

## Formulation and Evaluation of Herbal Toothpowder

MISS.NARSALE SHIVANI SURESH

Prof. KHADE P.

Dr. HINGANEL.D.

ADITYA PHARMACY COLLEGE, BEED 431122AURANGABAD UNIVERSITY

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### Abstract :

Toothpowder are the product is a mixture of a variety of ingredients that act as an alternative to toothpaste as a cleaning agent. The main ingredients included baking soda, cloves powder, cinnamon powder, Himalaya pink salt, pudina powder & pudina oil & artificial sweetener for taste using like a Himalaya pink salt. Whitening toothpowder it's main aim to freshen breath, help heal gums & reducing decay. In modern times, baking soda has been the most commonly used toothpowder. The use of powdered substances such as charcoal, brick & salt for cleansing teeth has been historically wide spread in India, particularly in rural areas.

The toothpowder was prepared by using various herbal ingredients which are antiseptic, antibacterial, analgesic, food additives, leaving agent & cooling properties. The toothpowder has physical characteristics such as colour, odour, pH, stability, taste, bulk density, tapped density, moisture content etc. The result was found to be within the permitted limits.

### Keywords -

Herbal ingredients, toothpowder, tooth gums, tooth decay, physical characteristics, rural areas.

### I. Introduction -

Denitrifies are the product which is used to maintain the oral hygiene such as oral freshness of mouth and avoid tooth decay. Oral hygiene is an important key to maintain good impression of an individual & give confidence. Toothpowder removing dental plaque & also help to prevent to gum diseases like gingivitis, cavity etc. Toothpowder are used as tooth cleaning agent & used in various Oral diseases like gum diseases, tooth erosion, tooth sensitivity, toothache etc. The main aim of work is to prepare evaluate & compare lab herbal preparation & market herbal preparation by different methods physicochemical, physical, phytochemicals analysis etc. Toothpowder is work as a breath freshness &

teeth whitening, herbal toothpowder is made up of natural ingredients. This work was carried out to prepare a tooth powder which can be used as a tool for proper oral hygiene and to overcome the side effects of the conventional tooth powder prepared by synthetic ingredients. The tooth powder was prepared by using various herbal ingredients which posses the antibacterial, antiseptic and cooling properties. Amla powder, Neem powder, cinnamon powder, clove powder, baking soda, pink Himalaya are the herbal ingredients were used in this work to formulate ideal tooth powder which can satisfy all the required properties to keep the mouth fresh and to prevent tooth decay. Tooth powder are based on its abrasive property, the powder applied on the tooth rub against the tooth which helps to remove the deposited food junk and minerals from tooth. Oral hygiene is very important for the health. Due to variant of phytoconstituents, substituting and adulterants in crude drugs their formulation for purity and quality. One of the most commonly used inn herb in most of herbal tooth powder available in market, due to its bitterness, smell antimicrobial activity. It is found that 10 billion of microbes. Are present in oral cavity. Some of them are dangerous to hygiene of buccal cavity

### Ideal Properties

- Good abrasive effect
- Non irritant and non toxic
- Prolonged effect
- Keep the mouth fresh and clean
- Impart no stain in tooth
- Cheap and easily available.

### Types of Toothpowder

1. Whitening tooth powder
2. Natural tooth powder
3. Herbal tooth powder
4. Homemade toothpowder

### Herbal Tooth Powder

Sore or bleeding gums also can benefit from herbal tooth powder. Herbal tooth powder can have a of ingredients. Baking soda, powdered chalk and white clay are are common. Herbal tooth powder has been around for centuries

### Benefits Herbal Tooth Powder

- Helps relieve painful, bleeding and spongy gums in gingivitis.
- Maintain oral hygiene and fights bad breath.
- Prevents plaque formation and keeps the teeth strong.

## II. Methods And Preparation:

### Neem:

The Neemtrees (Azadirachta indica) is a tropical evergreen tree native to India and is also found in other southeast countries. In India, neem is known as “the village pharmacy” because of its healing versatility and it has been used in Ayurvedic medicine for more than 4,000 years due to its medicinal properties. Neem is also called “arista” in Sanskrit – a word that means Perfect, complete and imperishable. The seeds, bark and leaves contain compounds with proven antiseptic, antiviral, antipyretic, anti-inflammatory, anti-ulcer and antifungal uses. Neem is fast growing tree. It is evergreen, but in severe drought it may shed most of its leaves. Its fruit and seeds are the source of Neem oil role as health promoting effect is attributed because it is rich source of oxidant. It is used as antimicrobial activity and freshen the breath

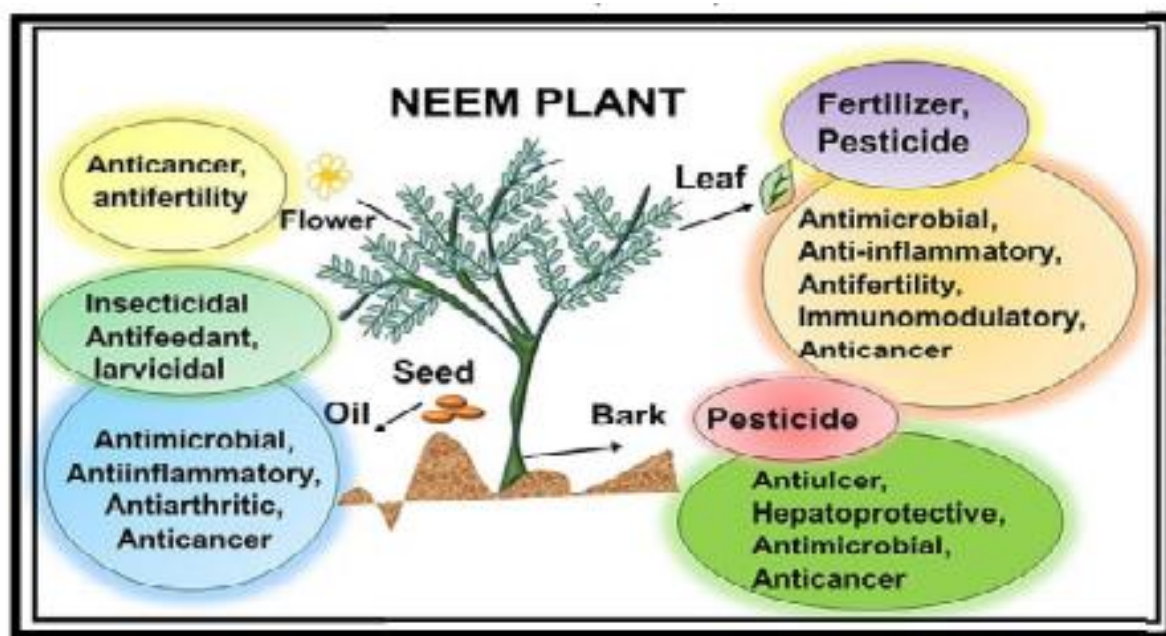


Fig : Bio-activity of the compounds present in Neem leaf

### How to Prepare Neem Powder

1. • Neem leaf were collected from nearby sources and dried for 2 or 3 days. Then the dried leaf was grained with the help of grinding tool to get fine particles
2. • The powder is activated at at temperature of about 400°C. Then the powder was sieved by the IS standard sieve size of 90 micron. Sieved powders are washed with double distilled water and filtered using the filter paper.
3. • Then washed powder is dried and it is ready to be utilized as a Bio-coagulant. The fine powder was collected and stored in airtight container to keep away from moisture



**Amla:**

**Description :**

Large, deciduous trees, With distichous, linear oblong leaves. Flowers greenish yellow, in fascicles on leafless branches. Fruits globose, fleshy; seeds bony.

**How to prepare Amla Powder**

1. Chop the gooseberry into small pieces and put them in the sunlight for a couple of days for drying. A few days in the sunlight and you will notice that the amla pieces will be dried up.
2. Transfer the dried amla pieces into a blender and blend them completely.
3. The Amla powder is ready. The amla powder can be stored in an airtight container.

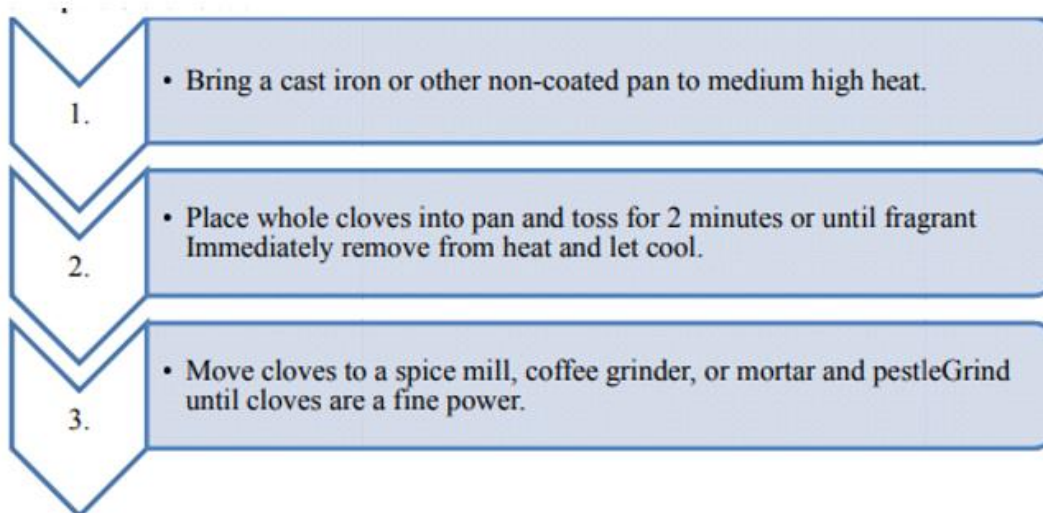


**Clove:**

**Description:**

Clove trees are evergreens that grow to some 40 feet tall. Their bark is smooth and gray and their long, narrow leaves look like bay leaves.

**How to Prepare Clove Powder**

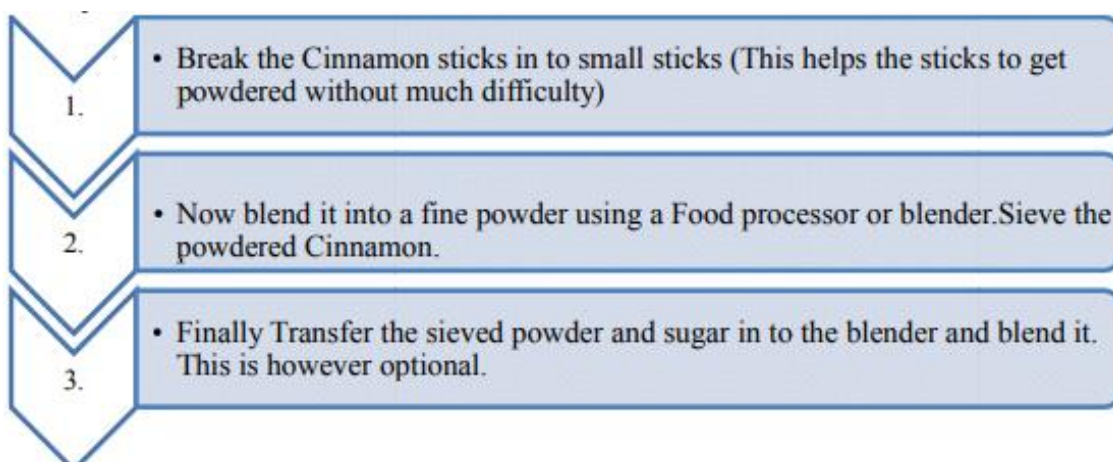


**Cinnamon:**

**Description:**

Cinnamon trees are 10-15 metres (30-50 feet) tall. The leaves are ovate-oblong in shape and 7-18 cm long. The flowers, which are arranged in panicles, have a greenish color and a distinct odour. The fruit is a purple 1 cm drupe containing a single seed.

### How to Prepare Cinnamon Powder



### Himalayan Pink Salt:

Pink Himalayan salt is chemically similar to table salt . It contains up to 98percent sodium chloride. The rest of the salt consists of trace minerals, such as potassium, magnesium and calcium .Himalayan salt is rock salt (halite) mined from the Punjab region of Pakistan. The product is often promoted with groundless claims that it has health benefits.

### Properties:

- Removes mold, bacteria and allergens form air
- Assists with asthma and allergy
- Promotes quality sleep.
- Produces negative ions which reduce anxiety

### Molecular weight -58.44

### Uses:

- Winter road treatment
- Food preservation

- Food seasoning
- Medicinal purpose

- Road safety



#### Formulations of Tooth Powder

Sr.No.	Ingredients	Quantity	Role of ingredients
1	Neem Powder	10 Gm	Dental Analgesic
2	Clove Powder	4 Gm	Analgesic
3	Cinnamon Powder	10 Gm	Antiseptic
4	PimkHimalya Salt	4 Gm	Leaving agent
5	Baking Soda	2 Gm.	Food Additive

#### Procedure for Preparation of Herbal Tooth Powder

1. • Take 1 tablespoon of Amla powder, Neem Powder, Cinnamon powder, Baking soda ,Pink himalaya salt mix it well.
2. • Add few drops of papermint or tea tree oil or clove essential oil( Optional)
3. • Add 1 tablespoon mint leaf powder or pudina. Mix well all powder & Store in well closed container.

#### EVALUATION OF PREPARED TOOTH POWDER

- Colour: The prepared tooth powder was evaluated for its colour.Thecolour was checked visually.
- Odour: Odour was found by smelling the product.
- Taste: Taste was checked manually by tasting the product.
- Stability: The product was maintained in different temperature conditions to check its stability.

- Spreadability: Spreadability was evaluated by the powder manually.
- Abrasiveness: It was evaluated manually.
- Foamability: The foamability of the product was evaluatd by taking small amount of preparation with water in a measuring cylinder initial volume was noted and then shaken for 10times. Final volume of foam was noted.

### III. RESULT AND DISSCUSSION

Sr. No	Parameter	Observation
1	Colour	Brick red
2	Odour	Characteristics Pungent
3	Taste	Astringent Then Sweet
4	Stability	Stable
5	Foambility	Good
6	Ph	7.9
7	Flow Property	Poor
8	Abrasiveness	Good

### IV. CONCLUSION

The ingredients used in the present work, was screened and selected to possess antibacterial effect and to maintain oral hygiene as it can be claimed by its result as effective toothpastes. Any herbal toothpaste is considered safe to use twice a day and it does not cause any harmful effects, instead imparts good freshness and away from bad odour. Oral hygiene can be maintained in a reliable, safe and inexpensive way by using herbal tooth powder. The research concluded that herbal tooth powder an emphasizing and more acceptable in dental research and they are safer with minimum 2side effect than synthetic preparation. The formulated tooth powder capable to the tooth and oral hygiene and show the anti-microbial activity against pathogens. The formulated herbal tooth powder has been scope in future in nature of public

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### REFERENCES

- [1]. PP Sharma,cosmetic;formulation,manufacture,qu ality control,7th edition,pardana publication PVtLtd ,507-19
- [2]. Ck kokate,Ap purohit,pharmacognocny,4th edition, nirali prakashan,11:81-94
- [3]. Nc Mohire, Av yadav,chitosan-based polyherbal tooth paste: as novel oral hygiene products,Indian journal of dental research,2010;21(3):380-384.



- [4]. Bosman,Julie After 244 years,Encyclopediabritannica stops the presses,the new York times,retrieved 13 march 2012.
- [5]. Kirtikar KR, Basu BD, Indian MedicinalPlants, International Book Distributors,Dehradun, Vol I, 1987, 536-541.
- [6]. Milind P. and Deepa k. : Clove: A Champion Spice, Int J. of Res Ayu& Pharm, 2011, 2(1) 47-54.
- [7]. Hussain S. , Rahman R. , Mushtaq A. ,[...] : Clove: A Review of a precious with multiple uses: Int J. of Che & Bio Sci, 2017.
- [8]. Cock I. E. ,Cheesman M. (2018), Plant of the genus syzygium (Myrtaceae): A review on ethnobotany, medicinal properties & Phytochemistry. Bioactive comps. Of Med. Plant. Ed Goyal MR, Ayeleso A Apple Academic Press, USA.
- [9]. Hu Q. , Zhou M. , & Wei S. : Progress on the Antimicrobial activity research of clove oil and eugenol in the food antiseptis field :J. Of Food sci, Vol 83, Iss 6, 2018.Merr. (L) &Perr. Myrtaceae, Syzygiumaromaticum, Agroforestry Database 4.0 (Orwa et al. 2009) Page No. 1 to 5.
- [10]. Yadav S. , Gupta S. K. , Bharti D. , & Yogi B. : SyzygiumAromaticum (clove): A Review On Various phytochemicals and pharmacological activies in medicinal plant, World J. Of Pharmaceutical Research, 9(11), 2020.
- [11]. Agrawal M. ,agrawal s. , [...]: A review on uses of clove in oral and general health: IJRPB 2(4), 2014.
- [12]. <https://en.wikipedia.org/w/index.php?title=Clove&oldid=99768494>.
- [13]. Pulikottil SJ, Nath S. : Potential of clove of Syzgiumaromatium in development of a therapeutic agent for periodontal disease. A review, SADJ 2015, Vol 70, p.108-115.Mittal m. , Gupta N. ,[...] : Phytochemical evaluation and pharmacological activity of Syzygiumaromaticum: A comprehensive review: Int J Pharm sci, 6(8).