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The Role of Diet and Lifestyle in Preventing Oral Diseases: A Meta-Analysis

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Authors:
Hossein Malekzadeh[1]
Amir Danial Pour Ahmadiyeh[2*]

1. Department of Oral and Maxillofacial Medicine, School of Dentistry, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.
2. Department of Oral and Maxillofacial Surgery, School of Dentistry, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

**** Corresponding author:***
Dr. Amir Danial Pour Ahmadiyeh

E-mail: dr.ad.pourahmadie@gmail.com

ABSTRACT

Background: Oral health issues, such as dental caries, periodontal disease, and oral cancer, represent significant challenges to global health. Proper and balanced nutrition plays a vital role in this context, as it is fundamental to overall health, which includes the condition of the oral cavity and teeth. Nutrition pertains to the specific nutrients absorbed by the body, while diet encompasses all nutrients and non-nutrients consumed. The quality of nutrition directly influences the growth, development, and metabolic functions of the periodontium. A deficiency in essential nutrients can lead to changes in the primary factors associated with periodontal diseases, and dietary choices can significantly influence the progression of these ailments. This review article provides a meta-analysis of the existing literature to evaluate the effects of dietary and lifestyle factors on the prevention of oral health problems.

Method: A systematic review of studies was performed from databases such as PubMed, Scopus, Web of Science, and the Cochrane Library from 2000 onward to investigate the connections between specific dietary components, lifestyle habits, and oral health outcomes.

Results: The findings indicate notable correlations among elevated consumption of processed sugars, inadequate oral hygiene, and the use of tobacco and alcohol, all of which increase the likelihood of developing oral diseases. Conversely, a diet abundant in fruits, vegetables, and vital nutrients, along with consistent oral hygiene practices, is linked to a lower risk of these health issues.

Conclusion: This meta-analysis highlights the essential role that dietary and lifestyle modifications play in strategies aimed at preventing oral diseases.

Keywords:

Diet, Lifestyle, Nutrition, Oral Disease, Periodontal.

INTRODUCTION

Oral diseases, although primarily preventable, represent a significant health challenge for numerous nations, impacting individuals throughout their lives and leading to pain, discomfort, disfigurement, and in severe cases, mortality (1). Recent estimates suggest that around 3.5 billion individuals are affected by oral health problems. The Global Burden of Disease 2021 report highlights untreated dental caries in permanent teeth as the most prevalent health issue (2). The management and prevention of oral health issues can lead to considerable expenses and are often excluded from the benefit packages of national universal health coverage (UHC) (3). In many low- and middle-income countries, there is a lack of adequate services to effectively prevent and manage oral health conditions (4). The causes of oral diseases are linked to several modifiable risk factors that are prevalent in numerous noncommunicable diseases (NCDs), such as excessive sugar intake, the use of tobacco and alcohol, and inadequate hygiene practices, as well as the associated social and commercial determinants (5). The lack of preventive measures in oral health significantly heightens the risk of tooth loss, which in turn diminishes an individual's capacity to chew and adversely affects their nutritional consumption. Furthermore, there are cosmetic consequences, as individuals with dental issues frequently refrain from smiling and may withdraw from social

interactions (6). The dental challenges faced by economically disadvantaged populations not only compromise their personal health but also place a financial burden on the overall healthcare system, as oral diseases can result in more severe health issues, leading individuals to pursue formal medical treatment at different stages of their lives (7). Certain lifestyle elements can increase the likelihood of developing periodontal disease, with inadequate oral hygiene serving as a significant factor; the absence of bacteria is essential for the development of periodontal disease, underscoring its importance in the condition's emergence (8). Efficient management of plaque, which involves the effective disruption of biofilm, is recognized as the most critical preventive strategy against periodontal diseases (9). Effective plaque control is largely determined by personal habits, making it an important aspect of one's lifestyle. Numerous studies carried out over the years have highlighted the significant impact of tobacco smoking on the onset of periodontitis through various mechanisms (10). These mechanisms include alterations in the oral microbiome that promote the growth of more harmful bacteria, reduced blood flow to the gums, impaired neutrophil function, elevated levels of proinflammatory agents, and an increase in immunogenic T-cells (11). Furthermore, smoking adversely affects the recovery mechanisms of the impacted gingival tissues (12). Additionally, studies have indicated that the intake of alcohol correlates with a significant increase in the severity of periodontal disease, establishing it as a distinct modifiable risk factor for periodontitis (13-15). The underlying mechanisms suggest that high levels of alcohol consumption negatively impact the oral microbiome and interfere with the activities of neutrophils, macrophages, and T-cells. This disruption subsequently modifies immune responses and impedes the process of bone regeneration (16).

There exists a distinct psychobiological connection between chronic stress and associated health complications, particularly periodontal diseases. Chronic stress hampers tissue healing by elevating the levels of cytokines, interleukins—especially IL-1β, IL-6, and IL-8 and TNF-α, which exacerbates periodontal damage (17). Furthermore, stress exerts considerable strain on multiple components of the immune system, including mitogen stimulation and the production of antibodies and cytokines, leading to an unbalanced immune response that facilitates the onset of periodontitis (18). Additionally, diets high in sugar or saturated fats, along with those deficient in polyols, fiber, and polyunsaturated fats, have been associated with a greater vulnerability to periodontal disease (19). Research has consistently demonstrated a relationship between insufficient dietary calcium and the incidence of periodontal disease, with a notably low serum calcium-magnesium ratio being strongly associated with greater attachment loss and the advancement of periodontal conditions (21-22). As a result, dairy products, which are rich in calcium, phosphate, and a variety of proteins, are expected to positively influence periodontal health (22). In contrast, insufficient calcium consumption is linked to a heightened risk of tooth loss, loss of attachment, and increased severity of periodontal disease (23). Therefore, the current meta-analysis highlights the crucial importance of dietary and lifestyle modifications in strategies designed to prevent oral diseases.

METHODS

Search Strategy

The comprehensive literature search in databases, including PubMed, Scopus, Web of Science, and the Cochrane Library, were utilized focusing on studies published from 2000 onward by employing search terms and keywords such as "dental caries," "periodontal disease," "oral cancer," "diet," "nutrition," "oral hygiene," "smoking," "alcohol," "lifestyle," "Systemic disease," "Stress," and "exercise" among others.

Inclusion and Exclusion Criteria

Numerous research methodologies, including randomized controlled trials, cohort studies, case-control studies, and observational studies, have been employed to explore the association between dietary elements, lifestyle choices, and oral health outcomes. It is essential that these studies include those that yield quantitative data relevant to the findings. Additionally, research involving non-human subjects, studies marked by insufficient data, case studies, literature reviews, and investigations lacking a direct link to dietary or lifestyle factors should be excluded from consideration.

Data Extraction

Two researchers conducted the data extraction process independently. The gathered data encompassed various elements, including the author's name, the country of origin, the total number of participants, the number of individuals at risk of malnutrition or already malnourished, the count of well-nourished participants, the type of study undertaken, the duration of follow-up, demographic information such as age and sex, oral health outcomes, the nutritional assessment scale employed, FTU, occurrences of oral disease, the mean DMFT, and classifications established by MNA/SGA.

Quality Assessment

The researchers, PSA and FWMGM, who were unaware of the study conditions, conducted independent evaluations to detect any possible biases present in the studies. They employed the Agency for Healthcare Research and Quality (AHRQ) scale, specifically designed for cross-sectional studies, alongside the Newcastle-Ottawa quality assessment scale, which is utilized for assessing case-control and cohort studies.

Statistical Analysis Method

The process of conducting a meta-analysis commenced with the extraction of statistical data from each relevant article, emphasizing the comparisons made among various groups. This data included the sample sizes for each group, the methods under comparison, and the means and standard deviations of the P-values, along with any additional pertinent statistical information provided by the authors. Following this, the homogeneity of the comparisons was evaluated through the chi-squared test. In instances where the studies exhibited homogeneity, fixed effect models were utilized. The effect size for each comparison was determined according to the nature of the collected data; for example, when the response variable was minimal, the standardized difference in means was calculated. Ultimately, the cumulative effect was assessed based on the P-value, which informed the choice of the most appropriate method for each category of comparisons. If the comparisons within each category were homogeneous, the cumulative effect was computed using random effect models, supported by Comprehensive Meta-analysis software version 2.0.

RESULTS

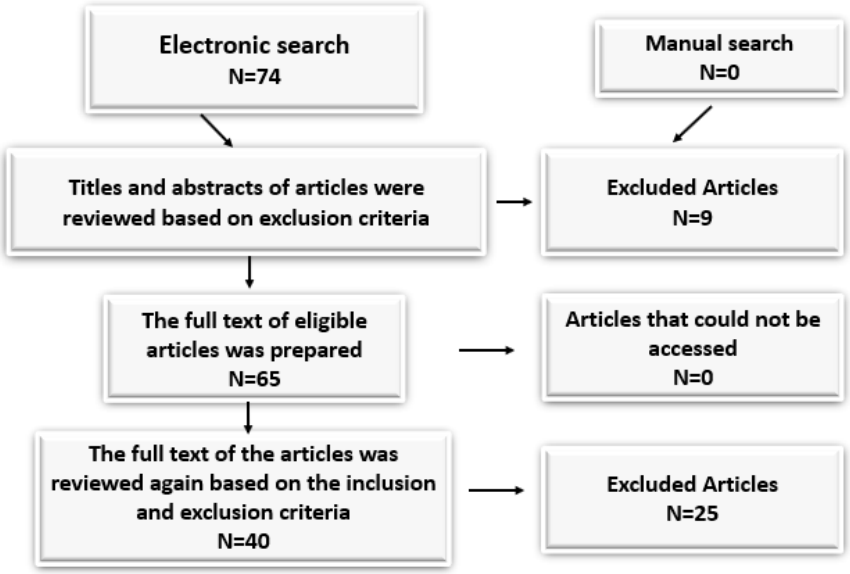
Search Results

In this research, a comprehensive search was conducted across the PubMed, Scopus, Web of Science, and the Cochrane Library databases utilizing the specified keywords. Following the removal of duplicate entries, a total of 74 articles were identified according to the modifiable factors showed in Table 1. An initial review of the abstracts allowed for the elimination of unrelated studies, resulting in the preparation and examination of the full texts of 65 articles. No additional articles were discovered during the manual search of the references within these studies. From the 65 articles reviewed, those deemed relevant were chosen for a more in-depth analysis. This evaluation focused on two key aspects: the scientific principles underpinning the studies and the precision of their methodologies. Consequently, 25 articles were excluded, leaving 40 articles that were deemed suitable for statistical analysis. The PRISMA flowchart demonstrate the selection process (Table 2).

Table 1: Considered factors in the systematic review.

Dietary Factors
High sugar consumption and dental caries risk.
Dietary fiber and dental caries risk
Fermentable carbohydrates, acidity, and dental caries
Fruit and vegetable consumption and periodontal health
Calcium, Vitamin D, and periodontal health
Antioxidants and oral cancer prevention
Lifestyle Factors
Oral hygiene practices (brushing frequency, flossing, etc.) and dental caries
Oral hygiene practices and periodontal disease
Smoking and periodontal disease, oral cancer
Alcohol consumption and oral cancer
Calcium, Vitamin D, and periodontal health
Obesity and periodontal disease, if applicable
Sstemic disease and stress

Table 2: Prisma chart of studies included in the systematic review.



Meta-Analysis of Studies

A meta-analysis was conducted once more to evaluate the variable of risk factors, as presented in Table 3. The findings from the assessment of risk factors revealed a notable distinction between groups, indicating that the life style and diet not only exhibited reduced oral disease but also experienced an increase in oral health (Table 4).

Table 3: Articles in which the mentioned factors in oral diseases were included in the meta-analysis.

Nutrients	Author	Ref	Results	Lifestyle	Author	Ref	Results
Vitamins	Dodington (2015)	24	Improve outcomes of periodontal therapy	Weekly alcohol consumption	Baumeister (2021)	44	A risk factor for the development of periodontitis
	Neiva (2005)	25	Accelerate periodontal wound healing	Long-term alcohol intake	Pinto (2024)	45	Damaged periapical bone microstructure in the presence of apical periodontitis
	Abou Sulaiman (2010)	26	Improvement of chronic periodontitis.	Excessive alcohol consumption	Moura (2024)	46	Increased osteoclast activity
	Aral (2015)	27	Alleviate gingival inflammation and alveolar bone	Appropriate physical exercise	Flynn (2007)	47	Reduce inflammation and osteoclast formation near the alveolar bone
Antioxidants	Grover (2016)	28	Reducing inflammation and periodontal destruction	Regular exercise	Shimazaki (2010)	48	Preventing periodontitis
	Kaur (2016)	29	Accelerate Periodontal regeneration	Moderate obstructive sleep apnea	Khodadadi (2022)	49	Increase risk of periodontitis
Magnesium	P Meisel (2005)	30	Improve periodontal health	Sleep duration of 7–9 h	Zhou (2021)	50	Lower oral health care needs
Probiotics	Morales (2017)	31	Supportive periodontal therapy.	High blood pressure	Zhan (2016)	51	Increase risk of periodontitis
Fungal extracts	Spratt (2012)	32	Anticaries activity	Coronary heart diseases	Humphrey (2008)	52	Increase risk of periodontitis
Lycopene	Chandra (2007)	33	Improvement of periodontal health	Higher BMI	Sede (2014)	53	High caries incidence
Calcium	Mieko Nishida (2000)	34	Decreases tooth loss	Obesity	Abu-Shawish (2022)	54	Increase risk of periodontitis

Nutrients	Author	Ref	Results	Lifestyle	Author	Ref	Results
Melatonin	Arabacı (2015)	35	Reduces bone resorption caused by induced periodontitis	Obesity	Chen (2021)	55	Increase risk of chronic periodontitis
Dietary acids	Carvalho (2020)	36	Association between dental erosion and the acidic foods	Former smoking/ current smoking	Khan (2016)	56	Periodontitis prevalence was highest in current smokers
Starch-rich staple foods	Jangda (2024)	37	Low levels of caries	Uncontrolled diabetes	Braga (2011)	57	Accelerated orthodontic tooth movement
Sucrose	Yoshihara (2021)	38	Rise in root surface caries.	Poor oral hygiene consumption	Najeeb (2017)	58	Affect periodontal tissues
Fatty acids	Iwasaki (2011)	39	Incidence of periodontal disease events	Fitness	Moreno (2008)	59	Better oral health
β-carotene	Iwasaki (2013)	40	Inverse correlation with the progression of periodontal disease.	Watching TV or working on a computer	Zeng (2014)	60	Increases of teeth cavities
Milk	Adegboye (2012)	41	Reduced risk of developing periodontitis.	Regular tooth brushing	Hashmat (2023)	61	Decreases of caries rates
Fruit juice	Liska (2019)	42	The erosion of dental enamel in adults.	work-related stress	Tikhonova (2018)	62	Increases risk of periodontal disease
Polyunsaturated fatty acids	Iwasaki (2016)	43	Increased risk of hyposalivation	work stress	Sato (2020)	63	Increases tooth loss

Table 4: Results of meta-analysis of studies.

Effect size and 95% confidence interval						Heterogeneity				Test of null (2-tail)	Tau-squared		
Model	Number of Studies	Point estimate	Standard error	Upper bound	Lower bound	*P*-value	Q-value	Df (Q)	I-squared	*P*-value	Tau squared	Standard error	tau
constant	10	0.031	0.011	0.044	0.002	0.213	2.98	11	0.000	0.167	0.000	0.0012	0.000
Random	6	0.028	0.015	0.053	0.001	0.119				0.181			

Table 5. The quality of studies is evaluated in accordance with the Cochrane guidelines.

Study	Random sequence generation	Allocation	Blinding	Incomplete data	Selective data	Free of bias
Dodington	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Neiva	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Abou Sulaiman	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Aral	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Grover	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Kaur	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed
P Meisel	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Morales	Low risk of bias	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Spratt	Low risk of bias	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Chandra	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	High risk of bias
Mieko Nishida	Unrevealed	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	High risk of bias
Arabacı	Low risk of bias	Low risk of bias	High risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Carvalho	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Jangda	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Yoshihara	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Iwasaki	Unrevealed	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Low risk of bias

Study	Random sequence generation	Allocation	Blinding	Incomplete data	Selective data	Free of bias
Iwasaki	Unrevealed	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Adegboye	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Liska	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Iwasaki	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Baumeister	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Pinto	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias
Moura	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Flynn	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Shimazaki	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Khodadadi	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Zhou	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Zhan	Unrevealed	Low risk of bias	Low risk of bias	High risk of bias	Low risk of bias	Unrevealed
Humphrey	Unrevealed	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias
Sede	Unrevealed	Low risk of bias	Low risk of bias	High risk of bias	Low risk of bias	Low risk of bias
AbuShawish	Low risk of bias	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Chen	Unrevealed	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Unrevealed
Khan	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed
Braga	Unrevealed	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Najeeb	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias
Moreno	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Zeng	Low risk of bias	Unrevealed	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Hashmat	Unrevealed	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Low risk of bias
Tikhonova	Low risk of bias	Unrevealed	Unrevealed	High risk of bias	Low risk of bias	Low risk of bias
Sato	Low risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Unrevealed	Unrevealed

DISCUSSION

The present review article highlights the vital importance of diet in maintaining oral health, affecting both the onset and prevention of numerous dental issues. Certain dietary elements have been recognized as key factors in the progression of dental caries, periodontal disease, and oral cancers. Dental caries, often referred to as tooth decay, predominantly results from the erosion of tooth enamel caused by acids produced by bacteria in the mouth (64). The regular intake of refined sugars, such as sucrose and fructose, along with fermentable carbohydrates like starches, notably heightens the likelihood of developing dental caries (65). These compounds act as a food source for oral bacteria, including Streptococcus mutans, which convert them into acids that lead to the demineralization of tooth enamel (66). Moreover, frequent snacking and the consumption of sugary drinks can intensify this problem. Additionally, the intake of acidic foods and beverages, including citrus fruits, soft drinks, and energy drinks, can lead to enamel erosion, which further threatens the structural integrity of the teeth (67).

Dietary fiber, especially soluble fiber, is essential for enhancing saliva production, which acts as a natural defense against acids and assists in the removal of plaque. Therefore, it is recommended to maintain a diet rich in whole grains, fruits, and vegetables to support optimal oral health (68). Additionally, fluoride, found in drinking water, toothpaste, and numerous other products, is vital for the remineralization of tooth enamel, thereby bolstering its resistance to acid erosion (69). Although certain foods may have trace amounts of fluoride, they are typically not the main contributors to the fluoride needed for maintaining oral health. Periodontal disease, which impacts the gums and the structures that support the teeth, mainly develops due to the buildup of bacterial plaque and the resulting inflammation. Consuming a diet abundant in antioxidants and anti-inflammatory substances can promote gum health and mitigate the inflammation linked to periodontal disease (70). Nutrient-dense foods, including fruits, vegetables—particularly leafy greens—omega-3 fatty acid-rich fish, and nuts, play a significant role in enhancing a robust immune response. Furthermore, sufficient intake of calcium and vitamin D is crucial for preserving bone density, which encompasses the alveolar bone that underpins the teeth, thereby promoting the overall health of both the bone and the soft tissues within the oral cavity (71).

A nutritional approach that prioritizes the

intake of whole, unrefined foods over highly processed options has demonstrated positive effects on systemic inflammation and has been linked to enhanced overall oral health. Dietary selections play a crucial role in the incidence of oral cancers, encompassing malignancies of the lip, tongue, mouth, and oropharynx (72). A significant consumption of processed foods and red meat is frequently associated with an increased risk of several types of cancer, including those that impact the oral cavity. In contrast, diets abundant in fruits and vegetables, which are rich in antioxidants and beneficial phytonutrients, are linked to a lower likelihood of developing oral cancers. Additionally, deficiencies in specific micronutrients, such as vitamins A, C, and E, as well as folate, have been correlated with an elevated susceptibility to oral cancer (73).

Lifestyle choices play a crucial role in determining oral health outcomes, impacting them both on their own and in conjunction with dietary practices. Adhering to appropriate oral hygiene routines is vital for the prevention of oral diseases. Regularly brushing teeth, a minimum of twice daily with fluoridated toothpaste is necessary to efficiently eliminate plaque and bacteria from the surfaces of the teeth (74). The proper technique for brushing and allowing sufficient time for this activity are essential components of an effective oral hygiene routine. Furthermore, the use of dental floss or similar interdental cleaning tools is vital for removing plaque and food debris from spaces between teeth that toothbrushes are unable to access. Incorporating antiseptic mouthwashes can also enhance the benefits of regular brushing and flossing, as they assist in controlling bacterial populations and reducing the risk of gum disease (75). Regular dental examinations and professional cleanings conducted by a dentist or dental hygienist are essential for the removal of tartar and the early identification of potential health concerns (76). The use of tobacco in any form significantly elevates the risk of developing oral cancers and periodontal disease. Both smoking and smokeless tobacco impair blood circulation and promote inflammation, which increases the likelihood of infections and impedes tissue healing, adversely affecting both soft tissues and bone structures within the oral cavity. Furthermore, excessive alcohol intake heightens the risk of oral cancers, especially when combined with smoking, and disrupts the balance of the oral environment. Heavy alcohol consumption can damage the oral mucosa, rendering the oral cavity more susceptible to cellular damage and various diseases (77).

Chronic stress and insufficient sleep are associated with diminished immune function, thereby increasing the risk of inflammatory conditions, including periodontal disease. The presence of psychological stress leads to elevated levels of cortisol and inflammatory cytokines, both of which contribute to a heightened susceptibility to chronic inflammation and the development of periodontal disease (78). Insufficient sleep also leads to increased cortisol levels and weakened immune function, which adversely affects overall health. Engaging in regular physical activity promotes overall well-being and can enhance oral health by improving blood circulation, reducing systemic inflammation, and aiding in stress management (79). Consistent exercise is instrumental in modulating inflammatory markers, mitigating stress, and can directly enhance oral health by reducing the overall burden of disease.

The interplay between diet, lifestyle, and oral health is intricate and involves numerous components. Various dietary and lifestyle factors frequently interact, affecting oral health results through different mechanisms. For instance, individuals who frequently ingest foods and beverages high in sugar while disregarding adequate dental hygiene face a significantly elevated risk of developing dental caries. Likewise, individuals who smoke or engage in excessive alcohol consumption are at a greater risk of oral cancer when compared to non-smokers and those who drink in moderation (80). The distinct genetic makeup, socioeconomic status, and personal lifestyle choices of individuals significantly influence their oral health experiences (81). Public health initiatives play a vital role in raising awareness within the community regarding the significance of maintaining a balanced diet, practicing regular oral hygiene, and steering clear of detrimental substances. It is imperative that these initiatives are customized to cater to various demographic segments and employ effective communication methods to inspire positive behavioral changes. Moreover, policy measures such as imposing

taxes on sugary beverages, regulating the marketing of tobacco products, and incorporating oral health education into school curricula can greatly improve public health and promote healthier lifestyle choices among community members. Healthcare professionals should focus on developing personalized prevention strategies by evaluating individual risk factors, dietary habits, and lifestyle decisions while providing tailored advice. Prioritizing early intervention in children is essential for instilling effective oral hygiene practices. Additionally, ensuring that affordable dental care, including preventive services like cleanings, is readily available is crucial for enhancing oral health and decreasing the prevalence of oral diseases within the community.

CONCLUSION

The data unequivocally indicates that nutrition and lifestyle choices are essential in preventing oral health issues. Individuals can greatly diminish their likelihood of experiencing oral diseases and sustain excellent oral health over their lifetimes by embracing a nutritious diet, maintaining proper oral hygiene, steering clear of tobacco and excessive alcohol use, managing stress effectively, and participating in regular physical exercise. Ongoing research, education, and the development of policies are crucial for enhancing oral health results and alleviating the global impact of oral diseases. This proactive strategy necessitates cooperation among various healthcare sectors and community partners.

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CONFLICT OF INTEREST

There is no conflict of interest.

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