



## Herbal Toothpest: An Overview

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### ABSTRACT:

The popularity of herbal toothpaste in oral dental care is indeed growing, as people are increasingly drawn to natural ingredients for perceived safety and efficacy in reducing dental issues. However, it's essential to note that scientific studies are ongoing to determine the actual benefits and long-term effects of these products compared to traditional synthetic formulations. Always consult with dental professionals for personalized advice on oral care. Ingredients like Neem, Clove, Tulsi and Ginger are known for their natural antibacterial properties. Formulating a herbal toothpaste with these extracts can help maintain oral freshness and prevent tooth decay by targeting bacteria in the mouth.

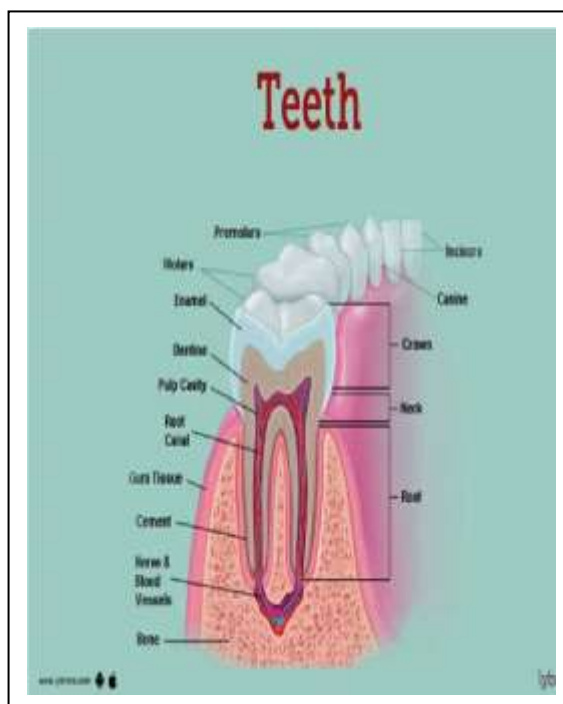
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### INTRODUCTION :

It's interesting to note the growing preference for herbal products in oral care, driven by perceived safety and effectiveness in addressing dental issues. The focus on natural ingredients, particularly in herbal toothpaste, aligns with the current trend of sensitivity towards oral health. Exploring the antibacterial potential of various herbs in toothpaste formulation adds depth to understanding their role in maintaining good oral hygiene and preventing periodontal disease.

Indeed, the human mouth comprises 32 teeth, anchored in the upper jaw (maxilla) and lower jaw (mandible). The classification of teeth includes

- Incisors
- Canines
- Pre molar
- Molar
- The tooth is divided into three major parts.
- Crown
- Neck
- Root
- The tooth is made up of three components
- Dentine
- Enamel
- Cementum



### IDEAL PROPERTIES :

1. Good abrasive effect
2. Non toxic and Non irritant
3. Keep the mouth fresh and clean

4. Prolonged effect
5. Cheap and easily available

### BENEFITS :

- Cavity Prevention
- Enamel Protection
- Fresh Breath
- Plaque Prevention
- Sensitive Relief

### Herbs Used In Formulation Of Herbal Toothpaste

#### Neem

Biological source :- *Azadirachta indica* Family :- Meliaceae

Part of plant use :- Tenderstem

Uses :- Anti-diabetic, anti - viral, anti-microbial, anti-bacterial, anti -pyretic.

#### Ginger

Biological source :- *Zingiber officinale* var *roscoe* ,Family :- Zingiberaceae

Part of plant use :- Giant ginger extract

Uses :- Treat constipated, bloating and intestinal gas. As antioxidants.



#### Clove

Biological source :- *Eugenia caryophyllus* s<sup>z</sup> *gygium aromaticum* ,Family :- Myrtaceae

Part of plant :-Dried flowers

Uses :- Dental analgesic, treat gingivitis



#### Tulsi

Biological source :- *Ocimum sanctum* ,Family :- Lamiatae

Part of plant :- Leaves

Uses :- Antibacterial, anticatarrhal insecticidal



#### Turmeric

Biological source :- *Curcuma longa* ,Family :- Zingiberaceae

Part of plant :- Dried rhizome

Uses :- Antiseptic, antibacterial, analgesic and antioxidant.



### Pharmaceutical Excipients Use In Toothpaste

Listing of pharmaceutical excipients use in formulation of toothpaste are as follows

1. Abrasives agents
2. Detergents
3. Humectants
4. Thickening agents
5. Flavor
6. Sweeteners
7. Preservetives

8. Anticaries activities
9. Anticarcinogenic
10. Desensitizing agents

#### † Abrasives agents :-

The main component responsible for cleaning the teeth.

Should be abrasive enough to clean the tooth and avoid damage to tooth surface. Ability depends on particles size, shape and brittleness of the material.

#### Examples :-

hydrated silica calcium carbonate calcium pyrophosphate

#### † Detergent:-

Major contributor to teeth cleaning process ,Should be tasteless, nontoxic, non irritant, producing large volume of non gagging foam

#### Example:-

Sodium lauryl sulfate

Sodium lauryl sarcosinate

**Humectants:-** Prevent toothpaste from drying out Glycerin

#### Example:-

Sorbitol

Hydrogenated starch hydrolysatate Propylene glycol

**Thickening Agent :-** Needed to maintain the stability of high solid dispersion After the dispersibility foam, character and mouth feel.

#### Example:- Xanthan gum

Carbomer

Hydroxyethyl cellulose

**Flavor:-** Influence consumer acceptance Leaves a fresh clean feeling after brushing Considered higher

#### Example:- Peppermint

Spearmint Menthol

**Sweeteners:-** Most flavor oils have bitter taste leaving the toothpaste formulation unpalatable without sweeteners

#### Example:- Saccharine

Sodium saccharine

**Preservative:-** Rarely used nowadays due to safety concerns Proper formulation ingredient selection can result in preservative free toothpaste

**Anticaries Actives:-** Fluoride ions reduces the incidence of carious lesion by reducing the acid solubility of tooth enamel

#### Example:-

Sodium fluoride

Sodium monofluorophosphate

**Anticalculus Agent :-**

#### Example

Zinc chloride

Zinc citrate

Tetra sodium pyrophosphate

**Desensitizing Agent:-** Potassium nitrates ,Compatible with fluoride and has salty taste

**Example:-** Sensodyne toothpaste

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