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USE OF UNANI MEDICINE AS A POTENT ALTERNATIVE IN ORAL HEALTH PROMOTION: A NARRATIVE REVIEW

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ABSTRACT

Background: Oral diseases are one of the most serious public health issues and the most common chronic diseases afflicting humanity. Despite the abundance of new medicines and technologies for coping with them, an increasing number of patients are searching for simpler, milder therapies to improve their quality of life and minimize iatrogenic complications. Unani herbal regimens, diets, and medications, as described in Unani literature, have been shown to be safe and effective in maintaining oral health.

Aim of the study: The aim of this study is to look into and identify significant traditional Unani oral hygiene maintaining methods, as well as how they relate to today's oral hygiene preservation arsenal.

Materials and Methods: Information regarding oral health-promoting practices was taken from published materials, ancient and modern recorded classical scripts, Unani pharmacopeias, and databases such as Pub Med, Web of Science, Science Direct, and Google Scholar.

Results: Unani medicine has a huge description of various medical herbs with antibacterial and antimicrobial properties, according to ancestral medicinal books and healers with the current scientific shreds of evidence. Several experimental researches has confirmed that these medicinal herbs have antibacterial, anti-infective, antimicrobial, and antiplaque properties, suggesting that they could be useful as a complementary treatment for periodontal diseases or as oral health promoters. However, there is still a scarcity of studies to back up their use and effectiveness.

Conclusion: It is critical to scientifically demonstrate the underlying benefits of Unani medicine, as well as to elucidate and prove their potential therapeutic uses, for the sake of promoting oral health. We discovered papers that support or refute their traditional use and we conclude that medicinal plants use to treat oral conditions or add to the dental pharmacological arsenal should be relied on scientific investigations that confirm their suitability for oro-dental treatments.

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Keywords: Unani Medicine, Anti-inflammatory, Oral health, Oral diseases.

INTRODUCTION

Oral health is a leading indicator of general health, quality of life, and well being. Numerous systemic disorders have been linked to poor dental health. The oral cavity site is a crucial portal of entry, origin, and venue for numerous disorders that impact health status. Oral health is integral to well-being and living standards, which are measured across the various functional,

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psychological, and economic aspects. Dietary habits, food hygiene, sleep, psychological effects, social connection, school, and workplace are all affected by poor craniofacial health. As a result, maintaining oral health is necessary to factor for the sustenance of a healthy life.[1] Oral diseases are a serious health burden in many nations, and they impact people throughout their lives, resulting in pain, irritation, disability, and even death. Oral disorders affect about 3.5 billion people globally, according to the Global Burden of Disease Study 2019 with caries of permanent teeth being one of the most frequent conditions.[2] Caries of permanent teeth affects an estimated 2 billion individuals worldwide, while caries of primary teeth affects 520 million children. The International Agency for Research on Cancer reported that the Lip and oral cavity cancers are among the top 20 most prevalent malignancies worldwide causing approximately 180 000 deaths annually Oral diseases are becoming more common in most of the low- and middle-income nations as urbanization and living situations change. This is due to a lack of fluoride exposure (in water supply or toothpaste with no fluoride content), the availability and accessibility of high-sugar foods, and low community access to oral health care services. High Sugar consumption, cigarette use, alcohol intake, and poor cleanliness, as well as their underlying commercial and social determinants, are all modifiable factors for oral diseases. Dental caries and periodontal diseases are among the most serious global oral health issues, but other disorders such as oral and pharyngeal malignancies, as well as oral tissue lesions, are also major concerns. [2] The most prominent factors determining the prevalence of numerous oral diseases include inappropriate diet, smoking, alcohol consumption, and poor oral hygiene practices. The emphasis on a correct diet could be the arousing factor in maintaining proper oral hygiene as an improper diet can result in dental caries, dental degradation, periodontitis, cancer of the oral cavity, and a variety of soft tissues related disorders of the oral cavity. Likewise, gingival and periodontal disease oral cancer, tooth discoloration, halitosis (bad breath), taste bud abnormalities, and difficulties in healing wounds after surgery have all been associated with smoking. Similarly, oral intake of alcohol can be found associated with Oral cancer, and other potentially malignant illnesses such as periodontitis, dental caries, gingivitis, and xerostomia. However, if oral hygiene is not maintained it can potentially cause periodontitis and dental issues which are further indirectly responsible for the formation of cardiac disease, cancer, and diabetes mellitus.[3] Periodontal diseases could indeed have severe systemic repercussions to the blood-borne dispersion of pathogenic bacteria and is linked to diabetes and the other systemic diseases. Periodontitis may also be an early sign of diabetic pathogenesis because the prevalence of periodontitis in diabetics is double or even triple that of the non-diabetics. However, diabetes management becomes much more difficult for patients who have periodontal disease. Patients who have periodontitis and diabetes same time are at risk of developing complications from cardiovascular, retinopathic and renal diseases.[4] Recently, the occurrence of periodontal disease has been linked to bacterial origin in the neural tissue of Alzheimer's disease patients.[5] Treatment for oral health problems is costly, and it is rarely covered by health insurance (UHC). Despite the fact that a variety of chemical compounds are commercially accessible, they can affect the oral microbiota and cause unpleasant side effects like vomiting, diarrhoea, and tooth discoloration. Furthermore, standard Western medicine has already had relatively little success in the prevention and treatment of periodontal disease and other oral illnesses. As a result, the quest for available alternatives remains, with natural phytochemicals obtained from plants used in traditional medicine being considered excellent substitutes for synthetic compounds.[6]

The World Health Organization (WHO) has recognized the Unani System of Medicine (USM) as an alternative system to cater the health care needs of human population. Many authoritative texts on Unani medicine emerged from Central Asia, Egypt, India, Iraq, the Islamic Republic of Iran and Spain during the eighth to twentieth centuries.[7] Unani-tibb, commonly known as Yunani Medicine that has been identified by "Greek Medicine" and "medicine." Its origins can be traced back to Greek literature, which has provided a wealth of scientific contributions as well as being developed into an extensive medical discipline by the Arabs and Persians civilization. Unani Medicine has been designated Greco-Arab Medicine since that times.[8] Hippocrates (Father of Medicine), an illustrious scholar who established the principle of humours (akhlat), developed the Unani system of medicine. Blood (*dam*), phlegm (*balgham*), yellow bile (*safra'*), and black bile (*sawda*) are the four humours that constitute the physical body and the subtle pneuma. Any abnormal humour predominance determines a person's features and the clinical aspects of a disease.[9] Unani medicine employs the approaches of health maintenance (*ḥifẓ-i-siḥḥat*) suboptimal health management (*tadābīr abdān-i-ḍa'īfa*),

and disease prevention (ḥifẓ mā taqaddum) for prophylaxis.[10] Dietary patterns, lifestyle, and external and internal environmental factors are recognised as the primary cornerstone in Unani system of medicine for the maintenance of health. Health is a state of equilibrium in the temperament (*mizaj*), humours, functioning of organs (*quwā and afa'l*) and all bodily functions done properly.[11] The description of oral health mentioned in Unani system of medicine is very elaborative and primitive. Oral health has been defined as the integral part of the promotion and maintenance of heath as per Unani ideology. The significance of oral health can be seen in the ancient literature that showed that the first known herbal therapy in the form of toothpaste was found in Egypt, where a papyrus dated more than 2000 years (4th century BC) witnessed the attention of oral hygiene related measures.[12] During ancient era, Hippocrates and Aristotle, described several methods, procedures, and practices for improving oro dental health such as the phases and timing of eruption during dentition, herbal remedies for caries and inflamed gums inflammation, extraction procedures, the distinct use of certain metal wires for blocking the displaced teeth. [13] In Unani medicine, oro-dental health is kept individualistic, depending on each person's constitutional features (*ajnas e ashra*) different modalities of treatment is provided.[11] The body constitution is classified based on the predominance of one or more of the four humours. The dominance humours in both the individual and external factors (*asbab e badia*) determines health care needs in Unani, including oral health.[9] A number of extensive list about the oral hygiene practices and measures have been advised by the Unani scholars. The first ever description of tooth decay, cavities and toothache has been found in the Sumerian clay tablet where it is written as "Legends of the worm" and extracted from the Euphrates valley around 5000 BC. Herein, Hippocrates was the first to advocate a dentifrice powder for the cleaning of the impurities from malodorous teeth (355 BC). Oral hygiene was also emphasized, as evidenced by the finding of gold-plated tooth picks from the Mesopotamian culture, indicating the importance of oral hygiene practises.[14]

In Unani doctrine the etiopathogenesis of oral diseases has been explained by different scholars. Tabri in his famous book *Almualijat-i-buqratiya* mentioned that dental Caries (*Taakkul Asnan*) has been associated with the localized devastation of the calcified tooth by the action of different microorganisms majorly due to infectious origin (*taa'ffun*).[15] Likewise, Odentalgia (*wajaul asnan*) toothache is a kind of pain in the teeth and/or their supporting parts, caused by various types oro-dental diseases. Sometimes it may be sensory malfunctioning due to dystemperament of nerves (*sue'I mizaj asab*) (inflammation of hot or cold type).[16] Gingivitis (*Warme-Lissa*) has been described to an inflammatory condition of gums that emerge due to predominance any of the predominant humour (*Khilt e ghalib*). For instance inflammation can be due to dam or *safra* or *balgham* and accordingly disease prevails.[16] The chief factor responsible for bad breath also known as Halitosis (*Bakhr-ul- Fam*) explained by Rabban *al*-Tabari is the deposition of malodorous fluids (*rutoobat raddiya*) in the oral region for longer periods causing infection inside gums and teeth (*Afoonat-i- Lissa wa Asnān*), dystemperament (*Su-e-Mizaj Haar*) of the oral cavity, disposition of bilious and phlegmatic humours in the stomach, and Lung ulcers (qurooh-e- Riya).[10] Stomatitis (*qula*) are superficial ulcers lies on the mucous membrane (*Ghisha-i- mukhati*) can spread up to the extent of oesophagus and stomach. Galen referred Deep ulcers (*quruh e khabisa*) that arise due to inflammation (particularly of *dam* or *safra*) in the oral cavity.[16]

The botanicals described in the Unani texts have been found to be safe and efficacious through the historical use. The study of medicinal plants used in traditional medicine could lead to the development of new oral health preventive and treatment procedures. Because the majority of oral disorders are caused by bacterial infections, medicinal herbs have been shown to have significant antibacterial activity against a variety of pathogens, including those that cause tooth caries. This study outlines and defines the several sorts of herbal-based dental and oral treatments that are routinely utilized in Unani medicine.

Methodology

The information on oral health related articles were assessed using a bibliographic searching. The classical text mentioned in Unani literature (Urdu, persian and Arabic) were studied and analyzed properly. A detailed study of the Botanical herbs used in Unani system of medicine particularly for oral hygiene has been done. The English names of the medicinal plants was carefully done through reference book named Indian Medicinal Plants and other indexed journals. Books of contemporary origin, relevant articles, periodical, and indexed journals found on Pub Med, Science Direct, and Scopus were included for the study. The keywords "Unani Medicine", "Anti-inflammatory", "Oral health", "Oral diseases", and "anti inflammatory" were utilized for the searching of the contents. The study did not include the articles in non English language, letter to editors, thesis and dissertations.

RESULTSANDDISCUSSION

Through the implementation of oral health promoting interventions the prevalence of oral diseases various other non-communicable diseases could be reduced by dealing with the identified risk factors.[2] According to WHO, for the maintenance of oral heath several initiatives have been advised and reported to prevent oral disease and recover oral health such as reducing sugary food exposure, using fluoridated toothpaste on a daily basis, and to use standardized (water) and fluoride based products. Contrary to the evidence presented above on the efficiency of healthcare in improving oral health, health promotion proposals are not widely implemented.[17] WHO recommended that the fluoride levels which are optimal can be obtained from various sources, including fluoridated potable water, salt, yoghurt, and toothpaste. Brushing teeth twice a day with fluoridated toothpaste (1000 to 1500 ppm) should indeed be encouraged. The concerning factor of oral health was stressed at the 74th World Health Assembly in 2021, when the World Health Assembly adopted a resolution on oral health. The Resolution advocates for a change shift from the conventional curative strategy toward a preventative paradigm that encompasses oral health promotion in the household, schools, and enterprises, and inclusion in primary health care. Oral hygiene should be firmly incorporated in the non-communicable disease initiative, according to the Resolution, and oral health-care measures should be included in universal health-care programmes.[2]

Similarly, Unani systems of medicine principle fundamentals idolize the concept of prevention rather than to cure. Unani scholars have advised a number of different lifestyle methods including the regimens (*tadābir*)) and diet (*ghiza*) to maintain and preserve oral hygiene. Likewise, a number of single and compound formulations have been identified in Unani Medicine to promote good oral and general health.[7] For the management of oro-dental diseases Unani scholars have been advocated lifestyle improving procedures such as oral cleansing, excisions and extraction etc. Unani system recommends some daily using therapeutic regimens (*tadābir*) for the prevention and preservation of oral health. A wide range of the scientifically demonstrated favorable effects of these measures are described beneath:

Use of *Miswak* (Toothbrushing): The implementation of the usage of miswak has been seen the prehistoric Arabic period, where it was used to keep teeth white, sparkling and a ritual priority in oral hygienic practices. Najmul Ghani, an eminent Unani scholar mentioned in one of the famous book *Khazainul advia* that *miswak* act as the excellent oral cleaning agent, prevent halitosis, strengthen teeth, and remove excessive deposition of abnormal fluids (*rutubat*). It has been described as one of the best drug for preventing oral diseases.[18] .The most commonly used herb in Unani medicine for oral cleansing is peelu (*Salvadora persica*) belonging to family (Salvadoraceae). Several scientific studies has stressed the benefit of miswak in oral healthcare through a number of pharmacological actions such as anti bacterial, antifungal, anti-viral, anti-cariogenic, anti-plaque, antioxidant , analgesic and anti-inflammatory activities.[1] Unani system of medicine suggests chewing sticks in the morning and after each meal. The flavor of these herb sticks should be astringent, acrid, or bitter. The recommended technique of is to crush one side, chew it, and start chipping it. A well-known herbal chewing stick is neem (*Azadirachta indica*) that helps to prevent oro dental disorders if it is done consecutively for several days, cleans the oral cavity, prevent dental caries and other periodontal diseases.[18] Currently, a study about the antimicrobial effects of *Azadirachta indica* (Neem) and *Salvadora persica* (peelu) chewing sticks showed both the plants were effective on *streptococcus mutans* and *Streptococcus faecalis* demonstrated the anti-plaque and anticarious effect. [19] Miswak can also be done with fresh mulethi (*Glycyrrhiza glabra*) that cleanses oral cavity and prevent ulcers and stomatistis.[18] Likewise, Arjun (*Termmalia arjuna*) stems can be used to cleanse mouth and maintain oral hygiene. Chewing on these stems is thought to produce attrition and flattening of bitten surfaces, stimulate salivary release, and perhaps aid in plaque control, with some stems having antibacterial properties.[18] Rabban *al*-Tabari in his treatise of *Firdosul hikmat* mentioned about Sibr (*aloe vera*), although physiologically it is soft and gentle but act as an excellent miswak when rubbed over the teeth in curing halitosis due to the persistence of periodontal diseases and gingivitis. [10] In a single- blinded, randomized, crossover study, the effect of using miswak on the dental plaque, selected species of oral microbiota (Streptococcus mutans and actinomycetem comitans) and gums inflammation was studies showed the improved scoring of Gingival index (GI), bleeding on probing (BOP) and plaque index (PI) thus promoting gingival health.[20] Furthermore in a study Gazi et al., studied effect of Miswak (immediate and medium-term) on the composition of saliva and reported it increases the calcium (22-fold), chloride (6-fold), and decreases phosphates and pH causing of remineralization of the tooth enamel.[21]

Use of *gargarah* (Gargling) involves the swishing of medicated herbs in the mouth, pharynx and oral cavity for oral and general health benefits. Gargling has been

used comprehensively as a traditional Unani remedy for thousands of years to prevent the decay, halitosis, bleeding gums, dryness of mouth, chapped lips and for strengthening gums, teeth and the jaw. It is usually done through the use of single Unani herbs or by the combinations of several herbs. Several herbs have been documented such as sibr (*Aloe vera*), gargle with mixture of vinegar and salt help in the cleaning of oral cavity and removal of plaque.[22] Ghani mentioned that the decoction of Arjun (*Termmalia arjuna*) help in strengthening of gums and teeth and thus prevent oral diseases. [18] A solution of *shibb e yamani* has been used as gargle In the treatment of stomatitis, bleeding gums (*lissa damia*), inflammation of gums and teeth and excellent remedial herb for excessive salivation (*kasrat e lu'ab*). [23] Rabban *al*-Tabari prescribed gargling mouth from a mixture made by powdered lahsun (*Allium sativum* L), aqarqarha (*Anacyclus pyrethrum* DC) and kundur (*Boswellia serrata*) blended in vinegar prevents toothache and dental caries.[10] In *vivo* study of Mouthwash prepared for gargling from Pomegranate extract, Grape seed extract, and Guava extracts showed antibacterial efficacy on the salivary streptococci levels thus promoting oral health and hygiene.[24] Other studies examined the effect of sibr (*Aloe vera* L.) on oral cavity while gargling produces anti-inflammatory and antimicrobial action. Both the gel and the leaves suppressed the growth of *Steptococcus aureus* (18.0 and 4.0 mm). Only the gel reduced the growth of *Trichophyton mentagraphytes* (20.0 mm), while both *Pseudomonas aeruginosa* and *Candida albicans* were inhibited by the leaf. It was found to be beneficial in the treatment of gingival inflammatory condition and resulted in a reduction in plaque.[25]

Use of *Mazmaza* (Mouth wash): It involves the use of topical herbal medications by rinsing inside of the mouth to relieve in the multi-factorial oral conditions such as halitosis, oral ulcers, gingivitis, oral mucositis, periodontal disease, and even xerostomia. The herbs including *Vinegar*, arq mako (distillate of *Solanum nigram* L.*)*, arq kaddu (*Cucurbita pepo*), arq khayar tursh (*Cucumis sativus L.*) *roghan gul* (*Rosa damascene*) to relieve toothache and removal of morbid matter for the prevention of periodontal diseases.[15] However, the current evidences showed in a double-blinded, placebo-controlled interventional study, where herbal mouthwashes of aloe vera and tea tree oil were studied the plaque index, gingival index and salivary *Streptococcus mutans* counts and found decrease in plaque formation, gingivitis and *Streptococcus mutans* in the oral cavity region.[26] Similarly, Nair et al. reported a clinico-microbiological study of gilo (*Tinospora cordifolia*) decoction as mouth rinse demonstrated anti-plaque, gingivitis, and antimicrobial activity against Steptococcus. Mutans identified using plaque and gingival index measurements. [27]

Use of *Sunoon* (Toothpowder): It is a type of dosage form made by fine powdering various herbs and particularly used in oral care. *Sunoon* –i-Balchhar (*Nardostachys jatamansi* DC) has been described to be effective in toothache and halitosis. [23] Another toothpowder prescription as a teeth cleanser, gums and teeth strengthener described in Unani texts is the use of Abhal (*Juniperus communis* L.), post beekh kibr (*Caparis spinosa*), tootiya (Copper sulphate), kaf darya (Cuttlefish bone), jaw sokhta (*Hordeum vulgare*), namak indarni (rock salt) each in equal quantities and utilized for oral healthcare. [22] Further, scientific evidences extracted in a single-blinded randomized clinical trial was carried out on the Unani toothpowder (pyorin) on the conditions of Plaque, gingivitis and external stain for 24 weeks. Results indicated gingival index, Plaque index, and Lobene index reported a decrease curve from baseline up to 24 weeks thus creating a positive effect on oral healthcare. [28]

Use of *Mazoog* (Chewing herbs): It is method in Unani medicine that employs the chewing and sucking of medicinal herb slowly in the mouth. A well known spice Darchini (*Cinnamomum verum*) when placed in mouth and chewed help in eradicating oral diseases. [16] Aneja et al., reported antimicrobial potential of cinnamon on dental caries related pathogens (such as *Streptococcus mutans, Staphylococcus aureus, Candida albicans , Lactobacillus acidophilus* and *Saccharomyces cerevisiae*) through agar well diffusion method and found zone of inhibition (29.30mm ,12.5mg/ml MIC) proving its antimicrobial effect thus preventing oral diseases.[29] Furthermore, the intake of Unani polyherbal preparation of Post turanj (*Citrus medica*), sumbul teeb (*Nardostachys jatamansi* DC), qaranfal (*Syzygium aromaticum* L.) joozbua, suk (concentrated extract of *Emblica officinalis* L.), ood (*commiphora oppobalasum* L.), bisbasa (Myristica fragnans Houtt.), kebeba (*Zanthoxylum armatum* DC) (3.3gm each), mushk (*Moschus moschiferus* L.) (500 mg) prepared by powdering and mixing in cold water along gentle chewing and suckling should be done for promotion of aromatic odor in the oral cavity.[22]

Use of Massage (*dalak*) on teeth: Unani scholars elaborated the use of massage therapy for strenthing of weak and displaced teeth, gums strengthening, and removal of the infectious agents (ta'affuni ajsam) from the qral cavity for the promotion of oral hygiene. A polyherbal preparation prepared by using sumaq (*Rhus coriaria* L.), post anaar (rind of *Punica granatum*), halela zard (*Terminalia chebula***)**, gul surkh (*Rosa damascena* Mill), usarah amla (concentrated extract of

Emblica officinalis L.), baloot (*Quericus ilex* L.), gulnar (*Punica granatum*), mazoo (*Quercus infectoria*), zafran (*Crocus sativus* L.) and shabe yamani (alum) beneficial in curing periodontal diseases.[22] Abu Sahl Masihi, an eminent scholar in Kitab al mia't emphasized about the massaging of Roghan mastagi (oil of *Pistacia lentiscus* L.) on the gums and teeth for preventing glossitis and dental caries.[30]However, in a vivo study the effects of gingival massage in male wistar rats was investigated, where mechanical stimulation was given on the maxillary gingival molar region twice a week (5 seconds) for 4 weeks. Consequently, gingival hyperemia was measured through a laser Doppler flowmeter and morphological analyses by hematoxylin, eosin, Indian ink staining and a vascular resin cast model. Result indicated that in the mechanical stirred group, T1/2, total blood flow (Mass) and tooth revascularization was increased in rats suggesting enhancement in gingival microcirculation for maintaining oral health.[31]

Lifestyle modification measures

Unani scholars have suggested avoiding certain kind of diet that putrefy in the stomach (such as milk combined with sikanjbeen (oxymel)), hard and viscous foods, sour diets (aghziya hamiza), anesthetic things (like ice), induction of emesis (*Qai'*), and intake of cold and hot foods togheter. For proper oral hygiene Unani Scholars stressed on using miswak daily along with sunoonand gargle practices. For the detoxifying (*Istafragh*) of body from morbid matter (*akhlat-i- raddiya*) either from stomach or general disposition, a number of regimens including purgatives (*mushilat*) and venesection (*Fasd*) has been advised on the basis of deranged pathology (*mahiyat-i-marz*).[22]

Pharmacotherapy for oral diseases

For the prevention and protection of oral health, Unani scholars have been promoted the use of Unani single and compound formulations in their principles for treatment (*Usool-i-ilaj*). Unani system of medicine advocates various herbs such as Haldi (*Curcuma longa*), Aqaqia (*Acacia nilotica*), Amla (*Emblica Officinalis* L.), Aqarqarha (*Anacyclus pyrethrum* DC), Anar (*Punica granatum* L.) Lehsun (*Allium sativum*), shabe yamani (alum), baloot (*Quericus ilex* L.), gul surkh (*Rosa damascena* Mill) etc. have been used extensively for oral diseases and found to have antiulcergenic, anti-inflammatory, wound repair, antibacterial, antiviral, anti-plaque, anti-gingivitis and antioxidant activities. Some Unani polyherbal formulations such as Sunune Mulook, Sunune Zard, Sunune Mujalli, Majoon Suranjan, Habbe Gule Aak, Majoon Azaraqi etc have verified to be efficacious in the treatment of oral illnesses.[8] Table 1 shows the clinical significance of commonly used Unani herbs in the treatment of oral diseases.

Table 1: Description of ethno-phamacological prescriptions of Unani herbs in oral diseases with scientific evidences.

S.No.	Oral diseases	Unani ethno-pharmacological prescriptions	Illustrated herbal Scientific action	References
1	Dental Caries	Filling dental caries with Aqar qarha (*Anacyclus pyrethrum*), Afyun (*Papaver somniferum* L.) and Post-e-Kibr (Caparis spinosa); Mouthwash oral bacteria. (*mazmza*) with rose oil and vinegar; Massage of gums and teeth with Gul surkh (*Rosa damascena* Mill), Kundur (*Boswellia serrata* Roxb), Maazo (*Quercus infectoria*), and Post-e-Anar (*Punica granatum*); To prevent dental caries use of mastagi, Alum, suk (an aromatic compound preparation of *Emblica officinalis*)	Anti-inflammatory, cytotoxic, antimicrobial activity and antibacterial effect against	10, 15, 32, 33, 34, 35, 36, 37, 38
2	Periodontal Disease	Hab e ayarij faiqra; Ingestion of tablets made by Post anar (*Punica granatum*), Gulnar	Astrigent property, antibacterial, anti ulcer, anti inlammatory	1, 32, 38, 39

		(*Punica granatum*), Mazoo (*Quercus infectoria*), Alum, Aaqar qarha (*Anacyclus pyrethrum*), Samaq (*Rhus coriaria* L.), salt, fermented vinegar and Habbul Aas (*Myristus communis* L.).		
3	Halitosis (bakhrul fam)	Istifrag of khilt e ghalib; Majoon Fanjnoos, Iyaraj Faiqra, Aaqar qarha (*Anacyclus pyrethrum*), Halela (*Terminalia chebula*)	Pulpotomy Agents, antibacterial and Anti-inflammatory,	8,10,32,
4	Odentalgia (wajaul asnan)	Gargle with decoction Post-e-Anar (*Punica granatum*), and Samaq (*Rhus coriaria* L.); Sunoon (Tooth powder) of aqarqarha (*Anacyclus pyrethrum*), dar e filfil (*Piper nigrum* L.) shab yamani (Alum), halela zard (*Terminalia chebula*)	Anti bacterial, anti hemorrhagic, astringent,	10, 38, 40, 41
5	Gingivitis (Warme-Lissa)	Venesection of basilica and cephalic vein (damvi type); Gargles from honey and olive oil; tooth powder of Suhaga biryan (Borax), mazoo sabz (Quercus infectoria), kebab chini (piper cubeba)	Antimicrobial activity, Antibacterial Activity (Gram-positive bacteria and Gram-negative bacteria)	10,16,42,43,
6	Stomatitis (qula-e-duhan)	Istifrag of abnormal humour (akhlat); Gargles from Leaves of Hina (Lawsonia inermis) and Kafoor (Cinnamomum camphora)	Antiseptic, anti bacterial (Pseudomonas aeruginosa), anticancer	10,16,13, 14,44,45

CONCLUSION

A sincere endeavor is made in this study to explore numerous plants with therapeutic properties that are described in the Unani system of medicine and can be used as an adjuvant in the maintaining of oral health. According to the Unani literature, there are numerous Unani single and multidrug formulations that can be used in the prevention and treatment of oral disorders. When evaluated using currents cientific criteria, a variety of Unani plants reviewed in this manuscript demonstrated considerable analgesic, anti-inflammatory, anti fungal, anti-microbial, tissue regenerative, and antiulcerogenic properties. However, only a small percentage of medicinal plant extracts are employed in ordinary clinical oral treatment and the rest are avoided due of their uncertain toxicological consequences. As a result, multiple clinical trials are needed to assess the efficacy and toxicity of illustrated Unani herbs. Furthermore, a steps should be taken to integrate ancient medicinal knowledge from systems such as Unani with modern dentistry practices. Incorporating the active elements of medicinal herbs into oral healthcare service is recommended in this case.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

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