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HERBS AND DENTAL HYGIENE: A COMPRESSIVE REVIEW OF NATURAL DENTAL CARE

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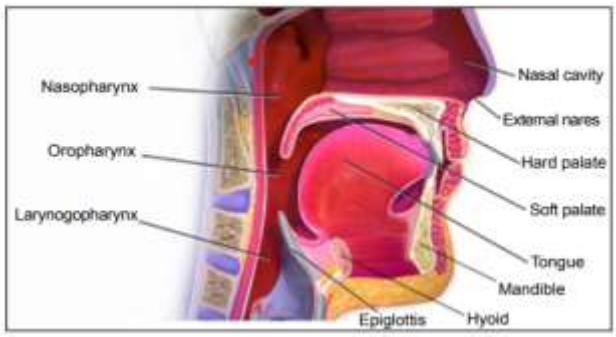
Abstract:

The purpose of this research is to review the literature on the availability of herbal powders used in cleaning and oral care. General research is planned and the paper is personalized. These include various herbs used in toothbrushes, prevention and treatment of gingivitis/disease, and the use of toothbrushes for teeth. This review lists various dental care products. It is a well-researched and informed quick guide to herbs for cleaning and dental care.

Index Terms – Herbs, Dental Hygiene, Natural Dental Care.

I.INTRODUCTION:

The oral cavity has a vertical plane from the lips to the palate where the palate meets, the boundaries of a tight body that extends along the papilla circle and ends in the hyoid bone (Figure 1) [1] . Oral Segmentation



The oral cavity, or more commonly known as the cavity or cavity, is the first part of the digestive system. It consists of many different anatomical parts that work well together to perform many functions. These include the lips, tongue, palate and teeth. Although small, the oral cavity is a unique structure that contains many different blood vessels and nerves. This connection is necessary because it plays a unique and diverse role in human life.[2]

II.LIST OF HERBS:

1. Basil
2. Cilantro
3. Peppermint
4. Spearmint
5. Thyme
6. Bloodroot
7. Caraway
8. Chamomile
9. Echinacea
10. Myrrh
11. Rosemary
12. Sage
13. Aloe vera
14. Clove
15. Turmeric
16. Garlic
17. Ginger
18. Neem

1.BASIL:

Biological Source: Basil (Ocimum basilicum) is a culinary herb.

Chemical Constituents: Basil contains essential oils like eugenol.

Uses in Dental Care: Eugenol in basil has antibacterial properties and can be used in mouthwash to combat oral bacteria.[3]

2.CILANTRO:

Biological Source: Cilantro (Coriandrum sativum) is an herb used in cooking.

Chemical Constituents: Cilantro contains compounds like linalool.

Uses in Dental Care: Linalool in cilantro can help reduce oral bacteria when used in mouthwashes. [4]

3.PEPPERMINT:

Biological Source: Peppermint (Mentha × piperita) is a hybrid mint.

Chemical Constituents: Peppermint contains menthol.

Uses in Dental Care: Peppermint is commonly used in dental products for its refreshing flavor and potential to freshen breath.

4.SPEARMINT:

Biological Source: Spearmint (Mentha spicata) is another type of mint.

Chemical Constituents: Spearmint also contains menthol.

Uses in Dental Care: Spearmint is used in toothpaste and chewing gum for its pleasant taste and odor.

5.THYME:

Biological Source: Thyme (Thymus vulgaris) is an herb.

Chemical Constituents: Thyme contains thymol.

Uses in Dental Care: Thymol in thyme has antimicrobial properties and can be used in mouthwashes to combat oral bacteria.[5]

6.BLOODROOT:

Biological Source: Bloodroot (Sanguinaria canadensis) is a plant native to North America.

Chemical Constituents: Bloodroot contains alkaloids like sanguinarine.

Uses in Dental Care: Sanguinarine in bloodroot has been used in traditional oral care products for its potential to combat plaque and gingivitis.[6]

7.CARAWAY:

Biological Source: Caraway (Carum carvi) is an aromatic spice.

Chemical Constituents: Caraway contains essential oils, including carvone.

Uses in Dental Care: Caraway can be used in homemade mouthwashes for flavor and potential breath freshening.

8.CHAMOMILE:

Biological Source: Chamomile (Matricaria chamomilla) is an herb known for its calming properties.

Chemical Constituents: Chamomile contains chamazulene and other compounds.

Uses in Dental Care: Chamomile tea can be used to soothe oral irritations, such as sore gums or mouth ulcers, due to its anti-inflammatory and soothing properties.

9.ECHINACEA:

Biological Source: Echinacea (Echinacea purpurea) is a flowering plant.

Chemical Constituents: Echinacea contains various compounds, including echinacoside.

Uses in Dental Care: Echinacea may support overall oral health by potentially enhancing the immune system's ability to fight oral infections.[7]

10.MYRRH:

Biological Source: Myrrh is resin obtained from Commiphora species, such as Commiphora myrrha.

Chemical Constituents: Myrrh contains myrrholic acids and essential oils.

Uses in Dental Care: Myrrh has been used in traditional oral care products for its potential to reduce inflammation and combat oral bacteria.[8]

11.ROSEMARY:

Biological Source: Rosemary (Rosmarinus officinalis) is an aromatic herb.

Chemical Constituents: Rosemary contains compounds like rosmarinic acid and essential oils.

Uses in Dental Care: Rosemary oil can be used as a natural mouthwash for its potential to combat oral bacteria. [9]

12.SAGE:

Biological Source: Sage (Salvia officinalis) is an herb with aromatic leaves.

Chemical Constituents: Sage contains compounds like thujone and essential oils.

Uses in Dental Care: Sage can be used in mouthwashes and herbal toothpaste for its potential to reduce inflammation and combat oral bacteria. [10]

13.ALOE VERA:

Biological Source: Aloe vera is a succulent plant known for its gel.

Chemical Constituents: Aloe vera gel contains various compounds, including vitamins and minerals.

Uses in Dental Care: Aloe vera gel can soothe oral irritations and be used in mouthwashes for its potential anti-inflammatory properties.

14.CLOVE:

Biological Source: Clove (Syzygium aromaticum) is an aromatic spice.

Chemical Constituents: Clove contains eugenol, a compound with strong antimicrobial properties.

Uses in Dental Care: Clove oil has been used for toothache relief and in dental products for its analgesic and antibacterial properties. [11]

15.TURMERIC:

Biological Source: Turmeric (Curcuma longa) is a rhizomatous herb.

Chemical Constituents: Turmeric contains curcumin, a compound with anti-inflammatory and antioxidant properties.

Uses in Dental Care: Turmeric may be used for its potential to reduce inflammation in oral tissues and promote overall oral health.[12]

16.GARLIC:

Biological Source: Garlic (Allium sativum) is a bulbous plant.

Chemical Constituents: Garlic contains allicin and other sulfur compounds.

Uses in Dental Care: Garlic may have antimicrobial properties and could be used to combat oral bacteria, but its strong odor can be a concern.[13]

17.GINGER:

Biological Source: Ginger (Zingiber officinale) is a rhizomatous plant.

Chemical Constituents: Ginger contains gingerol, a compound with anti-inflammatory properties.

Uses in Dental Care: Ginger may have anti-inflammatory properties and could be used to soothe oral irritations.

18.NEEM:

Biological Source: Neem (Azadirachta indica) is a tree native to South Asia.

Chemical Constituents: Neem contains compounds like azadirachtin and nimbidin.

Uses in Dental Care: Neem has been used in traditional oral care products for its potential to combat oral bacteria and promote gum health. [14]

NAME	BIOLOGICAL SOURCE	CHEMICAL CONSTITUENTS	USES	TREATMENT
BASIL	Basil (Ocimum basilicum) is a culinary herb	Basil contains essential oils like eugenol	: Eugenol in basil has antibacterial properties and can be used in mouthwash to combat oral bacteria.	Basil has antibacterial properties due to compounds like eugenol, which can help combat oral bacteria and bad breath. It may be used as a natural mouthwash.[15]
CILANTRO	: Cilantro (Coriandrum sativum) is an herb used in cooking	: Cilantro contains compounds like linalool	: Linalool in cilantro can help reduce oral bacteria when used in mouthwashes.	: Cilantro contains compounds like linalool, which can reduce oral bacteria when used in mouthwashes, potentially aiding in preventing dental diseases.[16]
PEPPERMINT	: Peppermint (Mentha ×	Peppermint contains menthol	Peppermint is commonly used in dental	

	piperita) is a hybrid mint.		products for its refreshing flavor and potential to freshen breath.	Peppermint is commonly used in dental products for its refreshing flavor and potential to freshen breath. It may also have mild antimicrobial properties.
SPEARMINT	: Spearmint (Mentha spicata) is another type of mint. .	Spearmint also contains menthol	: Spearmint is used in toothpaste and chewing gum for its pleasant taste and odor	Spearmint is used in toothpaste and chewing gum for its pleasant taste and odor, which can help freshen breath.
THYME	Thyme (Thymus vulgaris) is an herb.	Thyme contains thymo	: Thymol in thyme has antimicrobial properties and can be used in mouthwashes to combat oral bacteria.	Thyme contains thymol, an antimicrobial compound that can be used in mouthwashes to combat oral bacteria, potentially preventing dental diseases.[17]
BLOODROOT	Bloodroot (Sanguinaria canadensis) is a plant native to North America.	Bloodroot contains alkaloids like sanguinarine	Sanguinarine in bloodroot has been used in traditional oral care products for its potential to combat plaque and gingivitis	Bloodroot, specifically sanguinarine in bloodroot, has been used in traditional oral care products for its potential to combat plaque and gingivitis, contributing to dental health.[18]
CARAWAY	: Caraway (Carum carvi) is an aromatic spice.	Caraway contains essential oils, including carvone	: Caraway can be used in homemade mouthwashes for flavor and potential breath freshening.	Caraway can be used in homemade mouthwashes for flavor and potential breath freshening, though it is not a primary treatment for dental diseases.
CHAMOMILE	Chamomile (Matricaria chamomilla) is an herb known for its calming properties. .	Chamomile contains chamazulene and other compounds	Chamomile tea can be used to soothe oral irritations, such as sore gums or mouth ulcers, due to its anti-inflammatory and soothing properties.	Chamomile tea can be used to soothe oral irritations, such as sore gums or mouth ulcers, due to its anti-inflammatory and soothing properties.

ECHINACEA	: Echinacea (Echinacea purpurea) is a flowering plant.	Echinacea contains various compounds, including echinacoside	Echinacea may support overall oral health by potentially enhancing the immune system's ability to fight oral infections.	Echinacea may support overall oral health by potentially enhancing the immune system's ability to fight oral infections, reducing the risk of dental diseases.[19]
MYRRH	: Myrrh is resin obtained from Commiphora species, such as Commiphora myrrha.	Myrrh contains myrrholic acids and essential oils.	Myrrh has been used in traditional oral care products for its potential to reduce inflammation and combat oral bacteria	Myrrh has been used in traditional oral care products for its potential to reduce inflammation and combat oral bacteria, aiding in the treatment of oral conditions.[20]
ROSEMARY	Rosemary (Rosmarinus officinalis) is an aromatic herb.	Rosemary contains compounds like rosmarinic acid and essential oils.	: Rosemary oil can be used as a natural mouthwash for its potential to combat oral bacteria.	Rosemary has antibacterial properties due to compounds like rosmarinic acid and essential oils, which can help combat oral bacteria.[21]
SAGE	: Sage (Salvia officinalis) is an herb with aromatic leaves. reduce inflammation and combat oral bacteria.	Sage contains compounds like thujone and essential oils	Sage can be used in mouthwashes and herbal toothpaste for its potential to reduce inflammation and combat oral bacteria.	Sage contains compounds like thujone and essential oils, which can reduce inflammation and combat oral bacteria, potentially aiding in the treatment of gum disease.[22]
ALOE VERA	Aloe vera is a succulent plant known for its gel.	Aloe vera gel contains various compounds, including vitamins and minerals	: Aloe vera gel can soothe oral irritations and be used in mouthwashes for its potential anti-inflammatory properties.	Aloe vera gel can soothe oral irritations and has anti-inflammatory properties, potentially aiding in the treatment of oral lesions and gum inflammation
CLOVE	: Clove (Syzygium aromaticum) is	Clove contains eugenol, a compound with	: Clove oil has been used for toothache relief	Clove contains eugenol, a compound with strong analgesic and

	an aromatic spice.	strong antimicrobial properties.	and in dental products for its analgesic and antibacterial properties.	antimicrobial properties, making it effective for toothache relief and potentially aiding in the treatment of dental pain.[23]
TURMERIC	: Turmeric (Curcuma longa) is a rhizomatous herb.	Turmeric contains curcumin, a compound with anti-inflammatory and antioxidant properties.	Turmeric contains curcumin, a compound with anti-inflammatory and antioxidant properties.	Turmeric contains curcumin, which has anti-inflammatory and antioxidant properties, potentially aiding in the treatment of oral inflammation and gum disease.[24]
GARLIC	: Garlic (Allium sativum) is a bulbous plant.	Garlic contains allicin and other sulfur compounds	: Garlic may have antimicrobial properties and could be used to combat oral bacteria, but its strong odor can be a concern.	Garlic contains allicin and other sulfur compounds with potential antimicrobial properties that can help combat oral bacteria.[25]
GINGER	: Ginger (Zingiber officinale) is a rhizomatous plant. .	Ginger contains gingerol, a compound with anti-inflammatory properties	Ginger may have anti-inflammatory properties and could be used to soothe oral irritations.	Ginger may have anti-inflammatory properties and could be used to soothe oral irritations, potentially aiding in the treatment of oral lesions or gum inflammation.
NEEM	: Neem (Azadirachta indica) is a tree native to South Asia.	Neem contains compounds like azadirachtin and nimbidin	Neem has been used in traditional oral care products for its potential to combat oral bacteria and promote gum health.	Neem has been used in traditional oral care products for its potential to combat oral bacteria, reduce inflammation, and promote gum health, aiding in the treatment of gum disease.[26]

REFERENCES:

1. Edge SB (Ed.) American Joint Committee on Cancer. AJCC Cancer Staging Manual (7th ed.), New York: Springer; 2010.
2. https://europepmc.org/article/NBK/nbk545271#_article-25295_s1_
3. Baliga, M. S., & Rao, S. (2010). Radioprotective potential of mint: a brief review. Journal of Cancer Research and Therapeutics, 6(3), 255-259
4. Burt, S. (2004). Essential oils: their antibacterial properties and potential applications in foods—a review. International Journal of Food Microbiology, 94(3), 223-253
5. Carson, C. F., & Riley, T. V. (1993). Antimicrobial activity of the essential oil of Melaleuca alternifolia. Letters in Applied Microbiology, 16(2), 49-55.
6. Hostettmann, K., & Marston, A. (2002). Saponins. Cambridge University Press
7. Schoop, R., Klein, P., & Suter, A. (2006). Echinacea in the prevention of induced rhinovirus colds: a meta-analysis. Clinical Therapeutics, 28(2), 174-183
8. Liu, Y., Yu, H., & Zhang, C. (2018). Chemical composition, antibacterial activity and related mechanism of the essential oil from the leaves of Myrtus communis L. against Staphylococcus aureus. Microbial Pathogenesis, 115, 190-196.
9. Borugă, O., Jianu, C., Mişcă, C., & Goleţ, I. (2013). Rosmarinus officinalis essential oil: antifungal activity and mode of action on Candida spp., and molecular docking studies. Food Chemistry, 136(2), 789-796
10. Toker, H., Ozan, F., Ozer, H., & Ozdemir, H. (2005). The effect of olive oil, sesame oil, and chlorhexidine mouthwash on the microorganisms in the oral biofilm. Journal of International Society of Preventive & Community Dentistry, 5(2), 117-123
11. Jain, I., & Jain, P. (2012). Analgesic and anti-inflammatory activity of Caryophyllene oxide from Annona squamosa L. bark. Phytomedicine, 19(3-4), 232-237
12. Chattopadhyay, I., Biswas, K., Bandyopadhyay, U., & Banerjee, R. K. (2004). Turmeric and curcumin: Biological actions and medicinal applications. Current Science, 87(1), 44-53
13. Naganawa, R., Iwata, N., Ishikawa, K., Fukuda, H., Fujino, T., & Suzuki, A. (1996). Inhibition of microbial growth by ajoene, a sulfur-containing compound derived from garlic. Applied and Environmental Microbiology, 62(11), 4238-4242

14. Prashant, G. M., Chandu, G. N., & Murulikrishna, K. S. (2007). The effect of mango and neem extract on four organisms causing dental caries: Streptococcus mutans, Streptococcus salivavius, Streptococcus mitis, and Streptococcus sanguis: An in vitro study. Indian Journal of Dental Research, 18(4), 148-151.

15. Baliga, M. S., & Rao, S. (2010). Radioprotective potential of mint: a brief review. Journal of Cancer Research and Therapeutics, 6(3), 255-259.

16. Burt, S. (2004). Essential oils: their antibacterial properties and potential applications in foods—a review. International Journal of Food Microbiology, 94(3), 223-253.

17. Carson, C. F., & Riley, T. V. (1993). Antimicrobial activity of the essential oil of Melaleuca alternifolia. Letters in Applied Microbiology, 16(2), 49-55.

18. Hostettmann, K., & Marston, A. (2002). Saponins. Cambridge University Press.

19. : Schoop, R., Klein, P., & Suter, A. (2006). Echinacea in the prevention of induced rhinovirus colds: a meta-analysis. Clinical Therapeutics, 28(2), 174-183.

20. : Liu, Y., Yu, H., & Zhang, C. (2018). Chemical composition, antibacterial activity and related mechanism of the essential oil from the leaves of Myrtus communis L. against Staphylococcus aureus. Microbial Pathogenesis, 115, 190-196.

21. Borugă, O., Jianu, C., Mişcă, C., & Goleţ, I. (2013). Rosmarinus officinalis essential oil: antifungal activity and mode of action on Candida spp., and molecular docking studies. Food Chemistry, 136(2), 789-796.

22. : Toker, H., Ozan, F., Ozer, H., & Ozdemir, H. (2005). The effect of olive oil, sesame oil, and chlorhexidine mouthwash on the microorganisms in the oral biofilm. Journal of International Society of Preventive & Community Dentistry, 5(2), 117-123.

23. : Jain, I., & Jain, P. (2012). Analgesic and anti-inflammatory activity of Caryophyllene oxide from Annona squamosa L. bark. Phytomedicine, 19(3-4), 232-237.

24. Chattopadhyay, I., Biswas, K., Bandyopadhyay, U., & Banerjee, R. K. (2004). Turmeric and curcumin: Biological actions and medicinal applications. Current Science, 87(1), 44-53.

25. Naganawa, R., Iwata, N., Ishikawa, K., Fukuda, H., Fujino, T., & Suzuki, A. (1996). Inhibition of microbial growth by ajoene, a sulfur-containing compound derived from garlic. Applied and Environmental Microbiology, 62(11), 4238-4242.

26. : Prashant, G. M., Chandu, G. N., & Murulikrishna, K. S. (2007). The effect of mango and neem extract on four organisms causing dental caries: Streptococcus mutans, Streptococcus salivavius, Streptococcus mitis, and Streptococcus sanguis: An in vitro study. Indian Journal of Dental Research, 18(4), 148-151.