohutcu RM, Özen S, Berker E. Evaluation of periodontal status and cytokine response in children with familial Mediterranean fever or systemic juvenile idiopathic arthritis. Clin Oral Investig. 2023 Mar;27(3):1159-1166. doi: 10.1007/s00784-022-04730-4. Epub 2022 Oct 5. PMID: 36197547.

ABSTRACT

Objectives: Familial Mediterranean fever (FMF) and systemic juvenile idiopathic arthritis (sJIA) are chronic inflammatory diseases and anti-inflammatory agents are used in their treatment. This study evaluates the periodontal status and cytokine response in pediatric patients with FMF or sJIA.

Materials and Methods: Forty-eight FMF/sJIA patients were under treatment/control and in attack-free period; 20 systemically healthy children participated in the study. FMF/sJIA patients were divided into two subgroups based on the treatment they received: receiving anti-IL-1 therapy (anti-IL-1 (+)) and not receiving anti-IL-1 therapy (anti-IL-1 (-)). The clinical periodontal indices were recorded. Gingival crevicular fluid (GCF) and serum samples were collected. Cytokine levels (IL-1β, IL-1α, TNF-α, IL-6, IL-8, IL-10, IL-17, IL-33) in GCF and serum were measured using ELISA kits.

Results: There was no significant difference between the groups in terms of GCF IL-1β and IL-1α levels although, BoP and GI were significantly lower in the anti-IL-1 (+) group compared to the control group. GCF IL-10 level was higher in the anti-IL-1 (-) group than in the control group; GCF IL-8 levels were lower in both FMF/sJIA subgroups versus controls. There was no significant difference between serum cytokine levels of FMF/sJIA subgroups.

Conclusions: Considering the significant decrease in GI, BoP, and GCF IL-8 levels in the anti-IL-1 (+) group, it can be concluded that anti-IL-1 medications may suppress periodontal inflammation clinically and immunologically.

Clinical relevance: Anti-IL agents are not currently used in periodontal therapy. However, this study demonstrated the positive effect of anti-IL-1 medications on periodontal inflammation in pediatric patients with FMF or sJIA.

Ahmad P, Hussain A, Carrasco-Labra A, Siqueira WL. Salivary Proteins as Dental Caries Biomarkers: A Systematic Review. Caries Res. 2022;56(4):385-398. doi: 10.1159/000526942. Epub 2022 Sep 20. PMID: 36116431.

ABSTRACT

Salivary proteins play an important role in repairing mechanisms of damaged tissues and the maintenance of oral health. However, there is a dearth of information in the literature regarding the concentrations of salivary proteins in caries-free (CF) and caries-active (CA) subjects. Hence, this systematic review was conducted to update our previous systematic review published in 2013 that aimed to assess the association between caries and salivary proteins by comparing CF and CA individuals. Thereby, evaluating the possibility of whether salivary proteins can be regarded as biomarkers for caries. An extensive search of studies was conducted using PubMed, EMBASE, Clarivate Analytics' Web of Science, and Elsevier's Scopus between July 2012 and January 2022, without any language restriction. Manual searching in Google Scholar and evaluation of bibliographies of the included studies were also undertaken. The Newcastle-Ottawa Scale was used to assess the risk of bias (RoB) within the included studies. Of 22 included studies, 1,551 human subjects (range: 30-213 participants) were recruited, of which 848 individuals (54.7%) were CA and 703 (45.3%) were CF. Regarding the utilization of DMFT as the caries index, high variability was observed across different articles. A statistically significant increase in the salivary levels of alpha-amylase, acidic proline-rich protein-1, histatin-5, lactoperoxidase, and mucin-1 was found in CA patients, while the salivary levels of carbonic anhydrase 6, proteinase-3, and statherin were observed to be significantly increased in CF subjects. Conflicting results were found regarding the salivary levels of immunoglobulin A and total proteins among CA and CF subjects. The included studies were categorized as low RoB (n = 15), medium RoB (n = 4), and high RoB (n = 3). Due to significant heterogeneity among the included studies, no meta-analysis could be performed. In conclusion, the salivary levels of protein(s) might be a useful biomarker for caries diagnosis, especially alpha-amylase, acidic proline-rich protein-1, histatin-5, lactoperoxidase, mucin-1, carbonic anhydrase 6, proteinase-3, and statherin. However, their diagnostic value must be verified by large-scale prospective studies.

Ajay K, Azevedo LB, Haste A, Morris AJ, Giles E, Gopu BP, Subramanian MP, Zohoori FV. App-based oral health promotion interventions on modifiable risk factors associated with early childhood caries: A systematic review. Front Oral Health. 2023 Mar 10;4:1125070. doi: 10.3389/froh.2023.1125070. PMID: 36968137; PMCID: PMC10036826.

ABSTRACT

Background: Early childhood caries (ECC) is a preventable chronic disease. Parents' knowledge and attitudes toward oral healthcare have been associated with higher caries experience in their children. Mobile apps within the context of mHealth interventions are a potential tool for raising awareness and informing parents about their children's oral health.

Objectives: The aim of this systematic review was to examine the effectiveness of mobile health apps, targeted at parents and caregivers, for the prevention of ECC.

Data Sources: A systematic search was carried out in five scientific databases; Embase, CINAHL, MEDLINE, PsycINFO and Web of Science.

Study selection and data extraction: Original studies, delivering oral health interventions to parents of children <6 years via smartphones, were included. Both quantitative and qualitative findings from the included studies were extracted.

Synthesis: A convergent segregated approach was used to integrate the quantitative and qualitative evidence, followed by side-by-side display and narrative synthesis.

Results: Out of 5,953 retrieved articles, five met the inclusion criteria and were included in the review. Three articles reported quantitative findings, while two reported both quantitative and qualitative findings. Four studies reported that a mobile app can be an effective tool to improve the oral health knowledge of parents/caregivers, aiding them in incorporating good oral health habits into their children's daily routines.

Conclusion: This review demonstrated that oral health promotion programs delivered through mobile apps to parents could be effective in improving child oral health awareness among parents. There is a need for more high-quality studies with a large number of participants to find out which features of mHealth interventions with parents could effectively be employed to reduce the prevalence of ECC. Further studies and apps should be developed based on evidence-based behaviour change techniques and incorporate features such as gamification to increase the effectiveness and engagement of the target population.

Alayadi H, Alsiwat A, AlAkeel H, Alaskar M, Alwadi M, Sabbah W. Impact of virtual supervised tooth brushing on caries experience and quality of life among primary school children: study protocol for a randomized controlled trial. Trials. 2023 Feb 20;24(1):118. doi: 10.1186/s13063-023-07111-8. PMID: 36803406; PMCID: PMC9939371.

ABSTRACT

Background: Dental caries is one of the most common diseases affecting children world widely as well as in the Kingdom of Saudi Arabia. Supervised tooth brushing programs are implemented throughout the world to provide young children's developing teeth with additional fluoride as a form of dental caries prevention. While school-based supervised tooth brushing programs have been proven to improve young children's oral health, virtual supervised teeth brushing programs have not been assessed. The purpose of this protocol is to assess the impact of virtual supervised tooth brushing on caries experience and quality of life among primary school students in Riyadh, Saudi Arabia.

Methods: This is a cluster randomized controlled trial comparing a virtual supervised tooth brushing program against no intervention applied. A total of 1192 (596 in each group) 8-9-year-old children in Riyadh primary schools, Saudi Arabia, will be recruited for the trial. Schools (cluster) will be randomly selected and allocated to either group. Clinical assessment for caries experience will be conducted in six points (baseline, + 3 months, + 6 months, + 12 months, + 24 months, + 36 months) by dental hygienists using the World Health Organization criteria. Data on sociodemographic behavioral factors and children's quality of life will be collected with every clinical assessment through a structured questionnaire. The primary outcome is the change in caries experience (the number of teeth with untreated dental caries, filled and missing teeth) in both primary and permanent teeth over 36 months.

Discussion: Virtual education as well as some health consultation through the pandemic period had enabled an effective IT infrastructure in Saudi Arabia. Virtual supervised tooth brushing is a proposed initiative. It is also an opportunity for targeting a large portion of the population with a high level of disease as a quarter of the Saudi population is younger than 15 years. This project should provide high level evidence on the effectiveness of virtual supervised tooth brushing. The findings should potentially inform policies related to the continuation/implementation of school-based programs in Saudi Arabia.

Aliakbari E, Gray-Burrows KA, Vinall-Collier KA, Edwebi S, Marshman Z, McEachan RRC, Day PF. Home-based toothbrushing interventions for parents of young children to reduce dental caries: A systematic review. Int J Paediatr Dent. 2021 Jan;31(1):37-79. doi: 10.1111/ipd.12658. Epub 2020 May 13. PMID: 32333706.

ABSTRACT

Background: Dental caries is the most prevalent preventable condition in children. A key preventive home-based oral health behaviour is the adoption and maintenance of parental supervised toothbrushing until 8 years of age.

Aim: To examine interventions promoting parental supervised toothbrushing practices to reduce dental caries in young children (<8 years old).

Design: Interventions promoting parental involvement in home-based toothbrushing in children under 8 years old and their impact on caries were subjected to review. Electronic databases (MEDLINE, EMBASE, PubMed, Web of Science, PsycINFO, Scopus, and the Cochrane Library), references, and unpublished literature databases were searched for relevant literature.

Results: Of the 10 176 articles retrieved, forty-two articles were included. The Theoretical Domains Framework was used to code intervention content, with the main domains addressed being knowledge (41/42), skills (35/42), and environmental context and resources (22/42). Sufficient descriptions of the intervention development, delivery, and evaluation were lacking, with only 18 studies being underpinned by theory. Twenty-nine studies explored the impact on caries yielding mixed results.

Conclusions: There are few interventions targeting home-based oral health behaviours underpinned by theory and methodological rigour in their development and evaluation. This demonstrates a clear need for future interventions to be guided by complex intervention methodology.

Alzahrani AY, El Meligy O, Bahdila D, Aljawi R, Bamashmous NO, Almushayt A. The influence of parental oral health literacy on children's oral health: a scoping review. J Clin Pediatr Dent. 2024 Jul;48(4):16-25. doi: 10.22514/jocpd.2024.074. Epub 2024 Jul 3. PMID: 39087210.

ABSTRACT

The aim of this review was to evaluate the association between parental oral health literacy and children's oral health outcomes. A comprehensive search was conducted across four electronic databases to identify articles that were published up to October 2023. The articles that met our predetermined criteria were then screened and assessed for eligibility. Updated Arksey and O'Malley's scoping review framework was followed. After identifying 2964 references, duplicates were removed, leaving 1992 titles. Following the screening of article titles and abstracts, 19 full-text articles underwent a thorough examination. The scoping review included 19 relevant studies. In most of the studies included, the status of oral health of children is linked to the caregiver's oral health literacy. Children of caregivers with low oral health literacy were found to exhibit deleterious oral health habits, including inadequate teeth brushing and the use of bottles at night-time. Dental caries was found to be more common in children whose parents had low oral health literacy. Stri-

ving for optimal oral health literacy in the community is a valuable and worthwhile effort. Equipping parents with the skills and knowledge to make appropriate decisions about their children's oral health could positively prevent dental caries and promote better oral health outcomes.

Alzahrani AY, El Meligy O, Bahdila D, Aljawi R, Bamashmous NO, Almushayt A. Health and oral health literacy: A comprehensive literature review from theory to practice. Int J Paediatr Dent. 2025 Mar;35(2):434-445. doi: 10.1111/ipd.13255. Epub 2024 Aug 3. PMID: 39096054.

ABSTRACT

Background: Health literacy (HL) refers to an individual's ability to access, understand, and apply health information to make informed decisions about their health. On the contrary, oral health literacy (OHL) focuses on an individual's ability to understand and utilize oral health information to maintain good oral health.

Aim: This study presents a comprehensive literature review that explores the theoretical foundations and practical applications of HL and OHL.

Design: A comprehensive search was conducted using keywords on the following databases: PubMed, Google Scholar, and Cochrane Database of Systematic Reviews.

Results: The existing literature on various aspects of HL, including the most common used definitions of HL, conceptual frameworks, and consequences of limited health and OHL, was summarized. Additionally, the review discussed the significance of HL and OHL. Also, the relation between parent level of OHL and children's oral health was described. It further highlights modern approaches that have been shown in previous studies to improve the OHL of primary caregivers.

Conclusions: Understanding the significance of HL and OHL is crucial in developing effective interventions that can address disparities and improve oral health outcomes for individuals of all backgrounds.

Amrollahi N, Shahshahan SA, Nilchian F, Tarrahi MJ. Dental Fear and Caries in 6- to 12-Year-Old Children: a Systematic Review and Meta-analysis. Chin J Dent Res. 2024 Jun 28;27(2):151-159. doi: 10.3290/j.cjdr.b5459595. PMID: 38953480.

ABSTRACT

Objective: To investigate the relationship between dental fear and dental caries in children aged 6 to 12 years in a systematic review and meta-analysis.

Methods: Systematic review search terms were selected according to medical subject headings (MeSH) or non-MeSH. An electronic search of studies published in English assessing the relationship between dental fear (children's fear survey schedule-dental subscale) and dental caries (DMFT or dmft index) was carried out of the Scopus, Web of Science, PubMed, Embase, Cochrane and Proquest databases up to March 2022. Of 5,759 articles retrieved initially, 16 were eligible for inclusion in the study, and 5 of these were included in the quantitative analysis. The quality of studies was evaluated based on the Newcastle-Ottawa scale. Begg tests were employed to assess the publication bias.

Results: According to the meta-analysis, the results revealed no statistically significant difference in mean of DMFT score in low and high fear score groups, with a mean difference of 1.28 (95% confidence interval -0.132 to 2.693) (P = 0.076). A statistically significant difference was found in the mean dmft score for the low and high fear score groups, with a mean difference of 0.227 (95% confidence interval 0.058 to 0.395) (P = 0.008). The mean dmft was significantly higher in the high fear score group.

Conclusion: Dental fear has a significant relationship with caries in primary teeth, but not in permanent teeth.

Babaei A, Pakdaman A, Hessari H. Effect of an Oral Health Promotion Program Including Supervised Toothbrushing on 6 to 7-Year-Old School Children: A Randomized Controlled Trial. Front Dent. 2020 Aug;17(19):1-9. doi: 10.18502/fid.v17i19.4313. Epub 2020 Aug 30. PMID: 33615295; PMCID: PMC7883658.

ABSTRACT

Objectives: The purpose was to evaluate the impact of an oral health promotion program including supervised toothbrushing and educational packages for parents on parent's knowledge and oral health status of 6- to 7-year-old schoolchildren.

Materials and Methods: A multi-stage cluster random sampling method was applied, and schools were allocated to intervention and control groups. After ethical clearance and baseline evaluation, an intervention package consisting of supervised toothbrushing at the school setting, an educational package for parents, and a home package containing toothbrush and fluoridated toothpaste (1000 parts-per-million) were delivered. A post-intervention evaluation was performed after one month on parents' oral health knowledge and oral hygiene of children using the Oral Hygiene Index Simplified (OHI-S). Schools were considered as a unit of randomization, and a generalized estimating equation (GEE) analysis was performed to apply the cluster effect. Descriptive and analytical analyses were performed using SPSS 22 software.

Results: Overall, 701 subjects were re-examined (response rate of 95%). At the one-month follow-up, being in the intervention group (P<0.001, B=-0.028, 95% confidence interval (CI)= -0.33, -0.23) and having higher socioeconomic status [P=0.01, B=-0.12, 95% CI=-0.22, -0.03) were significantly associated with improved oral hygiene status. In the post-test evaluation, parents' knowledge improvement score regarding oral health in the intervention group was not statistically different from that of the controls (0.51 vs. 0.23). However, the ΔOHI-S improved in the post-test evaluation (-0.27±0.02 vs. 0.02±0.02; P<0.001).

Conclusion: Children showed improved oral hygiene status, as measured by the OHI-S, after the program consisting of supervised toothbrushing.

Bakar M, Johnston B, Fitzgerald K, Casby C, Duane B. Environmental impact of the supervised toothbrushing programme amongst children in Scotland. J Dent. 2023 Dec;139:104773. doi: 10.1016/j.jdent.2023.104773. Epub 2023 Nov 4. PMID: 37931697.

ABSTRACT

Objectives: To understand the environmental impact of providing a nationwide supervised toothbrushing programme (Childsmile) for 5-year-old children in Scotland.

Methods: A life cycle assessment was conducted to assess the annual environmental effects of the supervised toothbrushing programme in early years childcare, as well as each dental procedure (dental restoration under local anaesthesia (LA), single tooth extraction under LA, and multiple teeth extraction under general anaesthesia) spanning from 2001/02 to 2009/10. The expected savings in annual carbon dioxide equivalent (CO_2e) emissions for all combined dental treatments in subsequent years were calculated compared to those in 2001/02.

Results: An overall decrease in CO_2e emissions was evident in the Childsmile programme and across all dental procedures. The estimated reduction in emissions across all procedures varied from 102.5 tonnes in 2002/03 to 461.1 tonnes in 2009/10 when compared to 2001/02. Within three years, the expected emissions savings from all combined dental procedures surpassed the emissions generated by implementing the Childsmile programme.

Conclusions: Over time, there was a significant reduction in annual CO_2e emissions for all combined dental treatments in children. In the eighth year of the Childsmile, emissions savings were more than 4.5 times greater than the emissions generated during its implementation.

Clinical significance: The study highlights the importance of educating public by individual dentists about the environmental impact of caries prevention programmes and paediatric dental treatments as this may influence patient choice. It also encourages commissioners of community dental programmes to support the implementation of supervised toothbrushing programmes in early years childcare.

Balseca Ibarra MC, Medina Vega MV, Souto MLS, Romito GA, Frias AC, Raggio DP, Crosato EM, Mendes FM, Pannuti CM. Impact of gingivitis on oral health-related quality of life in 12-year-old schoolchildren of Quito, Ecuador. Eur Arch Paediatr Dent. 2023 Apr;24(2):211-218. doi: 10.1007/s40368-022-00777-9. Epub 2023 Jan 5. PMID: 36602708.

ABSTRACT

Purpose: Evaluate the impact of gingivitis on oral health-related quality of life (OHRQoL) amongst 12-year-old schoolchildren from Quito, Ecuador.

Methods: We evaluated 998 school children using the Community Periodontal Index for gingival bleeding and calculus. OHRQoL was assessed with the Child Perceptions Questionnaire 11-14 (CPQ11-14) questionnaire.

Results: Of the 998 schoolchildren, 93% had gingival bleeding and 73% had dental calculus. Schoolchildren with more than one sextant with gingival bleeding had 1.18 times higher mean CPQ11-14 (RR 1.18, 95% CI 1.11-1.27) than those with none or just one affected sextant. Male schoolchildren presented a 15% lower mean Child Perceptions Questionnaire (CPQ) (RT 0.85; 95% CI 0.76-0.96). Children whose parents had incomplete secondary education had a 15% lower mean CPQ (RT 0.85; 95% CI 0.77-0.94). Bleeding in more than one sextant was significantly associated with worse quality of life in the emotional well-being (RT 1.40, 95% CI 1.03-1.90) and social well-being domains (RT 1.76, 95% CI 1.32-2.34).

Conclusion: Gingival bleeding negatively impacted the OHRQoL of 12-year-old Ecuadorian schoolchildren living in Quito.

Banihashem Rad SA, Esteves-Oliveira M, Maklennan A, Douglas GVA, Castiglia P, Campus G. Oral health inequalities in immigrant populations worldwide: a scoping review of dental caries and periodontal disease prevalence. BMC Public Health. 2024 Jul 23;24(1):1968. doi: 10.1186/s12889-024-19354-4. PMID: 39044172; PMCID: PMC11267954.

ABSTRACT

Background: Inequalities in immigrants' oral health are often masked in population-level data. Therefore, this paper was planned to assess the prevalence data on oral health diseases, namely dental caries, and periodontitis, among immigrants worldwide.

Methods: Following a systematic search in Scopus, Embase, and PubMed for studies published between 2011 and 2023, 1342 records were identified. Following title and abstract screening, 76 studies remained for full-text eligibility-screening based on predefined inclusion criteria. Thirty-two studies were included in the review.

Results: Dental caries figures were higher in immigrant populations compared to the local population, regardless of host countries, age, gender, or nationality. In children, the overall mean and standard deviation (SD) for decayed, missing, and filled teeth in the primary dentition (d3mft) was 3.63(2.47), and for D3MFT (permanent dentition), it was 1.7(1.2). Upon comparing overall mean caries counts in children and adults with their control groups in the included studies, untreated dental caries (D3T and d3t) constituted the dominant share of caries experience (D3MFT and d3mft) in immigrant children. For the local population, the highest proportion of caries experience was attributed to filled teeth (FT and ft). Dentin caries prevalence among immigrants ranged from 22% to 88.7% in the primary dentition and 5.6% to 90.9% in the permanent dentition. Gingivitis ranged from 5.1% to 100%. Oral health varied greatly between studies. Regarding oral health accessibility, 52% to 88% of immigrant children had never been to a dentist, suggesting a very limited level of accessibility to dental health services.

Conclusion: It is imperative to develop interventions and policies that have been customized to address the oral health disparities experienced by immigrant populations. Additionally, host countries should actively implement measures aimed at enhancing the accessibility of oral health care services for these individuals. The utilization of available data is crucial in establishing a hierarchy of objectives aimed at enhancing the oral health of immigrant populations.

Banihashem Rad SA, Esteves Oliveira M, Maklennan A, Castiglia P, Campus G. Higher prevalence of dental caries and periodontal problems among refugees: A scoping review. J Glob Health. 2023 Sep 15;13:04111. doi: 10.7189/jogh.13.04111. PMID: 37712847; PMCID: PMC10503462.

ABSTRACT

Background: We assessed the prevalence data on oral health diseases, namely dental caries and periodontitis, among refugees and asylum seekers worldwide.

Methods: A systematic search of Scopus, Embase, and PubMed retrieved 1225 records; following title and abstract screening, 58 studies remained for full-text eligibility screening based on pre-defined inclusion criteria. Twenty-six studies were included in the review.

Results: Dental caries and tooth loss due to caries were high in refugee populations, regardless of their age, gender, or nationality. The adult population had a mean decayed, missing, and filled teeth (DMFT) index score of 9.2 (standard deviation (SD) = 2.3); children had a score of 3.1 (SD = 1.1) for deciduous teeth and 2.5 (SD = 1.1) for permanents. Caries prevalence among refugees ranged from 4.6% to 98.7%, and gingivitis from 5.7% to 100%, indicating a high heterogeneity in their oral health. Regarding oral health accessibility, 17% to 72% of refugees had never been to a dentist, showing a very low level of accessibility to dental health services.

Conclusions: Interventions and policies need to be designed to reduce oral health inequalities among refugee populations and asylum seekers, and host countries must implement strategies to increase their access to oral health care. Existing data should be used to set priorities for improving the oral health of refugees.

Borges-Yáñez SA, Castrejón-Pérez RC, Camacho MEI. Effect of a School-Based Supervised Tooth Brushing Program In Mexico City: A Cluster Randomized Intervention. J Clin Pediatr Dent. 2017;41(3):204-213. doi: 10.17796/1053-4628-41.3.204. PMID: 28422600.

ABSTRACT

Large-scale school-based programs effectively provide health education and preventive strategies. SaludARTE is a school-based program, including supervised tooth brushing, implemented in 51 elementary schools in Mexico City.

Objectives: To assess the three-month efficacy of supervised tooth brushing in reducing dental plaque, gingival inflammation, and bleeding on probing in schoolchildren participating in SaludARTE.

Study Design: This was a pragmatic cluster randomized intervention, with two parallel branches. Four randomly selected schools participating in SaludARTE (n=200) and one control school, which did not participate in the program (CG) (n=50), were assessed. Clusters were not randomly allocated to intervention. The main outcomes were as follows: mean percentage gingival units with no inflammation, dental surfaces with no dental plaque, and gingival margins with no bleeding. The independent variable was supervised tooth brushing at school once a day after a meal. Guardians and children responded to a questionnaire on sociodemographic and oral hygiene practices, and children were examined dentally. Mean percentage differences were compared (baseline and follow-up).

Results: A total of 75% of guardians from the intervention group (IG) and 77% from the CG answered the questionnaire. Of these, 89.3% were women, with a mean age of 36.9±8.5 years. No differences in sociodemographic variables were observed between groups, and 151 children from the IG and 35 from the CG were examined at baseline and follow-up. Mean percentage differences for plaque-free surfaces (8.8±28.5%) and healthy gingival units (23.3%±23.2%) were significantly higher in the IG.

Conclusion: The school-supervised tooth brushing program is effective in improving oral hygiene and had a greater impact on plaque and gingivitis than on gingival bleeding. It is necessary to reinforce the oral health education component of the program.

Buunk-Werkhoven YAB, Tamulienė R, Mačiulienė D. Exploring parental opinions on oral hygiene behavior and knowledge of their young children in Lithuania: a cross-sectional survey study. Front Oral Health. 2025 Apr 29;6:1530265. doi: 10.3389/froh.2025.1530265. PMID: 40365357; PMCID: PMC12069469.

ABSTRACT

Background: An appropriately formulated oral health education program carefully based on research, can increase knowledge, change behavior in a positive direction and improve self-confidence. This study aimed to examine parental opinions on their children's oral hygiene behavior (OHB) and oral health knowledge (OHK) among their pre- and primary school children in Kaunas, Lithuania.

Methods: In this cross-sectional study, an online 33-question survey was conducted before and after World Oral Health Day on March 20 to assess the oral hygiene skills, eating habits, and demographics of their 5-12 year children. A total of 532 parents participated, with data from 420 parents, mainly married mothers (average age 37.3 years) being analyzed. Most participants had higher education, lived in Kaunas, and had one to three children, with an average age of 7 years for the oldest child.

Results: Most participants used a manual toothbrush. The adapted OHB index showed that most parents generally had good control over their children's tooth brushing habits, with many brushing twice daily and using fluoride toothpaste. One-third of parents always re-brushed their child's teeth after the child brushed independently. Parents demonstrated strong knowledge of their children's oral health care, as reflected in high scores on the adapted OHK index. A positive correlation was found between OHB and OHK ($r = 0.14$, $p = 0.05$). Younger children were re-brushed more frequently, and higher parental OHK was linked to more frequent re-brushing, particularly for children less than 10 years, and parents with higher education had better OHK but did not demonstrate better OHB.

Conclusions: The insights gained from parents into their children's OHB and OHK can help implement an evidence-based preventive approach to improve their children's oral hygiene practices.

Çalışkan C, Durmuş B, Yıldırım HS, Demir F, Sözeri B. Comparison of Oral Health and Salivary Biomarkers in Children with Juvenile Idiopathic Arthritis and Healthy Individuals. Niger J Clin Pract. 2023 Dec 1;26(12):1808-1816. doi: 10.4103/njcp.njcp_169_23. Epub 2023 Dec 29. PMID: 38158346.

ABSTRACT

Aim: This study examines the effects of juvenile idiopathic arthritis (JIA) on the oral health and detectability of inflammatory biomarkers IL-17, tumour necrosis factor-alpha (TNF-α) and total antioxidant status (TAS) in the saliva of children with JIA.

Patients and Methods: This study included 117 participants (39 patients with JIA and 78 systemically healthy subjects aged 8-12 years). Demographic data, responses to an oral health-related questionnaire, saliva samples, periodontal parameters [plaque index (PI), gingival index (GI) and bleeding on probing (BOP)] and dental recordings [facial profile (FP) and dental occlusion relationship (DOR)] were obtained. Enzyme-linked immunosorbent assays were used to determine the levels of salivary IL-17, TNF-α and TAS.

Results: The Caries Assessment Spectrum and Treatment (CAST) index, FP and DOR distributions did not change between groups ($P > 0.05$). JIA patients had more temporomandibular joint (TMJ) discomfort than gingivitis patients and healthy subjects ($P < 0.05$). JIA patients had greater salivary IL-17 levels than healthy subjects ($P < 0.05$). The healthy group's TAS was higher than that of the JIA and gingivitis groups ($P < 0.05$). Saliva TNF-α levels were similar between groups ($P > 0.05$). PI, GI, BOP and TNF-α were positively associated with salivary IL-17 ($P < 0.001$).

Conclusion: Elevated salivary IL-17 and TAS levels could be used as biological markers for discriminating the clinical health status of children with JIA and gingivitis.

Cao R, Qiu P, Zhou Y, Dong B, Han Y, Fan Z. The underlying relationship between exercise and the prevalence of periodontitis: a systematic review and meta-analysis. BMC Sports Sci Med Rehabil. 2023 Nov 27;15(1):161. doi: 10.1186/s13102-023-00759-4. PMID: 38012769; PMCID: PMC10683191.

ABSTRACT

Background: Although exercise has been proposed as an effective intervention for various lifestyle-related diseases and pathological scenarios, few researches assessed the impact of taking exercise on the prevalence of periodontitis.

Purpose: This study aimed to perform a comprehensive literature review and meta-analysis from both observational and intervention studies to explore the relationship between exercise and periodontitis and to provide references for future intervention programs aimed at preventing periodontitis.

Method: A systematic literature search was conducted in PubMed/MEDLINE, Web of Science, Cochrane Library, and Scopus for peer-reviewed studies published in English From January 1993 to January 2023 according to the PRISMA guidelines. Articles were selected if subjects were human and studies evaluating the association between exercise and periodontitis.

Results: 4098 references were retrieved. After screening the results, 30 studies were selected. Of these, 20 studies indicated an inverse association between exercise and periodontitis, while the remaining 10 did not reach conclusive findings. The meta-analysis demonstrated a risk ratio of 0.84 (95%CI: 0.77, 0.91) between the active group and the inactive group ($P < 0.01$), which indicated an inverse relationship between exercise and periodontitis.

Conclusion: Overall, the increase in exercise presents an inverse association with the presence and severity of periodontitis. Accordingly, taking exercise might be a potential approach that contributes to improvements in periodontitis.

Casarin RCV, Salmon CR, Stolf CS, Paz HES, Rangel TP, Domingues RR, Pauletti BA, Paes-Leme AF, Araújo C, Santamaria MP, Ruiz KS, Monteiro MF. Salivary annexin A1: A candidate biomarker for periodontitis. J Clin Periodontol. 2023 Jul;50(7):942-951. doi: 10.1111/jcpe.13803. Epub 2023 Mar 19. PMID: 36935103.

ABSTRACT

Aim: To compare the salivary proteomic profile of periodontitis-affected (PA) parents and their offspring to periodontally healthy (PH) dyads in the pursuit of possible biomarkers for early diagnosis of this disease.

Materials and Methods: Unstimulated saliva samples collected from 17 pairs of PA or PH individuals and their children were submitted to mass spectrometric analyses followed by proteomic analyses. Primary PA fibroblasts were triggered towards having an inflammatory response, and an immunoenzymatic assay of its supernatant was performed to validate the obtained data.

Results: ANXA1, KRT4, GSTP1, HPX, A2M and KRT13 were lower in PA parents and their children, and IGHG1, CSTB, KRT9, SMR3B, IGHG4 and SERPINA1 were higher. ANXA1 presented the highest fold change, 7.1 times less produced in children of PA parents, and was selected as a potential biomarker for periodontitis. The in vitro assay also showed lower ANXA1 production by cells of PA patients.

Conclusion: Before any clinical sign of periodontal loss, descendants of PA patients have an altered proteomic profile compared to PH individuals, presenting a lower abundance of ANXA1. This protein is suggested as a potential biomarker for periodontitis.

Chen L, Hong J, Xiong D, Zhang L, Li Y, Huang S, Hua F. Are parents' education levels associated with either their oral health knowledge or their children's oral health behaviors? A survey of 8446 families in Wuhan. BMC Oral Health. 2020 Jul 11;20(1):203. doi: 10.1186/s12903-020-01186-4. PMID: 32652985; PMCID: PMC7353758.

ABSTRACT

Background: Children aged 6-7 years are in the early mixed dentition, which is a period of high prevalence of dental caries and other dental diseases and a critical period for the formation of oral health behaviors. Therefore, good oral hygiene habits of children and oral health knowledge of parents are very important. This study sought to explore the relationship between children's oral health behaviors, parental oral health

knowledge, parental choices of pit and fissure sealants, and parents' education levels based on a large-scale sample size for the first time, and to compare the influences of parental education levels between parents.

Methods: Families of the first and second graders of primary schools in Wuhan Hongshan District were included in this study. A total of 8446 questionnaires were collected to obtain comprehensive information on children's oral health behaviors, parents' oral health knowledge and parents' pit and fissure sealants-related choices. The relationship between these outcome variables and parents' education levels were studied using logistic regression analysis and chi-square test.

Results: Parents who reported good educational background had more favorable oral health knowledge than those of other parents, and their children had better oral hygiene behaviors. Four indicators of five measures to children's oral health behaviors were significantly associated with mother's education level ($P < 0.05$), and three of them were related to father's education level ($P \leq 0.01$). Moreover, seven indicators of eight measures to parents' oral health knowledge were significantly related to mother's education level ($P < 0.05$) and four of them were affected by the father's ($P < 0.05$). In addition, parents with higher educational attainments paid more attention to the completeness of medical facilities, the environment of dental practice, the distance to treatment sites, and took less concern of children's willingness when choosing the pit and fissure sealants sites.

Conclusions: In families with children at the early mixed dentition stage, parents with higher education levels tend to have better oral health knowledge and more oral health care needs, such as pit and fissure sealants. In addition, children of parents who have better educated parents tend to perform better oral hygiene practices.

Chimbinha ÍGM, Ferreira BNC, Miranda GP, Guedes RS. Oral-health-related quality of life in adolescents: umbrella review. BMC Public Health. 2023 Aug 23;23(1):1603. doi: 10.1186/s12889-023-16241-2. PMID: 37612682; PMCID: PMC10464260.

ABSTRACT

Background: To evaluate oral conditions, demographic and socioeconomic characteristics of oral health-related quality of life (OHRQoL) in adolescents.

Methods: Umbrella review, conducted according to the Preferred Reporting Items for Systematic Reviews and Meta Analyzes (PRISMA) checklist. The search strategy used a combination of words, applied in the electronic databases PubMed, WebScience, Embase, Lilacs, Scopus and Cochrane. Included publications until January 2022, without restrictions. Data collection took place with systematized practices and the eligibility criteria were studies focusing on OHRQoL; teenagers; adolescentes; present the term "systematic review" and/or "meta-analysis" in the title or abstract. The quality assessment followed the Assessment of Multiple Systematic Reviews (AMSTAR 2) and the adherence of the article to the PRISMA was verified.

Results: Three hundred sixty-two articles were identified, and 22 were included, published between 2009 and 2022. 21 Systematic reviews focused on the English language. Most studies showed heterogeneity in the methodological structuring process: 10 articles were considered of low and 10 critically low quality. Clinical conditions associated with worsening in quality of life were dental caries, malocclusion, dental trauma, toothache, edentulism, need for orthodontic treatment, irregular brushing, and periodontal disease. Socioeconomic factors related to housing, parental education, access to health care, absence of siblings and nuclear family influence OHRQoL. Completion of orthodontic treatment, health promotion programs, dental care and safe housing all have a positive impact.

Conclusion: Worse oral health status, older age, female sex and worse socioeconomic status were significantly associated with worse OHRQoL.

Çoğulu D, Önçağ Ö, Aşık A: Are Oral Health Conditions Associated with Schoolchildren's Performance and School Attendance?. J Pediatr Res 2023;10(1):8-12. DOI: 10.4274/jpr.galenos.2022.37431

ABSTRACT

Aim: To examine the relationship between children's oral health-related quality of life and their academic achievement and school attendance.

Conclusion: Dental problems can cause school-aged children to be absent from school and affect their school performance negatively.

Results: The mean age of the 150 pediatric patients [72 girls (48%) and 78 boys (52%)] was 9.23±1.44 years. Due to dental care-related issues, 82% of schoolchildren missed less than two weeks, and 18% missed more than two weeks of school. Furthermore, 21% of these missed days were related to toothache or infections, and 34% were due to going to dental treatment appointments. The association between nail biting and hard object biting and the school achievement of the children was shown to be statistically significant ($p=0.02$ and $p=0.03$, respectively). According to the results of the present study, it was determined that school absenteeism was higher in those children who needed dental treatment. It was also observed that there was a negative correlation between school absenteeism and academic success ($p=0.01$).

Materials and Methods: Data was gathered from the answers to a structured questionnaire from 150 children aged 7-12 years. Their demographic data, the children's/parents' oral health conditions, their academic performance/school absenteeism, and their intraoral examination outcomes were recorded via a structured questionnaire. The Silness & Löe plaque index was used to assess their dental plaque scores and DMFT/DMFS, dmft/dmfs indices according to the WHO criteria were used to determine their dental caries scores.

Coll I, Vallejos D, Estebala P, López-Safont N. The Relationship Between Processed Food Consumption and Periodontal Disease: Sex Disparities in the Majorcan Adolescent Population. Life (Basel). 2025 Apr 1;15(4):580. doi: 10.3390/life15040580. PMID: 40283135; PMCID: PMC12028996.

ABSTRACT

Background: The diet of young people in Spain has changed significantly, with a departure from a balanced dietary pattern and a greater intake of processed foods. Such food generates an acidic environment in the mouth, which promotes the multiplication of bacteria capable of causing inflammation and damage to the gums.

Aim: This study aimed to determine the association between the frequency of consuming processed foods and periodontal disease, as well as sex differences, in an adolescent population.

Methods: A study was conducted on 233 students aged 15 to examine the frequency of food consumption and its correlation with periodontal disease. Differences were determined via a Student's t-test to compare the means. A chi-square test was used to compare categorical variables. The 95% confidence interval estimate was used in all cases ($p < 0.05$).

Results: It was observed that girls have a higher mean number of healthy sextants than boys (3.26 ± 0.20 vs. 2.70 ± 0.21; $p = 0.029$). A statistically significant difference was noted between healthy and affected subjects in the frequency of consumption of packaged milkshakes ($p = 0.003$), industrial juices ($p = 0.009$), industrial pastries ($p = 0.018$), and fruits in syrup ($p = 0.022$). When segmented by sex, a statistically significant difference was noted in boys between healthy and affected subjects in the frequency of consumption of packaged milkshakes ($p = 0.044$), salty snacks ($p = 0.032$), and cold cuts ($p = 0.033$); in girls, the difference was detected in industrial juices (0.024).

Conclusions: The results of this study suggest that adolescent boys are more affected periodontally than girls. In both sexes, the level of consumption of processed foods affects the presence of periodontal disease.

Coll I, Vallejos D, Cuesta R, Domínguez J, Tomás P, López-Safont N. Prevalence of Oral Diseases and the Influence of the Presence of Overweight/Obesity in Schoolchildren Population in Mallorca. J Clin Med. 2024 Nov 29;13(23):7283. doi: 10.3390/jcm13237283. PMID: 39685742; PMCID: PMC11642840.

ABSTRACT

Background: The pediatric population is one of the social groups most affected by oral pathology, and overweight and/or obesity is increasingly frequently observed. This work presents a study of the prevalence of oral disease in the school population in Mallorca and its relationship with overweight/obesity.

Methods: A cross-sectional study was carried out with a sample of 718 students aged 5-6 (n = 255), 12 (n = 230) and 15 years (n = 233). The WHO criteria for diagnosing and coding examined teeth and overweight/obesity prevalence values. To explore the differences in data, the mean was analyzed using the Student's t-test or a one-way analysis of variance followed by the Bonferroni post hoc analysis.

Results: Results found that students aged 15 years have a caries prevalence rate of 45.49%, higher than those aged 12 (27.39%). The presence of dental calculus in 15-year-old students is 52.8%, even higher than in 12-year-olds (30%). Students aged 6 and 12 with lower weight percentiles have fewer healthy teeth than those with higher percentiles.

Conclusions: The schoolchildren have experienced a decrease in caries and an increase in periodontitis, with weight percentile potentially influencing the number of healthy teeth.

Coll I, Vallejos D, Estebala P, López-Safont N. The Relationship Between Processed Food Consumption and Periodontal Disease: Sex Disparities in the Majorcan Adolescent Population. Life (Basel). 2025 Apr 1;15(4):580. doi: 10.3390/life15040580. PMID: 40283135; PMCID: PMC12028996.

ABSTRACT

Background/Objectives: Habits such as a diet high in sugars and poor dental biofilm control are linked to a higher prevalence of caries and low socioeconomic status. This study aimed to analyze the nutrition habits of schoolchildren in Mallorca and their relationship with the presence of dental caries, depending on the type of school, geographic location, and parents' education level.

Methods: A cross-sectional study was conducted to examine the prevalence of dental caries based on World Health Organization (WHO) standards and nutritional practices following guidelines from the Food and Agriculture Organization of the United Nations (FAO) and the European Food Safety Authority (EFSA). This study included 718 students from three age groups: first-year elementary students (ages 5-6), sixth-year elementary students (age 12), and fourth-year secondary school students (age 15). Relevant sociodemographic factors were also considered in the analysis.

Results: In schoolchildren aged 5-6 years, higher monthly consumption of processed and sugary foods, such as sweets (rural: 24.66 (CI 95%: 20.30-29.02); urban: 19.29 (CI 95%:16.27-22.304); $p = 0.044$), was noted in schoolchildren from rural sectors compared to those residing in urban areas. At 15 years of age, there was a higher consumption of potato chips in public schools than in subsidized/private schools (public: 26.95 (CI 95%: 24.42-29.49); subsidized/private: 18.29 (CI 95%: 13.92-22.65) $p = 0.004$). A high consumption of sweets is associated with an increased risk of caries (OR sweets: 1.76 CI: 1.04-2.98; $p = 0.035$). Fewer students with mothers with a lower education level eat dinner (elementary: 75%; secondary 91%; higher: 98%; $p = 0.003$).

Conclusions: Higher consumption of sweets in rural areas and potato chips in public schools, along with the association between sweet consumption and caries risk, highlight how geographic location, school type, and parents' education level influence children's nutrition habits and caries.

Dai X, Dai M, Liang Y, Li X, Zhao W. Global burden and trends of oral disorders among adolescent and young adult (10-24 years old) from 1990 to 2021. BMC Oral Health. 2025 Apr 4;25(1):486. doi: 10.1186/s12903-025-05864-z. PMID: 40186217; PMCID: PMC11969847.

ABSTRACT

Objective: To determine the patterns and trends in the global, regional, and national burden of oral disorders among adolescents and young adults (AYA) from 1990 to 2021.

Methods: This is an epidemiological observational study that analyzed annual prevalence and disability-adjusted life years (DALYs) for oral disorders-including dental caries, periodontal disease, edentulism, and other oral conditions-among adolescents and young adults (ages 10-24) from 1990 to 2021. Data were sourced from the Global Burden of Disease Study (GBD) 2021. To assess temporal trends, the estimated an-

nual percentage changes (EAPC) in age-standardized prevalence and DALY rates were calculated at global, regional, and national levels. The GBD 2021 also provides sociodemographic index (SDI) data across 204 countries and territories. Pearson correlation analyses were conducted to explore the relationships between age-standardized prevalence and DALY rates with the SDI and their respective EAPCs.

Results: Globally, the prevalent cases of oral disorders increased by 17.1%, from 549.2 million in 1990 to 643.3 million in 2021, and DALYs rose by 22.2%, from 1.4 million in 1990 to 1.7 million in 2021. The overall age-standardized prevalence rate (EAPC = - 0.07 [95% CI, - 0.12 to - 0.03]) decreased, while the age-standardized DALY rate (EAPC = 0.06 [0.02 to 0.11]) increased over the same period. While the burden of dental caries declined, the burden of periodontitis and edentulism significantly increased. A negative correlation was observed between age-standardized prevalence and DALY rates and SDI, while a positive correlation was found between the EAPC of age-standardized DALY rates and SDI.

Conclusions: The prevalence and DALYs of oral disorders among AYA have risen over the past three decades, particularly due to the growing burden of periodontitis and edentulism. Notably, the most significant increases have been observed in Southern Latin America and South Asia. While the global decline in dental caries has led to a reduction in ASPR, the escalating burden of periodontal disease and edentulism remains a critical concern. These trends emphasize the urgent need for innovative prevention and intervention strategies to improve oral health for this demographic worldwide.

Deng Q, Wong HM, Peng S. Salivary and gingival crevicular fluid biomarkers of periodontal health and/or obesity among children and adolescents: A systematic review and meta-analysis. Heliyon. 2023 Dec 18;10(1):e23782. doi: 10.1016/j.heliyon.2023.e23782. PMID: 38226238; PMCID: PMC10788453.

ABSTRACT

Objectives: To investigate the association of salivary and gingival crevicular fluid (GCF) biomarkers with periodontal status and obesity in children and adolescents.

Data/Sources: A literature search up to July 2023 was conducted through PubMed, Web of Science, Embase, ProQuest Medical Database, ProQuest SciTech Premium Collection, and the Cochrane Library. Observational studies comparing salivary and GCF biomarkers in children and adolescents with compromised periodontal status and/or obesity were included for data extraction. A meta-analysis was performed to estimate the overall standardised mean difference.

Study selection: Fifteen observational studies met the inclusion criteria and were included in this systematic review. Meta-analysis was only applicable in synthesising the dyadic relationship between GCF biomarkers and obesity. The results demonstrated that children and adolescents with obesity had significantly higher GCF levels of tumour necrosis factor-alpha (SMD:0.56; 95% CI:0.07, 1.04), adiponectin (SMD:0.33; 95% CI:0.06, 0.60), leptin (SMD:0.52; 95% CI:0.15, 0.90), and interleukin-1 beta (SMD:0.71; 95% CI:0.44, 0.99) than those with normal weight.

Conclusion: To date, no study has well addressed the triadic association between salivary or GCF biomarkers, periodontal status, and obesity among children and adolescents. Further in-depth, high-quality studies are required to investigate these associations.

Clinical significance: Periodontal disease and obesity are growing public health crises worldwide. Their relationship has been intensively studied. Investigating the salivary or GCF biomarkers alterations could help better understand the relationship between periodontal disease and obesity, which would assist in tailoring future oral health promotion programs.

Easwaran HN, Annadurai A, Muthu MS, Sharma A, Patil SS, Jayakumar P, Jagadeesan A, Nagarajan U, Pasupathy U, Wadgave U. Early Childhood Caries and Iron Deficiency Anaemia: A Systematic Review and Meta-Analysis. Caries Res. 2022;56(1):36-46. doi: 10.1159/000520442. Epub 2021 Nov 8. PMID: 34749377.

ABSTRACT

Identification of the association between Early Childhood Caries (ECC) and Iron Deficiency Anaemia (IDA) will aid paediatricians and paediatric dentists to enhance health promotion measures to reduce the related morbidity in children. This systematic review aims to determine an evidence-based association between ECC and IDA. A systematic search was carried out from MEDLINE via PubMed, EMBASE, LILACS, Cochrane Oral Health Group's Specialized Register, CINAHL via EBSCO, Web of Science, and Scopus up to May 2020. Hand searching and grey literature screening were also conducted. Cross-sectional, case-control, and cohort studies in English language which assessed the association was included. Two reviewers independently assessed the study quality and extracted the outcome data. A total of 1,434 studies were identified. Fourteen studies qualified for qualitative review and 7 of them for a meta-analysis. In comparison with children not affected by ECC, those affected had an increased likelihood of IDA (OR = 6.07 [3.61, 10.21]). The meta-analysis showed no statistical difference when comparing blood parameters (Hb, MCV, and serum ferritin) in children with and without ECC. This systematic review demonstrates an association between ECC and increased odds of IDA rather than it being the cause for IDA. Further longitudinal studies with robust methodology are required to determine an evidence-based association.

El Chehadeh S, Legrand A, Stoetzel C, Geoffroy V, Billon C, Adham S, Jeunemaître X, Jaussaud R, Muller J, Schaefer E, Benistan K, Gaertner S, Bloch-Zupan A, Courval A, Manière MC, Petit C, Bursztejn AC, Bal L, Reyre A, Chammas A, Busa T, Dollfus H, Lipsker D. Periodontal (formerly type VIII) Ehlers-Danlos syndrome: Description of 13 novel cases and expansion of the clinical phenotype. Clin Genet. 2021 Aug;100(2):206-212. doi: 10.1111/cge.13972. Epub 2021 Apr 29. PMID: 33890303.

ABSTRACT

Periodontal Ehlers-Danlos syndrome (pEDS) is a rare condition caused by pathogenic variants in the C1R and C1S genes, encoding subunits C1r and C1s of the first component of the classical complement pathway. It is characterized by early-onset periodontitis with premature tooth loss, pretibial hyperpigmentation and skin fragility. Rare arterial complications have been reported, but venous insufficiency is rarely described. Here we report 13 novel patients carrying heterozygous pathogenic variants in C1R and C1S including three novel C1S variants (c.962G > C, c.961 T > G and c.961 T > A). In addition to the pEDS phenotype, three patients and one relative displayed widespread venous insufficiency leading to persistent varicose leg ulcers. One patient suffered an intracranial aneurysm with familial vascular complications including thoracic and abdominal aortic aneurysm and dissection and intracranial aneurysm rupture. This work confirms that vascular complications can occur, although they are not frequent, which leads us to propose to carry out a first

complete non-invasive vascular evaluation at the time of the diagnosis in pEDS patients. However, larger case series are needed to improve our understanding of the link between complement pathway activation and connective tissue alterations observed in these patients, and to better assess the frequency, type and consequences of the vascular complications.

Esin K, Ballı-Akgöl B, Sözlü S, Kocaadam-Bozkurt B. Association between dental caries and adherence to the Mediterranean diet, dietary intake, and body mass index in children. BMC Oral Health. 2024 Mar 2;24(1):297. doi: 10.1186/s12903-024-04020-3. PMID: 38431554; PMCID: PMC10909275.

ABSTRACT

Background: Children with healthier nutritional status are less likely to develop severe caries than those with a high-sugar content diet. Studies evaluating dental caries and nutritional status in school-age children have generally focused on dietary intake, diet quality, or anthropometric measures, and the number of studies evaluating them together is limited.

Objective: It was aimed to evaluate the relationship between dental caries adherence to the Mediterranean Diet (MD), dietary intake, and Body Mass Index (BMI) in school-age children.

Materials and Methods: This study was conducted with 300 healthy children (52.0% boys, 48.0% girls) aged between 6 and 12 years. The data collection forms included sociodemographic characteristics, oral health practices of children, Mediterranean Diet Quality Index for children and adolescents (KIDMED), and food consumption records. Anthropometric measurements (body weight and height) of the children were taken. Dental examinations were performed by a pediatric dentist.

Results: While the DMFT mean score of the children was 1.7 ± 2.09, the mean dft score was 2.9 ± 3.29. The mean of KIDMED scores was 5.9 ± 3.32. DMFT and dft scores decreased statistically as maternal education increased ($p < 0.05$). DMFT and dft scores were not statistically different between BMI groups according to gender and age ($p > 0.05$). DMFT scores differed statistically between KIDMED groups ($p < 0.05$). This difference was between low-optimal and low-improvement-needed groups. While there was a low negative correlation (r=-0.169) between calcium intake and DMFT score, a low positive correlation was found between glucose (r = 0.172) and fructose (r = 0.149) intake and dft score ($p < 0.05$). In regression analysis, while the children's age related DMFT scores positively, maternal education and KIDMED scores related DMFT scores negatively. Also, children's age and maternal education related dft scores negatively.

Conclusion: In this study, adherence to the MD rather than nutrients was found to be important in dental caries. Also maternal education level was also found to be a determinant factor in dental caries in children. DMFT and dft did not differ between BMI groups.Further studies should be conducted to assess the impact of the MD on dental caries in children to develop dietary interventions for preventative purposes.

Esmael EM, El-Hosary AM, El-Desouky SS. Association between obesity and permanent teeth eruption in a sample of primary school children from Tanta City. BMC Oral Health. 2025 Jul 18;25(1):1198. doi: 10.1186/s12903-025-06547-5. PMID: 40682059; PMCID: PMC12275396.

ABSTRACT

Introduction: Obesity is a major health threat of modern civilization with substantially increased prevalence which affects children's health, growth, and development. Also, tooth eruption is certainly linked to the somatic development of the person.

Aim: This study aimed to assess the association between the eruption of permanent teeth and obesity among a sample of primary school children from Tanta City.

Methods: A case-control study was carried out on 2520 healthy students aged 6-12 years selected from 10 primary schools in Tanta City (equally included from public and private schools). The selected students were divided into equal sub-groups according to age, gender, and obesity status using a stratified random sampling technique. Obesity was assessed using BMI method while tooth eruption was recorded when any part of the crown was visible through the oral mucosa for twenty-eight permanent teeth. Statistical analysis was done for the collected data.

Results: All permanent teeth in the maxillary and mandibular arches erupted earlier in private school children, except for the lower right second molar showed earlier eruption in public school children with no significant difference. The mean eruption age of all permanent teeth differed significantly between public and private institutions except for upper and lower right and left second molars, lower right first premolar, and lower right and left central incisors.

Conclusion: This population-specific research revealed a highly significant positive association between the total number of permanent teeth erupted and BMI among school children aged 6-12 years from Tanta City.

Fegan H, Hutchinson R. Is the answer to reducing early childhood caries in your pocket? Evid Based Dent. 2023 Sep;24(3):134-135. doi: 10.1038/s41432-023-00922-3. Epub 2023 Aug 15. PMID: 37582973.

ABSTRACT

Data Sources: Electronic scientific databases Embase, CINAHL, MEDLINE, PsycINFO and Web of Science were systematically searched and restricted to articles published from 1996 onwards and limited to articles published in English. This was carried out following an initial scoping search using keywords conducted in PubMed.

Study selection: Original studies investigating the use of mobile phone applications as a delivery method of healthcare interventions to parents and caregivers with children ≤6 years of age were included. As this was a mixed-methods systematic review, studies that have quantitative clinical outcomes and also qualitative

outcomes of experiences, attitudes and beliefs of parents and caregivers were included. EndNote X8.2 and Rayyan.ai software was employed for title and abstract screening.

Data extraction and Synthesis: Three independent authors developed a combined data extraction tool to examine titles, abstracts and full texts of relevant articles against the inclusion criteria. The development of this tool was guided by the JBI reviewer's manual. Data extraction was completed by one reviewer, and verified by two further reviewers. Disagreements were resolved by discussion. Retrieved studies were assessed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Data extracted included study reference information, study design, setting, sample sizes and intervention characteristics. A risk of bias assessment was undertaken using the Quality Appraisal for Diverse Studies tool, and a further risk assessment of quantitative and mixed methods studies.

Results: From 5953 studies initially identified, 5 studies were included in the review. One study identified using a gamification design within a mobile health app to promote oral health had statistically significant improvements in plaque and gingival indices compared to a control group at both a 6 and 12-week recall. Two studies reported a significant improvement in maternal knowledge of children's oral health as a result of using an oral health app.

Conclusions: The delivery of oral health promotion through mobile health apps may be effective in reducing early childhood caries through improving health literacy in parents and caregivers, however key challenges in the app development process exist surrounding privacy issues and data protection.

Fernández-Bonet J, Marichalar-Mendia X, Lertxundi-Manterola A. Childhood dental caries experience in northern Spain: a cross-sectional study. Eur Arch Paediatr Dent. 2023 Feb;24(1):95-103. doi: 10.1007/s40368-022-00762-2. Epub 2022 Oct 20. PMID: 36264453; PMCID: PMC9992230.

ABSTRACT

Purpose: This study aimed to describe the caries experience in primary and permanent dentition of schoolchildren from a sample taken in public schools in Bilbao, to identify the most vulnerable child population, and compare them with the findings obtained by the Children's Dental Care Programme in the region of the Basque Country (Spain).

Methods: A cross-sectional study was conducted using a representative sample (n = 1682) of children from 5-year-old early childhood education classes and the first- and second-year elementary classes in public schools in Bilbao. The dependent variable was the caries experience determined through oral examinations carried out by a single dentist. On the other hand, independent variables were measured through questionnaires completed by families, with help from teachers as appropriate. In the statistical analysis, Mann-Whitney and Kruskal-Wallis nonparametric tests, as well as two logistic regressions, were performed, and the significance level was set at α = 0.05 for decision making.

Results: The mean (SD) values of dft, DMFT, DMFS and DMFT of first permanent molars scores were 1.25 ± 2.20, 0.16 ± 0.61, 0.20 ± 0.90 and 0.15 ± 0.57, respectively. Compared to the findings in the most recent PADI report, the schoolchildren in our sample had slightly greater experience of dental caries in primary dentition and much greater experience in permanent dentition.

Conclusion: The dft index of the primary dentition for the current sample is 1.25, while the DMFT index for the permanent dentition is 0.16. Among pupils in early childhood and elementary education in public schools in Bilbao, children from families with low socioeconomic status and educational attainment are most vulnerable to developing caries.

Ferrillo M, Calafiore D, Lippi L, Petri A, Mastroianni A, Fortunato L, Giudice A, Migliario M. Systemic and Oral Health Parameters in Eutrophic and Overweight/Obese Adolescents: A Cross-Sectional Study. J Pers Med. 2023 Jun 29;13(7):1073. doi: 10.3390/jpm13071073. PMID: 37511687; PMCID: PMC10381671.

ABSTRACT

To date, studies focusing on oral health in obese adolescents have provided controversial data. The aim of this cross-sectional study was to investigate systemic and oral health parameters in eutrophic and overweight/obese adolescents. In total, 100 adolescents, mean aged 13.33 ± 2.04 years, were divided into two groups: 59 overweight/obese adolescents in the study group (SG) and 41 eutrophic-weight adolescents in the control group (CG). Chi-squared and Fisher exact tests were performed to compare dichotomous and categorical variables between the two groups. The subjects in the SG (mean aged 13.21 ± 2.21) reported a body mass index (BMI) of 29.05 ± 4.09 kg/m2, corresponding to over 95° percentile for both genders, and the subjects in the CG (mean aged 13.49 ± 1.77) reported a BMI of 18.26 ± 4.81 kg/m2, corresponding to 25° percentile for both genders. In the SG, the serum level of 25-hydroxy-vitamin D was significantly lower (p-value < 0.001), whereas fasting blood glucose (p = 0.006), waist circumference, and hip circumference were significantly higher (p-value < 0.001). Plaque Index (PI), Plaque Control Record (PCR), Oral Hygiene Index (OHI), Gingival Index (GI), and Gingival bleeding index (GBI) depicted a significantly worse level of oral health in the SG. Moreover, the number of subjects with caries was significantly higher in the SG. Nutritional and physical activity status according to the Mediterranean Diet Quality Index for children and teenagers (KIDMED test) and the International Physical Activity Questionnaire (IPAQ-Adolescent) were reported to be significanlty better in the CG. In light of our results, obesity and poor oral health coexist in a cohort of adolescents. A screening of oral health status should be considered in obese subjects to focus resources on therapeutic interventions aiming at improving oral health.

Flores-Fraile J, Parra-García S, González-Gil D, Moreno-Barrera A, Peramato-Benito A, Castaño-Seiquer A. Descriptive study of the oral health status of disadvantaged mexican populations in relation to their adherence to the mediterranean diet. Rev Cient Odontol (Lima). 2024 Jun 27;12(2):e196. doi: 10.21142/2523-2754-1202-2024-196. PMID: 39119131; PMCID: PMC11304857.

ABSTRACT

Background: Obesity in Mexico is an alarming problem that has been increasing in recent decades. Dietary factors make this pathology more common at younger ages and closely related to oral health. This study attempts to investigate the association between the oral health status of a Mexican population in the state of Yucatan and their dietary habits.

Objective: This study explores the relationship between oral health-related quality of life and adherence to the Mediterranean diet in a disadvantaged population in the state of Yucatan, Mexico.

Methods: The research was conducted in July 2023 in Merida, Yucatan (Mexico). The sample consisted of 109 individuals aged between 4 and 72 years old. Data analysis focused on factors such as body mass index (BMI), oral health-related quality of life, and adherence to the Mediterranean diet.

Results: A notable presence of caries is observed in individuals with low adherence to the Mediterranean diet (Correlation coefficient 0.040, p=0.682). This underscores the potential interaction between oral health, obesity, and dietary habits. The mean Oral Health-Related Quality of Life (OHIP-14Sp) score was 13.19 ±13.57, median 8.00.

Conclusions: This research adds to the increasing evidence that highlights the significance of a balanced diet in enhancing the oral quality of life for people. More research is necessary to explore preventive measures and treatment to raise awareness about oral health within the community.

Foláyan MO, de Barros Coelho EMR, Feldens CA, Gaffar B, Virtanen JI, Abodunrin OR, Duangthip D, Al-Batayneh OB, Vukovic A, El Tantawi M, Schroth RJ. A scoping review on early childhood caries and inequalities using the Sustainable Development Goal 10 framework. BMC Oral Health. 2025 Feb 10;25(1):219. doi: 10.1186/s12903-025-05587-1. PMID: 39930428; PMCID: PMC11812211.

ABSTRACT

Background: Social inequalities contribute to health disparities. This study aimed to map evidence on early childhood caries (ECC) related to the United Nations' Sustainable Development Goal 10 (SDG 10).

Methods: A scoping review was conducted in May 2024 following the PRISMA-ScR guidelines. A literature search was performed in PubMed, Web of Science, and CINAHL for studies published in English and addressing population level social inequalities. Studies measuring individual level of social inequalities were excluded as they were covered by other SDGs. However, studies incorporating individual measures as additional measures of population level social inequality were included. Retrieved papers were summarized, inductively analysed and a conceptual framework linking SDG 10 was developed.

Results: Of 452 studies retrieved, 42 met the inclusion criteria. Studies measured inequality among groups (deprivation, family income, indigenous communities, ethnicity, minority status) [14 studies], institutions (type of school, nursery or school facility, school poverty index, public primary health care units) [five studies], and inequality in communities (neighbourhood socio-economic status, Human Development Index, employment rate, income inequality, sanitary sewer and water supply, residents/household ratio, urban vs rural vs remote rural, accessibility index, location index, the slope index of inequality) [24 studies]. These levels of social inequalities were linked to higher prevalence of ECC; social and economic policies contributed to widening inequalities in ECC severity; and although effective interventions targeted at at-risk populations could reduce dental health disparities, study interventions differed by deprivation status. Six studies (14.3%) addressed SDG 10.1, 33 (78.6%) addressed SDG 10.2, 11 (26.2%) addressed SDG 10.3, and three (7.1%) addressed SDG 10.4. Fourteen studies (33.3%) addressed a combination of SDGs. The conceptual framework highlights the role of structural inequalities stemming from the cumulative impact of institutional decisions and systemic inequalities.

Conclusion: This scoping review underscores the profound influence of social inequality on ECC through interactions between multi-level factors. Further research is needed to explore the links between ECC and other SDG 10 targets, especially in low- and lower-middle-income countries.

Foxman B, Davis E, Neiswanger K, McNeil D, Shaffer J, Marazita ML. Maternal factors and risk of early childhood caries: A prospective cohort study. Community Dent Oral Epidemiol. 2023 Oct;51(5):953-965. doi: 10.1111/cdoe.12794. Epub 2022 Sep 28. PMID: 36168961; PMCID: PMC10043047.

ABSTRACT

Objective: To evaluate the associations between time-varying factors (mother's oral health, oral hygiene, smoking habits, diet, food insecurity and stress) socioeconomic factors (mother's employment, marital status, household income, insurance status, household size) and medical history on children's risk of developing a carious lesion in the first 3 years of life.

Methods: Longitudinal data from the Center for Oral Health Research in Appalachia Cohort Two (COHRA2) were analysed. Pregnant women ≥18 years in the USA were recruited during pregnancy; all consenting women delivering at term and their babies had regular dental assessments and complete in-person surveys and telephone interviews regarding sociodemographic factors, medical and dental history, and oral health behaviours.

Results: In a logistic regression model adjusting for covariates, children whose mother had two or more prior pregnancies, smoked cigarettes post-partum, or had a recent unfilled carious lesion were at least twice as likely to experience a dental lesion by the three-year visit. The magnitude of these associations varied by maternal education and state of residence.

Conclusions: Untreated maternal decay but not maternal oral hygiene or diet were associated with cumulative risk of childhood caries by age three but were modified by maternal education and state of residence. Addressing structural and behavioural issues that reduce use of restorative dental care are needed to prevent the adverse impacts associated with early childhood caries.

Freitag-Wolf S, Munz M, Junge O, Graetz C, Jockel-Schneider Y, Staufenbiel I, Bruckmann C, Lieb W, Franke A, Loos BG, Jepsen S, Dommisch H, Schaefer AS. Sex-specific genetic factors affect the risk of early-onset periodontitis in Europeans. J Clin Periodontol. 2021 Nov;48(11):1404-1413. doi: 10.1111/jcpe.13538. Epub 2021 Sep 13. PMID: 34409643.

ABSTRACT

Aims: Various studies have reported that young European women are more likely to develop early-onset periodontitis compared to men. A potential explanation for the observed variations in sex and age of disease onset is the natural genetic variation within the autosomal genomes. We hypothesized that genotype-by-sex (G × S) interactions contribute to the increased prevalence and severity.

Materials and Methods: Using the case-only design, we tested for differences in genetic effects between men and women in 896 North-West European early-onset cases, using imputed genotypes from the OmniExpress genotyping array. Population-representative 6823 controls were used to verify that the interacting variables G and S were uncorrelated in the general population.

Results: In total, 20 loci indicated G × S associations (P < 0.0005), 3 of which were previously suggested as risk genes for periodontitis (ABLIM2, CDH13, and NELL1). We also found independent G × S interactions of the related gene paralogs MACROD1/FLRT1 (chr11) and MACROD2/FLRT3 (chr20). G × S-associated SNPs at CPEB4, CDH13, MACROD1, and MECOM were genome-wide-associated with heel bone mineral density (CPEB4, MECOM), waist-to-hip ratio (CPEB4, MACROD1), and blood pressure (CPEB4, CDH13).

Conclusions: Our results indicate that natural genetic variation affects the different heritability of periodontitis among sexes and suggest genes that contribute to inter-sex phenotypic variation in early-onset periodontitis.

Ge X, Lyu X, Zhou Z, Mi Y, He T, Wu B, Liu F. Caesarean-section delivery and caries risk of 3-year-old Chinese children: a retrospective cohort study. BMC Oral Health. 2023 Jun 8;23(1):373. doi: 10.1186/s12903-023-02998-w. PMID: 37291538; PMCID: PMC10251555.

ABSTRACT

Background: Caesarean-section (C-section) may influence children's long-term health by affecting bacterial colonization. However, few studies have focused on the association between C-section delivery (CSD) and dental caries, and previous conclusions have been conflicting. This study aimed to explore whether CSD would increase the risk of early childhood caries (ECC) in preschool children in China.

Methods: This study was a retrospective cohort study. Three-year-old children with full primary dentition were included through the medical records system. Children in the nonexposure group were vaginally delivered (VD), while children in the exposure group were delivered through C-section. The outcome was the occurrence of ECC. After agreeing to participate in this study, guardians of included children completed a structured questionnaire on maternal sociodemographic factors, children's oral hygiene and feeding habits. The chi-square test was used to determine differences in the prevalence and severity of ECC between the CSD and VD groups and to analyse the prevalence of ECC according to sample characteristics. Subsequently, potential risk factors for ECC were preliminarily identified through univariate analysis, and the adjusted odds ratios (ORs) were further calculated through multiple logistic regression analysis after controlling for confounding factors.

Results: The VD group included 2115 participants while CSD group included 2996 participants. The prevalence of ECC was higher in CSD children than in VD children (27.6% vs. 20.9%, P < 0.05), and the severity of ECC in CSD children was higher (mean number of decayed, missing, and filled teeth, dmft: 2.1 vs. 1.7, P < 0.05). CSD was a risk factor for ECC in 3-year-old children (OR = 1.43, 95% CI = 1.10-2.83). In addition, irregular tooth brushing and always prechewing children's food were risk factors for ECC (P < 0.05). Low maternal educational attainment (high school or below) or socioeconomic status (SES-5) may also increase the prevalence of ECC in preschool children and CSD children (P < 0.05).

Conclusions: CSD would increase the risk of ECC in 3-year-old Chinese children. Paediatric dentists should devote more attention to the development of caries in CSD children. Obstetricians should also prevent excessive and unnecessary CSD.

Gomersall JC, Slack-Smith L, Kilpatrick N, Muthu MS, Riggs E. Interventions with pregnant women, new mothers and other primary caregivers for preventing early childhood caries. Cochrane Database Syst Rev. 2024 May 16;5(5):CD012155. doi: 10.1002/14651858.CD012155.pub3. PMID: 38753314; PMCID: PMC11098061.

ABSTRACT

Background: Dental caries, a common chronic disease of childhood, is associated with adverse health and economic consequences for infants and their families. Socioeconomically disadvantaged children have a higher risk of early childhood caries (ECC). This review updates one published in 2019.

Objectives: To assess the effects of interventions undertaken with pregnant women, new mothers or other primary caregivers of infants in the first year of life, for preventing ECC (from birth to six years).

Search Methods: We searched Cochrane Oral Health's Trials Register, Cochrane Pregnancy and Childbirth's Trials Register, CENTRAL, MEDLINE (Ovid), Embase (Ovid), CINAHL EBSCO, the US National Institutes of Health Ongoing Trials Register (clinicaltrials.gov) and WHO International Clinical Trials Registry Platform (apps.who.int/trialsearch). The latest searches were run on 3 January, 2023.

Selection criteria: Randomised controlled trials (RCTs) comparing interventions with pregnant women, or new mothers and other primary caregivers of infants in the first year of life, against standard care, placebo or another intervention, reporting on a primary outcome: caries presence in primary teeth, dmfs (decayed, missing, filled primary surfaces index), or dmft (decayed, missing, filled teeth index), in children up to six years of age. Intervention types include clinical, oral health promotion/education (hygiene education, breastfeeding and other dietary advice) and policy or service.

Data collection and analysis: Two review authors independently assessed study eligibility, extracted data, assessed risk of bias, and assessed certainty of evidence (GRADE).

Main Results: We included 23 RCTs (5 cluster-randomised), involving 25,953 caregivers (mainly mothers) and their children. Fifteen trials assessed oral health education/promotion interventions against standard care. Six trials assessed a clinical intervention for mother dentition, against placebo, or a different type of clinical intervention. Two trials assessed oral health/education promotion plus clinical intervention (for mother's dentition) against standard care. At most, five trials (maximum of 1326 children and 130 mothers) contributed data to any comparison. Enamel-only caries were included in the diagnosis of caries in some studies. For many trials, the risk of bias was unclear due to lack of methodological details reported. In thirteen trials, participants were socioeconomically disadvantaged. No trial indicated receiving funding that was likely to have influenced their results. Oral health education/promotion interventions Child diet and feeding practice advice versus standard care: We observed a probable 15 per cent reduced risk of caries presence in primary teeth with the intervention (RR 0.85, 95% CI 0.75 to 0.97; 3 trials; 782 participants; moderate-certainty evidence), and there may be a slightly lower mean dmfs (MD -0.29, 95% CI -0.58 to 0; 2 trials; 757 participants; low-certainty evidence); however, the evidence is very uncertain regarding the difference between groups in mean

dmft (MD -0.90, 95% CI -1.85 to 0.05; 1 trial; 340 participants; very low-certainty evidence). Breastfeeding promotion and support versus standard care: We observed little or no difference between groups in the risk of caries presence in primary teeth (RR 0.96, 95% CI 0.89 to 1.03; 2 trials; 1148 participants; low-certainty evidence) and in mean dmft (MD -0.12, 95% CI -0.59 to 0.36; 2 trials; 652 participants; low-certainty evidence). dmfs was not reported. Child diet advice compared with standard care: We are very uncertain about the effect on the risk of caries presence in primary teeth (RR 1.08, 95% CI 0.34 to 3.37; 1 trial; 148 participants; very low-certainty evidence). dmfs and dmft were not reported. Oral hygiene, child diet and feeding practice advice versus standard care: The evidence is very uncertain about the effect on the risk of caries presence in primary teeth (RR 0.73, 95% CI 0.50 to 1.07; 5 trials; 1326 participants; very low-certainty evidence) and there maybe little to no difference in mean dmfs (MD -0.87, 95% CI -2.18 to 0.43; 2 trials; 657 participants; low-certainty evidence) and mean dmft (MD -0.30, 95% CI -0.96 to 0.36; 1 trial; 187 participants; low-certainty evidence). High-dose versus low-dose vitamin D supplementation during pregnancy: We are very uncertain about the effect on risk of caries presence in primary teeth (RR 0.99, 95% CI 0.70 to 1.41; 1 trial; 496 participants; very low-certainty evidence). dmfs and dmft were not reported. Clinical interventions (for mother dentition) Chlorhexidine (CHX, a commonly prescribed antiseptic agent) or iodine-NaF application and prophylaxis versus placebo: We are very uncertain regarding the difference in risk of caries presence in primary teeth between antimicrobial and placebo treatment for mother dentition (RR 0.97, 95% CI 0.80 to 1.19; 3 trials; 479 participants; very low-certainty evidence). No trial reported dmfs or dmft. Xylitol compared with CHX antimicrobial treatment: We are very uncertain about the effect on caries presence in primary teeth (RR 0.62, 95% CI 0.27 to 1.39; 1 trial, 96 participants; very low-certainty evidence), but we observed there may be a lower mean dmft with xylitol (MD -2.39; 95% CI -4.10 to -0.68; 1 trial, 113 participants; low-certainty evidence). No trial reported dmfs. Oral health education/promotion plus clinical interventions (for mother dentition) Diet and feeding practice advice for infants and young children plus basic dental care for mothers compared with standard care: We are very uncertain about the effect on risk of caries presence in primary teeth (RR 0.44, 95% CI 0.05 to 3.95; 2 trials, 324 participants; very low-certainty evidence) or on mean dmft (1 study, not estimable). No trial reported dmfs. No trials evaluated policy or health service interventions.

Authors' Conclusions: There is moderate-certainty evidence that providing advice on diet and feeding to pregnant women, mothers or other caregivers with children up to the age of one year probably leads to a slightly reduced risk of early childhood caries (ECC). The remaining evidence is low to very-low certainty and is insufficient for determining which, if any, other intervention types and features may be effective for preventing ECC, and in which settings. Large, high-quality RCTs of oral health education/promotion, clinical, and policy and service access interventions, are warranted to determine the effects and relative effects of different interventions and inform practice. We have identified 13 ongoing studies. Future studies should consider if and how effects are modified by intervention features and participant characteristics (including socioeconomic status).

Gómez-Costa D, San-Roman-Montero J, Rojo R, Gil Á, Gómez de Diego R, López-Sánchez AF. Self-reported prevalence of periodontal disease among the Spanish population and immigrants: 2006, 2011/12 and 2017: a population-based study. BMC Oral Health. 2021 Apr 28;21(1):215. doi: 10.1186/s12903-021-01579-z. PMID: 33910535; PMCID: PMC8082769.

ABSTRACT

Background: Periodontal disease is one of the most common pathologies in the population. Self-reporting has been used as a diagnostic tool in large populations, among other reasons, to detect the needs of potentially vulnerable groups. This study evaluated the prevalence of periodontal disease in people of Spanish nationality and immigrants in Spain.

Methods: This population-based, cross-sectional study was carried out using data obtained from National Health Interview Surveys (NHSs) carried out in 2006, 2011/2012 and 2017 in Spain. Subjects aged 16 years and older were included in the NHS-2006 and aged 15 years and older were included in the other NHSs. The following variables were self-reported by the participants: gum bleeding, tooth mobility, tooth extraction and missing teeth. Chi-square homogeneity tests were performed to assess the main associations between the independent variable (nationality) and the dependent variables (bleeding gums, tooth mobility, tooth extraction and missing teeth). Multinomial logistic regression models were constructed to evaluate the influences of the variables age and sex and their interactions on the main associations.

Results: A total of 115,123 participants were included in the NHS-2006 (n = 37,327, 11.38% immigrants), NHS-2011/12 (n = 38,727, 14.39% immigrants) and NHS-2017 (n = 39,069, 13.71% immigrants). The variables directly related to periodontal disease were gum bleeding and tooth mobility. These were significantly associated with nationality in the NHS-2006 and NHS-2017 cohorts. In the NHS-2011/12 cohort, only tooth mobility was associated with nationality. After adjustments for sex, age, and their interactions, immigrant status was associated with increased odds of bleeding in only the NHS-2006 cohort (RR = 1.65, 95% CI 1.38-1.99, p = 0.000).

Conclusion: Immigrants in Spain have a lower probability of developing signs associated with periodontal disease than the Spanish population. Among the immigrant cohort, females and those in adult age groups had lower prevalence rates than their counterparts.

Hendricks K, Hatch T, Kingsley K, Howard KM. Screening for Selenomonas noxia in a Pediatric and Adolescent Patient Population Reveals Differential Oral Prevalence across Age Groups. Int J Environ Res Public Health. 2024 Mar 23;21(4):391. doi: 10.3390/ijerph21040391. PMID: 38673304; PMCID: PMC11049996.

ABSTRACT

Selenomonas noxia, a gram-negative anaerobe usually present in periodontitis, may be linked to overweight and obese adults. Recent advancements include a valid qPCR screening, enabling an effective prevalence study among pediatric patients aged 7 to 17 years. The aim of this study was to complete a retrospective screening of saliva samples from an existing biorepository using a validated qPCR screening protocol. The pediatric study sample (n = 87) comprised nearly equal numbers of males and females, mostly minority pa-

tients (67%), with an average age of 13.2 years. Screening for Selenomonas noxia revealed 34.4% (n = 30/87) positive samples, evenly distributed between males and females (p = 0.5478). However, an age-dependent association was observed with higher percentages of positive samples observed with higher ages (13.3% among 7 to 10 years; 34.6% among 11 to 13 years; 54.8% among 14-17 years), which was statistically significant (p = 0.0001). Although these findings revealed no noteworthy distinctions between males or females and minorities and non-minorities, the notable contrast between younger (7 to 10 years) and older (11 to 17 years) participants, possibly influenced by factors such as hormones and behavioral traits, will require further investigation of this patient population.

Hernandez-Donadeu M, Ribas-Pérez D, Rodriguez Menacho D, Villalva Hernandez-Franch P, Barbero Navarro I, Castaño-Séiquer A. Epidemiological Study of Oral Health among Children and Adolescent Schoolchildren in Melilla (Spain). Healthcare (Basel). 2023 Jul 21;11(14):2086. doi: 10.3390/healthcare11142086. PMID: 37510527; PMCID: PMC10378986.

ABSTRACT

Dental epidemiological studies are essential for analysing and evaluating the population's health state and dental treatments provided, as well as for planning future oral health programme activities and interventions based on their findings. In order to determine the health condition of children and adolescents in connection to the prevalence of caries, caries indices (decayed and filled teeth (dft) for primary teeth and decayed, missing and filled teeth (DMFT) in permanent teeth) and periodontal indices (community periodontal index (CPI)), oral exams of children and adolescents aged 6, 12 and 15 from selected schools were conducted. To assess the achievement of the oral health objectives set for Spain in 2020, these data were compared with those acquired at the national level. At 6 years of age, 278 children were examined, the prevalence of caries was 55.6%, the dft index was 2.77 (±3.44), the DMFT was 0.19 (±0.16), the restorative index (RI) was 4.62%, and the significant caries (SiC) index was 8.40 (±2.07). At 12 years of age, 208 students were examined, the prevalence of caries found was 65.86%, the DMFT index was 1.85 (±2.22), the RI was 36.63%, the SiC index was 5.43 (±2.07), and children without the presence of periodontal pathology was 59.13%. At 15 years of age, 165 students were examined, the prevalence of caries was 70.06%, the DMFT was 3.08 (±3.39), the RI was 42.42%, the SiC index was 8.10 (±2.55), and adolescents without periodontal disease was 47.90%. **Conclusions:** Melilla-born children and adolescents had higher caries indicators and indices than the corresponding national averages for Spain. Teenagers under the age of 15 have a particularly high frequency of dental caries. The investigation of the children's origin is where there is the most disparity. Children of Berber descent have much higher values than children of European heritage.

Hernandez M, Chau K, Charissou A, Lecaillon A, Delsau A, Bruncher P, Droz D. Early predictors of childhood caries among 4-year-old children: a population-based study in north-eastern France. Eur Arch Paediatr Dent. 2021 Oct;22(5):833-842. doi: 10.1007/s40368-021-00627-0. Epub 2021 Jun 5. PMID: 34089514.

ABSTRACT

Background: Untreated early childhood caries (ECC) can trigger a number of negative consequences, including pain, chewing difficulties, insufficient physical development and low academic performance. Therefore, ECC impacts the oral health-related to quality of life. That is why it is important to assess the ECC prevalence and to determine the associated risk factors.

Aim: The aim of this study was to investigate the relationship between early predictor factors and dental caries among 4-year-old French children, considering the socioeconomic factors, dietary and oral hygiene practices, the access and the follow-up by paediatric dentist.

Design: The study was a cross-sectional observation. A random sample of 4-year-old children was selected among 596 Moselle's public nursery schools in north-eastern France. Data were gathered from clinical dental examinations and a structured questionnaire completed by parents.

Results: In total, 425 subjects with completed questionnaires and clinical examinations were included. The prevalence of ECC and S-ECC (Severe-ECC), including only cavitated lesions, d3mft, were 15.8% and 5.9%, respectively. Multivariable logistic regression modelling identified four main factors associated with a high risk of ECC that were sweet intake (adjusted odds ratio ORadjusted = 3.43, 95% CI = 1.57-7.53), brushing habits (ORadjusted = 2.25, 95% CI = 1.23-4.21), childcare arrangement (ORadjusted = 2.27, 95% CI = 1.23-4.21) and maternal educational level (ORadjusted = 1.87, 95% CI = 1.06-3.31). These four factors have a cumulative effect. Only 4% of children presented teeth restoration.

Conclusions: This study highlighted the impact of the family environment on the oral health status of the preschool children. The identification of the risk factors should allow to strengthen preventive measures and initiate oral health education program for children and their family.

Huang T, Liang J, Li C, Wang Z. Effects of dental treatment under general anesthesia on the oral health quality of life and dental fear of preschool children: a systematic review and meta-analysis. BMC Oral Health. 2025 May 23;25(1):774. doi: 10.1186/s12903-025-06168-y. PMID: 40410840; PMCID: PMC12103011.

ABSTRACT

Objectives: In this review, we aimed to determine the effects of dental treatment under general anesthesia on the oral health-related quality of life and dental fear of preschool children.

Materials and Methods: A comprehensive electronic search of PubMed, Embase, Scopus, and the Cochrane Library was conducted up to July 20, 2023 (updated on April 10, 2024). A manual search and evaluation of the gray literature were also performed. Clinical trials utilizing a before-and-after design to evaluate the effects of dental treatment under general anesthesia (DGA) on oral health-related quality of life (OHR-

QoL) and dental fear in preschool-aged children were included in this research. To assess study quality, tools specifically designed for "before-after studies without control groups" were employed to determine potential biases. Two independent investigators conducted separate evaluations of the studies' quality assessment processes. A meta-analysis was conducted via the random effects model.

Results: In the final analysis, 13 studies employing a pre-post design were included. The meta-analysis revealed a statistically significant difference in Early Childhood Oral Health Impact Scale (ECOHIS) scores between the pre-evaluation group (n = 1365) and the post-evaluation group (n = 1344) (mean difference [MD] = 9.61, 95% CI: 6.28-12.93; P < 0.00001). However, there was no significant difference in the mean Children's Fear Survey Schedule-Dental Subscale (CFSS-DS) score between the pre-evaluation group (n = 536) and the post-evaluation group (n = 531) (MD = 5.53, 95% CI: -16.48-27.54; P = 0.62).

Conclusions: This study confirmed that children who received dental treatment with general anesthesia experienced improvements in their oral health-related quality of life. However, there is insufficient evidence to support the claim that dental treatment with general anesthesia can effectively alleviate dental fear in children.

Clinical relevance: Dental treatment with general anesthesia significantly improved the OHRQoL of children. However, methods to improve dental fear in children during this procedure remain to be explored.

Hussain U, Alam S, Rehman K, Antonoglou GN, Papageorgiou SN. Effects of chlorhexidine use on periodontal health during fixed appliance orthodontic treatment: a systematic review and meta-analysis. Eur J Orthod. 2023 Feb 10;45(1):103-114. doi: 10.1093/ejo/cjac044. PMID: 36001494.

ABSTRACT

Background: Proper oral hygiene and absence of periodontal inflammation is pre-requisite for orthodontic treatment. Chlorhexidine (CHX) is an established oral antiseptic used in the treatment of periodontal disease, but its role in orthodontic therapy is unclear.

Objectives: To assess the efficacy of adjunct use of CHX-containing products in maintaining gingival health among orthodontic patients with fixed appliances.

Search Methods: Five databases were searched without limitations up to August 2021.

Selection criteria: Randomized clinical trials (RCTs) assessing Gingival Index (GI) (primary outcome), Plaque Index (PI), Bleeding Index (BI), or Pocket Probing Depth (PPD).

Data collection and analysis: Study selection, data extraction, and risk of bias assessment were done independently in duplicate. Random-effects meta-analyses of mean differences (MDs) or standardized mean differences (SMDs) with their 95% confidence intervals (CIs) were conducted, followed by sensitivity and Grades of Recommendations, Assessment, Development and Evaluation analysis.

Results: Twenty RCTs (1001 patients) were included assessing CHX-containing mouthwashes (n = 11), toothpastes (n = 2), gels (n = 3), or varnishes (n = 4) compared to placebo/control (n = 19) or sodium fluoride-products (n = 4). In the short-term, CHX-containing mouthwash was associated with lower GI (n = 9; MD = -0.68; 95% CI = -0.97 to -0.38; P < 0.001; high quality), lower PI (n = 9; MD = -0.65; 95% CI = -0.86 to -0.43; P < 0.001; high quality), lower BI (n = 2; SMD = -1.61; 95% CI = -2.99 to -0.22; P = 0.02; low quality), and lower PPD (n = 2; MD = -0.60 mm; 95% CI = -1.06 to -0.14 mm; P = 0.01; low quality). No considerable benefits were found from the use of CHX-gel or CHX-varnish in terms of GI, PI, or PPD (P > 0.05/low quality in all instances). Use of a CHX-containing toothpaste was more effective in lowering PI (Heintze-index) than adjunct use of fluoride-containing mouthwash (n = 2; MD = -5.24; 95% CI = -10.46 to -0.02; P = 0.04), but not GI (P = 0.68) or BI (P = 0.27), while sensitivity analyses indicated robustness.

Conclusions: Adjunct use of CHX mouthwash during fixed-appliance treatment is associated with improved gingival inflammation, plaque control, and pocket depths, but caution is warranted and recommendations about CHX use during orthodontic treatment of children/adults should consider the heterogeneous patient response, cost-effectiveness, and potential adverse effects.

Hutchison C. Can protective factors prevent caries in preschool children? Evid Based Dent. 2021 Jan;22(3):114-115. doi: 10.1038/s41432-021-0192-0. PMID: 34561666.

ABSTRACT

Design A case-control randomised trial.Case/control selection Preschools in Tehran/Iran were selected for inclusion through multi-stage cluster random sampling. They were divided into strata based on population density and a preschool from each was randomly selected. From this, children aged 4-6 years were identified. Twelve children from each preschool were placed into the 'caries-free' experimental group and 12 into the 'caries present' control group. Where insufficient experimental group participants were recruited, additional control group participants were included. Incentives for participation included free preventive procedures and completion of required dental treatment. All participants underwent intraoral examinations and independent parent questionnaires. The study received ethical approval.Data analysis Participants were assessed objectively for caries status by blinded calibrated examiners, using a standardised and validated questionnaire as part of a face-to-face interview. This questionnaire included three domains: sociodemographic factors, behavioural oral health measures and feeding practices/dietary habits. Sociodemographic characteristic recorded included sex, age, the number of siblings and the parents' level of education. A logistic regression model was applied to identify caries-free protective factors (p <0.05). The collected data was then entered into the SPSS software version 21 for statistical analysis.Results In total, 528 participants were recruited, with 28 ineligible due to lack of consent. This resulted in 230 participants in the experimental group and 270 in the control group. Protective factors against dental caries were identified as: dental check-up as the cause of dental visit; being the eldest child in the family; minimised night feeding; family owning their residence; and parents having university-level education (p <0.05). Antibiotic consumption and mothers who were not able to make their children brush their teeth were not identified as factors.Conclusions The outcome showed that protective factors including regular check-up and socioeconomic factors are associated with dental health. Dental check-up as the cause of dental visit, being the eldest child in the family, minimised night feeding, family owning their residence and parents having university-level education reduce the chance of preschool children suffering dental caries.

Jensen E, Allen G, Bednarz J, Couper J, Peña A. Periodontal risk markers in children and adolescents with type 1 diabetes: A systematic review and meta-analysis. Diabetes Metab Res Rev. 2021 Jan;37(1):e3368. doi: 10.1002/dmrr.3368. Epub 2020 Jul 18. PMID: 32558110.

ABSTRACT

Background: Periodontal disease is a frequent complication of diabetes in adults, and both conditions are associated with systemic inflammatory states. This systematic review and meta-analysis was conducted to establish the relative severity of periodontal disease risk markers in children and adolescents with type 1 diabetes (T1D).

Methods: A systematic search strategy using PubMed and EMBASE databases was performed to identify relevant studies assessing periodontal risk markers in children and adolescents and T1D through to February 2019. Eligible studies were assessed for quality and heterogeneity, and a random effects model was used to estimate differences in selected periodontal risk markers in children with T1D relative to healthy controls.

Results: The search identified 551 studies from which 23 were found to meet the inclusion criteria. Random effects meta-analyses demonstrated that relative to healthy controls, children and adolescents with T1D had higher mean values for plaque index, gingival index, bleeding on probing, pocket depth and clinical attachment loss (all P < .001).

Conclusions: Risk markers for periodontal disease were found to be more pronounced among children and adolescents with T1D compared to healthy controls. Early referral of these at risk individuals for dental examination is recommended to allow for early intervention.

Jung J-S, Kook J-K, Park S-N, Lim YK, Choi GH, Kim S, Ji S. Salivary microbiota reflecting changes in subgingival microbiota. Microbiol Spectr. 2024 Nov 5;12(11):e0103024. doi: 10.1128/spectrum.01030-24. Epub 2024 Oct 4. PMID: 39365037; PMCID: PMC11537074.

ABSTRACT

The purpose of this study was to determine whether subgingival microbial changes according to the severity of periodontal disease and following the non-surgical periodontal treatment of periodontitis are reflected in the saliva microbiota. Subgingival and saliva samples were collected from 7 periodontally healthy controls, 14 patients with gingivitis, 12 with moderate periodontitis, and 18 with severe periodontitis. Among subjects who received treatment, seven moderate and seven severe periodontitis patients were selected for post-treatment microbial analysis, and their samples were analyzed at baseline and 6 months after treatment. The V3 and V4 regions of the 16S rRNA gene were sequenced, and correlations of the relative abundance of phyla and health- or periodontitis-dominant species between subgingival plaque and saliva samples were analyzed using Spearman signed-rank tests. Alpha diversity was higher in saliva than subgingival plaque samples, and beta diversity was significantly different between the two samples. However, levels of phyla and most health- or periodontitis-dominant species in salivary microbiota were significantly correlated with those in subgingival plaque. The improvement in clinical parameters following treatment was accompanied by a microbial shift not only in subgingival plaque but also in saliva. The abundance of 2 phyla including Bacteroidetes, 6 genera including Porphyromonas and Treponema, and 11 species including Porphyromonas gingivalis, Tannerella forsythia, and Filifactor alocis was significantly reduced in saliva following treatment. These results indicate that the salivary microbiota can reflect changes in the subgingival microbiota, suggesting that saliva can be used as a diagnostic tool to monitor the periodontal health status of individuals.

Importance: The salivary microbiota has attracted increasing attention as a promising method for monitoring periodontal disease. With regard to the pathogenesis of periodontal disease, however, subgingival plaque microbiota is the dominant etiological factor. Although it has been established that periodontopathogenic bacteria exist in saliva and their distribution differs, depending on the severity of the disease, it is necessary to analyze the extent to which the salivary microbiota reflects the subgingival microbiota. This study explored whether subgingival microbial changes according to the severity of periodontal disease and following the non-surgical periodontal treatment of periodontitis are reflected in the saliva microbiota and concluded that the salivary microbiota can reflect changes in the subgingival microbiota. Saliva can be used as a diagnostic tool to monitor the periodontal health status of individuals.

Kebschull M, Chapple I, D'Aiuto F, Donos N, Fleming PS, Jerreat M, McCracken G, Needleman I, Nibali L, West N; BSP Guideline Group Participants. UK Implementation of 'Treatment of Stage IV Periodontitis: The EFP S3-Level Clinical Practice Guideline' - Rehabilitation of Severe Periodontitis Patients. J Dent. 2025 Jun 22:105847. doi: 10.1016/j.jdent.2025.105847. Epub ahead of print. PMID: 40555302.

ABSTRACT

Objectives: To adapt the supranational European Federation for Periodontology (EFP) S3-Level Clinical Practice Guideline for treatment of very severe periodontitis (stage IV) to a UK healthcare environment, considering views of a broad range of stakeholders, and patients.

Sources: This UK version is based on the supranational EFP guideline published in the Journal of Clinical Periodontology. The source guideline was developed using the S3-level methodology, combining assessment of formal evidence from 13 systematic reviews with a moderated consensus process of a representative group of dental discipline stakeholders, accounting for health equality, environmental factors and clinical effectiveness. This guideline encompasses 47 clinical recommendations for the treatment of stage IV periodontitis, based on a step-wise process mapped to the 2018 periodontal and peri-implant diseases and conditions classification and UK classification implementation.

Methodology: The UK version was developed from the source guideline using a formal process called the GRADE ADOLOPMENT framework. The adoption allows (unmodified acceptance) adaptation (acceptance with modifications) and the de novo development of clinical recommendations. Using this framework and following the S3-process, the underlying evidence was updated and a representative guideline group of 101 delegates from 19 stakeholder organisations was assembled into three working groups. Following the formal S3-process, all clinical recommendations were formally assessed for their applicability to the UK and adoloped accordingly.

Results and Conclusion: Using the ADOLOPMENT protocol, a UK version of the EFP S3-level Stage IV clinical practice guideline was developed. This guideline delivers evidence- and consensus-based clinical recommendations of direct relevance to the UK dental community.

Khan SY, Schroth RJ, Cruz de Jesus V, Lee VHK, Rothney J, Dong CS, Javed F, Yerex K, Bertone M, El Azrak M, Menon A. A systematic review of caries risk in children <6 years of age. Int J Paediatr Dent. 2024 Jul;34(4):410-431. doi: 10.1111/ipd.13140. Epub 2023 Dec 9. PMID: 38071403.

ABSTRACT

Background: For caries risk assessment (CRA) tools for young children to be evidence-based, it is important to systematically review the literature to identify factors associated with the onset of early childhood caries (ECC).

Aim: This updated systematic review aimed to identify current evidence on caries risk in young children.

Design: A comprehensive and systematic literature search of relevant databases was conducted to update a previous systematic review and identify risk factors associated with ECC. Potential risk factors were identified based on strength of association using odds ratios, hazard ratios, relative risk, etc. GRADE was used for rating quality evidence through consensus.

Results: Twenty-two studies met inclusion criteria for the search from mid-2017 to 2021. Twenty-five publications from the prior systematic review, from 1997 to mid-2017, were also included. Several socioeconomic, behavioral, and clinical variables were identified as ECC risk factors. Factors included the following: age, socioeconomic status, frequency of and supervised toothbrushing, fluoride exposure, breast- and bottle-feeding, feeding habits, absence of a dental home, past caries experience, active non-cavitated lesions, visible plaque, enamel defects, and microbiome.

Conclusion: This study provides updated evidence of risk factors for ECC that could be included in CRA tools.

Klarić Puđa I, Goršeta K, Jurić H, Soldo M, Marks LAM, Majstorović M. A Cohort Study on the Impact of Oral Health on the Quality of Life of Adolescents and Young Adults. Clin Pract. 2025 Apr 7;15(4):76. doi: 10.3390/clinpract15040076. PMID: 40310310; PMCID: PMC12025447.

ABSTRACT

Objectives: This cohort study examines the relationship between quality of life and oral health in adolescents and young adults in the Zagreb area.

Methods: The research involved 250 participants aged 14 to 25 from Zagreb. Each participant was examined by an oral medicine doctor using a probe and mirror in a dental unit, and their DMFT (Decayed, Missing, and Filled Teeth) status was determined. Participants also completed questionnaires on their socio-economic status (SES) and the impact of their oral health on quality of life (OHIP-14, Oral Health Impact Profile).

Results: Caries was the most common dental issue among adolescents (2.23 ± 2.58), with restoration being the most frequent treatment (54%). Endodontic treatment and tooth extraction were more prevalent among individuals with lower SES (24.1%), who also had worse DMFT scores (8.09 ± 5.56). Prophylaxis was equally distributed across SES and gender. Male patients had more carious teeth (2.75 ± 3.07) than female patients (1.85 ± 2.08), while female patients scored worse on the OHIP-14 scale (10.97 ± 8.77) compared to males (8.81 ± 8.11). Age positively correlated with both OHIP-14 and DMFT scores. **Conclusions:** Adolescents and young adults in Zagreb, Croatia, exhibited high DMFT and OHIP-14 scores, reflecting significant oral health issues and reduced quality of life, particularly among older individuals and those with lower SES. The association between invasive treatments (e.g., endodontic procedures and extractions) and diminished quality of life underscores the necessity for early preventive measures, including regular dental check-ups and targeted oral health education.

Kocaadam-Bozkurt B, Karaçil Ermumcu MŞ, Erdoğan Gövez N, Bozkurt O, Akpinar Ş, Mengi Çelik Ö, Köksal E, Acar Tek N. Association between adherence to the Mediterranean diet with anthropometric measurements and nutritional status in adolescents. Nutr Hosp. 2023 Apr 20;40(2):368-376. English. doi: 10.20960/nh.04545. PMID: 36880734.

ABSTRACT

Background: adolescence is a critical period for developing healthy eating habits. It is crucial to evaluate and encourage adherence to the Mediterranean diet, a sustainable and healthy diet model in this age group.

Objective: this study aimed to evaluate the relationship between adherence to the Mediterranean diet and anthropometric measurements and nutritional status in Turkish adolescents.

Material and Methods: the demographic characteristics, health information, nutritional habits, physical activity status, and 24-hour dietary recall of the adolescents were obtained with a questionnaire. Adherence to Mediterranean diet was evaluated with the Mediterranean-Style Dietary Pattern Score (MSDPS).

Results: a total of 1,137 adolescents (mean age 14.0 ± 1.37 years) were included; 30.2 % of the boys and 39.5 % of the girls were overweight/obese. The median (interquartile range) value of the MSDPS was 10.7 (7.7), and this value was 11.0 (7.6) for the boys and 10.6 (7.4) for the girls ($p > 0.05$). The levels of protein, fiber, vitamin A, vitamin C, folate, vitamin B12, iron, magnesium, zinc, and potassium intake increased with adherence to Mediterranean diet ($p < 0.001$). Age, parental education level, body mass index (BMI), waist circumference, and skipping meals affected MSDPS.

Conclusion: adolescents' adherence to the Mediterranean diet was low and correlated with some anthropometric measures. Increasing adherence to the Mediterranean diet may contribute to preventing obesity and adequate and balanced nutrition in adolescents.

Kotha SB. Prevalence and risk factors of early childhood caries in the Middle East region: A systematic review. J Popul Ther Clin Pharmacol. 2022 Jul 16;29(3):e43-e57. doi: 10.47750/jptcp.2022.937. PMID: 36196937.

ABSTRACT

Objective: The purpose of this systematic review was to assess the prevalence and risk factors of early childhood caries (ECC) in the Middle East region in the age group 0-6 years.

Methods: A systematic literature search was performed in three major databases, Web of Science, PubMed, and Cochrane database, from January 1, 1960 to December 31, 2020, to identify the published literature on the prevalence and risk factors of ECC. All preschool children of 0-6 years of age irrespective of gender and socioeconomic status from the selected geographics were included.

Results: A total of 26 full-text articles with a study population of 14,479, age group 0-6 years, were included in the study. The overall ECC prevalence in the Middle East region ranged from 26.50 to 99% in the 0-6-years age group. The mean decayed missing filled teeth ranged from 0.95 to 16.9, reported in studies from Jeddah, West Province, and Al-Jouf, Northern region of Saudi Arabia. In the United Arab Emirates, the prevalence ranged from 41 to 83%. The evaluation of the included studies revealed a total of 103 risk factors for ECC. Low socioeconomic status, dietary habits, poor oral hygienic attitude and behaviors, and poor access and availability of dental care services were the major risk factors. Most studies found low socioeconomic status, gender, age of the child, parents' education, low maternal education, and type of school to be significant risk factors for ECC. Children attending public schools were at a greater risk of having ECC. Gender (male) was another important risk factor.

Conclusion: ECC can be prevented by focusing on prevention programs of dental caries, developing awareness-generating programs focusing on oral health education, and increasing access and availability of dental care services.

Lam PPY, Chua H, Ekambaram M, Lo ECM, Yiu CKY. RISK PREDICTORS OF EARLY CHILDHOOD CARIES INCREMENT-A SYSTEMATIC REVIEW AND META-ANALYSIS. J Evid Based Dent Pract. 2022 Sep;22(3):101732. doi: 10.1016/j.jebdp.2022.101732. Epub 2022 Apr 29. PMID: 36162891.

ABSTRACT

This systematic review aimed to investigate the risk predictors of caries in primary teeth and evaluate their association with the increment of Early Childhood Caries (ECC) among preschool children. This systematic review included only cohort or case-control studies of at least 2 years duration, over 300 participants and with English full-text. Potentially eligible studies were retrieved from 4 electronic databases (Ovid Embase, Ovid MEDLINE; PubMed, Web of Science) from inception to March 1, 2021. Independent screening and data extraction by 2 reviewers to identify factors associated with ECC increment, including family and socioeconomic factors, dietary and oral health-related habits, and clinical parameters. A total of 18 studies from 163 potential reports were included, involving 1,159,226 preschool children. Lower parental education attainment was found associated with ECC increment (WMD:0.87; 95% CI 0.52, 1.21); whereas immigration status (WMD:-0.38; 95% CI -1.09, 0.34), gender (WMD:-0.02; 95% CI -0.28, 0.24), and dental service utilization (WMD:0.35; 95% CI -0.10, 0.79) were not significant factors for ECC increment. All included studies consistently suggested positive correlations between ECC increment and baseline caries experience, plaque level, cariogenic microorganisms, and prenatal and passive smoking, while mixed findings were detected between ECC increment with dietary and oral hygiene practices. Preschool children whose parents have low education level are more likely to have greater increment of ECC over 2 years. Existing caries lesions, increased dental plaque level, cariogenic microorganisms, prenatal or passive smoking were also consistently identified as risk factors for ECC in all reviewed studies. This systematic review highlights specific risk factors to target for the prevention of ECC and supports implementing more oral health promotion for preschool children with parents of lower educational attainment.

Leary SD, Ha DH, Dudding T, Do LG. Association between overweight/obesity and dental outcomes in early childhood: Findings from an Australian cohort study. Community Dent Oral Epidemiol. 2025 Feb;53(1):50-57. doi: 10.1111/cdoe.13006. Epub 2024 Sep 4. PMID: 39233345; PMCID: PMC11754151.

ABSTRACT

Objectives: Oral health is an important part of general health and well-being and shares risk factors, such as poor diet, with obesity. The published literature assessing the association between obesity and oral health in early childhood is sparse and inconsistent. The objective of this study was to investigate associations between overweight/obesity (measured by body mass index) and dental outcomes (caries, plaque index and gingival index) both cross-sectionally and longitudinally, taking account of potential confounding factors, based on data collected at age 2 and age 5 within the Australian Study of Mothers' and Infants' Life Events Affecting Oral Health (SMILE) birth cohort study.

Methods: This study used data from 1174 SMILE participants. Associations between overweight/obesity and dental outcomes were assessed using generalized linear regression models for the modified Poisson family with log link to estimate prevalence ratios. Cross-sectional and longitudinal models were fitted, after minimal and full adjustment for potential confounders.

Results: Approximately 12% of the participants were overweight/obese at 2 years and 9% at 5 years. Between 2 and 5 years, the prevalence of caries increased from approximately 4% to 24%, at least mild plaque accumulation increased from 37% to 90% and at least mild inflammation from 27% to 68%. There were no associations between overweight/obesity and the prevalence of dental caries; prevalence ratios (PR) [95% confidence interval (CI)] after adjustment for age and sex were 0.9 (0.3, 2.4) cross-sectionally at 2 years, 1.0 (0.6, 1.5) cross-sectionally at 5 years, and 1.0 (0.6, 1.5) for overweight/obesity at 2 years and caries at 5 years. Prevalence ratios were all around the value of 1 for the other dental outcomes and also after adjustment for additional confounders.

Conclusions: There were no associations between overweight/obesity and dental caries, plaque index or gingival index in this cohort of preschool children. However, associations may emerge as the children become older, and it will be possible to extend analyses to include data collected at age 7 in the near future.

Leghrouz L, Khole MR, Splieth CH, Schmoeckel J. Tooth Brushing Learning **Methods:** Differential or Conventional? - A Randomized Controlled Clinical Trial. Caries Res. 2024;58(4):399-406. doi: 10.1159/000538226. Epub 2024 Mar 8. PMID: 38447550; PMCID: PMC11313045.

ABSTRACT

Introduction: Proper tooth brushing is a complicated process for children. Therefore, the aim of this study was to investigate the effect of differential learning to improve tooth brushing in children.

Methods: In this prospective, controlled, single-blinded, randomized clinical trial, 58 children between 3 and 8 years of age (mean: 5.7 ± 1.5 years; 29 female) were randomly assigned to test or control group through the child's self-drawing of an unlabeled envelope from a box. All children received oral hygiene instruc-

tions and information in these sealed envelopes and were asked to follow the corresponding instructions at home for 28 days. Children in the test group received instructions with exercises using the differential learning method, whereas the children in the control group received the usual tooth brushing instructions.

Results: At baseline and planned follow-ups after 4 and 12 weeks, plaque and gingival indices (QHI, PBI) were recorded in both groups by 2 calibrated and blinded investigators. At baseline, there were no significant differences between the test and control groups regarding plaque and gingival indices (QHI: 4.1 ± 0.5 vs. 4.1 ± 0.4; p = 0.7; PBI: 0.6 ± 0.3 vs. 0.6 ± 0.3; p = 0.7). At the 1st and 2nd follow-up, both groups showed improved oral health indices, but there was an overall better improvement in the test group. While the difference in gingival indices was statistically significant in the 1st recall (PBI/test: 0.1 ± 0.2 vs. **Control:** 0.3 ± 0.2; p < 0.001), the difference in plaque indices was not (QHI/test: 2.1 ± 0.9; **Control:** 2.6 ± 0.9; p = 0.07). At the 2nd recall (mean week = 19.5 weeks), the test group showed statistically significant and clinically relevant better oral health indices than the control group (2nd recall, QHI/test: 2.1 ± 0.9 vs. **Control:** 3.2 ± 1; p < 0.001; PBI/test: 0.1 ± 0.2 vs. **Control:** 0.5 ± 0.2; p < 0.001).

Conclusion: In conclusion, differential learning leads to oral hygiene improvement in children with high caries risk and initially poor oral hygiene, which was superior to the conventional learning method through repetition in the medium term.

Li C, Zhang J, Wang L, Yang J. A case of early-onset periodontitis with vitamin D deficiency: A case report and literature review. Medicine (Baltimore). 2023 Sep 29;102(39):e35321. doi: 10.1097/MD.0000000000035321. PMID: 37773856; PMCID: PMC10545046.

ABSTRACT

Rationale: Periodontitis is an inflammatory disease with multifactorial etiology. Vitamin D, a fat-soluble vitamin, has protective effects on inflammatory response in various systemic conditions. The clinical features of vitamin D deficiency include growth failure, hypotonia, pathologic fractures, rachitic rosary, tetany and so on. Here we present a case of 12-year-old girl affected by early-onset periodontitis accompanied with vitamin D deficiency.

Patient concerns: A 12-year-old girl with gingival redness, bleeding associated with tooth brushing, and mandibular anterior teeth movement, with difficulty in mastication for the past 2 months. There is no relevant family history or special systemic disease history. The serological microelement test showed vitamin D levels were significantly lower than normal range. Immunological test showed abnormal CD4+/CD8+(CD3+CD4+/CD3+CD8+) ratio as well.

Diagnoses: Based on the clinical and serological findings, this patient was ultimately diagnosed with early-onset periodontitis accompanied with vitamin D deficiency.

Interventions: The main treatments for this patient were 3-fold: periodontal therapy, vitamin D supplement and oral hygiene instructions.

Outcomes: Following 1-year therapy, periodontal conditions recovered and became stable. And serological vitamin D levels returned to normal range.

Lessons: The case of interest serves as an important reminder to clinicians, that the early-onset periodontitis may be associated with micronutrients abnormalities, and early-diagnosis and treatment could avoid the body heathy disorders.

Luis Limo, Ronald Espíritu Ayala-Mendívil, Juliana Gabrielle Martins, EFFECTIVENESS OF ASSISTED TOOTHBRUSHING ON PRESCHOOLERS' ORAL HYGIENE: A CAREGIVER-INTERVENTION APPROACH, Journal of Evidence-Based Dental Practice, Volume 25, Issue 3, 2025, 102138, ISSN 1532-3382, https://doi.org/10.1016/j.jebdp.2025.102138. (https://www.sciencedirect.com/science/article/pii/S1532338225000533)

ABSTRACT: ABSTRACT

Objective: To assess the effectiveness of an intervention on caregivers' assisted toothbrushing techniques and oral health maintenance for preschool-aged children, and to determine whether these effects differ by age.

Methods: A single group pre/post intervention study was conducted among children aged 3-5 years and their caregivers in Callao, Peru. Eligible caregivers were trained on assisted toothbrushing using large and real-scale typodonts, along with practical demonstrations by a dentist. Additionally, they were instructed on healthy practices and oral health in children. Children's oral hygiene status (OHS) was assessed using the Simplified Oral Hygiene Index (OHI-S) at baseline and three months postintervention. To assess the effectiveness and quantify the magnitude of the difference between the OHI-S before and after the intervention, we used Wilcoxon signed-rank test and the Cliff's Delta test, respectively. Results were stratified by age group to examine potential differences.

Results: The sample (n = 210) predominantly comprised 3-year-old Peruvian females, primarily cared for by their mothers, who identified as single mothers who had not previously received instruction in oral hygiene practices. We found improvement in children's OHI-S in most age groups. Specifically, among 3-year-olds, the OHI-S score improved significantly from 'fair' (m = 2.6, ± 0.2, range 2.4-2.8) to 'good' (m = 1.1, ± 0.2, range 0.9-1.3). The intervention showed a moderate effect size (δ = −0.15, 95% CI −0.18, −0.10) in the 3-year-olds and a moderate effect size (δ = −0.05, 95% CI −0.08, −0.01) in the 4-year-olds. No significant improvements were observed in the 5-year-old group.

Conclusion: A caregiver-focused intervention significantly improved OHS among preschool-aged children, particularly in younger age groups. Substantial improvements in OHI-S scores were noted for 3- and 4-year-olds, while age-specific factors may have limited efficacy in the 5-year-old group. These findings highlight the importance of early, targeted oral health education for caregivers.

Lock NC, Nora ÂD, Damé-Teixeira N, Brusius CD, Maltz M, Alves LS. Association between obesity and early tooth eruption in adolescents: Findings from a popu-lation-based co-hort study in southern Brazil. J Clin Exp Dent. 2023 Oct 1;15(10):e842-e849. doi: 10.4317/jced.60340. PMID: 37933401; PMCID: PMC10625687.

ABSTRACT

Background: Obesity is a prevalent chronic condition affecting children and adults worldwide, and it seems to influence the timing of tooth eruption. The aim of this study was to assess the as-sociation between weight status at age 12 and the eruption of permanent teeth at ages 12 and 14-15 among schoolchildren from southern Brazil.

Material and Methods: A cross-sectional survey was conducted in Porto Alegre, southern Brazil, and included a representative sample of 1,528 12-year-old schoolchildren. After 2.5 years, 801 individuals were re-examined. Baseline data collection included a questionnaire, the record-ing of anthropometric measures (height and weight), and clinical examination to register the number of erupted permanent teeth. At follow-up, the eruption stage of second perma-nent molars was recorded. Statistical analysis used Poisson regression.

Results: Overweight and obese individuals were 32% and 88% more likely to have com-plete permanent dentition at age 12, respectively (overweight, PR=1.32, 95%CI=1.13-1.55; obese, PR=1.88, 95%CI=1.75-2.02). Obese 12-year-olds were more likely to present erupt-ed #17, #27, #37, and #47 at age 12 and to present completely erupted second molars at age 14-15 than normal weight ones.

Conclusions: This population-based study found a significant association between over-weight/obesity at age 12 and early tooth eruption at ages 12 and 14-15 among schoolchil-dren from southern Brazil.

Lucchese A, Cenciarelli S, Manuelli M, Marcolina M, Barzaghi F, Calbi V, Migliavacca M, Bernardo ME, Tucci F, Gallo V, Fraschetta F, Darin S, Casiraghi M, Aiuti A, Ferrua F, Cicalese MP. Wiskott-Aldrich syndrome: Oral findings and microbiota in children and review of the literature. Clin Exp Dent Res. 2022 Feb;8(1):28-36. doi: 10.1002/cre2.503. PMID: 35199474; PMCID: PMC8874040.

ABSTRACT

Objective: Wiskott-Aldrich syndrome (WAS) is a rare X-linked primary immunodeficiency, characterized by micro-thrombocytopenia, recurrent infections, and eczema. This study aims to describe common oral manifestations and evaluate oral microbioma of WAS patients.

Material and Methods: In this cohort study, 11 male WAS patients and 16 male healthy controls were evaluated in our Center between 2010 and 2018. Data about clinical history, oral examination, Gingival Index (GI) and Plaque Index (PI) were collected from both groups. Periodontal microbiological flora was evaluated on samples of the gingival sulcus.

Results: WAS subjects presented with premature loss of deciduous and permanent teeth, inclusions, eruption disturbance, and significantly worse GI and PI. They also showed a trend toward a higher total bacterial load. Fusobacterium nucleatum, reported to contribute to periodontitis onset, was the most prevalent bacteria, together with Porphyromonas gingivalis and Tannerella forsythia.

Conclusions: Our data suggest that WAS patients are at greater risk of alterations in the oral cavity. The statistically higher incidence of periodontitis and the trend to higher prevalence of potentially pathological bacterial species in our small cohort, that should be confirmed in future in a larger population, underline the importance of dentistry monitoring as part of the multidisciplinary management of WAS patients.

Luppi S, Aldegheri L, Azzalini E, Pacetti E, Barucca Sebastiani G, Fabiani C, Robino A, Comar M. Unravelling the Role of Gut and Oral Microbiota in the Pediatric Population with Type 1 Diabetes Mellitus. Int J Mol Sci. 2024 Oct 2;25(19):10611. doi: 10.3390/ijms251910611. PMID: 39408940; PMCID: PMC11477131.

ABSTRACT

Type 1 Diabetes Mellitus (T1DM) is a chronic autoimmune disease that results in the destruction of pancreatic β cells, leading to hyperglycaemia and the need for lifelong insulin therapy. Although genetic predisposition and environmental factors are considered key contributors to T1DM, the exact causes of the disease remain partially unclear. Recent evidence has focused on the relationship between the gut, the oral cavity, immune regulation, and systemic inflammation. In individuals with T1DM, changes in the gut and oral microbial composition are commonly observed, indicating that dysbiosis may contribute to immune dysregulation. Gut dysbiosis can influence the immune system through increased intestinal permeability, altered production of short chain fatty acids (SCFAs), and interactions with the mucosal immune system, potentially triggering the autoimmune response. Similarly, oral dysbiosis may contribute to the development of systemic inflammation and thus influence the progression of T1DM. A comprehensive understanding of these relationships is essential for the identification of biomarkers for early diagnosis and monitoring, as well as for the development of therapies aimed at restoring microbial balance. This review presents a synthesis of current research on the connection between T1DM and microbiome dysbiosis, with a focus on the gut and oral microbiomes in pediatric populations. It explores potential mechanisms by which microbial dysbiosis contributes to the pathogenesis of T1DM and examines the potential of microbiome-based therapies, including probiotics, prebiotics, synbiotics, and faecal microbiota transplantation (FMT). This complex relationship highlights the need for longitudinal studies to monitor microbiome changes over time, investigate causal relationships between specific microbial species and T1DM, and develop personalised medicine approaches.

Martens L, De Smet S, Yusof MY, Rajasekharan S. Association between overweight/obesity and periodontal disease in children and adolescents: a systematic review and meta-analysis. Eur Arch Paediatr Dent. 2017 Apr;18(2):69-82. doi: 10.1007/s40368-017-0272-1. Epub 2017 Feb 25. PMID: 28238103.

ABSTRACT

Aim: To provide a systematic review and meta-analyses investigating the association between overweight/obesity as defined by Body Mass Index (BMI) and periodontal disease in terms of clinical periodontal outcomes.

Materials and Methods: A systematic search of the literature was conducted by two authors (SR and SD) independently in the Cochrane Library, PubMed, Web of Science (ISI), Scopus, Scielo, Lilacs and System for Information on Grey Literature in Europe (SIGLE) for full articles published until September 2015. Studies analysing the association between overweight/obesity as defined by Body Mass Index (BMI) and periodontal disease in children and/or adolescents (age ≤18 years) were included. The Gwets AC1 inter-rater reliability coefficient for screening data was calculated using Agreestat 2011.1. Meta-analyses were carried out by using RStudio version 0.97.551-©2009-2012 RStudio, Inc. software.

Results: A total of 769 titles and abstracts were screened and 12 articles met the inclusion criteria for the systematic review while only 7 were selected for meta-analyses. The Gwets AC1 inter-rater reliability coefficient for screening data was excellent (0.98; CI 0.98-0.99). A positive association between overweight/obesity and a number of periodontal diseases was seen. For the association between prevalent periodontal disease and obesity in children, the overall fixed-effects OR and 95% CI was 1.46 (1.20-1.77) with a $\chi 2$ statistic for heterogeneity (Q) of 33.4 with 6 degrees of freedom ($P < 0.005$).

Conclusion: The available evidence suggests a significantly positive association between periodontal disease and obesity in children. Paediatric dentists should be aware of periodontal alterations as a potential hazard associated with obesity.

Martínez-Beneyto Y, Navarrete-García C, Serna-Muñoz C, Ausina-Márquez V, Poza-Pascual A, Expósito-Delgado AJ, Vicente A, Ortiz-Ruiz AJ. Spanish Paediatricians' Knowledge, Attitudes and Practices Regarding Oral Health of Children under 6 Years of Age: A Cross-Sectional Study. Int J Environ Res Public Health. 2022 Aug 3;19(15):9550. doi: 10.3390/ijerph19159550. PMID: 35954916; PMCID: PMC9367720.

ABSTRACT

Background: Early Childhood Caries (ECC) is a prevalent chronic pathology, and it has a negative impact on the oral and general health of the child patient.

Aim: To evaluate the knowledge, attitudes and practices of Spanish paediatricians regarding early childhood caries according to the professional's years of experience.

Material and Methods: A cross-sectional questionnaire was conducted by Spanish paediatricians via WhatsApp and e-mails from January to April 2021. Data were analysed using Chi-squared test, Fisher's exact test and Cramer's V test.

Results: There were a total of 359 participants. Most respondents were women (81.3%) with up to 10 years of professional experience (31.2%) in primary health care and public health. In most cases, participants had an excellent knowledge of primary dentition (90.8%), but they ignored (56%) when the first visit to the dentist should occur. Regarding the aetiological factors of caries, oral hygiene and prevention, a lower rate of knowledge was observed. The majority of participants (80.8%) were not able to identify white spot lesions and enamel defects (76%). They considered that their knowledge in oral health was deficient, highlighting the need to increase their training. Less experienced paediatricians were found to have higher success rates.

Conclusions: The level of knowledge and attitudes regarding early childhood caries of the evaluated paediatricians should be improved. Paediatricians had difficulties in identifying early caries lesions and enamel defects. Nevertheless, a higher level of knowledge and positive attitudes towards dental caries has been detected among paediatricians with fewer years of professional experience.

Mattos GML, Costa CM, Malheiros AS, Maciel MB, Bassi-Dibai D, Ferreira MC, Tavarez RRJ. Impact of oral health conditions on the quality of life of children and adolescents with sickle cell anemia: A cross-sectional study. Int J Paediatr Dent. 2025 May;35(3):551-557. doi: 10.1111/ipd.13266. Epub 2024 Sep 9. PMID: 39252201.

ABSTRACT

Background: Sickle cell anemia (SCA) is the most common hemoglobinopathy in Brazil and worldwide and is part of a group of chronic genetic diseases resulting from abnormalities in the structure of hemoglobin.

Aim: To evaluate the impact of oral health conditions on the quality of life (QoL) of children and adolescents with SCA.

Design: This is a cross-sectional study with a sample of 76 children and adolescents aged 8-14 years. For inclusion, they were required to have a diagnosis of HbSS SCA in their medical records, without a pain crisis or any dental emergency in the last three months. The children and adolescents with SCA were from Hematology and Hemotherapy Center of Maranhão. Demographic characteristics, socioeconomic status, oral hygiene, caries, malocclusion, and oral health-related quality of life (OHRQoL) were assessed. OHRQoL was assessed using the Child Perceptions Questionnaire. Descriptive statistics, Student's t and Mann-Whitney tests were performed ($\alpha = 5\%$).

Results: Brown race was the most prevalent for both age groups (8-10 years-63.2% and 11-14 years-57.9%). Predominant monthly family income for both age groups was below $106. Visible plaque and gingival bleeding were higher in children aged 8-10 years. Dental caries significantly impacted the QoL of adolescents through the domain "oral symptom" ($p = .031$). Malocclusion significantly impacted the QoL of adolescents ("total score," $p = .026$; "social well-being", $p = .045$).

Conclusion: Oral health impairment negatively affected the QoL of adolescents with SCA.

Méndez EEG, Ribas-Pérez D, Menacho DR, Navarro IB, Gallardo ER, Séiquer AC. Prevalence of Dental Trauma in Spain: Systematic Review and Meta-Analysis. Clin Exp Dent Res. 2025 Feb;11(1):e70128. doi: 10.1002/cre2.70128. PMID: 40172183; PMCID: PMC11963076.

ABSTRACT

Objectives: To estimate the prevalence of TDI in the Spanish population through a systematic review and meta-analysis, identifying differences by sex, age, and study setting.

Materials and Methods: An exhaustive search was conducted in databases such as PubMed, Scopus, Embase, Ovid Medline, and CINAHL, including gray literature and other alternative sources. Observational studies evaluating the prevalence of TDI in Spain, with a total of 8662 participants. The methodological

quality of the studies was assessed using the JBI tool, and the PRISMA guidelines were followed to ensure transparency and reproducibility.

Results: The estimated overall prevalence of TDI was 9.94% (95% CI: 5.98%-16.6%). The results showed a higher prevalence in males (10.5%) compared to females (5.7%), and in children (11.1%) compared to adolescents (6.1%). Fractures were the most common type of TDI (56.5%), followed by avulsion (4.0%). High heterogeneity was observed among the studies, suggesting variability in data collection methods and TDI classification.

Conclusions: This study is the first to estimate the prevalence of TDI in Spain, which sheds light on the need for a standardized approach in future research. Although it presents significant methodological strengths, limitations such as high heterogeneity and lack of standardization should be considered when interpreting the results.

Milani AJ, Castilho T, Assaf AV, Antunes LS, Antunes LAA. Impact of traumatic dental injury treatment on the Oral Health-Related Quality of Life of children, adolescents, and their family: Systematic review and meta-analysis. Dent Traumatol. 2021 Dec;37(6):735-748. doi: 10.1111/edt.12697. Epub 2021 Jun 22. PMID: 34156753.

ABSTRACT

Background/**Aim:** Measures of oral health-related quality of life (OHRQoL) are useful in clinical trials to evaluate treatment outcomes. To detect the treatment impact of traumatic dental injuries (TDI) on OHRQoL is extremely relevant. The aim of this study was to assess whether there is scientific evidence of the impact of TDI treatment on OHRQoL of children, adolescents, and their families.

Material and Methods: A systematic review and meta-analysis were conducted selecting articles from PubMed, Web of Science, Scopus, Cochrane Library, and Virtual Health Library until May 22nd, 2020. The gray literature, clinical trial registers, and a manual search were performed. Two independent reviewers selected the studies, extracted the data, and assessed the ROBINS-I risk of bias. A meta-analysis was performed using RevMan 5.4 program. The certainty of the evidence was evaluated using the GRADE system.

Results: In the electronic search, 413 abstracts and one registered study were found. After removing the duplicates and eligibility application, six studies were included. Individually, the studies presented low to moderate risk of bias and they found that TDI treatment reduces the negative impact on OHRQoL. In the meta-analysis, TDI treatment improved OHRQoL for 8- to 10-year-old children (p = .03; CI 5.19 [0.62, 9.75]) (detected by CPQ 8-10 questionnaire). In the perception of parents, the children, and adolescents who had suffered TDI also had their OHRQoL improved (p = .04; CI 14.77 [0.95, 28.60]) (detected by PPQ and P-CPQ questionnaire) but both evaluations had very low certainty of evidence.

Conclusion: Treatment of traumatic dental injuries reduces the impact on the OHRQoL of children and adolescents. However, more studies are necessary to detect the TDI treatment influence on OHRQoL of preschoolers and in the family as well to estimate the effects due to outcomes that had a very low certainty of evidence (#CRD42018091210).

Miguel MMV, Shaddox LM. Grade C Molar-Incisor Pattern Periodontitis in Young Adults: What Have We Learned So Far? Pathogens. 2024 Jul 12;13(7):580. doi: 10.3390/pathogens13070580. PMID: 39057807; PMCID: PMC11279578.

ABSTRACT

Grade C molar-incisor pattern periodontitis (C-MIP) is a disease that affects specific teeth with an early onset and aggressive progression. It occurs in systemically healthy patients, mostly African descendants, at an early age, with familial involvement, minimal biofilm accumulation, and minor inflammation. Severe and rapidly progressive bone loss is observed around the first molars and incisors. This clinical condition has been usually diagnosed in children and young adults with permanent dentition under 30 years of age. However, this disease can also affect the primary dentition, which is not as frequently discussed in the literature. Radiographic records have shown that most patients diagnosed in the permanent dentition already presented disease signs in the primary dentition. A hyperresponsive immunological profile is observed in local (gingival crevicular fluid-GCF) and systemic environments. Siblings have also displayed a heightened inflammatory profile even without clinical signs of disease. A. actinomycetemcomitans has been classified as a key pathogen in C-MIP in both dentitions. Scaling and root planning associated with systemic antibiotics is the current gold standard to treat C-MIP, leading to GCF biomarker reduction, some systemic inflammatory response modulation and microbiome profile changes to a healthy-site profile. Further studies should focus on other possible disease-contributing risk factors.

Monleón-Getino A, Pujol-Muncunill G, Méndez Viera J, Álvarez Carnero L, Sanseverino W, Paytuví-Gallart A, Martín de Carpí J. A pilot study of the use of the oral and faecal microbiota for the diagnosis of ulcerative colitis and Crohn's disease in a paediatric population. Front Pediatr. 2023 Nov 16;11:1220976. doi: 10.3389/fped.2023.1220976. PMID: 38034829; PMCID: PMC10687547.

ABSTRACT

Crohn's disease (CD) and ulcerative colitis (UC) are chronic inflammatory bowel diseases (IBD) that affect the gastrointestinal tract. Changes in the microbiome and its interaction with the immune system are thought to play a key role in their development. The aim of this study was to determine whether metagenomic analysis is a feasible non-invasive diagnostic tool for IBD in paediatric patients. A pilot study of oral and faecal microbiota was proposed with 36 paediatric patients divided in three cohorts [12 with CD, 12 with UC and 12 healthy controls (HC)] with 6 months of follow-up. Finally, 30 participants were included: 13 with CD, 11 with UC and 8 HC (6 dropped out during follow-up). Despite the small size of the study population, a differential pattern of microbial biodiversity was observed between IBD patients and the control group. Twenty-one bacterial species were selected in function of their discriminant accuracy, forming three sets of potential markers of IBD. Although IBD diagnosis requires comprehensive medical evaluation, the findings of this study show that faecal metagenomics or a reduced set of bacterial markers could be useful as a non-invasive tool for an easier and earlier diagnosis.

Morales-Salazar SA, Monteagudo-Sangama JM, Arriola-Guillén LE. Influence of dento-facial characteristics on the appearance of self-reported bullying: A review. Dent Med Probl. 2022 Oct-Dec;59(4):657-661. doi: 10.17219/dmp/138636. PMID: 36421048.

ABSTRACT

Bullying is a social problem that affects children and adolescents in particular. It deteriorates the selfesteem of its victims, decreases their quality of life and generates future psychological problems. The aim of this review was to determine the influence of dentofacial characteristics on the appearance of selfreported bullying through a literature review. A systematic search was carried out in the databases of international scientific literature on health sciences, including MEDLINE via PubMed, Scopus, LILACS, and SciELO. Up to October 10, 2020, a total of 348 articles were identified, but only 36 were ultimately selected for the review. Specific keywords in English were used in the search: “dentofacial features”; “soft tissue”; and “malocclusion”. It was found that the appearance of bullying was associated with altered facial profiles, namely the presence of different classes of malocclusion, with class II or class III malocclusion being the most impactful. Altered dentofacial characteristics can make an individual the target of harassment, leading to low quality of life, emotional instability, low self-esteem, and the lack of confidence with regard to dentofacial appearance as well as poor long-term social and academic performance. There is a need to develop preventive measures that would be applied by both parents and authorities, with disseminating information on bullying in schools as well as on adequate oral hygiene and the importance of going to the dentist. Traditional and cybernetic bullying share similarities. While working out strategies against bullying, it is essential to raise awareness among victims and bullies, families, and society, and to determine how bullying is perceived by children and teenagers.

Moriyama CM, Velasco SRM, Butini L, Abanto J, Antunes JLF, Bönecker M. How oral health literacy and parental behavior during the meals relate to dental caries in children. Braz Oral Res. 2022 Nov 11;36:e131. doi: 10.1590/1807-3107bor-2022.vol36.0131. PMID: 36383837.

ABSTRACT

This cross-sectional study aimed to verify the influence of parental behavior on the development of dental caries in children by assessing parents’ behavior during their children’s meals and their parental level of oral health literacy. This study was conducted with children aged 2 to 4 in Diadema, São Paulo, Brazil. Six hundred and thirty children were examined to assess the prevalence of dental caries (dmft index). Parents answered a questionnaire related to socio-demographic conditions, oral health literacy (OHL), and the parents’ behavior during the meal - Parent Mealtime Action Scale - (PMAS). The analysis fitted zero-inflated negative binomial regression (ZINB) models to assess unadjusted and adjusted associations between the study outcome and covariates. In the unadjusted analysis, the child’s age, the number of siblings, household crowding, family income, socioeconomic status and OHL were associated with the outcome ($p < 0.05$). In the adjusted model, dental caries was more prevalent among 3- (PR: 1.85, 95%CI: 1.19-2.87) and 4-year-old children (PR: 2.43, 95%CI: 1.60-3.71), those with at least one sibling (PR: 1.66, 95%CI:1.18-2.33). Poor children were more likely to have dental caries (PR: 0.66, 95%CI: 0.48-0.91); the Use of Rewards dimension of the PMAS was associated positively with dental caries severity (RR: 0.90, 95%CI: 0.84-0.97). Although OHL was not associated with caries, parents’ mealtime behaviors were related to dental caries. This suggested that communication between parents and children related to good eating practices could play a protective role against dental caries in children.

Moya-López M, Ruiz-Guillén A, Romero-Maroto M, Carrillo-Díaz M. Dental Caries in Children and Its Relationship with Parenting Styles: A Systematic Review. Children (Basel). 2024 Oct 30;11(11):1324. doi: 10.3390/children11111324. PMID: 39594899; PMCID: PMC11592684.

ABSTRACT

Background: It can be affirmed that the parenting style of parents has an impact on the health-related behaviors of their children; the environment that parents create for their children can have an impact on both their habits and their oral health, and on the incidence of dental caries in children. The purpose of this study was to analyze the association between parenting style and childhood dental caries.

Methods: Two researchers independently searched the English literature published up to May 2024 in four databases (PubMed, Web of Science, Scopus y Cochrane Library). The risk of bias was evaluated using the Modified Newcastle-Ottawa Quality Assessment Scale (NOS). This study is registered on PROSPERO (CRD42024573447).

Results: Of the 130 studies identified, nine of them, with a total of 4250 participants, met our inclusion criteria. The evidence on the relationship between parenting styles and dental caries is varied. Of the studies reviewed, three showed a significant association between both factors, while four found no correlation, and two reported no significant differences in relation to parenting styles and the occurrence of dental caries.

Conclusions: This discrepancy emphasizes the need for further research. Parenting styles impact child dental behavior on a global level, highlighting the relevance of recognizing these approaches in a dental context, given that parents have a fundamental role in guiding their children’s behaviors.

Nakayama Y, Ohnishi H. Risk Factors for Early Childhood Caries in Three-Year-Old Japanese Children: A Prospective Cohort Study. Pediatr Dent. 2022 Sep 15;44(5):346-354. PMID: 36309780.

ABSTRACT

Purpose: he purpose of this study was to examine risk factors in the development of early childhood caries (ECC) at age three years in a prospective cohort study of 18- to 23-month-old children.

Methods: This was a longitudinal observational study of 872 children 18 to 23 months of age in Hokkaido, Japan, with follow-up at age three years. A self-administered questionnaire was completed by parents or guardians of the children. The baseline survey contents included sex, age, the existence of smokers in the home, maternal smoking during pregnancy, nocturnal breastfeeding, snacking habits, bottle-feeding, frequency of parents brushing their child’s teeth, the use of fluoride toothpaste, parents sharing of utensils with child, and socio-economic status. The number of decayed, missing, or filled teeth (dmft) was obtained from dental examinations in both the baseline and follow-up surveys. Logistic regression analysis was performed to estimate the odds ratio for the new onset of ECC in threeyear-olds.

Results: The dmft at 18 to 23 months old, nocturnal breastfeeding, prolonged breastfeeding, snacking habits, parents brushing their child's teeth less frequently, and parental sharing utensils with the child were significantly associated with the incidence of ECC at age three years.

Conclusions: The existence of early childhood caries in 18- to 23-month-olds may be a strong predictor of the new development of dental caries. Other lifestyles were found to be risk factors for the incidence of dental caries by age three years.

Nibali L, Almofareh SA, Bayliss-Chapman J, Zhou Y, Vieira AR, Divaris K. Heritability of periodontitis: A systematic review of evidence from animal studies. Arch Oral Biol. 2020 Jan;109:104592. doi: 10.1016/j.archoralbio.2019.104592. Epub 2019 Oct 24. PMID: 31706108.

ABSTRACT

Objective: The aim of this study was to quantify the heritability of periodontitis via a systematic appraisal of the existing evidence derived from animal studies.

Design: A search was conducted through the electronic databases MEDLINE, Embase, LILACS, Cochrane Library, Open Grey, Google Scholar and ResearchGate, complemented by a hand search, for studies reporting measures of heritability of periodontitis. After full-text reading, 7 studies conducted on animal models met the inclusion criteria. Six studies carried out experimental periodontitis models in mice, while one study assessed bone loss in dry skulls of baboons with known pedigrees.

Results: Heritability of 'naturally-occurring bone loss' (3 studies, non-experimental conditions) was estimated at 0.39 (95% confidence interval: 0.13-0.64) with virtually no heterogeneity ($I^2 = 0\%$, $p = 0.97$). Heritability of experimental periodontitis in mice (6 studies) was 0.43 (0.28-0.58) with considerable heterogeneity ($I^2 = 96\%$, $p < 0.01$). There was no evidence of publication bias.

Conclusions: Over a third of the phenotypic variance of periodontitis in animal studies is due to genetic factors, somewhat higher than the estimate from human studies. It can be argued that, under the strictly-controlled experimental conditions of laboratory-induced periodontitis, the relative role of heritable factors predisposing to periodontitis and bone loss may be stronger compared with human studies.

Nibali L, Divaris K, Lu EM. The promise and challenges of genomics-informed periodontal disease diagnoses. Periodontol 2000. 2024 Jun;95(1):194-202. doi: 10.1111/prd.12587. Epub 2024 Jul 28. PMID: 39072804.

ABSTRACT

Recent advances in human genomics and the advent of molecular medicine have catapulted our ability to characterize human and health and disease. Scientists and healthcare practitioners can now leverage information on genetic variation and gene expression at the tissue or even individual cell level, and an enormous potential exists to refine diagnostic categories, assess risk in unaffected individuals, and optimize disease management among those affected. This review investigates the progress made in the domains of molecular medicine and genomics as they relate to periodontology. The review summarizes the current evidence of association between genomics and periodontal diseases, including the current state of knowledge that approximately a third of the population variance of periodontitis may be attributable to genetic variation and the management of several monogenic forms of the disease can be augmented by knowledge of the underlying genetic cause. Finally, the paper discusses the potential utility of polygenic risk scores and genetic testing for periodontitis diagnosis now and in the future, in light of applications that currently exist in other areas of medicine and healthcare.

Nurhidayah I, Nurhaeni N, Allenidekania A, Gayatri D. A Systematic Review of Experimental Studies on the Impact of Empowerment-Based Interventions on Child and Parent Outcomes in the Pediatric Oncology Setting. J Multidiscip Healthc. 2023 Dec 1;16:3717-3735. doi: 10.2147/JMDH.S436394. PMID: 38058460; PMCID: PMC10697007.

ABSTRACT

Background: Cancer has an impact not only on children but also on parents. Parents play the most crucial role in cancer's symptom control and management. However, as the primary caretakers, parents are frequently unprepared or engage in inappropriate behavior when caring for their children. Increasing parents' role through empowerment is critical in pediatric cancer care.

Purpose: This systematic review aimed to identify the effect of empowerment interventions on parent and child outcomes in pediatric oncology.

Methods: In this review, studies published between 2013 and 2023 in The Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Embase, Medline, and Scopus databases were identified using a search strategy to identify relevant studies that determined empowerment-based intervention for parents in the pediatric oncology. This study used the Joanna Briggs Institute (JBI) critical appraisal tools to assess the quality of the studies. This systematic review followed the recommended reporting items for systematic reviews and meta-analysis (PRISMA) standards.

Results: Seven studies met the inclusion criteria: four randomized and three non-randomized experimental studies. Children range in age from 1-14 years. The intervention is mostly delivered through face-to-face learning using booklets or modules as a learning tool. The intervention is delivered in 2-6 sessions over 1-8 weeks, lasting 20-45 minutes each. In most studies, the interventions positively affect parents' outcomes (knowledge, caring behavior, distress, care burden, quality of life) and children's outcomes (oral mucositis, gastrointestinal complications, quality of life). The intervention, however, has no significant effect on the coping style. Barriers to implementation include parent-nurse commitment, the retention of parent-nurse participation, and more time spent to provide interventions.

Conclusion: Our study highlights that empowerment-based interventions positively impact parents and children. These findings suggest that an empowerment-based intervention should be developed to provide better cancer care for a parent and their children.

Ortiz FR, Sfreddo CS, Coradini AGM, Fagundes MLB, Ardenghi TM. Gingivitis influences oral health-related quality of life in adolescents: findings from a cohort study. Rev Bras Epidemiol. 2020 Jun 5;23:e200051. doi: 10.1590/1980-549720200051. PMID: 32520102.

ABSTRACT

Introduction: Oral health-related quality of life (OHRQoL) is affected by different clinical conditions. The aim of this study was to evaluate the impact of gingivitis on OHRQoL in adolescents.

Methodology: This cohort study consisted of a random sample of 1,134 schoolchildren enrolled during 2012, in Santa Maria, Brazil. After two years, 743 adolescents were follow-up (response rate: 65.5%). Clinical, socioeconomic and OHRQoL data were collected. OHRQoL was assessed by the short Brazilian version of the Child Perceptions Questionnaire 11-14 (CPQ11-14), and gingival bleeding through Community Periodontal Index. Gingivitis was considered with the presence of 15% or more bleeding sites. Poisson regression models were used to evaluate the association between gingivitis and overall and domain-specific CPQ11-14 scores. Prevalence of gingivitis at baseline was considered the main predictor for the OHRQoL at follow-up.

Results: Gingivitis at baseline was associated with higher overall CPQ 11-14 score (RR = 1.07; 95%CI 1.01 - 1.14), and emotional well-being (RR = 1.17; 95%CI 1.04 - 1.31), independently of other oral conditions and socioeconomic variables.

Conclusions: The findings indicate that gingivitis negatively impacts the adolescents' OHRQoL. Moreover, gender, maternal schooling and household income were also associated with OHRQoL.

Ortiz FR, Sfreddo CS, Coradini AGM, Fagundes MLB, Ardenghi TM. Gingivitis influences oral health-related quality of life in adolescents: findings from a cohort study. Rev Bras Epidemiol. 2020 Jun 5;23:e200051. doi: 10.1590/1980-549720200051. PMID: 32520102.

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Conclusions: The findings indicate that gingivitis negatively impacts the adolescents' OHRQoL. Moreover, gender, maternal schooling and household income were also associated with OHRQoL.

Padmanabhan V, Baroudi K, Abdulla S, Hesham S, Ahmed Elsayed M, Mustahsen Rahman M, Islam MS. Association of Body Mass Index and Chronology of Tooth Eruption in Children visiting a Dental Hospital in UAE: A Cross-sectional Study. Saudi Dent J. 2024 May;36(5):810-814. doi: 10.1016/j.sdentj.2024.02.015. Epub 2024 Feb 29. PMID: 38766283; PMCID: PMC11096597.

ABSTRACT

The objective of this research was to investigate the relationship between body mass index (BMI) and the mean age at which permanent teeth erupt in school-going children.

Materials and Method: This cross-sectional study at RAK College of Dental Sciences, UAE, involved 89 children aged 6-14 years. Erupted teeth in the mouth were included. Statistical analysis, including t-tests, ANOVA, and Kruskal-Wallis, was conducted using SPSS version 29, with a significance threshold set at $p < 0.05$.

Results: Out of 89 children (41 girls and 48 boys) in the study, 56.17 % had normal weight, 20.22 % were overweight, 17.97 % were underweight, and 5.6 % were obese. Female children generally experienced earlier permanent tooth eruption than males. Additionally, there was an observed trend of earlier tooth eruption with increasing weight or BMI. Underweight children notably displayed a delayed mean age of tooth eruption.

Conclusion: This study demonstrates a notable correlation between BMI and the mean age at which permanent teeth erupt in school-going children aged 6 to 14 years who visited our dental hospital. To establish a more precise understanding of the connection between BMI and dental development, we recommend conducting further longitudinal studies involving multiple centers.

Clinical significance: Monitoring a child's BMI is crucial for assessing dental health and planning tailored treatment for those aged 6 to 14. Understanding the BMI's connection to permanent tooth eruption timing allows dental professionals to identify trends in early or delayed development. This enables them to customize treatment strategies, promoting a precise and personalized approach for better oral health outcomes in this age group.

Pan Y, Ma Y, Gui Z, Jin Y, Pan J, Yang C, Huang J. Dental caries, gingivitis and oral health-related quality of life in 12-year-old children. BMC Oral Health. 2025 May 21;25(1):751. doi: 10.1186/s12903-025-06145-5. PMID: 40399877; PMCID: PMC12093699.

ABSTRACT

Background: Dental caries and gingivitis are common oral diseases in children, influenced by multiple factors. The symptoms they cause also affect oral health-related quality of life (OHRQoL). This study investigated the prevalence of oral diseases among 12-year-olds in Shanghai, analyzed their relationship with demographic factors and oral hygiene habits, and explored their impacts on OHRQoL.

Methods: This study included a total of 1591 12-year-old schoolchildren in Shanghai. Each student underwent an oral examination to collect data on caries, gingival bleeding, and dental calculus, and completed a questionnaire regarding oral hygiene habits and OHRQoL. The questionnaire included questions about oral cleaning habits and dietary habits. The Child Oral Health Impact Profile (COHIP) was used to assess the OHRQoL of the children. Chi-square tests were used to evaluate the prevalence of oral diseases and their influencing factors, as well as the differences in oral hygiene habits among the population. Non-parametric tests were employed to compare the impacts of oral diseases on OHRQoL.

Results: The caries rate is 26.7%, higher in girls than in boys. The prevalence of gingival bleeding is 39.3%, higher in boys. The prevalence of dental calculus is 30.7%, with no significant difference between genders. Caries are influenced by gender and the consumption of sweet snacks, with girls consuming more sweet snacks. The educational level of parents and oral hygiene habits affect the prevalence of gingivitis. Children whose parents have a higher educational level have better oral hygiene habits and consume fewer sugary drinks. Dental caries impact OHRQoL in terms of oral health and socio-emotional well-being, while gingivitis does not.

Conclusion: The prevalence of oral diseases shows significant differences between genders and is significantly related to the educational level of parents. Gender and parental education level can directly influence oral health or indirectly affect it through oral hygiene habits. Dental caries have a significant impact on oral health-related quality of life.

Papageorgiou SN, Zyli M, Papadopoulou AK. Extraction of premolars in orthodontic treatment does not negatively affect upper airway volume and minimum cross-sectional area: a systematic review with meta-analysis. Eur J Orthod. 2025 Feb 7;47(2):cjaf012. doi: 10.1093/ejo/cjaf012. PMID: 40062590; PMCID: PMC11891658.

ABSTRACT

Background: Extraction of premolars is usually prescribed for the orthodontic treatment of cases with inadequate space within the dental arch or when anterior teeth retraction is indicated; however, it has been advocated that this treatment approach could negatively influence the airways.

Objective: To identify and critically appraise studies of premolar extractions during orthodontic treatment on upper airway dimensions.

Search Methods: Electronic unrestricted searches in nine databases until October 2024.

Selection criteria: Clinical studies on humans comparing comprehensive orthodontic treatment with versus without the extraction of premolars using cone-beam computed tomography to assess upper airway volume or minimum cross-sectional area (minCSA).

Data collection and analysis: After duplicate study selection, data extraction, and risk-of-bias assessment according to Cochrane, random-effects meta-analyses of Mean Differences (MD) with their 95% confidence intervals (CI) were performed, followed by subgroup/meta-regression analyses and assessment of the quality of evidence.

Results: Twelve papers corresponding to 11 unique retrospective non-randomized studies were included, covering 891 patients (35.8% male; 20.0 years-old on average). No statistically significant differences in the effect of orthodontic treatment on the volume of the nasopharynx, palatopharynx, glossopharynx, oropharynx or oral cavity were seen between patients treated with versus without premolar extractions (P > .05). Similarly, no significant differences were seen between extraction and non-extraction patients in terms of minCSA of the nasopharynx, palatopharynx, or glossopharynx (P > .05). On the contrary, patients treated with premolar extractions showed increased minCSA of the oropharynx compared to those treated without premolar extractions (4 studies; MD = 23.00 mm2; 95% CI = 10.74-35.26 mm2; P = .009). No significant effects from patient age, sex, or equivalence of the extraction/non-extraction groups were found, while the strength of evidence was moderate in all cases due to the inclusion of non-randomized studies with high risk of bias.

Conclusions: Limited evidence of moderate strength indicates that, on average, premolar extractions during comprehensive orthodontic treatment have little to no effect on the volume and minCSA of the airways.

Paz-Cortés MM, Muñoz-Cano L, Diéguez-Pérez M. Evaluation of the Relationship between the BMI and the Sequence and Chronology of Eruption in Permanent Dentition in Spanish Population. Healthcare (Basel). 2022 Jun 4;10(6):1046. doi: 10.3390/healthcare10061046. PMID: 35742098; PMCID: PMC9222528.

ABSTRACT

The aim was to analyze the relationship between BMI (body mass index) and the sequence and chronology of the eruption of permanent teeth in a sample of Spanish children.

Methods: The study design was descriptive, cross-sectional, observational, and epidemiological. Patients of pediatric age were included. Emerged teeth, and patient's age, race, and sex were recorded. The nutritional status of the child was assessed by calculating the BMI, according to the WHO parameters. Statistical analysis was carried out with a confidence interval of 95%. A prediction model with logistic regression models was obtained.

Results: A total of 725 pediatric patients between 4 and 14 years old were analyzed. BMI acts as a predictor variable for eruption symmetry, as it was most frequent in overweight children ($p < 0.001$). The probability of symmetry in dental eruption increases for South American children, for an extra month of age, and each meter of height. BMI had an influence in the first tooth to appear only in the fourth quadrant. BMI did not seem to influence present teeth, and the sequence of permanent dental eruption was not influenced by the BMI category.

Conclusions: Age, weight, height, and BMI act as significant predictors for eruption symmetry. BMI does not produce alterations in the eruption sequence of the permanent dentition.

Peric T, Markovic E, Markovic J, Petrovic B, Kilibarda B, Vukovic A, Markovic D. Prevalence of Early Childhood Caries in 3- to 6-Year-Old Children in Serbia: A National Pathfinder Study. Children (Basel). 2025 May 28;12(6):692. doi: 10.3390/children12060692. PMID: 40564650; PMCID: PMC12190662.

ABSTRACT

This study aimed to assess dental caries status of 3- to 6-year-old preschool children in the Republic of Serbia. Stratified cluster sampling was implemented. Children were examined in four administrative regions of Serbia. Dental caries indices (decayed, missing, and filled) for deciduous teeth and the first permanent molar were recorded at the tooth level (dmft, DMFT) and surface level (dfs, DFS). In addition to cavitated caries lesions (ICDAS 3-6), visual changes in enamel (ICDAS 1-2) were recorded. This study included 1060 3-year-old and 1820 6-year-old children in Serbia. Fifty-six percent of 3-year-olds and 21% of 6-year-olds were caries-free. The mean dmft was 2.11 ± 3.45 for 3-year-olds and 4.46 ± 3.69 for 6-year-olds. The mean dfs was 2.62 ± 5.56 for 3-year-olds and 6.06 ± 6.33 for 6-year-olds. The decayed component was dominant in dmft/dfs. The prevalence of surfaces with initial lesion was 8% for 3-year-olds and 13% for 6-year-olds. Among children diagnosed with early childhood caries, 54% of 3-year-olds and 37% of 6-year-olds had a severe form. The mean DMFT was 0.15 ± 0.55, with only the first permanent molars being affected. Dental caries remains a significant public dental health issue among preschool children in Serbia. There is a noticeable trend of increasing numbers of decayed teeth as children progress through their preschool years. It is imperative to take corrective action enhance the existing oral health prevention program in Serbia with the aim of achieving better dental health among preschool children.

Portero de la Cruz S, Cebrino J. Oral Health Problems and Utilization of Dental Services Among Spanish and Immigrant Children and Adolescents. Int J Environ Res Public Health. 2020 Jan 23;17(3):738. doi: 10.3390/ijerph17030738. PMID: 31979248; PMCID: PMC7036804.

ABSTRACT

Spanish and immigrant children and adolescents vary widely in their frequency of dental visits and occurrence of dental problems. The aims of this study were to discover the prevalence of dental problems and utilization of dental services in the Spanish and immigrant child population, identify the type of treatment received, and analyze the socioeconomic and demographic variables which are associated with dental problems and non-regular utilization of dental services, based on data from the 2017 National Health Survey in Spain. The sample consisted of 4568 children aged between 3 and 14 years old. Utilization of dental services and dental problems were assessed against socioeconomic and demographic characteristics using logistic regression models. The prevalence of caries in Spanish children was 9.29% compared with 18.58% ($p < 0.001$) in their immigrant counterparts. The most common reason for dental visits was a check-up (Spanish: 65.05%; immigrants: 54.94%). In both groups, from the age of 7, there was a lower probability of non-regular utilization of dental services, although this increased when the social class was lower. The probability of presenting dental problems was lower in Spanish children living in towns with over 10,000 inhabitants and was higher, in both groups, over the age of 7 and in lower social classes.

Quinn P, Harding M. Tooth brushing learning **Methods:** time to change practice? Evid Based Dent. 2025 Jun 19. doi: 10.1038/s41432-025-01175-y. Epub ahead of print. PMID: 40537520.

ABSTRACT

A commentary on: Leghrouz L, Khole M R, Splieth C H, Schmoekel J. Tooth Brushing Learning

Methods: Differential or Conventional? - A Randomized Controlled Clinical Trial. Caries Res 2024; 58: 399-406.

Design: A two-arm single-blinded randomised controlled clinical trial to investigate the effects of the differential learning method versus conventional tooth brushing instruction by assessing changes in plaque levels and gingivitis in children aged three to eight years.

Case selection: Children aged three to eight years with poor oral hygiene at baseline, needing parental assistance with tooth brushing, and available to attend follow-up appointments were included in the study. Exclusion criteria included children with acute dental pain, those with serious systemic diseases requiring special attention during dental care, and those who refused to participate in the study. Participants were randomly assigned to the test and control groups by self-drawing an unlabelled envelope from a box. The sealed envelopes contained oral hygiene instructions with exercises to use the differential learning method for the test group and children in the control group received the usual tooth brushing instructions. Participants were asked to follow the instructions at home for 28 days.

Data analysis: The sample size was calculated according to previous similar oral hygiene studies, with a final sample size of 29 participants in each group to allow for dropouts of approximately 30%. Data was analysed using Microsoft Excel, with the significance threshold set at $p < 0.05$. Descriptive analysis included the calculation of means, standard deviation, absolute numbers, and percentages. Comparisons between the two groups were made using the independent samples t-test for quantitative variables and the chi-squared test for categorical variables.

Results: Two calibrated and blinded examiners recorded the papillary bleeding index (PBI) and the Quigley-Hein Index for dental plaque (QHI) at baseline and at the first and second recall visits at four and twelve weeks respectively. Of the 58 children recruited for the study, 46 were included in the final analysis with 22 in the control group and 24 in the test group. At baseline, there were no significant differences between the groups with respect to plaque and gingival indices. At the first recall, a statistically significant difference in the PBI index was found in favour of the test group (test: 0.1 ± 0.2 v.

Control: 0.3 ± 0.2; $p < 0.001$) but the difference in relation to the QHI index was not statistically significant (test: 2.1 ± 0.9 v. control 2.6 ± 0.9; $p = 0.07$). At the second recall, statistically significant differences in both indices were found in favour of the test group (PBI test: 0.1 ± 0.2 v. PBI

Control: 0.5 ± 0.2; $p < 0.001$; QHI test: 2.1 ± 0.9 v. QHI

Control: 3.2 ± 1; $p < 0.001$).

Conclusions: The authors of the study concluded that simple instructions with the differential learning method for home tooth brushing can lead to significantly greater improvements in oral hygiene in children with poor oral hygiene when compared to traditional instructions, particularly in the medium term retention phase.

Rapone B, Corsalini M, Converti I, Loverro MT, Gnoni A, Trerotoli P, Ferrara E. Does Periodontal Inflammation Affect Type 1 Diabetes in Childhood and Adolescence? A Meta-Analysis. Front Endocrinol (Lausanne). 2020 May 5;11:278. doi: 10.3389/fendo.2020.00278. PMID: 32431669; PMCID: PMC7214631.

ABSTRACT

The emergence of link between periodontal disease and diabetes has created conditions for analyzing new interdisciplinary approach making toward tackling oral health and systemic issues. As periodontal disease is a readily modifiable risk factor this association has potential clinical implications. The aim of this paper was systematically review the extant literature related to analytics data in order to identify the association between type 1 diabetes (T1DM) in childhood and adolescence with periodontal inflammation. Following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, we conducted a database search between 2004 and 2019. A manual search of the literature was conducted as an additional phase of the search process, with the aim of identifying studies that were missed in the primary search. One hundred and thirty-nine records were screened and 10 fulfilled the inclusion criteria. Most studies were of moderate methodological quality. Outcomes included assessments of diabetes and periodontal status. In diabetic populations, compared to healthy subjects, interindividual differences in periodontal status are reflected in higher severity of periodontal inflammation. The most reported barriers to evidence uptake were the intrinsic limits of cross-sectional report data and relevant research, and lack of timely research output. Based on the evidence presented within the literature, the aforementioned biomarkers correlate with poor periodontal status in type 1 diabetic patients. Whilst the corpus of the evidence suggests that there may be an association between periodontal status and type 1 diabetes, study designs and methodological limitations hinder interpretation of the current research.

Rateitschak-Plüss EM, Schroeder HE. History of periodontitis in a child with Papillon-Lefèvre syndrome. A case report. J Periodontol. 1984 Jan;55(1):35-46. doi: 10.1902/jop.1984.55.1.35. PMID: 6229622.

ABSTRACT

An unusual case of Papillon-Lefevre syndrome is reported. The 10-year-old boy exhibited all symptoms typical of this disease except premature loss of primary teeth. The patient's past history, his status at first examination, an initial successful treatment phase, the efforts made at long-term maintenance and the eventual treatment failure are described. The bacterial plaque covering subgingival root surfaces was examined by scanning electron microscopy, and the histopathologic alterations of glossy, glaring red gingival tissue halos are described and discussed with respect to the pathogenesis of periodontitis associated with this syndrome.

Ripamonti E, Blanchet I, Tardieu C, Hassler MP, Saliba-Serre B, Camoin A. Midwives' knowledge and preventive practices regarding early childhood caries: a quantitative study in France. Eur Arch Paediatr Dent. 2025 Jun 8. doi: 10.1007/s40368-025-01069-8. Epub ahead of print. PMID: 40483611.

ABSTRACT

Purpose: Early childhood caries is a major public health issue worldwide. Midwives, as primary healthcare providers for young children, play an essential role in promoting oral health practices. This study aimed to assess the knowledge of midwives in France regarding early childhood caries, their prevention, and dietary risk factors for dental caries in young children.

Methods: A national online survey via self-administrated questionnaire was conducted among midwives in France, with a focus on their understanding of oral health recommendations, including the timing of the first dental examination, fluoride use, and dietary habits.

Results: The results revealed that while midwives demonstrated knowledge of basic oral hygiene practices, there were gaps in their understanding of the timing of the first oral examination and the use of fluoride toothpaste. In addition, many midwives did not recognise breastfeeding, especially night-time breastfeeding, as a cariogenic factor. Moreover, a statistically significant difference between generations was identified in the approach to oral health prevention during prenatal and postnatal consultations.

Conclusion: This study highlights the need for improved oral health training for midwives and a greater integration of oral health education into their professional practice to enhance early prevention of early childhood caries.

Ripardo ACG, Queiroz AC, Herkrath APCQ, Herkrath FJ, Rebelo Vieira JM, Pereira JV, Rebelo MAB, Vettore MV. The Association Between Periodontal Status, Oral Health-Related Quality of Life and Self-Rated Oral Health in Socially Underprivileged Adolescents. Community Dent Oral Epidemiol. 2025 Jun;53(3):278-285. doi: 10.1111/cdoe.13028. Epub 2025 Feb 2. PMID: 39895116; PMCID: PMC12064873.

ABSTRACT

Objectives: To assess the associations between periodontal conditions, dental caries, sex, psychosocial factors, socioeconomic status, oral health-related quality of life (OHRQoL), and self-rated oral health among adolescents living in socially deprived neighbourhoods.

Methods: A school-based survey was conducted in a random sample of 406 12-year-old adolescents in 11 neighbourhoods in the East region of Manaus, Brazil. Gingival status, dental calculus (Community Periodontal Index), and dental caries (DMFT index) were registered through clinical examinations. Adolescents self-completed questionnaires to assess psychosocial factors (self-esteem, sense of coherence, and oral health beliefs), socioeconomic status (family income, parent's schooling, number of goods, and house crowding), oral health-related quality of life (OHRQoL) (CPQ11-14), and self-rated oral health. Direct and indirect relationships between variables were tested using structural equation modelling guided by the Wilson and Cleary model.

Results: Greater gingival bleeding was directly associated with worse self-rated oral health. Poor OHRQoL was directly linked to the number of teeth with dental calculus, more teeth with dental caries experience, and worse psychosocial factors. Worse socioeconomic status and dental calculus were associated with gingival bleeding. Dental calculus and socioeconomic status were indirectly associated with self-rated oral health via gingival status. OHRQoL mediated the association of dental caries experience and psychosocial factors with self-rated oral health.

Conclusions: Gingival bleeding and dental calculus may negatively affect self-reported oral health in adolescents. Socioeconomic status and psychosocial factors were also relevant determinants for oral health in this age group.

Rodriguez-Alvarez E, Borrell LN, Marañon E, Lanborena N. Immigrant Status and Ethnic Inequities in Dental Caries in Children: Bilbao, Spain. Int J Environ Res Public Health. 2022 Apr 8;19(8):4487. doi: 10.3390/ijerph19084487. PMID: 35457355; PMCID: PMC9032871.

ABSTRACT

This study examined the migratory status/ethnic inequities in dental caries in school children aged 4-9 years (n = 1388) and the impact of the Children's Oral Health Program in the Municipality of Bilbao in the Basque Country Region, Spain. Using the 2017 Children's Oral Health Survey, log binomial regression was used to quantify the association of parental immigration status/ethnicity with tooth decay for (1) the primary and the permanent dentitions, separately, in children 4-9 years old; and (2) for the permanent dentition in children aged 7-9 years. Compared with Spanish children, Spanish Roma and immigrant children had a higher probability of tooth decay in primary and permanent teeth after adjustment. Similarly, Spanish Roma and immigrant children had a higher probability of caries experience in primary and permanent teeth. In children aged 7-9 years, Spanish Roma children had a greater probability of tooth decay and caries experience (DMFT index ≥ 1; PR: 6.20; 95% CI: 3.18, 12.12; and PR: 4.52; 95% CI: 2.46, 8.32; respectively) compared with Spanish Children. These associations were not observed in immigrant children. This study shows that parental immigration status and/or ethnicity affect caries outcomes in immigrant and Roma children in both primary and permanent dentition.

Saied-Moallemi Z, Virtanen JI, Vehkalahti MM, Tehranchi A, Murtomaa H. School-based intervention to promote preadolescents' gingival health: a community trial. Community Dent Oral Epidemiol. 2009 Dec;37(6):518-26. doi: 10.1111/j.1600-0528.2009.00491.x. Epub 2009 Aug 20. PMID: 19694774.

ABSTRACT

Objectives: Evaluation of the effectiveness of a school-based oral health promotion intervention on preadolescents' gingival health.

Methods: A community trial designed for a 3-month intervention study in a representative sample of 9-year-olds (n = 457) in 16 schools in Tehran, Iran. The schools were randomly assigned to three intervention groups and one control group, each group comprising two boys' and two girls' schools. The first group of children (n = 115) received intervention via class work, solving a set of puzzles containing oral health messages, under supervision of their health counsellor. The second group (n = 114), intervention via parents, included an oral health education leaflet and a brushing diary for supervising the child's tooth-brushing; the third group (n = 111) received a combination of both these interventions. The control group (n = 117) had no intervention. Effects of the intervention were assessed as changes in dental plaque and gingival bleeding. Improvements in gingival health were recorded when half of the index teeth with plaque at baseline became clean (acceptable oral hygiene) or when all index teeth with bleeding at baseline became healthy (healthy gingiva). Statistical analysis included chi square, anova, t-test, Number Needed to Treat (NNT) and generalized estimating equations (GEE).

Results: At baseline, none of the children were free of plaque and all except for three boys had bleeding. After the trial, acceptable oral hygiene was more frequent in the parental-aid ($P < 0.001$) and the combined groups ($P < 0.05$), and healthy gingiva in both groups ($P < 0.001$) in comparison with the control group. Outcomes in the class-work group did not differ from those in the control group. The GEE models confirmed a strong intervention effect on healthy gingiva in both groups where parents were involved: parental-aid group (OR = 7.7, 95% CI: 2.2-27.7) and combined group (OR = 6.6, 95% CI: 2.0-22.1). In all intervention groups more girls than boys achieved healthy gingiva (OR = 2.5-2.6). Parents' education showed no impact on the outcome.

Conclusions: When a school-based oral health intervention involves parents it may result in a significant improvement in the gingival health of preadolescents with poor gingival health at baseline.

Santamaría RM, Splieth CH, Basner R, Schankath E, Schmoeckel J. Caries Level in 3-Year-Olds in Germany: National Caries Trends and Gaps in Primary Dental Care. Children (Basel). 2024 Nov 26;11(12):1426. doi: 10.3390/children11121426. PMID: 39767855; PMCID: PMC11674927.

ABSTRACT

Background: Nationally representative long-term data on caries in the primary dentition are rare but essential for determining the need for prevention and treatment. This research assessed the prevalence and trends of dental caries in 3-year-old children across Germany, with national data analyzed and compared with the corresponding data for 6-7-year-olds.

Methods: Data were extracted from the most recent German National Oral Health Survey in 2016. Children aged 3 years were examined by calibrated dentists in 10 German regions using the WHO criteria for d3-4mft, including assessment of initial carious lesions d1-2mft. In addition, the Significant Caries Index (SiC), the Care Index (CI) and the Specific Affected Caries Index (SaC) were considered to identify provision of care and risk groups.

Results: In a total of 95,127 3-year-old preschool children, caries prevalence was 13.7% with a mean d3-4mft of 0.48. Including initial carious lesions, prevalence increased to 18.7% (mean 0.67 d1-4mft). Dependent on the German region, d3-4mft values varied noticeably from 0.38 (Schleswig-Holstein) to 0.58 (Saxony-Anhalt and Berlin). Comparing data from 3-year-olds to 6-7-year-olds, the d3-4mft value for 6-7-year-olds (1.73) was more than three times higher than that for 3-year-olds (0.48). The SiC value was 1.47 for 3-year-olds and 4.88 for 6-7-year-olds, while the SaC values were 3.57 and 3.97, respectively. The Care Index was low for both groups (26.1% and 57.5%, respectively).

Conclusions: Germany exhibited a high level of dental caries in the primary dentition for 3 (13.7%) to 6-7-year-olds (44%) children. This large cross-sectional study revealed considerable room for improvement in the early caries prevention and treatment within the well-equipped German dental health infrastructure.

Schmidt J, Vogel M, Poulain T, Kiess W, Hirsch C, Ziebolz D, Haak R. Association of Oral Health Conditions in Adolescents with Social Factors and Obesity. Int J Environ Res Public Health. 2022 Mar 2;19(5):2905. doi: 10.3390/ijerph19052905. PMID: 35270598; PMCID: PMC8910061.

ABSTRACT

This study aimed to investigate associations between psychosocial factors, obesity, and oral health in a study population of 10- to 18-year-old adolescents who participated in the LIFE Child study. Psychosocial information (socioeconomic status (SES) based on parents' education, occupation and household income, Strengths and Difficulties Questionnaire (SDQ), health-related quality of life) and physical activity behavior were obtained. Nutritional status was classified based on age- and sex-adjusted body mass index into underweight, overweight, normal weight and obese. Clinical dental examinations were performed and scored with respect to caries experience (CE), oral hygiene (OH), and periodontal status (periodontal health score: PERIO-S). Age-adjusted regression analysis under the assumption of a double Poisson distribution was performed with and without adjusting for SES (α = 5%). A total of 1158 study participants (590 girls, 568 boys; mean age 13.2 ± 2.3 years) were included (17.2% were classified as obese). CE was 20% higher for moderate and 60% higher for low SES compared to high SES ($p < 0.05$). PERIO-S was 10% higher for moderate and 30% higher for low compared to high SES ($p < 0.05$). Poor OH was associated with higher CE (Ratio R = 2.3, $p < 0.0001$) and PERIO-S (R = 3.1, $p < 0.0001$). Physical activity in a sports club was associated with lower CE-S and PERIO-S (R = 0.85, $p < 0.001$). Obesity was associated with increased CE (R = 1.3, $p < 0.001$) compared to normal weight. For low but not high SES, more reported difficulties were associated with higher CE. In conclusion, low SES, poor OH, and obesity are associated with unfavorable oral health conditions, whereas physical activity and high SES are potentially protective.

Schmoeckel J, Wahl G, Santamaría RM, Basner R, Schankath E, Splieth CH. Influence of School Type and Class Level on Mean Caries Experience in 12-Year-Olds in Serial Cross-Sectional National Oral Health Survey in Germany-Proposal to Adjust for Selection Bias. Int J Environ Res Public Health. 2024 Apr 10;21(4):467. doi: 10.3390/ijerph21040467. PMID: 38673378; PMCID: PMC11050198.

ABSTRACT

The objective of this study is to analyse the effects of attended school type and class level on the reported caries experience (DMFT) obtained in the serial cross-sectional National Oral Health Study in Children in Germany (NOHSC) for the WHO reference group of 12-year-olds.

Methods: Caries data from the 2016 NOHSC were adjusted for each federal state on the basis of two additional large-scale datasets for school type and class level.

Results: Twelve-year-olds in all grades in Saxony-Anhalt (n = 96,842) exhibited significantly higher DMFT values than 12-year-olds in 6th grade (n = 76,456; +0.10 DMFT; ~14.2%, $p < 0.001$). Adjustments for school type had effects on DMFT on the level of federal states but almost balanced out on the national level (-0.01 DMFT; ~2%). Due to putatively similar structures of the federal states, the national mean DMFT for 12-year-olds in the latest NOHSC (2016; n = 55,002) was adjusted from 0.44 to 0.50 DMFT, correcting for selection bias.

Conclusion: Selection bias in this NOHSC leads to an underestimation of caries levels by about 15%. Due to very low caries experience in children in Germany, these precise adjustments (+0.06 DMFT) have only a minor effect on interpretations of the national epidemiologic situation. Consequently, other national caries studies worldwide using the robust marker of DMFT should also adjust for systematic selection bias related to socio-economic background rather than increasing efforts in examination strategy.

Sfasciotti GL, Marini R, Pacifici A, Ierardo G, Pacifici L, Polimeni A. Childhood overweight-obesity and periodontal diseases: is there a real correlation? Ann Stomatol (Roma). 2017 Jan 10;7(3):65-72. doi: 10.11138/ads/2016.7.3.065. PMID: 28149453; PMCID: PMC5231792.

ABSTRACT

Objective: The association between obesity and periodontitis has been extensively investigated in adults but not in young people. The aim of this study was to examine the association between overweight-obesity and periodontal disease in pediatric subjects.

Methods: Controlled cross-sectional study involving 100 school children of both gender (50 M and 50 F) between 7 and 12 years of age (mean age 9,19±1,57). Two groups were formed based on Body Mass Index value: test group with BMI ≥ 25 Kg/m2 and control group with BMI ≤ 24 Kg/m2. Diet intake and oral hygiene habits were recorded by a specific questionnaire and the periodontal clinical parameters were evaluated.

Results: The periodontal examination in the control group revealed a full-mouth plaque score (FMPS) value equal to 21.86% against 50.08% in the group of patients overweight/obese; the full-mouth bleeding score (FMBS) in the control group amounted to 12.7% against 26.24% of test group. No patient in either group included in the study presented a probing pocket depth (PPD) ≥3, so a significant difference regarding this value was not found. Regarding the frequency and quantity of food consumption, the number of obese patients who did not follow a balanced diet largely exceeded the number of normal-weight patients (70 versus 20%).

Conclusions: These results focus the attention on the negative impact of obesity on gingival health in young subjects, probably due to a combination of metabolic and inflammatory profiles and the result of a careless attitude towards prevention diseases of the oral cavity.

Sfreddo CS, Oliveira LM, Gomes BZ, Ardenghi TM. Discriminant validity of the current gingivitis classification in adolescents: a cohort study. Clin Oral Investig. 2023 Nov;27(11):6513-6521. doi: 10.1007/s00784-023-05256-z. Epub 2023 Sep 19. PMID: 37725169.

ABSTRACT

Objectives: To compare the prevalence of gingivitis estimated by the 2018 European Federation of Periodontology/American Academy of Periodontology (EFP/AAP) classification with the other case definitions and assess the ability of this classification system in discriminating sociodemographic and clinical factors associated with the presence of gingivitis in a cohort study.

Materials and Methods: A multistage random sample of 1134 12-year-old adolescents was submitted to a full-mouth examination according to the Community Periodontal Index. Socioeconomic and clinical variables were collected at baseline. Gingivitis was considered according to the following criteria: (a) ≥ 10% of bleeding sites (the 2018 EFP/AAP criteria); (b) ≥ 15% of bleeding sites; and (c) the mean full-mouth bleeding sites. Adjusted multilevel Poisson regression assessed the association between independent variables at baseline and each definition of gingivitis at 2-year follow-up.

Results: Seven hundred forty-two 14-year-old adolescents were re-revaluated at follow-up. The prevalence of gingivitis was 28.7% according to 10% of bleeding threshold. The 2018 EFP/AAP criteria and other definitions showed higher prevalence and mean of gingivitis for low-household income adolescents and for those with higher levels of dental plaque and untreated dental caries. Nonetheless, the highest strengths of association were observed for the threshold of ≥ 15% of bleeding sites.

Conclusion: The 2018 EFP/AAP case definition of gingivitis showed a similar discriminant validity compared to the 15% threshold and the mean full-mouth bleeding sites.

Clinical relevance: The 2018 EFP/AAP classification allows the discrimination of important risk factors and should be used for the establishment of priorities for large-scale therapeutic programs.

Shakir A, Barngkgei I, Godson J, Joury E. Effectiveness of school-based behavioural interventions to improve children's oral health by reducing sugar intake and promoting oral hygiene: A rapid review of randomised controlled trials. Community Dent Health. 2021 Nov 29;38(4):275-283. doi: 10.1922/CDH_00014Shakir09. PMID: 34351713.

ABSTRACT

Objective: To evaluate evidence of the effectiveness of school-based behavioural interventions to improve the oral health of children aged 3-18 years in a rapid review of randomised controlled trials (RCTs).

Methods: Three independent reviewers searched MEDLINE, EMBASE, Web of Science and other sources between January 2000 and December 2020 for eligible published and unpublished studies in English and extracted data. Primary outcomes were caries increment, plaque levels, gingival health, reported frequency and/or amount of free sugars intake and oral hygiene behaviour. Risk of bias was assessed using the Cochrane criteria.

Results: Eight cluster RCTs met the inclusion criteria and had substantial heterogeneity. Three trials assessed caries increment and one found significant reductions in the intervention group. Another trial found similar benefits, but these were limited to children from high socioeconomic groups. The third trial found an increase in dental caries in the intervention group. Three studies reported significant reductions in plaque scores and improvements in gingival health with modest effects. Interventions delivered by peers (at adolescence) or with parents' involvement (at pre-adolescence) showed significant reductions in plaque scores compared to those delivered by dentists or teachers only. Most interventions showed significant improvements in self-reported behaviours.

Conclusions: There is limited evidence of clinical benefit to dental health from school-based behavioural interventions. There is a need to conduct well-designed trials of behavioural interventions that are theory-derived and include environmental elements (e.g. supervised toothbrushing). Future trials would benefit from cost-effectiveness analysis and assessment of interventions' effect on oral health inequalities amongst children.

Shetty V, Priya K, Saha S, Jaswanth J, Sethi S. Cephalometry as an aid in the diagnosis of pediatric obstructive sleep apnoea: A systematic review and meta-analysis. J Oral Biol Craniofac Res. 2024 Sep-Oct;14(5):512-521. doi: 10.1016/j.jobcr.2024.06.007. Epub 2024 Jul 2. PMID: 39050522; PMCID: PMC11268354.

ABSTRACT

Background: Obstructive sleep apnoea (OSA) is part of a spectrum of sleep disorders causing snoring, gasping, and choking while sleeping. In children, OSA can also lead to behavioural issues, hyperactivity, and poor academic performance. Thus, early identification and management of OSA in children is crucial in preventing long-term health problems. The gold standard test for diagnosis is an overnight in-lab polysomnography (PSG). However, due to certain constraints associated with PSG, such as lack of accessibility, high expenses incurred, as well as the need for hospitalization, alternative diagnostic tools are needed. Cephalometry is a non-invasive, affordable diagnostic tool that may offer useful information in the evaluation of OSA. The present systematic review and meta-analysis aimed to evaluate the various cephalometric parameters associated with the diagnosis of OSA in children.

Methods: A structured literature search was performed using the search engines PubMed, Scopus, Web of Science, Cochrane, and Google scholar from inception till July 2022. The weighted mean difference (z-test) was calculated using a random effects method (REM).

Results: 16 studies were included in the review and meta-analysis was executed for each cephalometric parameter. The parameters of significance ($p < 0.05$) in Pediatric OSA with lower heterogeneity were associated with McNamara's and Linder-Aronson's analysis, the hyoid bone position, a retrognathic mandible, and an acute cranial base angle.

Conclusions: Certain parameters in craniofacial morphology may be reliable diagnostic parameters. Further long-term studies are needed in order to shed more light in this area.

Spodzieja K, Olczak-Kowalczyk D. Premature Loss of Deciduous Teeth as a Symptom of Systemic Disease: A Narrative Literature Review. Int J Environ Res Public Health. 2022 Mar 13;19(6):3386. doi: 10.3390/ijerph19063386. PMID: 35329073; PMCID: PMC8953685.

ABSTRACT

Background: Premature loss of primary teeth can occur as a consequence of dental trauma, neonatal tooth extraction, early childhood caries, or periodontal problems, or it can be a manifestation of systemic disease. This review aims to present systemic disorders that can lead to premature loss of deciduous teeth in children and to provide a comprehensive resource for clinical practice for both physicians and dentists.

Methods: This study is a narrative review of original studies and case reports published in English and Polish between 1957 and 2021 that was conducted by searching electronic scientific re**Sources:** PubMed, Google Scholar, Web of Science, and Science Direct. The schema of the qualification process is represented by a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). In total, 196 articles were identified; after provisional assessment of the titles and abstracts by two reviewers, 46 were found to be relevant to the topic, including 1 review, 16 original papers, and 27 case reports regarding systemic disease resulting in premature tooth loss.

Results: In this study, 16 systemic diseases were linked to premature primary tooth loss in children: Papillon-Lefèvre syndrome, mucocutaneous dyskeratosis, Coffin-Lowry syndrome, congenital adrenal hyperplasia, Langerhans cell histiocytosis, cherubism, hypophosphatasia, acatalasia, Chediak-Higashi syndrome, cyclic neutropenia, erythromelalgia, Down syndrome, Hajdu-Cheney syndrome, short bowel syndrome, leukocyte adhesion deficiency type 1 (LAD-1), and Wiedemann-Steiner syndrome (WSS).

Stoll ML, Wang J, Kau CH, Pierce MK, Morrow CD, Geurs NC. Pro-Inflammatory Oral Microbiota in Juvenile Spondyloarthritis: A Pilot Study. Children (Basel). 2022 Nov 17;9(11):1764. doi: 10.3390/children9111764. PMID: 36421212; PMCID: PMC9688681.

ABSTRACT

The role of the microbiota in the pathogenesis of arthritis is gaining increasing attention. While multiple studies have queried the intestinal microbiota, very few have analyzed the contents of the oral microbiota. In this pilot study, we obtained salivary and sub-gingival specimens from a cohort of six healthy controls and five children with well-controlled spondyloarthritis (SpA) and performed 16S sequencing on bacteria obtained from both habitats. The Quantitative Insight into Microbial Ecology tool suite was used to generate operational taxonomic units, Phyloseq was used for diversity analyses, and DeSeq2 was used to compare abundances while adjusting for multiple comparisons. A repeat specimen was obtained from one subject during a flare. Clustering based upon diagnosis was observed from both habitats, with decreased alpha diversity seen within the plaque obtained from the patients vs. controls. Among the differentially abundant taxa were statistically significantly increased plaque Fusobacterium and salivary Rothia mucilaginosa among the patients compared to the controls. Additionally, the abundance of plaque Fusobacterium increased in one patient at the time of a flare. Our data suggest that the oral cavity may harbor bacteria involved in the pathogenesis of spondyloarthritis; additional studies are warranted.

Su Y, Wang Z, Chang H, Zhu S, Zhou Y, Cao Z, Ma L, Yuan Y, Xie Y, Niu X, Lu C, Zhang Y, Liu H, Shao N, Yin L, Si C, Ren X, Shi Y. Craniofacial Development Characteristics in Children with Obstructive Sleep Apnea for Establishment and External Validation of the Prediction Model. Nat Sci Sleep. 2024 Dec 21;16:2151-2170. doi: 10.2147/NSS.S492714. PMID: 39723200; PMCID: PMC11669283.

ABSTRACT

Purpose: Aimed to analyze the developmental characteristics of craniofacial structures and soft tissues in children with obstructive sleep apnea (OSA) and to establish and evaluate prediction model.

Methods: It's a retrospective study comprising 747 children aged 2-12 years (337 patients and 410 controls) visited the Department of Otolaryngology-Head and Neck Surgery, the Second Affiliated Hospital of Xi'an Jiaotong University (July 2017 to March 2024). Lateral head radiographs were obtained to compare the cephalometric measurements. The clinical prediction model was constructed using LASSO regression analysis. We analyzed 300 children from the Xi'an Children's Hospital for external validation.

Results: Children with OSA had a higher body mass, a higher tonsil grade, larger AN ratio (ratio of the adenoids to the skeletal upper airway width), larger radius of the tonsils, a smaller angle between the skull base and maxilla (SNA) and smaller angle between the skull base and mandible (SNB), a larger distance from the hyoid to the mandibular plane (H-MP) and smaller distance between the third cervical vertebra and hyoid (H-C), a larger thickness of the soft palate (SPT) and smaller inclination angle of the soft palate than those of the controls (all $p < 0.05$). A prediction model was constructed for 2-12 years group (AUC of 0.812 [95% CI: 0.781-0.842]). Age-specific prediction models were developed for preschool children (AUC of 0.769 [95% CI: 0.725-0.814]), for school-aged children (AUC of 0.854 [95% CI: 0.812-0.895]).

Conclusion: Our study findings support the important role of craniofacial structures such as the hyoid, maxilla, mandible, and soft palate in pediatric OSA. Age-stratified predictive models for pediatric OSA indicated varying parameters across different age groups which underscore the necessity for stratifying by age in future research. The prediction model designed will greatly assist health care practitioners with rapidly identifying.

Sullivan ML, Claiborne DM, Shuman D. Oral Health Literacy Inventories for Caregivers of Preschool-aged Children: A systematic review. J Dent Hyg. 2022 Dec;96(6):34-42. PMID: 36539287.

ABSTRACT

Purpose: The purpose of this systematic review was to describe the oral health literacy (OHL) inventories that have been used among caregivers of preschool-aged children.**Methods:** Four databases were searched (CINAHL, Cochrane Database of Systematic Reviews, Dentistry & Oral Sciences Source, PubMed), to identify peer-reviewed, full-text studies published in English on the oral health literacy among caregivers of preschool-aged children from 2010-2021. All studies were assessed for eligibility using PRISMA guidelines. Inclusion criteria were experimental, non-experimental, or mixed methods peer-reviewed studies, conducted in the United States. Eligible studies were independently evaluated using the Effective Public Health Practice Project's Quality Assessment Tool.**Results:** The initial search yielded 182 articles; 11 studies met the inclusion

criteria after screening: observational (n=8), experimental (n=2), and quasi-experimental (n=1). Main outcome measures included: oral health literacy, oral health knowledge, oral health attitudes and behaviors, child oral health status (COHS), child oral health-related quality of life (C-OHRQoL), and child oral health-related expenditures. However, this review focused only on caregivers' OHL and the associated measurements for this variable. Most studies utilized the Rapid Estimate of Adult Literacy in Dentistry (REALD-30); the remainder used the Basic Research Factors Questionnaire (BRFQ), the Oral Health Literacy Inventory for Parents (OH-LIP), or self-designed survey questions.**Conclusions:** Few studies met the inclusion criteria. There was an uneven distribution of studies using different inventories for the measurement of oral health literacy limiting the generalizability of the findings to low-income and minority groups. Most caregiver OHL studies focused on dental word recognition, only a few measured knowledge and comprehension. More comprehensive inventories could be designed to evaluate caregivers' knowledge and understanding of dental terms.

Tapalaga G, Stanga L, Sîrbu I. Systematic Review of Lead Exposure and Its Effects on Caries and Aesthetics in Children and Adolescents. Healthcare (Basel). 2025 Jun 18;13(12):1460. doi: 10.3390/healthcare13121460. PMID: 40565487; PMCID: PMC12193460.

ABSTRACT

Background: Early childhood dental decay remains a pervasive chronic condition, and environmental toxicants-particularly lead-may exacerbate its development. This systematic review was designed to synthesize evidence on how lead exposure correlates with both the occurrence of carious lesions and aesthetic alterations in children's primary teeth.

Methods: A comprehensive search was conducted in PubMed, Scopus, and Web of Science through April 2025, selecting observational investigations that assessed the link between lead levels and primary-tooth decay in pediatric cohorts. Thirteen eligible studies, encompassing 44,846 participants aged 2-19 years, were included for qualitative synthesis. Aesthetics were screened using author-defined enamel-defect or discoloration endpoints; however, only three studies reported compatible metrics, precluding quantitative pooling. Heterogeneity in exposure matrices likewise ruled out meta-analysis.

Results: Most studies reported a statistically significant association between higher lead burden and greater prevalence or severity of caries in primary teeth. Blood lead concentrations across studies ranged from means of 1.53 µg/dL to geometric means of 7.2 µg/dL. Notably, elevated lead was linked to increased decayed, missing, or filled surfaces-with an adjusted risk ratio of 1.14 (95% CI: 1.02-1.27) at levels below 5 µg/dL-and adjusted mean ratios of up to 2.14 for decayed or filled teeth when blood lead reached 5-10 µg/dL.

Conclusions: Current evidence suggests that children's exposure to lead may heighten the risk of caries and detract from the aesthetic quality of primary teeth. However, variability in study design, lead quantification methods, and confounder adjustment limit the consistency of findings. Mitigating lead exposure in early life could represent a valuable preventive strategy against dental decay in susceptible pediatric populations.

Taraç MG, Kaplan TT. An Evaluation of the Relationship between Body Mass Index (BMI), Dietary Habits, and the Prevalence of Dental Caries in Children Aged 4 to 12. Oral Health Prev Dent. 2025 Mar 6;23:165-171. doi: 10.3290/j.ohpd.c_1896. PMID: 40047705; PMCID: PMC11897909.

ABSTRACT

Aim: To evaluate the relationship between body mass index (BMI) and dental caries in children aged 4-12 years.

Materials and Methods: 367 children referred to the pedodontics clinic were included in our study. In this two-stage study, firstly the decayed, missing, and filled teeth index (DMFT) or dental caries index (dft) scores of the children were recorded by oral examination, and their weight and height measured. Secondly, the children's parents or legal representatives were asked to complete a questionnaire assessing sociodemographic data and their children's nutritional habits. The data obtained were analysed statistically. In multiple comparisons of variables showing continuous variation with normal distribution, ANO-VA post-hoc analysis and Tukey's tests were used. For variables not showing normal distribution, Kruskal-Wallis post-hoc analysis and Mann-Whitney U tests were used.

Results: Considering their BMI, 34.1% children were underweight, 30.8% were of normal weight, 14.4% were overweight, and 20.7% were obese. A significant relationship was found between the children's BMI and age groups (P = 0.000) and BMI increased as age decreased. Both BMI and dental caries incidence increased as the consumption of carbohydrates and sugar products increased. The mean DMFT score was higher for children with overweight BMI. The mean dft score was higher among children in the obese BMI category.

Conclusion: High BMI and dental caries are multifactorial disorders with similar risk factors, and the relationship between both is still not fully clear in the literature. Although cross-sectional studies provide the infrastructure for future studies by revealing the prevalence of the disorder, risk factors, and possible consequences, they are inadequate to examine the cause-effect relationship. More detailed and longer-term studies are needed to establish the causal relationship between BMI and dental caries.

Tengku H TNN, Peh WY, Shoaib LA, Baharuddin NA, Vaithilingam RD, Saub R. Oral Diseases and Quality of Life between Obese and Normal Weight Adolescents: A Two-Year Observational Study. Children (Basel). 2021 May 22;8(6):435. doi: 10.3390/children8060435. PMID: 34067484; PMCID: PMC8224661.

ABSTRACT

This study aimed to investigate the association between oral disease burden and oral health related quality of life (OHRQoL) among overweight/obese (OW/OB) and normal weight (NW) Malaysian adolescents. A total of 397 adolescents were involved in the two-year prospective observational cohort study. OHRQOL was measured through a self-administered questionnaire containing the short version of the Malaysian Oral Health Impact Profile (OHIP[M]). Body mass index (BMI) was used for anthropometric measurement. Whilst, decayed, missing, and filled teeth (DMFT) index, Significant Caries Index (SiC), simplified basic periodontal examination (S-BPE), and gingival bleeding index (GBI) were used for clinical assessment tools. Higher dental caries prevalence was observed in the NW group while higher SiC was reported in the OW/OB group.

Regardless of the obesity status, the prevalence of gingivitis (BPE code 1 and 2) was high in this study. A reduction of GBI prevalence was observed in the two-year follow-up results with an increased prevalence of OHRQoL impact in the OW/OB group compared to the NW group ($p > 0.05$). The findings from this study suggested that obesity status did not have influence over the burden of oral diseases and OHRQoL. It offers insights referring to the changes in adolescents' oral diseases burden and OHRQoL.

Toledo Reyes L, Knorst JK, Ortiz FR, Brondani B, Emmanuelli B, Saraiva Guedes R, Mendes FM, Ardenghi TM. Early Childhood Predictors for Dental Caries: A Machine Learning Approach. J Dent Res. 2023 Aug;102(9):999-1006. doi: 10.1177/00220345231170535. Epub 2023 May 29. PMID: 37246832.

ABSTRACT

We aimed to develop and validate caries prognosis models in primary and permanent teeth after 2 and 10 y of follow-up through a machine learning (ML) approach, using predictors collected in early childhood. Data from a 10-y prospective cohort study conducted in southern Brazil were analyzed. Children aged 1 to 5 y were first examined in 2010 and reassessed in 2012 and 2020 regarding caries development. Dental caries was assessed using the Caries Detection and Assessment System (ICDAS) criteria. Demographic, socioeconomic, psychosocial, behavioral, and clinical factors were collected. ML algorithms decision tree, random forest, and extreme gradient boosting (XGBoost) were employed, along with logistic regression. The discrimination and calibration of models were verified in independent sets. From 639 children included at the baseline, we reassessed 467 (73.3%) and 428 (66.9%) children in 2012 and 2020, respectively. For all models, the area under receiver operating characteristic curve (AUC) at training and testing was above 0.70 for predicting caries in primary teeth after 2-y follow-up, with caries severity at the baseline being the strongest predictor. After 10 y, the SHAP algorithm based on XGBoost achieved an AUC higher than 0.70 in the testing set and indicated caries experience, nonuse of fluoridated toothpaste, parent education, higher frequency of sugar consumption, low frequency of visits to the relatives, and poor parents' perception of their children's oral health as top predictors for caries in permanent teeth. In conclusion, the implementation of ML shows potential for determining caries development in both primary and permanent teeth using easy-to-collect predictors in early childhood.

Tusi SK, Momeni Z, Hamdollahpoor H, Parviz N, Ghorbani M. Evaluating the effectiveness of various teaching methods on dental plaque removal in children: a quasi-experimental study. BMC Pediatr. 2025 Feb 12;25(1):109. doi: 10.1186/s12887-025-05438-6. PMID: 39939902; PMCID: PMC11817105.

ABSTRACT

Objective: Dental plaque is a major contributor to oral diseases, particularly in children, but its impact can be significantly mitigated through targeted oral health education. This study aimed to evaluate the effectiveness of various tooth-brushing instructional methods in reducing dental plaque in children.

Methods: A total of 120 children, aged 6 to 8, attending the pediatric department of Alborz Dental School, were randomly selected for the study. Participants were divided into four groups of 30 children each (15 boys and 15 girls). Each group received a different instructional **Method:** (1) demonstration of tooth brushing on a dental model, (2) self-brushing in front of a mirror, (3) brushing another child's teeth in front of a mirror, and (4) instruction via a standardized video. Dental plaque levels were measured using a disclosing agent before and after training, with a two-week follow-up to assess the impact of instruction. Senior students provided group-specific brushing training. Data were analyzed using SPSS-22 with ANOVA and t-tests, with significance set at $p < 0.05$.

Results: All four groups demonstrated significant reductions in plaque levels post-training and at the two-week follow-up compared to baseline, as measured by the O'Leary index. The group trained with dental models showed the most substantial plaque reduction ($p < 0.001$).

Conclusion: Instruction using dental models proved to be the most effective and sustainable method for reducing dental plaque in children, highlighting its potential for impactful and enduring oral hygiene education.

Vallejos D, Coll I, López-Safont N. Influence of Urban and Rural Areas, Type of School, and Parents' Education Level on Nutrition Habits and Their Relationship with Dental Caries in Schoolchildren in Mallorca. Children (Basel). 2025 Mar 19;12(3):383. doi: 10.3390/children12030383. PMID: 40150665; PMCID: PMC11941127.

ABSTRACT

Background/Objectives: Habits such as a diet high in sugars and poor dental biofilm control are linked to a higher prevalence of caries and low socioeconomic status. This study aimed to analyze the nutrition habits of schoolchildren in Mallorca and their relationship with the presence of dental caries, depending on the type of school, geographic location, and parents' education level.

Methods: A cross-sectional study was conducted to examine the prevalence of dental caries based on World Health Organization (WHO) standards and nutritional practices following guidelines from the Food and Agriculture Organization of the United Nations (FAO) and the European Food Safety Authority (EFSA). This study included 718 students from three age groups: first-year elementary students (ages 5-6), sixth-year elementary students (age 12), and fourth-year secondary school students (age 15). Relevant sociodemographic factors were also considered in the analysis.

Results: In schoolchildren aged 5-6 years, higher monthly consumption of processed and sugary foods, such as sweets (rural: 24.66 (CI 95%: 20.30-29.02); urban: 19.29 (CI 95%:16.27-22.304); $p = 0.044$), was noted in schoolchildren from rural sectors compared to those residing in urban areas. At 15 years of age, there was a higher consumption of potato chips in public schools than in subsidized/private schools (public: 26.95 (CI 95%: 24.42-29.49); subsidized/private: 18.29 (CI 95%: 13.92-22.65) $p = 0.004$). A high consumption of sweets is associated with an increased risk of caries (OR sweets: 1.76 CI: 1.04-2.98; $p = 0.035$). Fewer students with mothers with a lower education level eat dinner (elementary: 75%; secondary 91%; higher: 98%; $p = 0.003$).

Conclusions: Higher consumption of sweets in rural areas and potato chips in public schools, along with the association between sweet consumption and caries risk, highlight how geographic location, school type, and parents' education level influence children's nutrition habits and caries.

Vallejos D, Coll I, López-Safont N. Association Between the Oral Health Status and Sociodemographic Factors Among 5-15-Year-Old Schoolchildren from Mallorca, Spain-A Cross-Sectional Study. Children (Basel). 2025 Apr 20;12(4):527. doi: 10.3390/children12040527. PMID: 40310236; PMCID: PMC12025421.

ABSTRACT

Background: Oral health is a key indicator of general health, well-being, and quality of life. Sociodemographic factors can affect children's oral health status. The aim of this study was to analyze the sociodemographic factors that influence the oral health of schoolchildren in Mallorca.

Materials and Methods: We conducted a cross-sectional observational epidemiological study in Mallorca, analyzing different indicators of oral health, such as the DMFT/dmft index and the Community Periodontal Index (CPI), and sociodemographic variables among 718 schoolchildren aged 5-6, 12 and 15 years.

Results: The DMFT (Decayed, Missing, and Filled Permanent Teeth) caries index was higher in public (Pub) schools than in private/charter (P/C) schools for children in the sixth grade of elementary school (Pub, 0.6918 ± 1.272; P/C, 0.323 ± 0.824; $p < 0.05$) and in the fourth year of secondary school (Pub, 1.178 ± 1.724; P/C, 0.627 ± 1.195; $p < 0.05$), as determined using a t-test. First-grade elementary students with more highly educated mothers/guardians had a lower rate of DMFT (Decayed, Missing, and Filled Primary Teeth) caries than those whose mothers obtained only elementary-level education (higher, 0.800 ± 1.616; elementary, 3.333 ± 3.393; $p < 0.05$). Regarding periodontal health, we observed that sixth-grade elementary schoolchildren with more highly educated mothers/guardians had more healthy sextants (higher, 3.987 ± 1.977; elementary, 1.333 ± 2.461; $p < 0.001$).

Conclusions: The sociodemographic and parental factors analyzed, such as the type of school and parents' education levels, significantly affected the oral health of the schoolchildren in this study.

Velasco SRM, Moriyama CM, Bonecker M, Butini L, Abanto J, Antunes JLF. Relationship between oral health literacy of caregivers and the oral health-related quality of life of children: a cross-sectional study. Health Qual Life Outcomes. 2022 Jul 30;20(1):117. doi: 10.1186/s12955-022-02019-4. PMID: 35907863; PMCID: PMC9338565.

ABSTRACT

Background: Oral health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate oral health decisions. However, scientific evidence about the oral health literacy of caregivers and the children's oral health-related quality of life. The purpose of this study was to verify the relationship between the level of oral health literacy of caregivers and the children's oral health-related quality of life (OHRQOL).

Methods: This study was conducted with children aged 2 to 4 in Diadema, São Paulo, Brazil. Six hundred thirty children were examined to assess the prevalence of dental caries (dmft index). Parents were interviewed to obtain sociodemographic status, oral conditions, and oral health literacy (OHL). The variable outcome was the children's OHRQOL as assessed by the Early Childhood Oral Health Impact Scale (ECOHIS). We fitted zero-inflated negative binomial regression (ZINB) models to evaluate associations between the study outcome and covariates in terms of PR (Prevalence Ratios), RR (Rate Ratios), and their respective Confidence Intervals (95% CI).

Results: Children's OHRQOL was not associated with OHL. Dental caries had a negative impact on the children's quality of life ($p < 0.05$). A reduced impact on OHRQOL is also associated with having siblings (PR = 0.70, 95% CI 0.52-0.95). A higher age of the mother reduced OHRQOL impacts (PR = 0.72, 95% CI 0.52-0.98).

Conclusions: The factors associated with children's OHRQOL were the number of siblings, the mothers' age, and dental caries. This study observed no association between parental OHL and children's OHRQOL.

Veloso Duran A, Framis-de-Mena B, Vázquez Salceda MC, Guinot Jimeno F. Evaluation and Comparison of Oral Health Status between Spanish and Immigrant Children Residing in Barcelona, Spain. Children (Basel). 2022 Sep 4;9(9):1354. doi: 10.3390/children9091354. PMID: 36138663; PMCID: PMC9498095.

ABSTRACT

The present study aimed to evaluate and compare the level of oral health among Spanish and immigrant children residing in Barcelona, Spain. Oral health status was evaluated in 1400 children aged 3 to 14 years between September 2018 and June 2019. Multiple variables (dental caries lesions, exodontia, trauma, malocclusions, gingivitis, fillings, stainless steel crowns in primary dentition, and pit and fissure sealings in permanent dentition) were compared in both populations. Statistically significant differences ($p < 0.001$) were found in the prevalence of caries in the primary dentition, which was higher in the immigrant group (62.3%) than in the Spanish group (42.6%). For the permanent dentition, the prevalence of dental caries lesions was 12.2% in Spanish children and 16.4% in immigrant children, showing statistically significant differences ($p = 0.026$) between the two groups. The prevalence of fillings in the primary dentition was 14.6% in Spanish and 12.5% in immigrant children ($p = 0.253$). Regarding the permanent dentition, the number of fillings was also higher in the Spanish population (6.8%) compared to the immigrant population (3.5%), again evidencing statistically significant differences ($p = 0.006$). Our findings suggest a better oral health status in Spanish children than in immigrant children.

Vieira-Andrade RG, Pordeus IA, Ramos-Jorge ML, Drumond CL, Silva-Freire LC, Ramos-Jorge J, Paiva SM. Risk indicators of untreated dental caries incidence among preschoolers: a prospective longitudinal study. Braz Oral Res. 2022 May 2;36:e064. doi: 10.1590/1807-3107bor-2022.vol36.0064. PMID: 36507751.

ABSTRACT

The aim of the present study was to evaluate the influence of socioeconomic factors, oral conditions and the impact of OHRQoL as possible risk indicators related to the incidence of untreated dental caries in preschool children two years after an initial examination. A prospective longitudinal study was performed with a sample of 288 preschool children allocated to two groups at baseline (T0): caries free (n = 144) and with untreated dental caries (n = 144). Untreated dental caries was determined through clinical examinations performed by a calibrated dentist at T0 (Kappa > 0,89) and T1 (two years after the baseline) (Kappa > 0,91) using the dmft criteria. Parents/caregivers answered a socioeconomic questionnaire and the Brazilian version

of the Early Childhood Oral Health Impact Scale (B-ECOHIS) at T0 and T1. Mann-Whitney test and hierarchically adjusted Poisson regression models were used (95%CI, p < 0,05). The incidence of untreated dental caries was 41.3%. Low (RR = 1.63; 95%CI:1.18-2.26; p < 0.001) and high severity of untreated dental caries (RR = 1.92; 95%CI:1.36-2.72; p < 0.001), monthly household income less than two times the Brazilian minimum salary (RR = 1.79; 95%CI:1.04-3.25; p = 0.042) and overall B-ECOHIS score (RR = 1.03; 95%CI:1.02-1.05; p < 0.001) at T0 were risk indicators for the incidence of untreated dental caries among the preschool children. In conclusion, the incidence of untreated dental caries was high and the higher severity of untreated dental caries, the lower monthly income and the higher the B-ECOHIS score (indicating a negative impact on quality of life) were risk indicators to the developing of new lesions of untreated dental caries after 2 years.

Wang Y, Inglehart MR, Yuan C. Impact of Parents' Oral Health Literacy on Their Own and Their Children's Oral Health in Chinese Population. Front Public Health. 2022 Mar 8;10:809568. doi: 10.3389/fpubh.2022.809568. PMID: 35345505; PMCID: PMC8957213.

ABSTRACT

Background: Oral health literacy (OHL) has been recognized as a component of oral health disparities; however, the precise relationship between literacy and oral health outcomes has not been established. To explore the role of parents' OHL for their own subjective oral health, related behavior, and for the proxy assessment of their child's oral health, oral health-related behavior.

Methods: Survey data were collected from 406 parents of 4- to 7-year-old children in Beijing, China. The background characteristics, oral health assessment, oral health-related behavior, knowledge and attitudes, and diet-related questions of parents and their children were surveyed by a questionnaire. OHL was assessed with the Hong Kong Rapid Estimate of Adult Literacy in Dentistry (HKREAL-30) Scale and a revised version that asked the respondents to indicate if they understood the words (HKREALD-30-Understand).

Results: The HKREALD-30 responses correlated with the HKREALD-30-Understand responses. The higher the parents' HKREALD-30-Understand scores, the better they described the health of their own teeth and gums, the greater their child's diet was influenced by the protein, sugar and calories of the food, and the more positive their oral health-related attitudes were. The higher the parent's HKREALD-30 scores, the healthier they described their child's teeth and gums.

Conclusions: Both the HKREALD-30 and HKREALD-30-Understand Scores correlate with parents' self and proxy oral health-related responses. Chinese parents could understand that the word would add predictive value to the prediction of how parents' oral health literacy affects their own oral health care, children's oral health and other related aspects.

Zaror C, Matamala-Santander A, Ferrer M, Rivera-Mendoza F, Espinoza-Espinoza G, Martínez-Zapata MJ. Impact of early childhood caries on oral health-related quality of life: A systematic review and meta-analysis. Int J Dent Hyg. 2022 Feb;20(1):120-135. doi: 10.1111/idh.12494. Epub 2021 May 26. PMID: 33825317.

ABSTRACT

Objectives: The aim of this study was to conduct a systematic review in order to assess the impact of early childhood caries (ECC) and its severity on Oral health-related quality of life (OHRQoL).

Materials and Methods: An electronic search was conducted in MEDLINE, EMBASE, Cochrane, SciELO and Lilacs databases. The study eligibility criteria were primary studies published in English, Spanish or Portuguese that assessed OHRQoL in preschool children with dental caries using validated instruments. Two researchers independently performed the selection process and data extraction. The Effective Public Health Practice Project's Quality Assessment Tool was used for the quality assessment. Random effects models were used to estimate the pooled effect for continuous and categorical data.

Results: Of 2,037 identified articles, thirty-five studies (37 articles) met the inclusion criteria. The methodological quality was judged mainly as moderate. Children with ECC were more likely to report any impact on OHRQoL than children without caries (OR: 1.99; 95% CI: 1.51-2.62; 6 studies). Severe ECC (dmft > 5) presented a higher effect (OR: 5.00; 95% CI: 3.70-6.74; 8 studies). Sensitivity analysis including only population studies showed uncertain results on the impact of ECC on OHRQoL (OR: 1.67; 95% CI: 0.99-2.82; I2 = 95%). The symptom and psychological domains were the most affected (SMD: 0.60, 95% CI: 0.38-0.81 and SMD: 0.61, 95% CI: 0.37-0.85 respectively).

Conclusions: ECC has a negative impact on the OHRQoL of both preschoolers and their families. However, its impact on OHRQoL is diluted when it is evaluated at population level.

torres
CENTRO DENTAL INTEGRAL

02

Conclusiones destacadas

Conclusiones destacadas

1. Caries infantil y factores sociales

2. Dieta, obesidad y salud bucal

3. Alfabetización en salud oral y rol de los padres

4. Apnea del sueño en niños

5. Calidad de vida relacionada con la salud oral (OHRQoL)

6. Contaminantes ambientales y caries

7. Microbiota oral y enfermedades sistémicas

8. Educación y prevención

9. Herramientas de diagnóstico y clasificación

10. Microbiota oral en salud y enfermedad infantil

11. Traumatismos dentales

12. Miedo dental y conducta infantil

13. Impacto ambiental de programas de salud oral

14. Modelos predictivos y machine learning

15. Salud periodontal en niños

16. Efectividad de intervenciones comunitarias

17. Conocimiento y papel del pediatra

18. Sueño y salud oral

19. Impacto psicológico, autoestima y bullying

20. Indicadores y umbrales clínicos aplicables en comunidad

1. CARIES INFANTIL Y FACTORES SOCIALES

Desigualdades socioeconómicas y caries:

Hay una **relación clara entre bajo nivel socioeconómico** y peor salud oral en la infancia. Esto incluye más caries, peor higiene, y menor acceso a cuidados preventivos.

- Factores como el tipo de colegio (público vs. privado), el nivel educativo de los padres (sobre todo de la madre) y el entorno urbano/rural **influyen directamente en la prevalencia de caries**.
- En Mallorca, por ejemplo, los niños de zonas rurales consumen más dulces, y los de escuelas públicas tienen más caries.

Migración e inequidad:

- Los niños inmigrantes presentan peor salud oral que los autóctonos, con más caries en dentición temporal y menos tratamientos realizados.
- El acceso desigual a servicios y barreras culturales o lingüísticas podrían estar detrás de estas diferencias.

Impacto de la pobreza:

- En Alemania y Brasil se observa que el ingreso familiar bajo y el acceso limitado a cuidados se asocian a **más caries no tratadas**, incluso a edades tan tempranas como los 3 años.

2. DIETA, OBESIDAD Y SALUD BUCAL

Dieta alta en azúcares:

- El consumo de **carbohidratos y productos azucarados** se relaciona con un aumento de caries, especialmente en niños con sobrepeso.
- La obesidad infantil se vincula no solo a más caries, sino también a **peores hábitos de higiene oral y menor frecuencia de cepillado**.

Obesidad y enfermedades periodontales:

- En niños con sobrepeso se detectan **más sangrado gingival y mayor placa bacteriana**, aunque sin profundización de sondaje.
- La obesidad también se asocia a peor calidad de vida oral en adolescentes.

Malnutrición y caries:

- Niños con bajo peso también pueden tener riesgo de caries, lo que refleja que la malnutrición en ambos extremos (obesidad o desnutrición) puede tener impacto bucodental.

3. ALFABETIZACIÓN EN SALUD ORAL Y ROL DE LOS PADRES

Importancia del conocimiento parental:

- La **alfabetización en salud bucodental (OHL)** de los cuidadores influye en la salud de los niños, sus hábitos y hasta en los gastos asociados.
- Los padres con mejor OHL reconocen mejor los riesgos, fomentan dietas más saludables y refieren mejor estado de salud oral para sus hijos.

Limitaciones actuales:

- Muchas herramientas para medir OHL están basadas solo en el reconocimiento de palabras dentales, no en comprensión real.
- Hay margen para mejorar los instrumentos de evaluación y diseñar programas educativos adaptados a familias con bajo nivel cultural o inmigrantes.

4. APNEA DEL SUEÑO EN NIÑOS

Diagnóstico con herramientas no invasivas:

- Existen patrones craneofaciales que permiten predecir el riesgo de **apnea obstructiva del sueño (OSA)** en niños.
- Parámetros como posición del hueso hioides, retrognatia mandibular, grosor del paladar blando y ángulos craneales pueden utilizarse para diagnóstico sin polisomnografía.

Modelos predictivos:

- Se han desarrollado modelos validados por edad con buena capacidad diagnóstica, especialmente útiles en entornos sin acceso a PSG.

5. CALIDAD DE VIDA RELACIONADA CON LA SALUD ORAL (OHRQOL)

Efecto de la caries en la calidad de vida:

- Las caries, especialmente las severas, tienen un impacto negativo directo en la vida diaria de los niños y sus familias: dolor, dificultad al comer, problemas emocionales.
- Este efecto se diluye cuando se estudia a nivel poblacional, pero es muy marcado a nivel individual.

Factores modificables:

- La presencia de hermanos o una madre de mayor edad parecen estar asociados a menor impacto en la calidad de vida.
- El OHL de los padres, curiosamente, **no siempre se traduce en mejor calidad de vida oral para los hijos**, aunque sí influye en otros hábitos.

6. CONTAMINANTES AMBIENTALES Y CARIES

Plomo como factor de riesgo:

- La exposición infantil al plomo, incluso en niveles bajos (<5 µg/dL), se asocia con mayor prevalencia de caries y peor estética dental.
- Los mecanismos podrían incluir alteraciones en la mineralización del esmalte o inmunosupresión local.

7. MICROBIOTA ORAL Y ENFERMEDADES SISTÉMICAS

Spondiloartritis juvenil:

- Se han identificado patrones bacterianos específicos en placa y saliva de niños con espondiloartritis, como más **Fusobacterium** y menos diversidad bacteriana.
- Esto sugiere que la cavidad oral puede participar en la patogénesis de enfermedades sistémicas inflamatorias.

8. EDUCACIÓN Y PREVENCIÓN

Estrategias efectivas:

- Las **intervenciones escolares para reducir caries y mejorar higiene** funcionan mejor si son prácticas: el uso de modelos dentales y el cepillado supervisado son más eficaces que los videos o charlas.
- Instruir a niños con modelos reales mostró mayor y más duradero efecto en reducción de placa.

9. HERRAMIENTAS DE DIAGNÓSTICO Y CLASIFICACIÓN

Validación del diagnóstico de gingivitis:

- El umbral del 10% de sangrado (criterios EFP/AAP 2018) es útil para detectar gingivitis, aunque el 15% muestra asociaciones más fuertes con factores de riesgo.
- La clasificación actual puede utilizarse para **priorizar intervenciones comunitarias**, ya que permite identificar bien a los grupos más vulnerables.

10. MICROBIOTA ORAL EN SALUD Y ENFERMEDAD INFANTIL

- Alteraciones en la microbiota oral no solo están vinculadas a caries, sino también a enfermedades sistémicas (como la diabetes tipo 1 o EII).
- Algunos estudios relacionan patrones bacterianos específicos con predisposición inflamatoria o disbiosis multiorgánica.
- Esto abre un campo emergente para **terapias probióticas** en niños.

11. TRAUMATISMOS DENTALES

- Hay estudios que documentan su alta prevalencia en menores de 12 años y su impacto en la calidad de vida.
- También se revisa la mejora en OHRQoL tras el tratamiento adecuado de traumatismos.
- **Pocos pediatras o cuidadores lo consideran un problema grave** hasta que sucede.

12. MIEDO DENTAL Y CONDUCTA INFANTIL

- La relación entre **ansiedad o miedo al dentista** y caries está bien documentada.
- El miedo aumenta el riesgo de caries en dentición temporal, y reduce la probabilidad de acudir a controles preventivos.
- A menudo es **transmitido por los padres** o generado por experiencias previas negativas.

13. IMPACTO AMBIENTAL DE PROGRAMAS DE SALUD ORAL

- El programa escocés Childsmile mostró que **prevenir caries reduce la huella de carbono** más que tratar sus consecuencias.
- Esto se ha cuantificado en toneladas de CO_2 evitadas por tratamientos no realizados gracias al cepillado escolar.
- Una línea interesante para clínicas o colegios que buscan **argumentos ecológicos de prevención**.

14. MODELOS PREDICTIVOS Y MACHINE LEARNING

- Estudios como el de Toledo Reyes (2023) usan IA para predecir riesgo de caries a 2 y 10 años vista.
- Se emplean factores como dieta, nivel educativo de los padres, uso de flúor o percepción parental de salud oral.
- Esto allana el camino para **cuestionarios predictivos aplicables en consulta** o programas escolares.

15. SALUD PERIODONTAL EN NIÑOS

- Aunque menos presente que la caries, hay estudios sobre **gingivitis infantil**, sangrado gingival, y enfermedades periodontales agresivas (tipo C).
- La periodontitis juvenil sigue infraestimada, pero puede afectar a molares e incisivos permanentes con progresión rápida.

16. EFECTIVIDAD DE INTERVENCIONES COMUNITARIAS

- Ensayos controlados muestran que **el cepillado supervisado**, la educación a padres y la entrega de kits de higiene mejoran los índices de placa y caries en semanas.
- El efecto es mayor si se combinan acciones escolares, familiares y políticas públicas.
- Algunos papers cuestionan si es coste-efectivo hacerlo universal, o solo en población vulnerable.

17. CONOCIMIENTO Y PAPEL DEL PEDIATRA

- Se confirma que la mayoría de pediatras no conoce la edad de la primera visita dental ni los signos de caries temprana.
- El **nivel formativo en odontopediatría es bajo**, especialmente en profesionales con más años de experiencia.
- Esto limita su papel en la prevención y sugiere la necesidad de **formación específica continua**.

18. SUEÑO Y SALUD ORAL

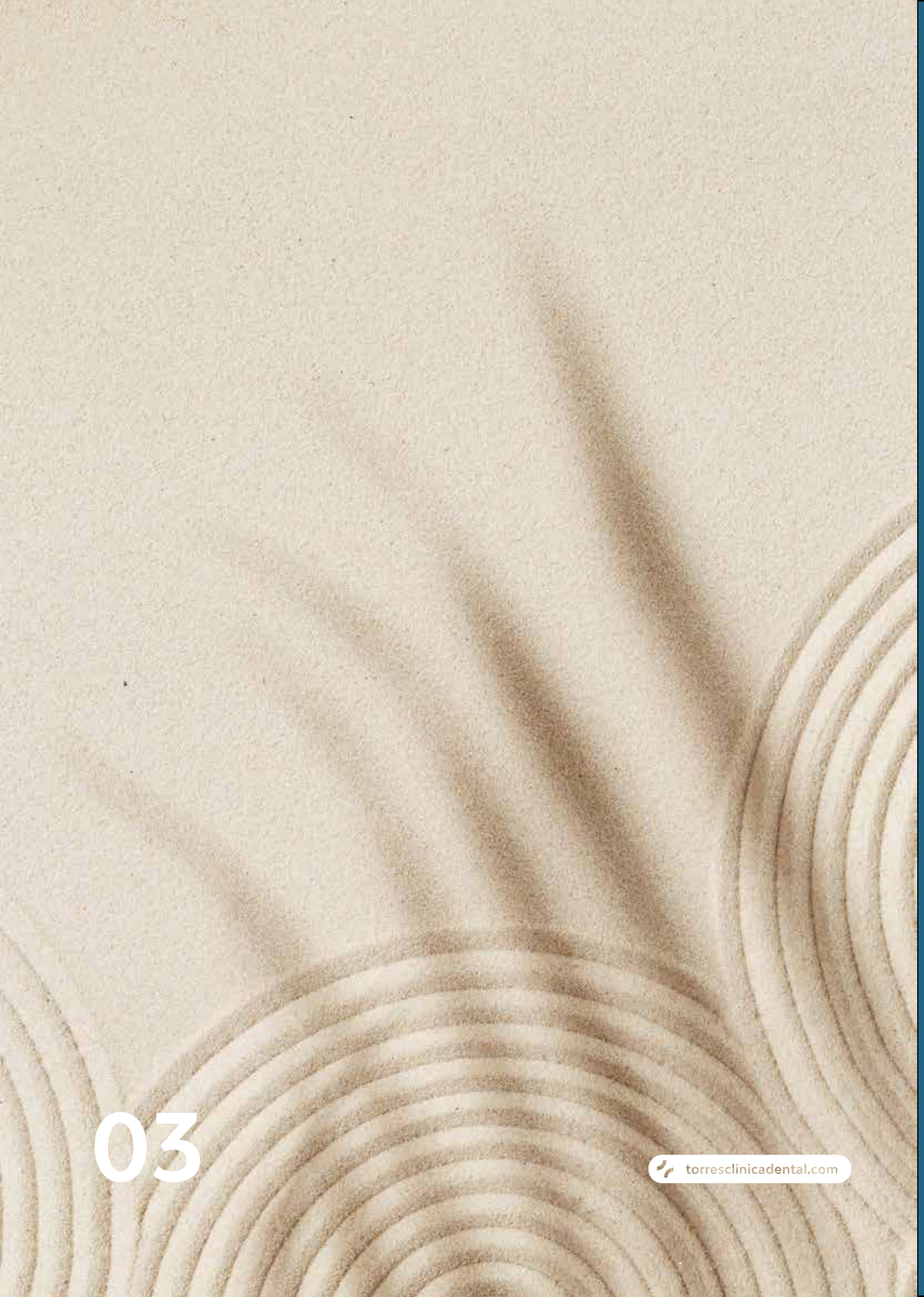
- Además de apnea, algunos estudios sugieren relación entre **calidad del sueño, higiene oral y caries**.
- No hay mucha evidencia todavía, pero podría explorarse como tema futuro de investigación.

19. IMPACTO PSICOLÓGICO, AUTOESTIMA Y BULLYING

- Las maloclusiones y alteraciones dentofaciales (clase II, III, dientes separados o apiñados) aumentan el **riesgo de acoso escolar**.
- Esto afecta autoestima, rendimiento académico y salud mental en general.
- La ortodoncia temprana podría tener un impacto psicológico preventivo.

20. INDICADORES Y UMBRALES CLÍNICOS APLICABLES EN COMUNIDAD

- Validación de **umbrales de sangrado gingival del 10 %** como punto de corte para definir gingivitis.
- Esta clasificación permite segmentar poblaciones infantiles y establecer protocolos preventivos diferenciados.



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CENTRO DENTAL INTEGRAL

03

Conclusiones destacadas individuales

Conclusiones destacadas individuales

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4. Alayadi H et al., 2023 (Q1)
5. Aliakbari E et al., 2021 (Q1)
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21. Çoğulu D et al., 2023 (Q1)
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36. Hutchison 2021 (Evid Based Dent) – sin quartil disponible (revista probablemente Q3)
37. Jensen et al. 2021 (Diabetes Metab Res Rev) – Q? (revista metabólica, no odontológica, tentativamente Q2/Q3)
38. Jung et al. 2024 (Microbiol Spectr) – Q? (revista microbiológica, fuera ranking odontológico)
39. Kebschull et al. 2025 (J Dent) – Q? (revista británica de odontología, podría ser Q2)
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ACAR B ET AL., 2023 (Q1)

Asunto: Periodontal y perfil de citocinas en niños con FMF o artritis idiopática sistémica

Contenido: Evaluaron 48 pacientes pediátricos con FMF/sJIA, algunos tratados con anti-IL-1 y otros no, frente a 20 controles sanos. Se midió BoP, índice de gingivitis y niveles de citocinas en fluido gingival (IL-1β, IL-1α, IL-6, IL-8, IL-10, IL-17, TNF-α, IL-33). El grupo con tratamiento anti-IL-1 presentó significativamente menor sangrado y gingivitis, así como niveles más bajos de IL-8 en GCF. No hubo diferencias significativas en niveles séricos de citocinas.

Resumen: La terapia anti-IL-1 reduce clínicamente y a nivel de citocinas la inflamación periodontal en niños con FMF o sJIA.

AHMAD P ET AL., 2022 (Q1)

Asunto: Proteínas salivales como biomarcadores de caries en niños

Contenido: Revisión sistemática sobre 22 estudios con 1 551 sujetos (caries activos vs libres). Detectaron niveles más elevados de alfa-amilasa, histatina-5, lactoperoxidasa y mucina-1 en niños con caries; en sujetos libres, mayor carbonic anhidrasa 6, proteinasa-3 y estaterina. La heterogeneidad impidió metaanálisis.

Resumen: Varias proteínas salivales podrían servir como biomarcadores de riesgo de caries en niños, aunque faltan estudios prospectivos amplios.

AJAY K ET AL., 2023 (Q1)

Asunto: Intervenciones móviles para padres en prevención de caries infantil

Contenido: Revisión sistemática que incluyó 5 estudios sobre apps dirigidas a cuidadores de niños < 6 años. Cuatro demostraron mejoras significativas en conocimiento y prácticas parentales en higiene oral infantil; incluyeron técnicas de gamificación y cambio de conducta. Resaltan necesidad de estudios más controlados y de mayor tamaño muestral.

Resumen: Apps móviles parentales son prometedoras para promover hábitos de salud oral en niños pequeños, aunque se requieren más evidencias robustas.

ALAYADI H ET AL., 2023 (Q1)

Asunto: Cepillado supervisado virtual y su impacto en caries y calidad de vida

Contenido: Protocolo de ensayo clínico aleatorizado con 1 192 niños de 8–9 años en Riyadh, comparando cepillado supervisado vía app frente a no intervención. Evaluaciones clínicas (caries, indices) y encuestas de calidad de vida a 36 meses.

Resumen: Primer RCT global sobre cepillado escolar supervisado virtual, con resultados esperados sobre reducción de caries y mejoría en bienestar infantil.

ALIAKBARI E ET AL., 2021 (Q1)

Asunto: Intervenciones domiciliarias con supervisión parental del cepillado para prevenir caries

Contenido: Revisión sistemática de 42 estudios centrados en intervención parental en niños < 8 años. Uso del Marco de Dominios Teóricos. Aunque mejoras en OHI-S, la calidad metodológica es variable y muchas carecen de sostenibilidad evaluada a largo plazo.

Resumen: La supervisión del cepillado por parte de los padres puede mejorar la higiene oral infantil, pero se requiere mayor rigor metodológico y seguimiento prolongado.

ALZAHRANI AY ET AL., 2024 (Q1)

Asunto: Alfabetización oral de los padres y salud oral infantil (scoping review)

Contenido: Revisión de 19 estudios hasta octubre de 2023. Encontraron asociación consistente entre baja alfabetización oral parental y hábitos orales infantiles deficientes, así como aumento de caries. Recomiendan intervenciones educativas dirigidas a cuidadores.

Resumen: La mejora de la alfabetización oral en padres/cuidadores es clave para prevenir caries y mejorar los hábitos de higiene en niños.

ALZAHRANI AY, 2025 (Q1)

Asunto: Alfabetización en salud y salud oral: revisión teórica y práctica

Contenido: Revisión extensa de fundamentos conceptuales, marcos teóricos y aplicaciones de la alfabetización en salud (HL) y salud oral (OHL). Describe el impacto de la OHL de los cuidadores sobre la salud bucal infantil y resume estrategias efectivas para mejorarla.

Resumen: La OHL parental es un factor clave en la salud oral infantil y debe ser objetivo prioritario en programas preventivos.

AMROLLAHI N, 2024 (Q1)

Asunto: Miedo dental y caries en niños: revisión sistemática y metaanálisis

Contenido: Incluyó 16 estudios (5 en análisis cuantitativo). El miedo dental se asoció significativamente con mayor índice de caries en dentición primaria (dmft), pero no en dentición permanente (DMFT).

Resumen: El miedo dental se relaciona con mayor riesgo de caries en dientes temporales, pero no en dientes permanentes.

BABAEI A, 2020 (Q1)

Asunto: Programa de promoción de salud oral con cepillado supervisado

Contenido: Ensayo controlado aleatorizado con 701 niños de 6 a 7 años. El grupo intervención recibió cepillado escolar supervisado, formación parental y kits de higiene. Mejoró significativamente el índice OHI-S respecto al grupo control.

Resumen: El cepillado diario supervisado en el entorno escolar mejora la higiene oral en niños pequeños.

BAKAR M, 2023 (Q1)

Asunto: Impacto ambiental del programa Childsmile en Escocia

Contenido: Evaluación del ciclo de vida de procedimientos dentales antes y después de implementar el programa nacional de cepillado supervisado. Se logró una reducción neta de emisiones de CO_2 equivalente (de 102 a 461 toneladas/año).

Resumen: El programa de cepillado supervisado no solo mejora la salud oral, sino que reduce considerablemente la huella de carbono del tratamiento dental infantil.

BALSECA IBARRA MC, 2023 (Q1)

Asunto: Efecto de la gingivitis en la calidad de vida oral en escolares ecuatorianos

Contenido: En un estudio con 998 niños de 12 años, el 93 % presentaba sangrado gingival y el 73 % cálculo dental. El sangrado en más de un sextante se asoció con peor puntuación en el CPQ11-14, especialmente en dominios emocional y social. La educación de los padres también influyó.

Resumen: La gingivitis impacta negativamente la calidad de vida oral de niños, sobre todo en sus dimensiones emocionales y sociales.

BANIHASHEM RAD SA, 2024 (Q1)

Asunto: Desigualdad oral en niños inmigrantes: prevalencia de caries y enfermedad periodontal

Contenido: Scoping review de 32 estudios. Niños inmigrantes presentaron más caries no tratadas y gingivitis, con prevalencias muy variables (gingivitis: 5–100 %). La mayoría no había acudido nunca al dentista (52–88 %). Se destacan grandes barreras de acceso y una necesidad urgente de intervenciones dirigidas.

Resumen: La infancia inmigrante tiene peor salud oral y limitado acceso a servicios, lo que exige políticas específicas.

BANIHASHEM RAD SA, 2023 (Q1)

Asunto: Salud oral en refugiados: alta prevalencia de caries y enfermedad periodontal

Contenido: En 26 estudios incluidos, la prevalencia de caries fue de hasta 98 % y de gingivitis hasta 100 %. Los adultos refugiados tenían un índice DMFT promedio de 9.2, los niños 3.1 (deciduos) y 2.5 (permanentes). El 17–72 % nunca había visitado al dentista.

Resumen: Refugiados y solicitantes de asilo presentan una alarmante carga de enfermedad oral y muy bajo acceso al dentista.

BORGES-YÁÑEZ SA, 2017 (Q1)

Asunto: Eficacia de un programa escolar de cepillado supervisado en México

Contenido: Intervención pragmática en 4 escuelas. Tras 3 meses, hubo mejoras significativas en superficies sin placa y encías sanas respecto al grupo control. Se observó mayor impacto en placa y gingivitis que en sangrado. Participaron 200 niños (intervención) y 50 (control).

Resumen: El cepillado diario supervisado en escuelas mejora significativamente la higiene oral en niños.

BUUNK-WERKHOVEN YAB, 2025 (Q1)

Asunto: Opiniones de padres sobre hábitos y conocimientos de higiene oral infantil en Lituania

Contenido: Encuesta a 420 padres. La mayoría supervisaba el cepillado, usaba dentífrico fluorado y mostraba buen conocimiento oral. Padres con mayor alfabetización oral supervisaban más a niños < 10 años. Sin embargo, el conocimiento no siempre se traduce en mejores hábitos.

Resumen: Padres lituanos tienen buena alfabetización oral, pero mejorar hábitos aún requiere refuerzo conductual.

ÇALIŞKAN C, 2023 (Q1)

Asunto: Biomarcadores salivales en niños con artritis idiopática juvenil

Contenido: Estudio con 39 niños con AIJ y 78 controles. Los pacientes con AIJ mostraron mayor IL-17 y menor capacidad antioxidante en saliva. IL-17 se correlacionó con PI, GI y sangrado. TNF-α no mostró diferencias.

Resumen: IL-17 y TAS en saliva podrían ser biomarcadores útiles en niños con AIJ y enfermedad periodontal.

CAO R, 2023 (Q1)

Asunto: Relación entre ejercicio físico y periodontitis

Contenido: Revisión sistemática y metaanálisis de 30 estudios. El riesgo de periodontitis fue un 16 % menor en personas activas (RR: 0.84). Aunque 10 estudios no mostraron asociación clara, los datos apoyan un efecto protector del ejercicio frente a la enfermedad periodontal.

Resumen: El ejercicio regular se asocia con menor prevalencia y severidad de periodontitis.

CASARIN RCV, 2023 (Q1)

Asunto: ANXA1 salival como biomarcador precoz de periodontitis

Contenido: Análisis proteómico de saliva de padres con periodontitis y sus hijos frente a controles sanos. ANXA1 se redujo 7,1 veces en hijos de afectados. Los fibroblastos de pacientes también produjeron menos ANXA1 in vitro.

Resumen: ANXA1 podría identificar predisposición a periodontitis antes de que existan signos clínicos.

CHEN L, 2020 (Q1)

Asunto: Nivel educativo parental y salud oral infantil en Wuhan

Contenido: Estudio con 8 446 familias. Mejor educación materna y paterna se asoció a mayor conocimiento oral y mejores hábitos de los hijos. Las madres influían más que los padres. También condicionaba la elección de selladores y servicios.

Resumen: Padres con mayor nivel educativo favorecen mejores prácticas de salud oral en sus hijos.

CHIMBINHA ÍGM, 2023 (Q1)

Asunto: Factores asociados a calidad de vida oral en adolescentes

Contenido: Revisión paraguas de 22 revisiones sistemáticas. Maloclusión, caries, trauma dental, dolor, baja escolaridad y pobreza empeoran la calidad de vida relacionada con la salud oral. El tratamiento ortodóntico mejora la percepción de bienestar.

Resumen: La salud bucal en adolescentes influye claramente en su bienestar psicológico y social.

ÇOĞULU D ET AL., 2023 (Q1)

Asunto: Asociación entre salud oral y rendimiento/ausentismo escolar en niños de 7-12 años

Contenido: Estudio con 150 escolares (edad media 9,2 años); 82 % faltó menos de dos semanas por problemas dentales y 18 % más de dos semanas. El 21 % de las ausencias fue por dolor dental o infecciones, 34 % por visitas al dentista. Se halló correlación negativa entre ausentismo y rendimiento académico (p = 0.01). Un alto índice de placa (Silness & Löe) y caries (DMFT/dmft) se asoció con peor desempeño escolar.

Resumen: Problemas dentales en escolares se vinculan con ausentismo y menor rendimiento académico.

COLL I ET AL., 2025 (Q1)

Asunto: Consumo de alimentos ultraprocesados y enfermedad periodontal en adolescentes en Mallorca

Contenido: En 233 alumnos de 15 años se evaluó la relación entre frecuencia de consumo de productos procesados y salud periodontal. Los chicos presentaron más afectación periodontal. El consumo de batidos, zumos industriales, bollería y frutas en almíbar se asoció con enfermedad periodontal, con diferencias según sexo.

Resumen: En adolescentes, el consumo de ultraprocesados se asocia con mayor enfermedad periodontal, especialmente en varones.

COLL I ET AL., 2024 (Q1)

Asunto: Caries y cálculo dental en escolares de Mallorca según edad y peso

Contenido: Estudio transversal con 718 niños (5, 12 y 15 años). La caries fue más prevalente a los 15 años (45,5 %), y el cálculo también aumentó con la edad (53 % a los 15). Los niños con menor percentil de peso tenían menos dientes sanos.

Resumen: La caries y la periodontitis aumentan con la edad en escolares, y el peso puede influir en la salud bucal.

COLL I ET AL., 2025 (Q1)

Asunto: Caries, dieta y nivel educativo materno en niños mallorquines

Contenido: En 718 escolares de 5–15 años, la ingesta de dulces y snacks fue mayor en zonas rurales y colegios públicos. El consumo elevado de dulces se asoció con caries (OR = 1,76). Menor nivel educativo materno se asoció con peor dieta y hábitos orales.

Resumen: La dieta rica en azúcares y bajo nivel educativo materno aumentan el riesgo de caries infantil.

DAI X ET AL., 2025 (Q1)

Asunto: Carga global de enfermedades orales en jóvenes (10–24 años), 1990–2021

Contenido: Análisis del estudio GBD en 204 países. Las caries disminuyeron, pero periodontitis y edentulismo aumentaron, especialmente en Sudamérica y Asia. Los DALYs por enfermedades orales crecieron un 22,2 %.

Resumen: Aumentan la periodontitis y la pérdida dental en jóvenes, a pesar del descenso global de caries.

DENG Q ET AL., 2023 (Q1)

Asunto: Biomarcadores salivares y gingivales en niños con obesidad y periodontitis

Contenido: Meta-análisis de 15 estudios. Los niños con obesidad presentaron mayores niveles de TNF-α, IL-1β, leptina y adiponectina en fluido gingival. Faltan estudios que integren obesidad, salud periodontal y biomarcadores a la vez.

Resumen: La obesidad infantil se asocia con biomarcadores inflamatorios salivales vinculados a periodontitis.

EASWARAN HN ET AL., 2022 (Q1)

Asunto: Caries de infancia temprana y anemia ferropénica

Contenido: Revisión de 14 estudios y meta-análisis de 7. Los niños con ECC tenían mayor probabilidad de anemia (OR = 6,07), aunque sin diferencias significativas en ferritina o hemoglobina.

Resumen: La ECC se asocia con mayor riesgo de anemia, pero no parece ser su causa directa.

EL CHEHADEH S ET AL., 2021 (Q1)

Asunto: Síndrome de Ehlers-Danlos periodontal (pEDS) y complicaciones vasculares

Contenido: Serie de 13 casos con mutaciones en C1R/C1S. Algunos pacientes presentaron insuficiencia venosa, úlceras varicosas e incluso aneurismas cerebrales. Se propone evaluación vascular inicial en pacientes con pEDS.

Resumen: El pEDS puede asociarse a complicaciones vasculares graves, pese a ser infrecuentes.

ESIN K ET AL., 2024 (Q1)

Asunto: Dieta mediterránea, caries y nivel educativo materno en escolares

Contenido: Estudio en 300 niños de 6–12 años. Mayor adherencia a dieta mediterránea y mayor educación materna se asocian con menores índices DMFT y dft. No se halló relación con el IMC.

Resumen: Dieta mediterránea y educación materna protegen frente a caries en niños; el IMC no influye.

ESMAEL EM ET AL., 2025 (Q1)

Asunto: Obesidad y erupción dental en escolares egipcios

Contenido: En 2.520 niños de 6–12 años, el sobrepeso se asoció con erupción más temprana de dientes permanentes. La diferencia fue significativa entre tipos de escuela (privada vs pública).

Resumen: El IMC elevado se relaciona con erupción más precoz de dientes permanentes en escolares.

HENDRICKS ET AL. 2024 (IJERPH) – Q2

Asunto: Prevalencia pediátrica de Selenomonas noxia según edad

Contenido: En un estudio retrospectivo con 87 niños y adolescentes (media 13.2 años, 67 % minorías), se detectó S. noxia en saliva en 34.4 % de muestras (30/87), sin diferencias por sexo ni etnicidad (p = 0.5478). La prevalencia aumenta significativamente según grupo de edad: 13.3 % en 7-10 años, 34.6 % en 11-13 y 54.8 % entre 14-17 años (p = 0.0001). Apunta a factores hormonales o conductuales como posibles determinantes que necesitan más estudio.

Resumen: La presencia oral de S. noxia crece con la edad en adolescentes.

HERNANDEZ-DONADEU ET AL. 2023 (HEALTHCARE BASEL) – Q2

Asunto: Alta prevalencia de caries y peor perfil periodontal en niños de Melilla

Contenido: En 6-, 12- y 15-años de Melilla, las prevalencias de caries fueron 55.6 %, 65.9 % y 70.1 %, con dft de 2.77, DMFT de 1.85 y 3.08, respectivamente. El índice restaurador (RI) fue muy bajo (4.62 % a los 6 años) y el SiC elevado (hasta 8.40). Solo 59 % a los 12 años y 47.9 % a los 15 años estaban libres de enfermedad periodontal. Niños de origen bereber presentaron valores significativamente más altos que el resto.

Resumen: Niños de Melilla presentan peor salud bucodental que la media nacional, con desigualdades según origen étnico.

HERNANDEZ ET AL. 2021 (EUR ARCH PAEDIATR DENT) – Q1

Asunto: Factores predictivos de caries en niños de 4 años en Francia

Contenido: Estudio poblacional en Mosela con 425 niños de 4 años: prevalencia de ECC 15.8 % y S-ECC 5.9 %. En el modelo multivariante, los factores que más se asociaron a ECC fueron consumo de dulces (OR ajustada 3.43), hábitos de cepillado (OR 2.25), modalidad de cuidado infantil (OR 2.27) y nivel educativo materno (OR 1.87). Solo el 4 % tenía restauraciones dentales.

Resumen: La dieta, higiene, cuidado infantil y educación materna predicen ECC en preescolares.

HUANG ET AL. 2025 (BMC ORAL HEALTH) – Q1

Asunto: Efecto del tratamiento bajo anestesia general en calidad de vida infantil

Contenido: Revisión con meta-análisis de 13 estudios pre-post (n≈1 365). El ECOHIS mejoró significativamente tras tratamiento dental bajo AG (MD = 9.61; IC 95 %: 6.28–12.93; p < 0.00001). No se observó cambio significativo en miedo dental (CFSS-DS: MD = 5.53; IC 95 %: –16.48 a 27.54; p = 0.62).

Resumen: El tratamiento bajo anestesia general mejora la calidad de vida oral, pero no disminuye el miedo.

HUSSAIN ET AL. 2023 (EUR J ORTHOD) – Q1

Asunto: Uso de clorhexidina en ortodoncia fija y salud periodontal

Contenido: 20 ECA con 1 001 pacientes. En uso a corto plazo, enjuague CHX redujo significativamente el índice gingival (GI MD = -0.68), placa (PI MD = -0.65), sangrado (BI SMD = -1.61) y profundidad de bolsa (PPD MD = -0.60 mm). Gel o barniz CHX no mostraron beneficios. Pasta CHX fue más efectiva que enjuague con flúor para reducir PI, pero no GI ni BI.

Resumen: En ortodoncia fija, el enjuague con clorhexidina mejora inflamación gingival y control de placa.

HUTCHISON 2021 (EVID BASED DENT) – SIN QUARTIL DISPONIBLE (REVISTA PROBABLEMENTE Q3)

Asunto: Factores protectores contra caries en preescolares iraníes

Contenido: Caso-control en 4-6 años: factores asociados a ausencia de caries fueron visita dental preventiva, ser primogénito, alimentación nocturna reducida, vivienda propia familiar y educación universitaria parental ($p < 0.05$). Consumo de antibióticos o supervisión de cepillado no se asociaron.

Resumen: Ventajas sociodemográficas y conductuales se asocian con menor riesgo de caries precoz.

JENSEN ET AL. 2021 (DIABETES METAB RES REV) – Q? (REVISTA METABÓLICA, NO ODONTOLÓGICA, TENTATIVAMENTE Q2/Q3)

Asunto: Marcadores periodontales en niños con diabetes tipo 1

Contenido: Revisión con meta-análisis: niños y adolescentes con T1D mostraron índices significativamente mayores de placa, gingival, sangrado al sondaje, profundidad de bolsa y pérdida de inserción clínica (todos $p < 0.001$) comparado con controles sanos.

Resumen: La diabetes tipo 1 en menores se asocia con mayor severidad de marcadores periodontales.

JUNG ET AL. 2024 (MICROBIOL SPECTR) – Q? (REVISTA MICROBIOLÓGICA, FUERA RANKING ODONTOLÓGICO)

Asunto: La saliva refleja cambios del microbioma subgingival

Contenido: Muestras saliva y placa de controles y pacientes con gingivitis o periodontitis moderada/severa. La diversidad salival fue mayor que en placa, pero abundancias de especies clave (e.g. P. gingivalis, T. forsythia) correlacionaron significativamente entre saliva y placa. Tras tratamiento periodontal, disminuyeron varias especies patogénicas tanto en placa como en saliva.

Resumen: El microbioma salival puede usarse como marcador no invasivo del estado periodontal.

KEBSCHULL ET AL. 2025 (J DENT) – Q? (REVISTA BRITÁNICA DE ODONTOLOGÍA, PODRÍA SER Q2)

Asunto: Adaptación en Reino Unido de la guía EFP para periodontitis avanzada

Contenido: Usando metodología GRADE ADOLOPMENT, adaptaron 47 recomendaciones clínicas del nivel S3 de la EFP para aplicar en el sistema británico, considerando igualdad de salud, factores ambientales y eficacia clínica. Participaron 101 representantes de 19 organizaciones.

Resumen: Guía clínica adaptada para tratar periodontitis estadio IV dentro del sistema sanitario del Reino Unido.

KHAN ET AL. 2024 (INT J PAEDIATR DENT) – Q? (ODONTOPEDIATRÍA, PROBABLEMENTE Q1/Q2)

Asunto: Revisión sistemática de factores de riesgo para ECC en <6 años

Contenido: Se incluyen estudios hasta 2021; identifican factores fuertes para ECC: edad, nivel socioeconómico, frecuencia y supervisión del cepillado, exposición a flúor, prácticas de alimentación en pecho/biberón, hábitos dietéticos, falta de “dental home”, experiencia previa de caries, lesiones no cavitadas visibles, placa y defectos del esmalte. Apoya su uso en herramientas de valoración del riesgo.

Resumen: Actualiza un perfil robusto de factores de riesgo para ECC útiles en evaluación clínica.

KLARIĆ PUĐA I ET AL., 2025, Q2

Asunto: Impacto de salud oral en calidad de vida de adolescentes y adultos jóvenes.

Contenido: Estudio de cohorte en Zagreb (n=250, 14-25 años). MFT medio 2.23 ± 2.58; restauraciones mayoritarias (54 %). Menor SES asociado a mayor necesidad de endodoncias y extracciones (DMFT ≈ 8.1). Hombres tenían más caries pero mujeres puntuaciones de OHIP-14 peores.Edad correlacionada positivamente con DMFT y peor calidad de vida.

Resumen: Alta caries y peor calidad de vida especialmente en mayores y baja SES.

KOCAADAM-BOZKURT B ET AL., 2023, Q3

Asunto: Adherencia a dieta mediterránea y estado nutricional en adolescentes turcos.

Contenido: N=1 137; MSDPS medio ~10.7 refleja baja adherencia. Mayor adherencia asociada a mejor ingesta de nutrientes (vitaminas, fibra, minerales). Medidas antropométricas relacionadas (IMC, cintura), nivel educativo y omitir comidas influencian puntuación.

Resumen: Baja adherencia al patrón mediterráneo vinculada a obesidad y status nutritivo deficiente.

KOTHA SB, 2022, Q3

Asunto: Prevalencia y factores de riesgo de caries infantil en Oriente Medio.

Contenido: Revisión: 26 estudios, 14 479 niños 0-6 años; prevalencia ECC entre 26.5 % y 99 %. dmft medio variaciones extremas (0.95-16.9).

Riesgo elevado: bajo nivel socioeconómico, malas prácticas dietéticas, higiene deficiente y acceso limitado a atención dental.

Resumen: ECC altamente prevalente en Oriente Medio, con múltiples factores demográficos, sociales y conductuales.

LAM PPY ET AL., 2022, Q1

Asunto: Predictores de incremento de ECC en preescolares.

Contenido: 18 estudios (n total ≈1.16 millones), longitud de seguimiento ≥2 años. Incremento de ECC relacionado con educación parental baja, lesiones de caries previas, placa elevada, microorganismos cariogénicos y exposición a humo (prenatal o pasivo). Género, estatus migratorio y uso de servicios dentales no significativos.

Resumen: Riesgo de ECC incrementado con baja educación, caries previa, placa y exposición al humo.

LEARY SD ET AL., 2025, Q1

Asunto: Asociación entre sobrepeso/obesidad y salud dental en niños australianos.

Contenido: Cohorte SMILE (n=1 174): 12 % obesos a 2 años, 9 % a 5 años. Entre 2 y 5 años caries aumentaron del 4 % al 24 %, placa e inflamación gingival también crecieron. No se encontraron asociaciones entre obesidad y caries, índice de placa o de sangrado después de ajustes.

Resumen: Obesidad en preescolares no se asocia directamente con resultados dentales adversos en este estudio.

LEGHROUZ L ET AL., 2024, Q2

Asunto: Método de aprendizaje diferencial para cepillado dental en niños.

Contenido: Ensayo RCT (n=58 niños 3-8 años), 28 días con seguimiento a 4 y 12 semanas. Grupo aprendizaje diferencial mostró mejoras superiores en índice gingival (PBI) y placa (QHI) comparado con método convencional; diferencias clínicamente relevantes a mediano plazo.

Resumen: El aprendizaje diferencial mejora la higiene oral infantil más que las instrucciones repetitivas tradicionales.

LI C ET AL., 2023, Q4

Asunto: Periodontitis precoz asociada a deficiencia de vitamina D: caso clínico.

Contenido: Niña de 12 años con movilidad dental, sangrado gingival y vitamina D baja. Recibió tratamiento periodontal, suplementación con vitamina D e higiene. A un año: recuperación periodontal y niveles de vitamina D normalizados.

Resumen: Asociacion clínica entre deficiencia de vitamina D y periodontitis infantil; mejora tras intervención multifactorial.

LIMO L ET AL., 2025, Q1

Asunto: Efectividad del cepillado asistido por cuidador en preescolares.

Contenido: Estudio pre-post en Callao (Perú), n=210 niños de 3-5 años.

Formación de cuidadores mejoró significativamente el OHI-S: en 3 años de «regular» a «bueno» (de 2.6 a 1.1). Tamaño efecto moderado en 3- y 4-años; no hubo mejora en grupo de 5 años.

Resumen: El entrenamiento de cuidadores mejora higiene dental en menores de 4 años.

LOCK NC ET AL., 2023, Q3

Asunto: Obesidad y erupción temprana de dientes permanentes en Brasil.

Contenido: Estudio poblacional en Porto Alegre (n=1 528, seguimiento 801). Niños con sobrepeso tenían 32 % más probabilidad, obesos 88 % más, de dentición permanente completa a los 12 años. Obesos más probables de tener segundos molares completamente erupcionados a 14-15 años.

Resumen: Sobrepeso/obesidad asociado a erupción dental precoz en adolescentes brasileños.

LUCCHESE A ET AL., 2022, Q4

Asunto: Hallazgos orales y microbiota en niños con síndrome de Wiskott-Aldrich.

Contenido: Cohorte de 11 niños con WAS comparada con 16 controles. Mayor pérdida dental, alteraciones eruptivas, índices de placa e inflamación elevados. Flora periodontal: mayor carga bacteriana, prevalencia de Fusobacterium nucleatum, Porphyromonas gingivalis y T. forsythia.

Resumen: WAS infantil con elevada prevalencia de enfermedad periodontal y disbiosis oral relevante.

LUPPI ET AL., 2024, Q1

Asunto: Relación entre microbiota oral e intestinal y diabetes tipo 1 en niños.

Contenido: Revisión sobre cómo la disbiosis oral e intestinal contribuye a la disfunción inmune en niños con diabetes tipo 1. Se describen mecanismos como la permeabilidad intestinal aumentada, alteración de ácidos grasos de cadena corta, y activación inflamatoria. Se explora el uso de terapias basadas en microbiota (probióticos, FMT) y la búsqueda de biomarcadores precoces.

Resumen: La disbiosis oral e intestinal puede influir en la aparición de la diabetes tipo 1 infantil y orientar nuevas estrategias diagnósticas y terapéuticas.

MARTENS ET AL., 2017, Q1

Asunto: Obesidad infantil y enfermedad periodontal.

Contenido: Revisión sistemática y meta-análisis que confirma una asociación positiva entre sobrepeso/obesidad y enfermedades periodontales en niños. La odds ratio fue de 1.46, con heterogeneidad estadística significativa. Sugiere que la obesidad debe considerarse un factor de riesgo periodontal desde edad temprana.

Resumen: Los niños con obesidad tienen mayor riesgo de enfermedad periodontal, con implicaciones clínicas en prevención.

MARTÍNEZ-BENEYTO ET AL., 2022, Q1

Asunto: Conocimiento de los pediatras españoles sobre caries infantil.

Contenido: Encuesta a 359 pediatras muestra gran desconocimiento sobre caries temprana y signos precoces como lesiones de mancha blanca. El 56 % no conoce la edad de la primera visita odontológica. Se detecta mejor preparación en profesionales con menos años de experiencia, lo que subraya la necesidad de formación continua.

Resumen: La mayoría de pediatras carece de conocimientos clave sobre caries infantil, dificultando la prevención precoz.

MATTOS ET AL., 2025, Q1

Asunto: Anemia falciforme y calidad de vida oral en niños.

Contenido: Estudio transversal en niños con anemia falciforme muestra que la caries y la maloclusión deterioran significativamente la calidad de vida oral, especialmente en adolescentes. Se usó el cuestionario CPQ. Las lesiones visibles de placa y sangrado gingival fueron comunes, con fuerte asociación a ingresos bajos.

Resumen: Los niños con anemia falciforme presentan peor salud oral, lo que reduce su calidad de vida.

MÉNDEZ ET AL., 2025, Q1

Asunto: Prevalencia de traumatismos dentales infantiles en España.

Contenido: Meta-análisis con más de 8600 pacientes muestra prevalencia global del 9.9 % de TDI. Más frecuentes en niños (10.5 %) y menores de 12 años. Las fracturas fueron las lesiones más comunes. Alta heterogeneidad metodológica entre estudios.

Resumen: Uno de cada diez niños españoles ha sufrido traumatismo dental, con mayor incidencia en varones.

MILANI ET AL., 2021, Q1

Asunto: Impacto del tratamiento de traumatismos en la calidad de vida.

Contenido: Meta-análisis que muestra que tratar los TDI mejora la calidad de vida oral en niños, especialmente en edades de 8–10 años. Aunque la evidencia tiene baja certeza, los cuestionarios CPQ y P-CPQ mostraron mejoras significativas tras tratamiento.

Resumen: Tratar los traumatismos dentales mejora el bienestar de niños y familias, aunque se necesitan más estudios.

MIGUEL ET AL., 2024, Q1

Asunto: Periodontitis agresiva en molares e incisivos en jóvenes.

Contenido: Revisión sobre la periodontitis tipo C (C-MIP), de aparición temprana, progresión rápida y afectación de molares e incisivos en jóvenes sanos. Alta presencia de A. actinomycetemcomitans, respuesta inflamatoria exacerbada y antecedentes familiares. El tratamiento estándar incluye raspado y antibióticos sistémicos.

Resumen: La periodontitis tipo C es una forma agresiva que puede comenzar en la dentición primaria y exige diagnóstico precoz.

MONLEÓN-GETINO ET AL., 2023, Q1

Asunto: Microbiota oral y fecal en el diagnóstico de EII pediátrica.

Contenido: Estudio piloto que compara microbiota de niños con Crohn, colitis ulcerosa y controles sanos. Detecta patrones microbianos diferenciadores en saliva y heces, con 21 especies marcadoras. Plantea la utilidad del metagenoma como método diagnóstico no invasivo en pediatría.

Resumen: La microbiota oral podría servir como biomarcador temprano en enfermedades inflamatorias intestinales infantiles.

MORALES-SALAZAR ET AL., 2022, Q3

Asunto: Rasgos dentofaciales como causa de bullying.

Contenido: Revisión de 36 estudios que vinculan maloclusiones y rasgos dentales alterados (clase II/III) con mayor riesgo de acoso escolar. Se destaca el impacto negativo sobre autoestima, rendimiento académico y calidad de vida. Se propone intervenir desde familia y escuela.

Resumen: Maloclusiones visibles pueden aumentar el riesgo de bullying infantil y sus consecuencias psicológicas.

MORIYAMA ET AL., 2022, Q2

Asunto: Influencia del comportamiento parental y alfabetización en salud oral.

Contenido: Estudio con 630 niños de 2–4 años en Brasil. Los comportamientos de los padres durante las comidas, como uso de recompensas, se asocian a más caries. La alfabetización en salud oral (OHL) no se relacionó directamente, pero sí el ambiente familiar.

Resumen: Las actitudes de los padres durante las comidas influyen más en las caries que su nivel educativo formal.

MOYA-LÓPEZ ET AL., 2024, Q1

Asunto: Influencia del estilo parental en la caries infantil.

Contenido: Revisión sistemática de 9 estudios (4250 participantes) que evalúan la relación entre estilos de crianza y caries. Tres estudios muestran asociación significativa, cuatro no encuentran relación, y dos no hallan diferencias claras. Se observa que los estilos parentales impactan globalmente en los hábitos y la salud oral infantil.

Resumen: La crianza influye en la salud oral infantil, aunque los estudios ofrecen resultados dispares que exigen más investigación.

NAKAYAMA ET AL., 2022, Q1

Asunto: Factores de riesgo para caries temprana en niños japoneses.

Contenido: Estudio prospectivo con 872 niños. Identifica como factores de riesgo la caries previa a los 2 años, lactancia nocturna, snacks frecuentes, cepillado parental poco frecuente y compartir utensilios. Todos estos comportamientos se asociaron con mayor incidencia de ECC a los 3 años.

Resumen: La caries previa y ciertos hábitos familiares son predictores fiables de caries a los 3 años.

NIBALI ET AL., 2020, Q1

Asunto: Heredabilidad de la periodontitis en modelos animales.

Contenido: Revisión de 7 estudios en animales. La heredabilidad media en modelos experimentales fue del 43 % y en condiciones naturales del 39 %. Se observa alta variabilidad entre estudios, pero los resultados apoyan el rol importante de la genética en la periodontitis.

Resumen: Más de un tercio de la variabilidad en periodontitis animal puede atribuirse a factores genéticos.

NIBALI ET AL., 2024, Q1

Asunto: Diagnóstico periodontal guiado por genómica.

Contenido: Revisión de evidencia sobre cómo los avances genómicos pueden refinar el diagnóstico y manejo de enfermedades periodontales. Se plantea el uso futuro de scores de riesgo poligénico y test genéticos para personalizar el tratamiento, especialmente en formas monogénicas.

Resumen: La genética tiene potencial diagnóstico y terapéutico en periodontitis, aunque aún con limitaciones clínicas.

NURHIDAYAH ET AL., 2023, Q1

Asunto: Intervenciones basadas en empoderamiento en oncología pediátrica.

Contenido: Revisión sistemática de 7 estudios (4 RCT) que evalúan programas de empoderamiento para padres de niños con cáncer. Se evidencian mejoras en conocimientos, cuidados y calidad de vida tanto en padres como en hijos. No se observaron cambios en el estilo de afrontamiento.

Resumen: Las intervenciones de empoderamiento mejoran resultados clínicos y emocionales en oncología pediátrica.

ORTIZ ET AL., 2020, Q1

Asunto: Efecto de la gingivitis en la calidad de vida oral.

Contenido: Estudio de cohorte con 743 adolescentes. La presencia de gingivitis se asoció con peor calidad de vida oral (CPQ11-14), especialmente en el bienestar emocional, independiente de otros factores. También influyen nivel de estudios materno y nivel de ingresos.

Resumen: La gingivitis reduce la calidad de vida oral de adolescentes, especialmente en el ámbito emocional.

PADMANABHAN ET AL., 2024, Q1

Asunto: Relación entre IMC y erupción dentaria.

Contenido: Estudio transversal en 89 niños. Se observa que el sobrepeso y la obesidad se asocian a una erupción dental más temprana, mientras que los niños con bajo peso presentan retraso. También se detectan diferencias por sexo.

Resumen: El IMC influye en el ritmo de erupción de dientes permanentes, útil para planificar tratamientos personalizados.

PAN ET AL., 2025, Q1

Asunto: Caries, gingivitis y calidad de vida oral en preadolescentes.

Contenido: Estudio con 1591 escolares de 12 años en Shanghái. El 26.7 % tenía caries y el 39.3 % gingivitis. Las caries afectaron la calidad de vida (COHIP), mientras que la gingivitis no. El nivel educativo de los padres influye en los hábitos y prevalencia.

Resumen: La caries impacta más que la gingivitis en la calidad de vida oral, y está ligada a factores familiares y de género.

PAPAGEORGIOU ET AL., 2025, Q1

Asunto: Extracciones premolares y volumen de vía aérea.

Contenido: Meta-análisis de 11 estudios no aleatorizados (891 pacientes). No se encontraron diferencias significativas en volumen o área mínima de vía aérea entre tratamientos con o sin extracciones, excepto aumento de minCSA en orofaringe en grupo con extracciones.

Resumen: Las extracciones premolares en ortodoncia no reducen el volumen de la vía aérea, según evidencia disponible.

PAZ-CORTÉS ET AL., 2022, Q1

Asunto: Relación entre IMC y erupción dental en población infantil española.

Contenido: Estudio transversal con 725 niños entre 4 y 14 años. Se detectó que un IMC elevado predice mayor simetría en la erupción dentaria, especialmente en niños sudamericanos y con mayor edad o estatura. Sin embargo, el IMC no alteró la secuencia de erupción.

Resumen: Un IMC más alto favorece la simetría en la erupción, pero no cambia la secuencia del recambio dentario.

PERIC ET AL., 2025, Q1

Asunto: Prevalencia de caries en preescolares serbios.

Contenido: Estudio nacional con más de 2800 niños. El 56 % de los de 3 años y solo el 21 % de los de 6 estaban libres de caries. El componente de dientes sin tratar fue predominante. La caries severa afecta a más del 50 % de los niños afectados.

Resumen: La caries es un grave problema de salud pública en Serbia, con necesidad urgente de prevención temprana.

PORTERO DE LA CRUZ ET AL., 2020, Q1

Asunto: Problemas dentales y uso de servicios entre niños inmigrantes y españoles.

Contenido: Estudio sobre 4568 niños entre 3 y 14 años. Los hijos de inmigrantes presentan más caries (18.6 %) que los españoles (9.3 %) y menos revisiones preventivas. El nivel social bajo y vivir en zonas pequeñas aumentan el riesgo.

Resumen: Los niños inmigrantes tienen más caries y menos acceso a revisiones dentales, especialmente en entornos desfavorecidos.

QUINN ET AL., 2025, Q1

Asunto: Métodos de aprendizaje del cepillado infantil.

Contenido: Comentario sobre un ensayo clínico que compara la instrucción convencional con un método diferencial de aprendizaje en niños de 3 a 8 años. El grupo experimental mostró mejoras significativas en sangrado y placa al cabo de 12 semanas.

Resumen: Enseñar el cepillado con técnicas activas mejora más la higiene oral que las instrucciones tradicionales.

RAPONE ET AL., 2020, Q1

Asunto: Diabetes tipo 1 y periodontitis en la infancia.

Contenido: Meta-análisis de 10 estudios. Los niños y adolescentes con diabetes tipo 1 presentan mayor inflamación periodontal que los sanos. Se evidencian diferencias interindividuales relevantes, aunque los datos son limitados por el diseño transversal.

Resumen: Existe asociación entre periodontitis e inflamación en diabetes tipo 1 infantil, con implicaciones clínicas preventivas.

RATEITSCHAK-PLÜSS ET AL., 1984, Q1

Asunto: Periodontitis en síndrome de Papillon-Lefèvre infantil.

Contenido: Caso clínico detallado de un niño de 10 años con PLS, incluyendo evolución, tratamiento inicial exitoso y posterior recaída. Se describen hallazgos histopatológicos y microbiológicos, incluyendo biofilm subgingival extenso.

Resumen: El caso ilustra la dificultad de controlar la periodontitis severa en el síndrome de Papillon-Lefèvre.

RIPAMONTI ET AL., 2025, Q1

Asunto: Conocimiento de matronas sobre caries temprana infantil.

Contenido: Encuesta nacional en Francia revela que muchas matronas desconocen el momento correcto de la primera revisión dental, el riesgo cariogénico de lactancia nocturna y el uso de flúor. Hay diferencias generacionales en la prevención.

Resumen: Las matronas necesitan formación en salud oral infantil para reforzar la prevención precoz de caries.

RIPARDO ET AL., 2025, Q1

Asunto: Salud periodontal, calidad de vida y autopercepción en adolescentes desfavorecidos.

Contenido: Estudio con 406 adolescentes en barrios marginados de Brasil. El sangrado gingival y el cálculo dental se asocian con peor percepción oral y calidad de vida. Factores psicosociales y económicos agravan el impacto.

Resumen: La salud periodontal en adolescentes pobres está estrechamente ligada a factores sociales y emocionales.

RODRÍGUEZ-ÁLVAREZ ET AL., 2022, Q1

Asunto: Inequidades étnicas e inmigración en caries infantil.

Contenido: Estudio en 1388 escolares en Bilbao. Los niños gitanos y migrantes tienen mayor prevalencia de caries en dentición temporal y permanente. El estatus migratorio y étnico sigue siendo un determinante relevante.

Resumen: La pertenencia a grupos minoritarios agrava el riesgo de caries, incluso con programas de salud oral en marcha.

SAIED-MOALLEMI ET AL., 2009, Q1

Asunto: Intervención escolar para mejorar la salud gingival infantil.

Contenido: Ensayo comunitario en 457 niños de 9 años. Las intervenciones con participación de padres mejoraron significativamente la higiene y la salud gingival frente al grupo control. Las niñas respondieron mejor que los niños.

Resumen: Incluir a los padres en los programas escolares mejora claramente la salud gingival de los preadolescentes.

SANTAMARÍA ET AL., 2024, Q1

Asunto: Caries en niños de 3 años en Alemania y brechas en atención.

Contenido: En 95.127 preescolares se encontró un 13,7 % de caries manifiesta y 18,7 % incluyendo lesiones iniciales. A los 6–7 años, los valores triplican los de los 3 años. Índices de atención dental bajos, especialmente en regiones como Berlín o Sajonia-Anhalt.

Resumen: La caries en dentición temporal sigue siendo alta en Alemania pese a su infraestructura, con necesidad urgente de prevención precoz.

SCHMIDT ET AL., 2022, Q1

Asunto: Factores sociales, obesidad y salud oral en adolescentes.

Contenido: En 1158 adolescentes, bajo nivel socioeconómico y obesidad se asociaron con peor salud oral (caries, sangrado, peor higiene). El deporte se asoció con mejores resultados. El estrés influyó solo en adolescentes de bajo nivel social.

Resumen: Obesidad, pobreza y falta de actividad física impactan negativamente en la salud oral adolescente.

SCHMOECKEL ET AL., 2024, Q1

Asunto: Tipo de escuela y nivel educativo influyen en el sesgo de estudios epidemiológicos.

Contenido: Análisis de más de 170.000 escolares alemanes. Ajustar los datos según tipo de escuela y curso reveló que las caries estaban subestimadas en los estudios nacionales por sesgo de selección.

Resumen: Los estudios de caries deben corregirse por tipo de escuela y clase para evitar subestimaciones.

SFASCIOTTI ET AL., 2017, Q1

Asunto: Obesidad infantil y enfermedad periodontal.

Contenido: Estudio en 100 escolares mostró mayor placa (50 %) y sangrado gingival (26 %) en obesos frente a normopeso (21 % y 12 %, respectivamente). No se detectaron bolsas ≥3 mm. La dieta desequilibrada fue más frecuente en obesos.

Resumen: La obesidad infantil se asocia a peor salud gingival, incluso sin periodontitis avanzada.

SFREDDO ET AL., 2023, Q1

Asunto: Validez discriminante del nuevo diagnóstico de gingivitis en adolescentes.

Contenido: Comparó la definición 2018 EFP/AAP con otros criterios en 742 adolescentes. Todas las definiciones detectan peor gingival en bajos ingresos, placa y caries. La clasificación EFP/AAP fue válida y útil para priorizar intervenciones.

Resumen: La definición 2018 de gingivitis permite identificar bien a los grupos de riesgo en adolescentes.

SHAKIR ET AL., 2021, Q1

Asunto: Efectividad de intervenciones escolares sobre salud oral infantil.

Contenido: Revisión rápida de 8 ensayos clínicos. Mejores resultados cuando intervienen pares o padres; se observaron mejoras modestas en placa y encías. Reducción de caries solo en grupos con alto nivel socioeconómico.

Resumen: Las intervenciones escolares mejoran hábitos, pero su impacto clínico es limitado sin apoyo familiar.

SHETTY ET AL., 2024, Q1

Asunto: Utilidad de la cefalometría en diagnóstico de apnea del sueño infantil.

Contenido: Meta-análisis de 16 estudios. La posición del hioides, retrognatia y el ángulo de base craneal predicen OSA. La cefalometría es útil, aunque menos precisa que la polisomnografía.

Resumen: Ciertas medidas cefalométricas pueden ayudar a identificar niños con apnea del sueño.

SPODZIEJA ET AL., 2022, Q1

Asunto: Pérdida precoz de dientes temporales como signo de enfermedad sistémica.

Contenido: Revisión narrativa identificó 16 enfermedades sistémicas (como PLS, histiocitosis, neutropenia cíclica o hipofosfatasia) asociadas con pérdida temprana de dientes temporales.

Resumen: La pérdida dental infantil puede ser manifestación de patologías sistémicas graves y poco diagnosticadas.

STOLL ET AL., 2022, Q1

Asunto: Microbiota oral en espondiloartritis juvenil.

Contenido: En 11 niños (5 con SpA, 6 sanos), se detectaron más Fusobacterium en placa y Rothia en saliva en los pacientes. Menor diversidad bacteriana y aumento de Fusobacterium en un brote clínico.

Resumen: La microbiota oral puede contribuir a la espondiloartritis juvenil; se requieren estudios mayores.

SU ET AL., 2024, Q1

Asunto: Desarrollo craneofacial en niños con apnea del sueño y modelo predictivo.

Contenido: Estudio con 747 niños y validación externa. El modelo incluyó tamaño de amígdalas, posición del hioides, ángulos mandibulares y grosor del paladar blando. AUC global 0.81. Se proponen modelos por grupo de edad.

Resumen: Las características faciales ayudan a predecir apnea infantil, permitiendo cribado no invasivo según edad.

SULLIVAN ET AL., 2022, Q1

Asunto: Inventarios de alfabetización en salud oral en cuidadores de niños en edad preescolar.

Contenido: Revisión sistemática de 11 estudios en EE.UU. que evaluaron la alfabetización en salud oral (OHL) de cuidadores, usando mayoritariamente REALD-30. La mayoría se centró solo en reconocimiento de términos, pocos en comprensión o conocimiento. Limitaciones en la aplicabilidad a poblaciones vulnerables.

Resumen: Se necesitan inventarios más completos para evaluar adecuadamente la alfabetización en salud oral de cuidadores.

TAPALAGA ET AL., 2025, Q1

Asunto: Exposición al plomo y caries/estética dental en niños y adolescentes.

Contenido: Revisión de 13 estudios con 44.846 niños. Alta exposición al plomo se asocia con mayor riesgo de caries y defectos estéticos. Incluso niveles bajos (<5 µg/dL) elevan significativamente el riesgo. Las diferencias metodológicas impidieron metaanálisis.

Resumen: El plomo aumenta el riesgo de caries infantil; reducir su exposición podría ser clave preventiva.

TARAÇ ET AL., 2025, Q1

Asunto: IMC, dieta y caries en niños de 4 a 12 años.

Contenido: En 367 niños, el sobrepeso y la obesidad se asociaron a mayor consumo de azúcar y mayor índice de caries (DMFT/dft). El IMC aumentó en grupos más jóvenes. Los resultados refuerzan la relación multifactorial entre dieta, peso y caries.

Resumen: Niños con mayor IMC tienen más caries; dieta y peso son factores interrelacionados.

TENGKU ET AL., 2021, Q1

Asunto: Enfermedades orales y calidad de vida según el peso en adolescentes.

Contenido: Estudio en 397 adolescentes. El grupo normopeso tuvo más caries, pero el grupo obeso tuvo más impacto en calidad de vida oral (OHRQoL). La gingivitis fue prevalente en ambos. El IMC no predijo claramente la carga de enfermedad oral.

Resumen: La obesidad no predice peor salud oral, pero sí mayor impacto percibido en la calidad de vida.

TOLEDO REYES ET AL., 2023, Q1

Asunto: Predicción de caries infantil mediante machine learning.

Contenido: Estudio prospectivo en 639 niños. Los mejores predictores a 10 años fueron: experiencia previa de caries, uso de dentífrico sin flúor, bajo nivel educativo parental y alto consumo de azúcar. AUC > 0.70 en todos los modelos.

Resumen: La IA puede anticipar caries desde la infancia con predictores simples y fiables.

TUSI ET AL., 2025, Q1

Asunto: Métodos de enseñanza de cepillado y su eficacia.

Contenido: Estudio con 120 niños. La instrucción con modelos dentales fue más efectiva que espejo o vídeo. Todos los métodos redujeron la placa, pero el modelo físico mostró resultados más duraderos.

Resumen: Enseñar con modelos dentales es la forma más eficaz para mejorar el cepillado infantil.

VALLEJOS ET AL., 2025, Q1

Asunto: Hábitos alimentarios y caries según entorno y educación familiar.

Contenido: En 718 escolares, los niños rurales consumen más dulces y tienen más caries. El tipo de escuela y nivel educativo materno influyen significativamente. Comer menos cenas está relacionado con menor nivel educativo materno.

Resumen: Escuela, entorno y educación parental determinan dieta infantil y riesgo de caries.

VALLEJOS ET AL., 2025, Q1

Asunto: Salud oral y factores sociodemográficos en escolares de Mallorca.

Contenido: Los niños de escuelas públicas y con madres menos formadas tuvieron más caries y peor salud periodontal. La educación materna influyó claramente en índices DMFT y número de sextantes sanos.

Resumen: La salud oral infantil está fuertemente condicionada por el entorno escolar y familiar.

VELASCO ET AL., 2022, Q1

Asunto: Alfabetización en salud oral y calidad de vida infantil.

Contenido: En 630 niños brasileños, la calidad de vida oral se vio afectada por caries, número de hermanos y edad materna, pero no por el nivel de alfabetización del cuidador.

Resumen: Caries, familia numerosa y juventud materna impactan más que el nivel de OHL parental.

VELOSO DURAN ET AL., 2022, Q1

Asunto: Comparación de salud oral entre niños españoles e inmigrantes.

Contenido: En 1400 niños de 3–14 años, los inmigrantes presentaron más caries en dentición temporal y permanente. Los españoles tuvieron más tratamientos realizados. Las diferencias fueron estadísticamente significativas.

Resumen: Los niños inmigrantes presentan peor salud oral y menor acceso a tratamientos restauradores.

VIEIRA-ANDRADE ET AL., 2022, Q1

Asunto: Indicadores de riesgo para caries no tratadas en preescolares.

Contenido: Estudio longitudinal con 288 niños durante dos años. Se identificó una incidencia del 41.3 % de caries no tratadas. Los factores de riesgo fueron: severidad previa de caries, ingresos familiares bajos y peor calidad de vida oral (medida con B-ECOHIS).

Resumen: La caries no tratada es frecuente y predecible por factores económicos, clínicos y de calidad de vida.

WANG ET AL., 2022, Q1

Asunto: Alfabetización en salud oral de padres chinos y salud bucal infantil.

Contenido: En 406 familias, los padres con mayor puntuación en HKREALD-30 mostraron mejor salud oral propia y percibida de sus hijos, mejor dieta infantil y actitudes más positivas. La comprensión de términos dentales fue clave predictiva.

Resumen: Mejor alfabetización oral parental se asocia con mejores resultados de salud bucal en niños y padres.

ZAROR ET AL., 2022, Q1

Asunto: Caries de la primera infancia y calidad de vida relacionada con salud oral.

Contenido: Revisión sistemática y metaanálisis de 35 estudios. Las caries tempranas aumentan el riesgo de impacto negativo en la calidad de vida, especialmente si son graves (dmft > 5). Afectan sobre todo los dominios sintomático y psicológico.

Resumen: Las caries tempranas deterioran la calidad de vida infantil, con mayor efecto si son severas.

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