

PREVALENCE OF MOLAR INCISOR HYPOMINERALIZATION OR RECURRENT APHTOSIS STOMATITIS IN ADULT PATIENTS WITH CELIAC DISEASE: A CASE CONTROL STUDY

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Aim: the aim of the study was to observe the prevalence of oral manifestation like Molar Incisor Hypomineralization or Recurrent Aphthosis Stomatitis (RAS) in adult patients with Celiac Disease (CD) compared with a control group of adult patients without CD.

Methods: the study included 10 patients with diagnosis of CD compared with 10 patients from a control group. All patients underwent a complete dental examination and were asked if they had previous symptoms of oral manifestation of RAS or if they underwent previous dental treatment.

Results: among patients with CD, 6 of them (60%) presented MIH, 4 of them (40%) reported RAS, and 4 of them (40%) reported undergoing previous dental treatment; compared to 3 (30%) subjects from the control group presenting MIH, 2 (20%) reporting RAS, and 2 of them (20%) reported undergoing previous dental treatment.

Conclusions: although CD is more frequently associated with gastroenterological symptoms it also seems to be associated with oral manifestation like RAS and MIH.

REAL-WORLD DENTAL HEALTH OF UKRAINIAN WAR REFUGEE CHILDREN AND ADOLESCENTS IN UMBRIA, ITALY: PRELIMINARY DATA

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Aim: the Russian-Ukrainian conflict has not only caused economic repercussion and human losses but has also impacted overall health, particularly oral health. To carry out an exploratory analysis on the relevance of caries in Ukrainian war refugee children and adolescents, and in addition to relate findings of caries to age, gender, periodontal health status, self-reported socioeconomic status and Italian language speaking skills to determine whether there was a statically significant association.

Methods: this study used a cross-sectional design, was conducted in Perugia, Italy at the University Dental Clinic (November 2023- April 2024) and included 50 children and adolescent (3-18 years old) with Ukrainian citizenship who fled the war. The visits took place with a cultural mediator and consisted of

two parts: the administration of questionnaires on socio-economic status and communication skills, followed by a dental examination. A logistic regression model was used to identify factors independently associated with the presence of high DMFT-dmft values.

Results: the refugees mean DMFT-dmft was 3.5 SD 2.5. The multivariate logistic regression model showed that increased PSR and low communication were independently associated with the risk of having a DMFT-dmft >4.

Conclusions: the study revealed a concerning prevalence and severity of caries, especially in refugee children with a poor level of integration in the host country and highlights the need for specific health policies adapted to a complex type of social vulnerability such as refugee children's status.

EXPLORING THE PREVALENCE OF DENTAL CARIES: AN EPIDEMIOLOGICAL STUDY OF CHILDREN IN MIKUMI, TANZANIA

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Aim: this study aims to describe the oral health status of school-children in Mikumi, Tanzania using the dmft/DMFT index.

Methods: this epidemiological study was conducted in Mikumi, Tanzania at the St. Kizito Hospital between August and October 2021 and August and September 2022 and included 200 children aged 6 and 12 years. Dental examinations were conducted in the hospital's dental unit, together with a cultural mediator, using a dental mirror and probe. The following characteristics of primary dentition status were recorded: decayed (d/D), missing (m/M), and filled (f/F) teeth, and the dmft/DMFT (d+m+f t/D+M+F T) index was calculated for each subject. SPSS (Statistical Package for Social Sciences) for Windows 25.0 program was used for data recording and statistical analysis. The descriptive data were presented with mean, standard

deviation, median, minimum and maximum values, numbers (n) and percentages (%).

Results: a total of 200 children were examined, 100 (50%) six-year-olds and 100 (50%) 12 years old. The mean dmft/DMFT for age was 4.66 (SD 3.85) for the six years old children and 3.07 (SD 2.94) for the older group, but none of them had ever received dental treatment, F/f = 0 for both groups.

Conclusions: dental caries continues to pose a significant challenge to public health and well-being in African countries. Addressing the issue of untreated caries calls for a comprehensive strategy that involves enhancing oral healthcare systems, increasing access to affordable dental care, promoting education on oral hygiene, and encouraging healthier dietary practices.

OVER 20 YEARS OF DATA FROM THE SPECIAL SMILES PROGRAM AT SPECIAL OLYMPICS: FOCUS ON DENTAL SEALANTS

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Aim: to evaluate the oral conditions of athletes with intellectual disabilities who participated in at least two Italian editions of Special Olympics between 2002 and 2024, with a minimum follow-up of 5 years, focusing on the impact of dental sealants on their oral health over time.

Methods: oral data recorded during the Special Smiles program of Special Olympics from two time points at least 5 years apart (t0 and t1) were compared.

Results: out of 2,081 visits, 114 athletes met the inclusion criteria. Regular tooth brushing was reported by 83.3% at t0 and 95.6% at t1 ($p < 0.05$). Gingival signs were found in 47.5% at t0 and 52.5% at t1. The percentage of subjects with decayed, missing, filled, and sealed teeth increased between t0 and t1. Oral lesions were observed more frequently

at t1 ($p < 0.05$). A significant difference was found in the mean number of missing (1.7 at t0 vs 2.9 at t1) and filled teeth (2.9 at t0 vs 3.7 at t1), as well as in the DMFT index (5.7 at t0 vs 7.6 at t1). Dental sealants were analyzed in a sample of 1,271 athletes, divided into two time periods: 2012-2018 and 2019-2024. The prevalence of dental sealants was 10.86%, with an increase from 11.00% before 2018 to 19.00% from 2019. DMFT was lower in athletes with sealants compared to those without, and the incidence of caries decreased over time, from 38.80 to 36.00%.

Conclusions: overall, a substantial stability or improvement in oral health was observed. The prevalence of dental sealants has increased, with a corresponding reduction in caries and an overall improvement in oral health.

A BIBLIOMETRIC ANALYSIS OF GLOBAL DENTAL RESEARCH IN THE LAST TWO DECADES: TRENDS, CONTRIBUTORS AND EMERGING SPECIALTIES

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Aim: by leveraging artificial intelligence for large-scale data processing, this bibliometric study unveils how dental research evolved from 2000 to 2024, highlighting scientific trends, leading contributors, and emerging areas that are shaping the future of the field.

Methods: a bibliometric analysis was conducted using the Scopus database, filtering the data using SUBJAREA(DENT) classification. Information extraction was done through official API, while data processing and visualization was done in Python environment. Parameters such as quartile (Q1), geographic area of authors, clinical specialty, and author position were considered, with emphasis on the first author. Five-year trends were developed and annual rankings of the most prolific authors in absolute terms and by Q1 publications were generated.

Results: from 2000 to 2024, publications in dentistry show continuous growth, peaking in Q1 journals. Asia, Europe, and North America represent the main scientific hubs, while Africa and South America show rising productivity. The most productive specialties in Q1 were Implantology, Dental Materials and Oral Surgery, with a recent increase in Digital Dentistry and AI in Dentistry. Productivity is highly polarized: some authors exceeded 200 publications per year, while the top performer achieved more than 40 Q1 articles per year as first author.

Conclusions: the results offer a strategic snapshot of the current scientific ecosystem in dentistry, providing valuable information to guide future research, foster collaboration, and support evidence-based innovation.

NAO ROBOT IN PEDIATRIC DENTISTRY: SUPPORT FOR CHILDREN WITH AUTISM SPECTRUM DISORDER

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Aim: the study evaluated the effectiveness of the humanoid robot NAO in reducing stress and psychomotor agitation in children with Autism Spectrum Disorder (ASD) during dental visits. The primary goal was to improve patient compliance, while the secondary goal was to assess the feasibility of dental examinations during robotic interactions.

Methods: twenty children with ASD (4-14 years old), selected among patients with inadequate cooperation for traditional dental care, were enrolled. The protocol included two phases: an initial evaluation (T1) using behavioral metrics (modified Frankl and Venham scales) and a questionnaire (CFSS-DS), followed by a session with the robot (T2) and a re-evaluation. The robot was programmed to interact with children, explaining dental procedures and instruments.

Results: after the intervention, 70% of children showed sufficient or good cooperation (Venham scale), with significant improvement compared to T1. The Frankl scale showed an increase in "positive" behaviors (60% vs 10% at T1). Caregiver-reported distress with CFSS-DS diminished by 40-60% during challenging procedures. The approach proved particularly effective in younger children (4-8 years).

Conclusions: this pilot study demonstrates that NAO robot-assisted interventions effectively reduce stress and improve procedural tolerance in children with ASD. The results support the integration of robotic technologies in clinical contexts, although further research should examine longitudinal outcomes and broader implementation strategies across larger populations.

ANTIMICROBIAL ACTIVITY OF BIOACTIVE COMPOUNDS AS A RELIABLE SUSTAINABLE HEALTH-IMPROVING SOURCE IN PREVENTIVE DENTISTRY

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Aim: natural products are a valuable source for the discovery of new drugs. In recent years, there has been a growing need to identify natural bioactive compounds that support oral health. One of the most widely adopted approaches for reusing olive mill wastewater from the cold extraction process (OPWC) involves the extraction of bioactive compounds, which are of growing interest for various medical applications. Although *Lactobacillus* species are generally regarded as non-pathogenic, certain strains are frequently found in carious lesions and significantly contribute to the progression of dental caries, even if they are not its primary initiators. Among them, *Lactobacillus casei* is considered the second most common cariogenic bacterium in the oral microbiota. This study aims to evaluate the impact of natural OPWC compounds on *Lactobacillus casei*.

Methods: the total phenolic content extracted from brewery wastewater was quantified using the Folin-Ciocalteu assay, based on our prior work in the field. The influence of OPWC on the growth of *Lactobacillus casei* was investigated through growth curve analysis. In addition, the impact of the fraction on acid production and biofilm structural formation was evaluated using standard protocols.

Results: experimental findings revealed that OPWC inhibits both biofilm formation and acid production by *Lactobacillus casei*. Furthermore, it may lead to increased cytoplasmic acidity, ultimately reducing the bacterium's ability to adapt to acidic environments.

Conclusions: waste-derived compounds hold significant promise for the development of innovative and sustainable oral dosage formulations, particularly in the context of the circular economy.

BENEFITS OF NATURAL ANTIOXIDANTS ON ORAL HEALTH

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Aim: to map scientific literature on oxidative stress related to oral microbiota and the use of natural antioxidants to counteract it, assessing the volume, nature, characteristics, and types of studies available to date to identify potential gaps.

Methods: a literature search was conducted in PubMed, Scopus, and Web of Science to evaluate the role of natural antioxidants on oral health. Inclusion criteria were publications from January 1, 2015, to January 1, 2025, in English. A total of 1815 articles were found, with 18 selected for qualitative analysis.

Results: the field of nutraceuticals has identified antioxidant properties in substances like vitamins A, B, C, E, coenzyme

Q-10, selenium, flavonoids, lipoic acid, carotenoids, and lycopene found in certain foods. Various research areas aim to explore the interaction between reactive oxygen species, exogenous antioxidants, and microbiota to enhance protection through macromolecule (proteins and lipids) peroxidation, maintaining a dynamic balance among microbiota species.

Conclusions: antioxidants, whether organic or synthetic, can prevent diseases early and are more effective at high concentrations. More extensive case studies and cross-sectional studies are required to clarify conflicting results. Research must consider clinical/dental feasibility, and studying the microenvironment is a path to new discoveries.

CORRELATION BETWEEN DIABETES MELLITUS AND ORAL HEALTH

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Aim: the main objective of the study is to evaluate the correlation between diabetes mellitus and oral health and its principal manifestations and implications in the oral cavity.

Methods: a search was carried out on the following databases: PubMed, Google scholar and Scopus including articles written in English and published after the year 2015. Articles on studies done on animals or on patients with other pathologies were excluded. The following key words were used in the research: Diabetes Mellitus, Prevention, Periodontal Disease and Oral Manifestations.

Results: the results showed a close correlation between diabetes and oral problems such as periodontitis, a gum inflam-

mation that affects the supporting tissues of the tooth; when left untreated it impairs the stability of the tooth elements and lead to their loss. In addition, diabetes caused a reduction in saliva, which plays a vital role in protecting the mouth due to its antibacterial action, leading to a faster proliferation of harmful bacteria in the oral cavity responsible for tooth decay. Filled teeth, a sign of pre-existing carious diseases, were also greater in quantity than the teeth of people without diabetes.

Conclusions: in conclusion, the study highlights a general deficit of oral hygiene in diabetic patients. In particular, it relates diabetes mellitus with an increase in caries index, in periodontal pathology, xerostomia and tooth loss.

MATERNAL PSYCHOLOGICAL WELL-BEING AND CHILD ORAL HEALTH: A REVIEW OF THE LITERATURE

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Aim: in recent years, increasing attention has been given to mental health conditions and their effects on overall health. However, this topic remains relatively unexplored within the dental community, despite the significant influence these conditions can have on both oral health and dental care.

Previous research has shown that pregnant women and mothers are particularly vulnerable to developing mental health disorders such as anxiety and major depression. These conditions significantly increase the risk of neglect and lack of proper care for their children, which in turn can negatively impact their behavioral and physical development.

The consequences extend to oral health as well, as children of mothers with mental disorders have been found to be more susceptible to early childhood caries, bruxism, and postnatal enamel defects. Additionally, they may also face a higher risk of developing conditions such as diabetes and disabilities.

Methods: a literature search was conducted using PubMed, Medline, and Scopus with the keywords “maternal depression”, “oral health” and “children”, combined using “AND” or “OR” Boolean operators.

Results: a total of ten observational studies (cohort and cross-sectional) and corresponding literature review articles were included. Among them, four were cross-sectional studies, three were cohort studies, one was a review, and two were secondary analyses.

Conclusions: the findings from the reviewed literature indicate a strong association between maternal mental health disorders and inadequate oral care in children.

Therefore, dental professionals should exercise particular caution when treating and communicating with these patients to ensure their oral health needs are properly addressed.

DISCREPANCIES IN DENTISTS AND PATIENTS' AWARENESS OF MEDICATION-RELATED OSTEONECROSIS OF THE JAW: A SYSTEMATIC COUNTRY-BASED REVIEW

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Aim: the present systematic country-based review aims to investigate the awareness of MRONJ among dentists and patients taking BMAs.

Methods: a systematic review search was conducted in different search engines (i.e., Medline/PubMed, Scopus, Web of Science) to answer the PICo question: Do dentists and patients taking BMAs know the risk of MRONJ onset?

Results: nine studies investigating the dentists' awareness of MRONJ and 4 studies analyzing the patients' awareness of MRONJ were included. The studies were conducted in USA, Saudi Arabia, Bulgaria, and Brazil. In total, 4496 dentists were evaluated, of which 1089 were general dentists (24.2%), 660 oral surgeons (14.7%), 28 prosthodontics (0.6%), and another dental specialty. Among 318 patients under BMAs included, 113 were osteometabolic (35.5%), and 101 were oncologic (31.8%); in the remaining cases, it was not specified. In total, 3078 dentists and only 62 patients were aware of the possibility of MRONJ onset (68.5% and 19.5%, respectively). Our study revealed that in the USA, 68% of dentists and no patients were aware of MRONJ risk; in Brazil, 89.2% of dentists and 9.2% of patients; in Bulgaria, 82.7% of dentists and 17.9% of patients; and in Saudi Arabia, 56.3% of dentists and 33.8% of patients were aware.

Conclusions: these findings highlight a critical gap in patient awareness, as many dentists are aware of MRONJ but maybe fail to effectively communicate with patients. Full patient awareness of drug risks, local factors, and follow-up visits is essential to MRONJ prevention.

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ARTIFICIAL INTELLIGENCE IN DENTISTRY 2025: STATE OF THE ART - A SYSTEMATIC REVIEW

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Aim: Artificial Intelligence (AI) has been the natural consequence of the digitalization process in dentistry in the last 10 years. The aim of this systematic review is to compare AI with traditional diagnosis and treatment methods and evaluate the state of the art of AI importance, assessing its usefulness and clinical effectiveness in the various branches of dentistry.

Methods: this systematic review was conducted on PubMed/Medline, Scopus and Cochrane Library according to PRISMA 2020 Guidelines using suitable MeSH terms. Out of 3.871 of eligible papers 32 peer-reviewed full-text papers in English language were included for final appraisal according to pre-defined exclusion criteria.

Results: AI specific advantages were described in the various branches of dentistry (clinical record, radiology, digital scan,

surgery, periodontology, TMD disorders, prosthetics and implantology) and related fields (teaching, patient management, diagnosis, therapy and forensic medicine). Limits and critical issues were also detected (in ethics, in diagnostic accuracy and medical liability).

Conclusions: AI is a promising and growing technology in the field of dentistry, and it has been found to be a reliable companion for clinicians and researchers alike, improving precision in diagnosis, decision-making, treatment planning, and disease prognosis. However, AI's successful integration necessitates a safe and controlled integration process, which, in turn, requires continuing education training and guidelines. Therefore, further research is needed to fully adopt AI in dentistry.

IMPACT OF PARKINSON'S DISEASE ON ORAL HEALTH: A SYSTEMATIC REVIEW AND IMPLICATIONS FOR CLINICAL PRACTICE

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Aim: Parkinson's Disease (PD) is a neurodegenerative disorder that impairs motor and non-motor functions, including daily activities necessary to maintain proper oral health. In patients who typically demonstrate impaired self-care, poor oral health can be significant, with caries, halitosis and periodontal inflammation. The current systematic review was conducted to assess the overall oral health status in patients with PD.

Methods: a systematic search of the PubMed, Cochrane Library and Scopus databases was conducted looking for studies that assessed the oral health status and hygiene habits of PD patients, including plaque control and inflammation. Selected studies were subjected to a risk of bias assessment and qualitative analysis.

Results: sixteen studies out of 226 registrations were included. No significant differences were found between PD patients and healthy controls in brushing frequency (at least twice a day), brushing methods (various) or frequency of dental visits (mostly regular). The interdental device seemed to be less used by patients with PD and consequently plaque accumulation was greater. Self-reported difficulties in oral care were high: 15-29% of PD patients needed help compared with only 1% in the control group. In addition, the longer duration and greater severity of PD seemed to negatively affect the overall oral health condition.

Conclusions: because of the difficulties experienced by PD patients in maintaining adequate oral hygiene, it is imperative that dentists provide individual instructions that can be easily adopted by caregivers.

META-ANALYSIS OF 16S RNA SEQUENCING HIGHLIGHTS FECAL MICROBIOME SHIFTS IN ENDOMETRIOSIS, WITH NO SIGNIFICANT VAGINAL CHANGES

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Aim: dysbiosis in the gastrointestinal tract has been linked to various extra-intestinal diseases, including endometriosis. This condition may be exacerbated by immune system dysregulation and gut microbial imbalances. The aim of this study was to investigate the potential role of gut microbiota in the pathogenesis of endometriosis.

Methods: a meta-analysis was conducted using 182 metagenomic sequences, 79 from fecal samples and 103 from vaginal samples, collected from four studies. Two cohorts were defined, based on the presence or absence of endometriosis. Microbial diversity and differential abundance in fecal and vaginal samples were evaluated according to disease status. Disease classification, based on differentially enriched

bacteria, was performed using Random Forest, Gradient Boosting and Generalized Linear Modeling.

Results: fecal microbiota from endometriosis patients displayed unique features when compared to control subjects, quantified as a Microbial Endometriosis Index (MEI). These distinctive features allowed for accurate classification of disease status. In contrast, vaginal microbiota did not show significant differences between patients and controls.

Conclusions: our findings suggest that fecal microbiota composition, rather than vaginal microbiota, may play a role in the pathogenesis of endometriosis. These findings encourage further investigation into the gut-endometriosis connection, including the potential involvement of the oral-gut axis in its disease mechanisms.

THE PERSONALITY IN ORTHODONTICS: UNCOVERING ITS ROLE IN PAIN PERCEPTION, SATISFACTION, AND TREATMENT OUTCOMES

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Aim: this systematic review aimed to investigate the influence of personality traits on orthodontic outcomes, including pain perception, treatment attitude, compliance, satisfaction, and quality of life (OHRQoL), in the context of increasing demand driven by aesthetic concerns and the growing importance of oral health.

Methods: a comprehensive literature search was conducted across multiple databases (PubMed/MEDLINE, Scopus, Web of Science, ScienceDirect, and Google Scholar). Studies that employed validated instruments to assess personality traits based on the Big Five model were included. Data were synthesized from fifteen eligible studies to evaluate how specific personality dimensions correlate with various orthodontic outcomes.

Results: the findings revealed that higher levels of neuroticism are associated with increased pain perception, as well as lower levels of satisfaction and compliance. In contrast, traits such as extraversion, agreeableness, and conscientiousness were correlated with improved treatment outcomes and more favorable patient attitudes. Moreover, extraversion and openness appear to moderate the negative impact of malocclusion severity on OHRQoL, with minimal gender differences reported.

Conclusions: these results highlight the complex influence of personality in orthodontics and suggest that incorporating psychological profiling in clinical practice may improve patient-centered treatment approaches and enhance overall clinical results.

ORAL MANIFESTATIONS IN PSORIASIS PATIENTS: A SYSTEMATIC REVIEW AND CLINICAL EVALUATION

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Aim: psoriasis disease is a chronic inflammatory skin disorder with multifactorial etiology and systemic involvement, affecting 2-3% of the population. This study investigated the correlation between psoriasis and oral cavity diseases.

Methods: the correlation was evaluated through a systematic review using the PRISMA flowchart. The search used PubMed, Medline (Web of Science), and Scopus databases, along with clinical experience from the Dermatology Department and Integrated University Hospital of Verona.

Results: twenty out of 872 studies were included, and 100 patients were examined. Five underwent detailed periodontal examination, analyzing bleeding on probing index (mean 38%) and plaque index (43%). An association was observed

between psoriasis and poor oral hygiene, with worse periodontal index scores (87% in Ps patients vs 58% in healthy individuals), except for those on biological therapy. Literature suggests a correlation between reduced salivary flow and *Candida Albicans* (20% in Ps patients vs 2.8% in controls) and an association between psoriasis and temporomandibular joint disorders (68.8% in Ps patients vs 24.1% in controls).

Conclusions: the study revealed a high prevalence of non-specific oral lesions associated with the disease and confirmed poor hygiene due to occasional use of interdental aids and fewer dental visits. However, other associations found in the literature need further confirmation.

DENTAL MANAGEMENT OF PATIENTS WITH SPECIAL NEEDS: THE UNIVERSITY OF MILANO-BICOCCA GUIDELINES FOR PAEDIATRIC, ADULT, AND GERIATRIC CARE

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Aim: this study aims to define a comprehensive dental care protocol for patients with special needs, integrating a multidisciplinary approach to address their complex health conditions. The objective is to optimize the management of these patients and improve their overall quality of life.

Methods: the study analyzed the medical records of patients treated at the Special Dentistry Department of IRCCS San Gerardo dei Tintori Hospital in Monza. Inclusion criteria covered hospitalized and non-hospitalized patients with vulnerabilities affecting oral health. A clinical protocol was developed in collaboration with multiple medical specialties.

Results: the most frequent systemic conditions in this patient group included autism, ADHD, epilepsy, cerebral palsy, de-

mentia, and hemato-oncological diseases. Common oral pathologies observed were xerostomia, malocclusions, edentulism, and Medication-Related Osteonecrosis of the Jaw (MRONJ). The developed protocol emphasizes personalized treatment plans, conservative approaches, and preventive strategies.

Conclusions: managing patients with special needs requires an individualized, multidisciplinary strategy. Establishing standardized but flexible protocols enhances accessibility to care, reduces health disparities, and ensures a patient-centered approach. Future research will focus on further optimizing these protocols to improve long-term oral and systemic health outcomes.

APPROACH AND PREVENTION IN PEDIATRIC PATIENTS WITH AUTISM SPECTRUM DISORDERS: THE PERSPECTIVE OF DENTAL HYGIENISTS

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Aim: this study aimed to explore the knowledge, strategies, and challenges faced by Italian dental hygienists in managing pediatric patients with Autism Spectrum Disorders (ASD), in order to improve care quality and provide useful recommendations for clinicians and caregivers.

Methods: an anonymous 33-question online survey was distributed between April and July 2024 through social media and professional channels. The questionnaire covered demographics, clinical experience, communication strategies, operative tools, and home care. A total of 158 dental hygienists from various Italian regions participated.

Results: 73% had treated at least one ASD patient, but only 13.9% consulted specialists, and 46.1% had never collaborated with autism experts. Major difficulties arose during ses-

sions, mainly due to poor cooperation, sensory hypersensitivity, and communication barriers. Although 80% adopted specific strategies (e.g., voice modulation, hiding instruments), Augmentative and Alternative Communication (AAC) was rarely used. Regarding prevention, 50.4% recommended sealants only for permanent teeth, 37.4% also for primary teeth. Biorepair was the most recommended toothpaste. In challenging cases, 20.9% referred patients to public centers.

Conclusions: despite strong motivation, hygienists often lack structured protocols and specific training. Academic education is considered insufficient. Strengthening university and postgraduate education, spreading clinical guidelines, and encouraging multidisciplinary collaboration are essential to improve ASD patient care.

ORAL COMPLICATIONS, HYGIENE, AND EATING HABITS IN CANCER PATIENTS: A SURVEY-BASED STUDY

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Aim: to evaluate and quantify oral complications related to oncological therapies, analyzing changes in dietary habits and oral hygiene practices of patients during and after treatment.

Methods: a structured questionnaire was used (45 questions, 5 sections: clinical-demographic data, oral health, home oral hygiene, dietary habits, general knowledge). A total of 97 adult patients undergoing radio- and/or chemotherapy were included (76.3% women, mean age 58 years), mostly affected by solid tumors (84% breast, bone, head and neck) and hematological malignancies (15%, mainly multiple myeloma). Statistical analysis assessed the incidence and prevalence of oral alterations, correlating complications with the type of therapy received.

Results: the main oral complications were xerostomia (38%), caries (35%), mucositis (30%, significantly associat-

ed with combined treatments), dysgeusia (26%), periodontitis (25%), aphthous lesions (23%), oral candidiasis (21%), and dysphagia (19%). A total of 54.6% reported feeding difficulties, and 78.3% consumed acidic foods to counteract nausea, increasing the risk of dental erosion.

Many patients temporarily reduced oral hygiene due to pain and xerostomia and rarely received adequate instructions. 83% reported anxiety and discomfort, negatively impacting quality of life.

Conclusions: it is essential to increase dental check-ups during oncological therapies, implementing early interdisciplinary preventive strategies, educating patients and healthcare providers on oral and dietary hygiene, and providing targeted psychological support to improve quality of life.

ORAL HEALTH AND MIGRANTS: EDUCATION AND PREVENTION OF ORAL CAVITY DISEASES

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Aim: “CON-Sapienza” project is an initiative promoted by Sapienza University of Rome aimed at facilitating migrant integration and support through education and training. It creates an inclusive environment where participants can acquire new skills, enhance their knowledge, and receive support for daily life in Italy.

Methods: the project organized scientific awareness and prevention campaigns, focusing on pharmacology and medical issues related to the head-neck district. It was conducted in collaboration with Comboni Association for Services of Emigrants (ACSE), an NGO providing dental services via volunteer professionals and two dental operative units. Participants filled out satisfaction surveys at the end to assess the effectiveness of the activities.

Results: a total of 206 migrants was included in the project, 129 males and 77 females, with most under 30 years old. The sample was heterogeneous, including migrants from Egypt, Morocco, Senegal, Guinea, Nigeria, and Ukraine. Most had been residing in Italy for 1-3 years. Feedback revealed a positive response, with many reporting improved knowledge, though there was variation in perceived usefulness and interest in the topics. Most expressed interest in future courses, and many found the learned material useful for daily life.

Conclusions: satisfaction survey data indicated the project was well-received. The collaboration between “Sapienza” University and ACSE demonstrated how education and practical support can significantly impact migrant integration, contributing to individual well-being and social cohesion in Italy.

SYMPATHETIC IS NOT ALWAYS A SYNONYM FOR STRESS: INCREASE IN SYMPATHETIC ACTIVITY IMPROVES DENTISTS' WELL-BEING

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Aim: dentists experience high levels of stress due to prolonged concentration, precision work, and patient interactions. Chronic stress can impact on mental well-being, physiological health, and autonomic nervous system activity. This study aims to explore the relationship between occupational stress, sympathetic nervous system activity, and coping strategies among dental professionals. By identifying effective approaches to enhance well-being, this research seeks to promote healthier working conditions and mitigate the adverse effects of stress in the dental profession.

Methods: 20 dentists (mean age = 30±7), from the dental clinic, were recruited during a working day and underwent an 8-minute imaginative relaxation training session. Physiological

data were collected using the Empatica E4 wrist-worn device and analyzed through Matlab, Python, and R.

Results: dentists exhibited a moderate pre-session stress level (PSS-10 = 18, cut-off = 16). Sympathetic activity (electrodermal activity) increased significantly from pre- to post-relaxation session ($p < 0.01$) and 18/20 dentists reported post-session well-being (X^2 , $p < 0.001$). Spectral analysis of the EDA signals, using the Welch method, revealed main peaks in the frequency band between 0.01 and 0.2 Hz, indicating significant sympathetic physiological activity.

Conclusions: a notable sympathetic activity, though counter-intuitive, can also be representative of greater well-being, meaning feeling energized to face a workday.

ORAL HEALTH AWARENESS AND HYGIENE HABITS AMONG ADOLESCENTS: A CROSS-SECTIONAL STUDY IN MILAN

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Aim: this cross-sectional study aimed to investigate home oral hygiene habits, oral health issues, and the most common sources of information on oral health among adolescents.

Methods: to achieve this, anonymous questionnaires were completed by 829 high school students from Milan and the surrounding areas (350 males and 479 females, 13-20 years) under the supervision of teachers and/or an assigned interviewer.

These questionnaires were developed by Laboratorio Adolescenza in collaboration with the University of Milan and the IARD Research Institute.

Results: the analysis of the questionnaires revealed a good level of awareness (80% of students, both male and female) regarding risk factors for oral health, such as smoking, alcohol consumption, drug use, and an unhealthy diet. Moreover, differences in oral health priorities based on gender were observed: males prioritized having white teeth, whereas females considered having healthy teeth more important.

Conclusions: to maintain good oral health, it is essential to implement both primary and secondary prevention strategies. In particular, this study highlighted the need to further educate adolescents on proper oral hygiene practices to prevent significant long-term consequences in adulthood.

DENTAL CHART VALIDATION FOR AN EPIDEMIOLOGICAL ORO-FUNCTIONAL INVESTIGATION IN A 6-TO-14 YEARS-OLD CHILDREN POPULATION

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Aim: to assess the quality of a dental chart to record the oro-functional conditions in a pediatric population, assuming that a systematic and well-structured questionnaire plays a fundamental role in the correct diagnosis and treatment planning process.

Methods: the project was performed by auditing a “guided” dental chart formulated for subjects from 6-to-14 years-old, proposed by the International Medical University in Rome Uni-Camillus, in the period between March 2022 to June 2024. The subjects included were visited by five dental expert examiners during a project coordinated by the same University. The form was divided into three parts: 1) a questionnaire for the parents regarding remote and current habits; 2) parental consent; 3) a dental chart, filled out by the examiners. At the end of the pro-

ject each examiners received an anonymous satisfaction questionnaire regarding the dental chart validation.

Results: a total of 1033 charts were examined. Each chart was edited and validated by each examiner. None of the charts were discarded for inconsistencies/inadequacy. According to the examiner’s questionnaire, the results reported that they were partially (60%) aware of the topic covered and that almost everyone (80%) was interested in deepening them; all the examiners (100%) easily filled out the chart and understood the language, supporting the validity of the project.

Conclusions: a standardized method for data collection guarantees proper maintenance of dental records for private/public clinical practice and facilitates data analysis in epidemiological investigations.

ACCESSIBILITY OF ON-LINE INFORMATION ASSOCIATED WITH BRUXISM: A PATIENT-CENTERED MODEL

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Aim: low text readability and low health awareness are barriers to understanding of medical information, especially bruxism. To assess the readability of the home pages of the 10 most popular patient-oriented internet sites on bruxism and the education level necessary to read them.

Methods: through the “no country redirect” extension for Google Chrome (www.google.com/ncr), we typed “bruxism” and selected the first 10 English-language, patient-oriented websites.

We estimated the readability by using six common popularity tests: Gunning Fog Index (GFI), Coleman-Liau Index (CLI), Automated Readability Index (ARI), Simple Measure of Gob-

bledygook (SMOG), Flesch-Kincaid Grade Level (FKGL) and Flesch Reading Ease (FRE).

Results: few of the studied websites fell into the recommended readability range: A U.S. National Institutes of Health report on health materials found that a 6th to 7th-grade level is most effective for patients.

Conclusions: patients can have access to various types of online health information on bruxism that can influence the patients’ perception and understanding of the disorder, which in turn can lead to misunderstanding, late diagnosed, and creating poorer health outcomes. Research has not thoroughly examined the suitability of the Internet for health literature.

COMMUNITY DENTISTRY: RESULTS FROM THE PROJECT “PER IL SORRISO DEI BAMBINI”

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Aim: to explore oral disease experiences, attitudes towards oral health promotion, and eating and hygiene habits in minors and their families living in Milan, recruited from pre-schools (EDU group) and underprivileged families (QuBi group).

Methods: the EDU group consisted of 3-4-year-olds from pre-schools recruited through Comune di Milano, while the QuBi group included children aged 0-18 from underprivileged families, recruited through a community program by Fondazione Cariplo. Both groups, along with their caregivers, completed questionnaires, and the QuBi children were also visited.

Results: 340 participants were included (EDU = 187, QuBi = 153). The mean age of the QuBi group was 9 years. 94% of EDU caregivers had a college education compared to 37% in

the QuBi group. Regular toothbrushing was about 70% in both groups. Caries experience was reported in 5% of the EDU and 61% of the QuBi group. The EDU group consumed fewer sweets and soft drinks, and fewer had sweetened beverages or pacifiers. 67% of QuBi caregivers were unaware of how to access their electronic health records, compared to 31% EDU. Regular dental visits were reported by 60% of EDU caregivers compared to 14% in QuBi. Only 0.5% of EDU children missed school due to tooth pain, while 16% of QuBi children did. Half of the participants in both groups did not receive oral care information from their pediatricians.

Conclusions: the findings emphasize the importance of a collaborative approach involving families, schools, and health-care institutions to enhance children's oral health.

OPMD RESEARCH: A CALL FOR IMPROVED THESAURI CLASSIFICATION

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Aim: this study aims to critically assess the current limitations of Medical Subject Headings (MeSH) and Excerpta Medica TREE (EMTREE) thesauri in indexing literature on Oral Potentially Malignant Disorders (OPMD), and to propose improvements that facilitate systematic reviews and meta-analyses in this domain.

Methods: we conducted a qualitative analysis of MeSH and EMTREE indexing for OPMD by comparing current thesaurus terms with the latest WHO consensus classification. Retrieval inconsistencies, term mapping discrepancies, and coverage of the 11 recognized OPMD entities were systematically evaluated across PubMed and Embase.

Results: MeSH lacks a dedicated heading for “oral potentially malignant disorders”, while EMTREE includes only 5 of 11 rec-

ognized conditions. Several relevant terms are absent, outdated, or inaccurately grouped under broader categories such as “precancerous conditions”. These shortcomings hinder search precision and reproducibility in evidence synthesis. Additionally, the use of PubMed-to-Embase translators and large language models may exacerbate retrieval bias due to indexing inconsistencies.

Conclusions: current thesauri inadequately support systematic literature retrieval on OPMD. We recommend introducing “oral potentially malignant disorders” as a standardized heading, improving controlled vocabularies, and exercising caution when using AI-based tools for search strategies. Enhanced ontologies are essential to strengthen clinical decision-making and the reliability of evidence-based research.

EFFICACY AND SAFETY OF UVC STERILIZATION FOR MEDICAL INSTRUMENTS: A NARRATIVE REVIEW

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Aim: the rigorous sterilization of dental medical instruments is a fundamental for the prevention of the transmission of nosocomial infections. Conventional sterilization methods present limitations in terms of time, operational costs, and potential damage to delicate instruments. The purpose of this narrative review is to analyze the use of 222 nm UV-C light.

Methods: the research was conducted in March 2025 on the PubMed and Scopus databases using the search terms: “Sterilization” AND “UV-C light”.

Results: the most recent literature is experimenting with the UV-C band with a wavelength of 222 nm. Unlike 254 nm UV-C light, 222 nm UV-C light presents itself as an innovative and safe alternative for clinical use, offering effective antimicrobial action against a broad range of pathogens, including drug-re-

sistant bacteria, viruses, and spores, without compromising the integrity of materials. Sanitization with nighttime UV-C lamps, compared to the use of chemical products is faster, doesn't require the use of personnel, and is economically advantageous. Daytime lamps require no maintenance and sanitize the air, allowing them to be used in the presence of people, ensuring a constant and uniform effect over time in the environment.

Conclusions: UV-C light is a promising technology for sterilizing instruments and surfaces in the presence of operators and patients, reducing the risk of contamination in real-time and proving effective in inactivating a wide range of microorganisms. However, further research is needed to optimize this sterilization protocol.

COMPARATIVE EFFICACY OF ORAL, SUBLINGUAL, AND INTRAMUSCULAR VITAMIN B12 SUPPLEMENTATION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aim: vitamin B12 deficiency is common and can lead to hematological and neurological complications. Although intramuscular (IM) injection is the standard treatment, oral and sublingual routes are gaining interest due to better tolerability and patient preference. This systematic review and meta-analysis assessed the efficacy of oral and sublingual B12 supplementation compared to IM administration in increasing serum cobalamin levels.

Methods: following PRISMA guidelines, a literature search was performed in PubMed, Scopus, and Web of Science for studies from January 2010 to February 2024. Eligible studies included RCTs and observational designs evaluating serum B12 changes after oral, sublingual, or IM administration. Out of 368 records, 17 met inclusion criteria; 12 were included in the meta-analysis.

Results: pooled results showed no significant difference between non-invasive and IM routes in raising serum B12 (mean difference: -12.6 pmol/L; 95% CI: -28.4 to 3.2; $p = 0.11$). Clinical outcomes were similar across routes. Adherence and patient satisfaction were higher with oral and sublingual options. Heterogeneity was moderate ($I^2 = 43\%$).

Conclusions: oral and sublingual vitamin B12 supplementation demonstrate comparable efficacy to intramuscular injection in restoring serum cobalamin levels, particularly in individuals with mild to moderate deficiency. These findings support the consideration of non-invasive delivery routes in clinical practice, especially in patients where compliance or procedural burden is a concern. Further well-designed, long-term trials are warranted to confirm these findings and to explore outcomes across different clinical subpopulations.

ANCIENT AND MODERN DENTAL CALCULUS ANALYSIS FOR TRACING MEDICINAL SUBSTANCES: A PILOT STUDY WITHIN THE PRIN PROJECT ROMAN CALCULUS

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Aim: this study examines medicinal substances, botanical remedies, and drugs in ancient and modern dental calculus. Conducted within the framework of the PRIN 2022 project *ROMAN CALCULUS*, and by integrating archaeological, forensic, and clinical approaches, we aim to reconstruct past medical practices and standardize methodologies for detecting drug and mineral traces.

Methods: dental calculus samples from individuals dated between the 1st and 6th centuries AD are being analyzed using microscopy, Gas Chromatography-Mass Spectrometry (GC-MS), and Liquid Chromatography-tandem Mass Spectrometry (LC-MS/MS). To validate methodologies, modern samples (dental calculus, saliva, and hair) were collected from participants at the UOD of Complex Odontostomatology, DAI Head-

Neck, Umberto I Polyclinic, Sapienza University of Rome. Hair assesses long-term exposure, saliva evaluates contamination risks, and elemental analysis detects heavy metal exposure.

Results: preliminary findings reveal plant residues, organic compounds, and therapeutic minerals in ancient Rome. Modern sample analysis refines detection methods and assesses contamination risks. Dental calculus effectively preserves chemical traces, supporting its role as a biological archive.

Conclusions: dental calculus is a key tool for studying past medical practices. Modern samples enhance methodological validation, improving detection accuracy. Future research will expand the dataset and refine analytical techniques to advance our understanding of ancient and modern pharmacology.

ORAL ALTERATIONS IN WIND INSTRUMENT MUSICIANS: EVALUATION, MANAGEMENT, AND PREVENTION

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Aim: the prolonged use of wind instruments exerts constant pressure on teeth and soft tissues, potentially leading to oral health issues. This study aims to assess the most common dental and periodontal alterations in musicians and suggest preventive strategies.

Methods: a literature review was conducted on the relationship between wind instrument playing and oral health. Additionally, an observational study was carried out on 28 professional musicians from a symphonic orchestra, including players of flute (n = 7), horn (n = 4), oboe (n = 6), clarinet (n = 3), bassoon (n = 3), trumpet (n = 2), trombone (n = 2), and tuba (n = 1). Participants completed a questionnaire on their musical practice, oral hygiene habits, and symptoms related to instrument use. A clinical examination, including periodontal chart-

ing, was performed to assess dental and soft tissue alterations.

Results: the most reported issues included lip and mucosal lesions (60%), dentinal hypersensitivity (48%), and gum recession (37%). Brass instrument players showed a higher prevalence of dental wear and lip pressure-related injuries, while reed players often experienced mucosal ulcerations and mandibular tension. Statistical analysis revealed a significant correlation (p < 0.05) between years of practice and oral alterations.

Conclusions: wind instrument playing can impact oral health. Regular dental check-ups, personalized hygiene practices, and protective devices (e.g., lip shields, mouthguards) may help reduce risks. Further research is needed to refine preventive strategies for musicians.

DEFINING A REFERENCE VALUE FOR MASTICATORY FUNCTION USING VARIANCE OF HUE IN YOUNG ADULTS

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Aim: mastication plays a crucial role in digestion, nutrition, and oral health. This study aims to establish a reference value for adequate masticatory function in young adults using the Variance of Hue (VoH) from the two-color mixing ability test. A standardized threshold could facilitate early detection of functional impairments and guide preventive and rehabilitative strategies.

Methods: fifty young adults (aged 18-30) with full dentition and no temporomandibular disorders were enrolled. Each participant underwent a comprehensive dental evaluation, including periodontal screening, dental status assessment, and jaw function analysis. Masticatory performance was assessed using the two-color mixing ability test, with VoH analyzed optoelectronically. Anthropometric parameters and self-reported oral health impact (OHIP-14) were also recorded.

Results: percentile analysis identified 0.187 (75th percentile) as the reference value for adequate masticatory function, while higher values indicated potential impairment. The mean VoH for the sample was 0.136±0.113. No significant differences were found between males and females ($p > 0.05$). VoH showed no strong correlations with biometric parameters ($p > 0.05$). Subjective assessments revealed that 36% of participants experienced difficulties in chewing certain foods, and 48% reported oral pain, emphasizing the clinical relevance of masticatory function assessment.

Conclusions: a VoH value of 0.187 may serve as an initial benchmark for defining optimal masticatory function in young adults. This objective measure could assist in the early identification of individuals at risk of masticatory decline, enabling timely interventions. Further studies are needed to validate this value across different populations and clinical settings.

EMERGENCY DENTAL CARE IN AIRPORTS: ASSESSING THE AVAILABILITY OF SERVICES IN MAJOR EUROPEAN HUBS

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Aim: airports provide various services to passengers, yet dental care remains overlooked. Establishing a dental clinic with one or two chairs could improve the experience of travellers, flight crew, and staff by offering emergency treatment and minimizing discomfort. Such a service would enhance access to urgent dental care, making airports more inclusive and ensuring safer travel for all.

Methods: a survey was conducted at European airports handling over 20 million passengers annually to assess the availability of dental services. Additionally, a manual search for the keywords “dental” or “dentist” in the public sections of the airports’ websites was performed, considering only the English versions. A total of 28 airports met the inclusion criteria.

Results: among the 28 airports, only six provide dental services. Of these, only Istanbul Airport offers an “airside” clinic beyond security checks, operating 24/7. However, it does not specify the range of treatments available beyond emergency care. Moreover, the dental service page is not directly accessible from the airport’s website but only through external search engines.

Conclusions: the lack of dental services in 22 out of 28 airports highlights a gap in passenger care. Common causes of in-flight dental pain include pulpitis, apical periodontitis, barodontalgia, incorrect dental restorations, deep caries, post-treatment complications, and barosinusitis. Implementing emergency dental services in airports would be a strategic investment in passenger well-being and improve airport facilities.

COMPARISON OF THE EFFECTS OF ARTICAIN AND LIDOCAINE ANESTHETICS ON BLOOD PRESSURE AFTER MAXILLARY INFILTRATION TECHNIQUE: A TRIPLE-BLIND RANDOMIZED CLINICAL TRIAL

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Aim: local anesthesia can cause various side effects; to avoid these, not only the type of drug but also the injection technique is crucial. The main side effect is an increase in blood pressure caused by the synergy of factors such as psychological and physical stress, painful stimuli, and catecholamines present in anesthetics. The aim of this study is to compare and evaluate the effects of articaine and lidocaine on blood pressure after using the maxillary infiltration technique.

Methods: the experiment was conducted on 102 patients randomly assigned to two groups through computer-generated numbers. In the first group, cartridges containing 4% articaine with 1:100000 epinephrine were used, while in the second group, vials of 2% lidocaine with 1:80000 epinephrine were

used. Diastolic and systolic blood pressure was measured before the injection and 10 minutes after the infiltration; the statistical analysis of the data was performed using the “Shapiro-Wilk” test, the “Levene” test, the independent test, and the paired test.

Results: the measurement of blood pressure between the two groups of lidocaine and articaine examined was not significantly different (respectively $p:0.540$ and $p:0.471$) before the intervention. After the infiltration, it was observed that the average blood pressure increased in both groups, but no difference was found between lidocaine and articaine.

Conclusions: articaine can be considered a suitable alternative to lidocaine.

COMPARISON OF THE EFFECTIVENESS OF SONIC VERSUS MANUAL TOOTHBRUSH IN A COHORT OF PAEDIATRIC PATIENTS

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Aim: the aim of the study is the comparison of sonic and manual toothbrushes efficacy in patients aged between 11 and 14 years.

Methods: in this Randomized, single-blind Clinical Trial (RCT), the eligible subjects, who fulfilled the inclusion criteria, were divided into the following two groups: Group C (control, manual toothbrush, 15 participants), Group I (intervention, sonic toothbrush, 15 participants). Subjects were instructed to brush their teeth at least twice a day and the evaluation of effectiveness was measured using Full Mouth Plaque Score (FMPS) and Periodontal Screening and Recording (PSR). The duration of the study is 6 months with follow-up at 1 month, 3 months and 6 months. During the study, Quality of Life Related to Oral Health (OHRQoL) is verified through the use of a validated

questionnaire (CPQ11-14). In addition, a validated questionnaire will be administered at each visit to learn about the individual patient's cleaning habits and monitor any changes in their oral hygiene maneuvers.

Results: recruitment is on going. Results will be conducted by statistical analysis divided into primary analysis: comparison of mean reduction in FMPS using repeated-measures ANOVA or mixed-effects models to account for multiple time points. Secondary analysis: descriptive analysis of gingival inflammation and oral health quality of life outcomes.

Conclusions: drawing on prior research and based on the data obtained from the first follow-up, we anticipate that there is a greater reduction in FMPS and PSR indices in patients in the intervention group.

A NOVEL SELF-ACTIVATED DISPOSABLE CLEANING TRAY FOR ORAL HYGIENE IN UNCONSCIOUS ICU PATIENTS

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Background: maintaining adequate oral hygiene in unconscious patients admitted to Intensive Care Units (ICUs) is essential for preventing systemic complications, particularly Ventilator-Associated Pneumonia (VAP). Conventional oral care procedures are often suboptimal, resource-intensive, and may pose discomfort or risk to vulnerable patients.

Aim: to introduce and preliminarily evaluate an innovative protocol employing a self-activated, disposable oral cleaning tray with low environmental impact, designed to support oral hygiene in unconscious ICU patients.

Methods: the device, currently under development, consists of a flexible tray designed to conform to the oral anatomy and support atraumatic cleaning. Upon application, the tray acti-

vates a controlled release of cleansing agents, enabling gentle and passive debridement of the oral cavity without requiring complex instrumentation or prolonged caregiver intervention.

Results: the single-use nature of the tray minimizes the risk of cross-contamination and supports hygienic handling. Expected clinical benefits include improved plaque control, reduced oral microbial burden, enhanced patient safety, and a lower incidence of respiratory complications linked to poor oral care.

Conclusions: preliminary clinical observations suggest that this protocol may outperform standard oral hygiene practices in ICU settings, while also offering a reduced environmental impact. Further clinical validation is necessary to confirm its efficacy and establish its role within critical care protocols.

ORAL MUCOSAL PREPARATIONS BETWEEN WHITENING EFFECT AND ANTI-STAINING PROPERTIES

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Aim: the purpose of this study is to assess the whitening effect and the anti-staining properties of oral preparations containing 0.1% and 1.8% hydrogen peroxide (H₂O₂) gel or mouthwash, as well as 0.2% chlorhexidine (CHX).

Methods: in this study, eighteen permanent human teeth were divided into two equal Groups (G). Afterward, 30/36 samples were randomly assigned to five research groups:

- G1 Aa : BMG gel with 1.8% H₂O₂;
- G2 Ab: BMG gel with 0.1% H₂O₂;
- G3 Ba: BMG mouthwash with 1.8% H₂O₂;
- G4 Bb: mouthwash with 0.2% Chlorhexidine Gluconate + ADS;
- G5 Ca: mouthwash with 0.2% Chlorhexidine Gluconate.

Following a 24-hour storage period, in 0.9% NaCl at 37°C, the samples were treated every 12 hours for 6 days with 0.5 cm of gel or 10 ml of mouthwash, according to the group.

Results: the mouthwash from the third group demonstrated the highest whitening and stain-removal effectiveness. Specifically, it resulted in:

1. a measurable color shift, with ΔE values exceeding 3 in all treated samples, even after just two applications (T1), and an average lightning of 13.5 shades between T0 and T4;
2. complete stain removal as early as T1 in all four samples that initially had an IM-E index of 1. Regarding the IM-I index, 2 out of 4 stained elements showed a value of 1, 1 out of 4 had a value of 2, and 1 out of 4 exhibited a value of 3.

The formulations in groups 1 and 2 also exhibited whitening and stain-prevention effects, with the first being a gel containing 1.8% H₂O₂ and the second a gel-based solution with 0.1% H₂O₂.

In contrast, the mouthwashes in group 4 and group 5 showed no whitening or stain-removal effects.

The treated dental specimens showed no visible differences in color or stain intensity, maintaining the same appearance from T0 to T4.

Conclusions: the mouthwash from the third group demonstrated the highest whitening and stain-removal effectiveness.

CORRELATION BETWEEN ORAL HYGIENE AND HEART HEALTH: AWARENESS AND INNOVATIVE STRATEGIES IN MANAGING THE RISK OF BACTERIAL ENDOCARDITIS

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Aim: to assess awareness about the correlation between oral hygiene and bacterial endocarditis among the population and healthcare professionals, exploring prevention and risk management strategies.

Methods: two questionnaires with Google Forms were developed: an 11-question questionnaire administered to 377 potential patients and a 9-question questionnaire addressed to 30 healthcare professionals to analyze knowledge and habits. In addition, a clinical case of patient with a congenital heart valve defect who had undergone twice valve replacements and was therefore at high risk of endocarditis was studied. She presented with a hairy tongue, halitosis, and high levels of gingival pathogens. Treatment included professional oral hygiene, photodynamic therapy and probiotics, with bacterial load monitoring.

Results: 50.4% of patients showed limited knowledge of the correlation between oral hygiene and cardiovascular risk, while 28.6% were unaware of it. Among professionals, 93.3% considered themselves very informed, but 20% did not broach the subject with patients. In the clinical case, high levels of *E. corrodens* and *C. hominis* were found, bacteria from green complex strictly associated with endocarditis. After treatment, an improvement in lingual condition and a reduction in oral bacterial load from 20% to 11% was observed.

Conclusions: data highlight the need for a multidisciplinary approach to the prevention of bacterial endocarditis. Photodynamic therapy and probiotics showed potential in risk management and should be further investigated in clinical settings.

EPIDEMIOLOGICAL INVESTIGATION OF ATYPICAL SWALLOWING IN THE ADULT POPULATION: ASSESSMENT OF CLINICAL SIGNS

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Aim: this study aimed to investigate the prevalence of atypical swallowing in the adult population and to identify the most common clinical signs.

Methods: a questionnaire consisting of 30 questions was administered to investigate the presence of atypical swallowing, whether the subject was already aware of it, and what problems, especially in the oral cavity, resulted from this condition. The examined sample consisted of a total of 150 patients (34% male and 66% female), aged between 18 and 85 years.

Results: results showed that 77% of participants exhibited atypical swallowing, and almost none of them were aware of it. Furthermore, clinical signs were found in all patients with atypical

swallowing; the most frequent were rounded and tooth-marked tongue, gingival recession, calculus (especially in the lower incisors area), altered palate shape, and malocclusions (particularly open bite). Additionally, 43% of patients had periodontitis, but further studies are needed to investigate the possible link between atypical swallowing and periodontal disease.

Conclusions: in light of the data collected, it emerged that a large percentage of the sample analyzed had atypical swallowing (with clinical signs detectable in the oral cavity) and that only a very small number were aware of it (only 7%). These data demonstrate how widespread and, at the same time, underestimated this condition is in the adult population.