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Oil Pulling and Its impact on Oral Health: A Literature Review

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Abstract: Oil pulling has been substantiated as a potent intervention for the prevention and management of dental caries, gingivitis, and the formation of plaque. The oral cavity harbors a diverse microbiome, yet it is proposed that a limited number of specific bacterial species are implicated in the etiology of dental caries. The challenge of preventing oral pathologies is noteworthy. Accordingly, oil pulling has demonstrated efficacy in mitigating the risks associated with dental caries, gingivitis, and plaque accumulation. The present manuscript recognizes the significance of oil pulling in the preservation of oral hygiene. This traditional practice involves the utilization of natural substances to purify and detoxify the teeth and gingiva. Additionally, it inherently promotes the whitening of teeth and, according to research findings, offers benefits in enhancing gingival health and eradicating deleterious bacteria.

Keywords: Oil pulling, Oral Health, Dental Caries, Dental Plaque

Introduction: Dental caries and periodontal disease represent the two predominant dental pathologies on a global scale, with both conditions being substantially preventable. The accumulation of dental plaque on the tooth surface is recognized as a principal etiological agent in the development of these disorders.[1]

Research indicates that both mechanical and chemical approaches to plaque control can significantly diminish plaque accumulation. Consequently, employing these two methods concomitantly appears judicious, as independent studies corroborate the efficacy of mechanical tooth brushing and chemical agents in managing gingivitis.[2] Adherence to appropriate oral hygiene practices not only sustains dental health but also exerts a positive impact on overall health and the quality of life of individuals.[2]

Various traditional or alternative medicinal modalities, such as those offered by Ayurveda, have been gaining prominence due to their natural derivation, cost-efficiency, absence of side effects, and enhanced patient compliance.[3]

Oil pulling, an ancient therapeutic practice originating from India and documented in ayurvedic texts of Charaka Samhita and Sushruta Samhita as Kavalagraha or Gandhoosha, involves swishing a comfortable amount of oil in the mouth. The process is complete once the oil, upon expulsion, appears thin and milky white. This practice gained modern recognition through Dr. F. Karach in the 1990s in Russia, who postulated that oil pulling could remediate approximately 30 systemic ailments, ranging from headaches and migraines to thromboses, eczema, intestinal infections, diabetes, and asthma.[1]

Rationale of Oil Pulling: Oil pulling, an ancient practice where one swishes oil in the mouth, is thought to benefit oral hygiene due to the oil's ability to attract and hold lipophilic microorganisms. It's believed this technique mechanically removes bacteria and debris, creates a detergent effect through saponification, and may even inhibit bacterial growth with oils like coconut oil, which contains antimicrobial lauric acid. Advocates also suggest it reduces inflammation, promotes oral tissue hydration, encourages an alkaline oral environment, and offers holistic health advantages by detoxifying the mouth. While some evidence backs its effectiveness, the scientific community maintains oil pulling is a supplementary measure, not an alternative to brushing, flossing, and dental check-ups. More research is needed to thoroughly verify the benefits of oil pulling.[1,4]

Commonly Used Oil for Oil Pulling: Cold-pressed organic oils, including sunflower, sesame, and coconut oils, provide numerous advantages, particularly in the domain of oil pulling—a traditional practice to extricate micro-organism from the oral cavity. These oils are devoid of trans fats, unlike their commercially processed counterparts that are typically extracted with potent petroleum-derived solvents. Hence, cold-pressed oils are the preferred medium for oil pulling. Within historical texts, sesame oil is often cited as the oil of choice for this practice. Other documented substances for oil pulling include olive oil, milk, and extracts from gooseberry and mangoes. Research has indicated both sesame and sunflower oils as effective in diminishing plaque-induced gingivitis.[4]

Impact of Oil Pulling on Oral Health:

Dental Caries: Approximately 700 distinct bacterial taxa have been estimated to colonize the oral microbiome, predominantly within the oral biofilm. Amongst these, bacitracin-synthesizing

Streptococcus mutans and lactic acid-producing Lactobacilli constitute the principal pathogenic species implicated in the etiology of dental caries.[1]

An empirical investigation by Anand and colleagues (2005) documented a 20% decrease in bacterial proliferation subsequent to a 40-day regimen of sesame oil-based oil pulling, concomitantly noting a mitigation in the severity of dental caries. This phenomenon may be attributed to the moderate antimicrobial properties of sesame oil against both S. mutans and L. acidophilus.[5]

Conversely, a separate study helmed by Jauhari et al. (2015), focusing on a pediatric cohort aged 6–12 years, found no statistically significant diminution in S. mutans levels assessed via oratest and Dentocult SM strip mutans kits after a fortnightly period of bi-daily oil pulling with sesame oil. The absence of marked bacterial reduction in this instance could plausibly be ascribed to the duration of the practice, suggesting that a minimum of four weeks may be necessary to manifest discernible antimicrobial effects.[6]

Oral thrush: Oral candidiasis, commonly referred to as oral thrush, constitutes a non-transmissible mycotic affliction engendered by Candida organisms. The condition is frequently observed among individuals whose oral microbiota has been altered due to prolonged pharmacological intervention. Empirical evidence indicates that oil pulling therapy ameliorates manifestations of oral thrush through a dual-mechanism approach. Initially, it facilitates the entrapment and mechanical expulsion of toxins and other microbial agents during the act of oil swishing. Subsequently, the inherent antimycotic attributes of certain oils, particularly coconut oil, exert lethality against the yeast present in the oral milieu, thereby contributing to the abatement of Candida pathogens.[1,4]

Gingivitis: Gingivitis induced by dental plaque represents a prevalent form of gingival disease, attributable to the dynamic interplay between the microbial constituents of the plaque biofilm and inflammatory cellular responses of the host. A recent randomized controlled trial has evidenced a notable reduction in Plaque index scores, gingival index scores and total colony counts of aerobic bacteria scores subsequent to oil pulling therapy, in comparison to the outcomes observed within the chlorhexidine cohort.[7]

Halitosis: Halitosis, characterized by an unpleasant breath odor, is distinct from oral malodor, which exclusively originates from the oral cavity. The main agents responsible for the malodorous breath are volatile sulfur compounds such as hydrogen sulfide, methyl mercaptan,

and dimethyl sulfide. Sood and colleagues (2014) conducted a three-week trial with sixty participants, comparing the efficacy of oil pulling using sesame oil to chlorhexidine mouthwash. Their findings indicated that sesame oil performed comparably to the chlorhexidine mouthwash in ameliorating oral malodor and reducing responsible microorganisms. Additionally, the study found declines in the average scores for the plaque and gingival indices. The researchers discovered that sesame oil reduced mean organoleptic scores and the amount of volatile sulphur compounds and the mean anaerobic bacterial population in the oral cavity.[8]

Benefits and Limitations: Oil pulling offers several potential advantages for oral health, such as diminishing the presence of harmful dental plaque, possibly improving gum health by reducing signs of gingivitis, and contributing to fresher breath. Advocates also appreciate its natural approach as a complementary method to conventional oral care. However, there are considerable drawbacks to consider. The most significant is the lack of strong scientific evidence backing its efficacy, making it a practice supported more by anecdotal claims than by rigorous research. Furthermore, the process can be quite lengthy, requiring a daily commitment of 10-20 minutes, which may be impractical for many people.[9,10]

Conclusion: In summary, oil pulling has emerged as a beneficial adjunct in dental care, backed by research affirming its efficacy in improving oral health. It serves as an auxiliary measure alongside brushing and flossing, potentially reducing dental issues and enhancing overall oral hygiene when incorporated into daily routines.

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