

Integrating Lifestyle Medicine into Oral Health Care

Farzeen Tanwir, Umair Sajid, Syeda Fatima Tuz Zehra

ABSTRACT:

Integrating lifestyle medicine into oral healthcare highlights a shifting paradigm from disease centered treatment to prevention based, holistic care. Oral diseases such as caries, periodontitis, and oral cancer share modifiable lifestyle factors including diet, tobacco use, alcohol consumption, stress, and inadequate physical activity with heart conditions. Addressing these determinants alongside conventional dental treatments can enhance treatment outcomes and improve overall Patient wellbeing. Lifestyle medicine offers structured, evidence-based strategies such as nutritional counseling, behavioral modification, and stress reduction which can be seamlessly incorporated into dental practice. Dentists are uniquely positioned to identify risk behaviors early and support patients through personalized interventions. Collaborative care models, interprofessional education, and patient centered interventions are essential to overcome implementation barriers. By embracing this shift towards lifestyle medicine, oral health professionals can contribute meaningfully to the prevention of both oral and systemic diseases, ultimately advancing population health and reducing healthcare costs

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The paradigm of healthcare is rapidly changing from disease management to preventive healthcare. Lifestyle medicine is a relatively new discipline focused on evidence based therapeutic interventions such as nutrition, physical activity, stress management, sleep improvement, and reduction of habits associated with risk, represents a central pillar of this transformation. Despite its expanding presence in primary healthcare, lifestyle medicine's integration into dentistry remains limited which limits its scope. However, given the clear relationship between oral diseases and systemic health, a holistic, lifestyle-centered approach in dental practice is not only timely but also necessary to provide a better healthcare for the patients. Oral diseases including periodontitis and gingivitis are among the most common non-communicable diseases (NCDs). These diseases are affecting approximately 3.5 billion people globally. The risk factor for these diseases are same as major risk factors with leading causes of global mortality, such as heart disease, diabetes, and cancer: poor diet, tobacco use, alcohol misuse, physical inactivity, and

chronic stress. Therefore, it is logical and utmost necessity to merge lifestyle -focused strategies into oral healthcare structures and protocols to not only address oral conditions but also impact systemic health outcomes.

The oral cavity is an important representation of systemic health. Like chronic periodontal disease leads to systemic inflammation, a vital mediator in the development of atherosclerosis, insulin resistance, and negative pregnancy outcomes. On the other hand, systemic conditions like diabetes significantly worsen periodontal status by damaging immune responses and tissue healing. In the light of clinical evidence it is reported to support that treating periodontal inflammation can positively improve systemic conditions. Successful periodontal therapy in diabetic patients improves glycemic control, reinforcing the relationship between oral and systemic health. Understanding this puts dentists under greater control of system health by managing oral conditions, elevating them to a greater role. In a wider perspective, associations between poor oral health and respiratory infections, cognitive decline, and certain cancers have been suggested but more work is needed to prove them beyond doubt. Oral pathogens may have a possible route through the ulcerated periodontal tissues to the blood thus causing a whole bunch of new problem. Diet plays a major role in not just maintaining the system health but specially the oral health. Highly processes sugars are associated with increased dental caries and a high risk of diabetes. While whole plant based diet not only lowers the risk of diabetes but also the dental caries and other oral problems. Physical activity, usually not considered of much importance for oral health is extremely beneficial because it lowers systemic inflammation and increases insulin sensitivity, which in turn lowers the risk for diabetes and its associated oral health

Farzeen Tanwir

Vice Principal (Dental Section) and HOD Periodontology
Department
Bahria University Health Sciences Campus Karachi
Email: farzeentanwir21@gmail.com

Umair Sajid

House Officer, Department of Periodontology
Bahria University Health Sciences Campus Karachi.
Email: theumairsajid@gmail.com

Syeda Fatima Tuz Zehra

House Officer, Department of Periodontology
Bahria University Health Sciences Campus Karachi.
Email: syedafatima77@hotmail.com

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problems. Sedentary lifestyles have been associated with increased risk of periodontal disease, independent of traditional risk factors such as smoking and diabetes. Sleep is another critical determinant, which is the most overlooked factor in dental practice. Sleep deprivation and disorders such as obstructive sleep apnea are associated with elevated levels of systemic inflammation and poor oral health outcomes, including destruction of the periodontium and delayed healing after oral surgery. Patients with obstructive sleep apnea often present with xerostomia (dry mouth) which increases the risk of caries and periodontal disease, thus highlighting an area where dental practitioners can contribute to broader health screening. Chronic stress is associated with poor oral and systemic health. Elevated cortisol's levels as a result or prolonged stress weakens the immune system, significantly reducing the salivary flow, and increasing the susceptibility to oral infections such as periodontitis and gingivitis. Stress is the fundamental contributor to para-functional habits and harmful habits like smoking and drug abuse.

Lifestyle medicine's structured approach to stress management including the promotion of healthy lifestyle incorporating good habits and a balance of everything should be the fundamental principal in modern healthcare especially in a dental office. As proven by multiple studies, the role of stress in wrecking havoc across oral cavity is unmatched. Therefore, by managing stress with being mindful can contribute to significantly better outcomes in patients. Dentist can play the leading role in this changing paradigm by being the early adopters of this great approach. Dentists and dental professional communicate and interact with patients, often more frequently than general physicians providing a great opportunity to identify and disrupt micro behaviors which can be harmful. Discussions about smoking cessation, sedentary lifestyle, stress management and harmful habits can be incorporated in dental visits without disrupting the workflow. The problem is most dentists and associated dental care providers lack the basic training in lifestyle modifications. Incorporating lifestyle medicine and patient counseling should be incorporated into dental educational curriculum to train the dentists to engage in meaningful conversations, which extend beyond teeth and gums. Small interventions over the time have shown to make a meaningful impact on patient habits. It is necessary to include chair side assessments including questionnaires, verbal and non-verbal assessments to possibly evaluate the risk of bad habits and harmful patterns in order to identify and eradicate them over a period. Identification is the key to disruption. With the advent of digital technologies including behavior-tracking applications and teleconsultation. It is relatively easy to identify, disrupt and monitor certain behaviors, which would have required immense effort in the past. Technology should be leveraged to favor healthcare providers for the greater good of patients.

The benefits of integrating lifestyle medicine into dentistry extend beyond individual practice. At a population level, such integration can contribute significantly to reducing the burden of NCDs. Public health strategies should recognize oral health as an integral part of chronic disease prevention initiatives, particularly in vulnerable populations where access to both medical and dental services is limited. Policy changes are urgently needed to incentivize preventive care in dentistry. Current healthcare systems often reward treatment over prevention, creating structural barriers to the implementation of lifestyle interventions. Changing the structure of healthcare from treatment from prevention through lifestyle modification and multidisciplinary collaboration can make a difference of life and death especially for the underprivileged and marginalized populations.

Integrating lifestyle medicine into oral healthcare included certain barriers like limited appointment time which restricts the ability of dental professionals to engage in meaningful conversations about behavior change during routine visits. Almost all dental practices are structured around procedural efficiency, leaving little room for counseling or preventive discussions within the standard appointment schedule. Another important factor is the, insufficient reimbursement for lifestyle related services poses a major obstacle in for profit setups. Almost all of the dental insurance models primarily cover clinical treatments rather than preventive or educational services, limiting providers from investing their time in lifestyle counseling, even when it is clinically warranted. There is a lack of comprehensive training for dentists in areas such as nutrition, behavioral science, and motivational interviewing. Many dental professionals report feeling unprepared to discuss these topics with confidence or to implement structured interventions due to the lack of training, highlighting a need for curriculum reforms and ongoing professional development. Training existing dental healthcare providers through seminars and conferences is the need of the moment. On the patient side, socioeconomic factors can significantly limit the feasibility of adopting recommended lifestyle changes. Individuals from lower income or underserved communities may face challenges such as limited access to healthy diet, safe environments for physical activity, or consistent healthcare. These disparities reduce patient compliance to lifestyle recommendations and require the development of individually tailored, culturally sensitive, and accessible approaches that address real world limitations. Language barriers, education levels, and competing life priorities such as work and caregiving responsibilities may further complicate patient's ability to prioritize oral and overall health behavior changes.

Addressing these challenges require a systemic and policy level intervention on a national scale. Healthcare system reforms are necessary to support reimbursement for preventive services, promote inter professional collaboration,

and restructure care delivery models to allow for lifestyle integration. Furthermore, policy advocacy is essential to drive changes in dental education, public health funding, and care accessibility. Investing in these areas can empower dental care providers and patients alike making lifestyle medicine a practical and sustainable part of oral healthcare.

Oral care must be a part of public campaigns focused on improving health through lifestyle modification, healthy diet and promoting physical activity. Dental professionals can play the leading role as advocates for the cause through their workplaces, schools community halls and other places of public interaction. The historical separations between oral health conditions and systemic wellbeing is no longer feasible. Staggering evidence demands a unified approach and coordination between systemic wellbeing and oral health. Such a paradigm shift would not only improve oral health but also contribute substantially to overall wellbeing of an individual. Dentists can play a leading role in this transformation as leaders through lifestyle counseling, interdisciplinary collaboration, and patient centered preventive care. They can help build healthier populations and reduce the burden of chronic conditions. Embracing prevention lifestyle modification as the solution is not only an option now, but also an uncompromising reality.

Authors Contribution:

Farzeen Tanwir: Concept & Design of Study, Drafting, Revisiting Critically, Data collection & Analysis, Final Approval of Version.

Umair Sajid: Drafting, Revisiting Critically, Data collection & Analysis.

Syeda Fatima Tuz Zehra: Drafting, Revisiting Critically, Data collection & Analysis

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