

Essential Oils in Dentistry –An Update

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Abstract : Recent interest and advances in the field of dentistry has promoted the use of various herbal and natural products for multiple uses in the field of dentistry. Essential oils are such products exhibiting multiple benefits and has gained considerable importance in clinical research. Essential oils are potential sources of novel antimicrobial compounds especially against bacterial pathogens .This review focuses on role of coconut oil, eucalyptus oil, clove oil, tea tree oil and sesame oil in dentistry.

Keywords: Essential oils, dentistry, antimicrobial ,pathogens.

Introduction

Essential oils, including coconut oil, tea tree oil, eucalyptus oil, clove oil and sesame oil have been widely used in dental practices in order to treat many oral diseases.¹ Oral diseases continues to be a world wide major health problem and both dental caries and periodontal diseases are the most important global oral health problem. Essential oils have been used in medicine for bacterial and fungal infections. The type of essential oil used in dentistry depends upon their pharmacodynamic property. Outside medicine and dentistry, they are used in household cleaning products, perfumes, soft drinks etc. Thereby, essential oils are Ubiquitous. This review includes all the therapeutic use of the essential oils and its role in dentistry.

Essential oils & Dentistry

Coconut Oil

Coconut oil possesses healing properties far beyond that of any other dietary oil. The active components that it contains are Polyphenols, Phospholipids, Medium chain triglycerides². In traditional medicine, coconut oil is used to treat wide variety of health problem including the following-

- ~Allergic conditions ³
- ~bronchial asthma
- ~gonorrhoea
- ~skin infections
- ~malnutrition

Role of coconut oil in the field of dentistry:

The active ingredient in coconut oil are known to fight bacteria that cause dental cavities.⁴

- ~Active against tooth decay
- ~Gum disease
- ~Dental plaque
- ~Bleeding gums
- ~Halitosis

Tea Tree Oil

Tea tree oil extracted from *Melaleuca Alternifolia* is widely used because of its therapeutic properties in both medicine and dentistry. The active component present are terpinen-4-ol and alpha-terpineol.

Its therapeutic action includes⁵

- ~Antimicrobial
- ~Anti inflammatory
- ~Antifungal
- ~Antiviral

Role of tea tree oil in the field of dentistry:⁶

- ~Treatment of Herpes labialis
- ~Dental pain killer
- ~Halitosis
- ~Relieves symptoms of gingivitis
- ~Treatment of denture stomatitis

Eucalyptus Oil:

Eucalyptus oil and its major component, 1,8-cinole have antimicrobial effects . Therapeutically, its action includes the following⁷

- ~As immune-stimulatory
- ~Anti-inflammatory
- ~Analgesic
- ~Treatment of rhino sinusitis
- ~Chronic obstructive pulmonary disease
- ~Asthma

Role of eucalyptus oil in dentistry:

In dentistry, eucalyptus oil is included in products used as sealers and solvents for root canal fillings.⁸

- ~A decongestant
- ~Anti –microbial
- ~Periodontal disease
- ~Candidiasis

Clove Oil:

Clove oil is traditionally used as savoring agent and anti-microbial agent in food.

It has a wide variety of biological activities.⁹

Therapeutically, it's properties includes following

- ~Antibacterial
- ~Antifungal
- ~Antioxidant property.

Role of clove oil in dentistry: ¹⁰

- ~Treat dry socket
- ~As temporary restorative material
- ~As local anesthetic agent
- ~For tooth pain
- ~Candidiasis

Sesame Oil:

Sesame oil, it has many benefits in our daily life. Its high contains omega3, which is the active component of sesame oil. Therapeutic uses ^{11,12}

- ~Hypocholesterolemia
- ~Hypoglycemia
- ~As antioxidant
- ~Initiate wound healing
- ~Heavy metal toxicity

Role of sesame oil in dentistry:

- ~Tooth pain
- ~Gum diseases
- ~Sensitive teeth
- ~Dental Plaque

As an oil pulling agent

Oil pulling is also an Traditional home remedy to prevent teeth decay, oral malodor, bleeding gums, dryness of throat and cracked lips, and for strengthening the teeth, gums, and jaws.¹³

oil pulling done with sesame oil or sunflower oil plays a vital role in treating plaque, gingivitis and eradicating dental caries. various scientific literature supports the use of these edible oils as a household remedy to maintain the oral health.

Two groups of bacteria are mainly found to be generally responsible for dental caries *Streptococcus mutans* and *Lactobacillus*. Chlorhexidine is considered to be a gold standard, acts as an antiplaque, anticaries and antigingivitis agent. ^{14,15} it may discourage compliance because of its unpleasant taste and undesirable side effects such as tooth staining and alterations in taste sensations.

Sesame oil has various advantages over chlorhexidine like no staining, no lingering after taste, and no allergy. Sesame oil is cost effective than chlorhexidine and is readily available in the household. sesame oil showed significant anti bacterial activity by inhibiting the growth of *S.mutans* and *L.acidophilus*.¹⁶

Conclusion

Research studies on essential oils show positive effects for a variety of health concerns including infections, pain, anxiety, depression, tumors, premenstrual syndrome, nausea, and many others. Clove essential oil can help reduce pain related to teeth .Tea tree oil is effective against halitosis. Eucalyptus essential oil is very effective against cavities, dental plaque, gingivitis. Sesame oil pulling activity is effective against dental caries, dental plaque and halitosis ,gum disorders .Coconut oil used as oil pulling and is effective at reducing the harmful bacteria in the mouth .On the basis of this review, we conclude that essential oils are worldwide used by the

dental practitioner due to its potent effectiveness against many oral diseases and also in many other dental hygiene aids in order to maintain the oral status of the population.

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