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Review on herbal tooth powder

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ABSTARCT :

Powders are pharmaceutical solid dosage form encountered in almost every aspect of pharmacy both in industry and in practice. In addition to cleaning teeth, traditional herbal toothpowder is used to treat a variety of oral conditions, including gum disease, tooth erosion, tooth sensitivity, and toothaches.. This study is thus aimed to provide an alternative to the consumer and formulate herbal tooth powder using Clove, Ritha, Babool, Tulsi, pink salt, Fennal, Allum, Mentha, amla. Denitrifies are products used to prevent tooth decay and maintain oral hygiene, including mouth freshness. Using a variety of dentifrices made with both synthetic and herbal ingredients can help maintain good oral hygiene throughout the day. The developed tooth powder was tested for its organoleptic and physical properties, such as color, odor, taste, stability, foam ability, and abrasiveness, to ensure it possesses all the attributes required to be used against dental issues. It was decided that the result was within the law.

KEYWORDS: Natural tooth powder, Oral hygiene, Camphor, Clove

INTRODUCTION:

Keeping one's teeth clean is essential to preserving one's appearance, confidence, and sense of self. In addition to promoting good oral hygiene, tooth powder helps prevent gum disease, cavities, and discoloured teeth by acting as an abrasive to help remove food particles and dental plaque from teeth. The ingredients of toothpaste and tooth powder are identical, although toothpaste additionally includes water, binding agents, and a humectant. The primary function of tooth powder is to clean the surfaces that are accessible. Dentifrice is a preventative cosmetic treatment for teeth that can be used to manage and prevent tooth decay and bad breath. Both natural and synthetic materials can be used to make dentifrice. Because herbal formulations are so effective at preventing negative effects, they are now in high demand and essential compared to formulations that use synthetic ingredients.
Oral hygiene products are among the earliest inventions made by humans. Dental tooth powder was created by the ancient Egyptians between 3000-5000 BC. Many items, such as egg shells and ox bones, can be ground into ashes and used as tooth powder. Even though powders are no longer as commonly used as dosage forms, the characteristics and actions of finely divided solid materials are very significant in the field of pharmacy. They come in both crystalline and amorphous forms. They are regarded as the most traditional and straightforward form of dosage.

Advantages:

Powders are more stable than liquid dosage forms and can be applied externally as well as internally. Compared to liquid dosage forms, powders are easier to handle, store, and transport. Children and elderly people have trouble swallowing solid dosage forms like tablets and capsules, but they can easily take powdered medications either by themselves or mixed with water or another liquid. To administer certain products, they must be mixed with food. It can be convenient to administer bulky and large doses of medication. Adult-grade tablets and capsules can be made into powders by dividing the dosage. Offer different ways to give GI irritant medications. Compared to tablets and capsules, drug powder's quick dispersion causes less local irritation. Packing of topical powders in a nozzle-style squeeze.

DISADVANTAGES:

Powder dispensing takes a lot of time; [6] Not appropriate for oral administration of bitter drugs. For external use, powders must be in the best possible state of sub-division. Consequently, they become expensive. Less precise dosage than what can be obtained with pills or capsules. The handling and administration of powders is more difficult than that of tablets and capsules. During handling and transportation, powders are separated based on differences in density and size distribution. Coarse powders are friable or can be further fine-tuned by size reduction. Lump formation may result from inter-particular friction between the fine powders. Hygroscopic and deliquescent medications in powder form cannot be dispensed with this device.

TYPES OF TOOTH POWDER:

- Whitening tooth powder.
- Natural tooth powder.
- Herbal tooth powder.
- Home made tooth powder.

Need to Prepare Herbal Toothpowder :

- The primary goal of this invention is to create a formulation that may be used to replace the disadvantages of earlier tooth powders with a natural herbal tooth powder.
- Another goal is to create a high-quality tooth powder that, when applied frequently, can effectively shield teeth against toxicity, poisonous residue, and inflammation. It should not leave stains on teeth or fingers after use, have a nice odour, and meet cosmetic standards. A requirement of the formulation would be to whiten teeth by removing stains.
- A formulation with natural aromatic and medicinal herbs that are safe, biodegradable, and have very low mammalian toxicity is yet another goal of the current innovation. These herbs are helpful for gums and teeth.

COMMERCIAL TOOTHPOWDERS AVAILABLE IN MARKET

Table 3.1: Marketed Preparation of herbal toothpowder

BRAND NAME	INGREDIENTS	USES	FIGURE
Dabur Lal Dant Manjan	• Clove Oil • Pudina • Satva & Karpura Pippai • Tomar Beej	• Effective • Against • Bacteria And Beneficial For Gingivitis. • Helps Prevent Foul Breath and • Toothaches.	
Vithoba Dant Manjan	• Laung • Lahore • Namak	• Prevents Tooth Decay. • Effective • Against • Strong Teeth And Healthy Gums. • Relieve • Toothaches • Eliminates • Worms and Shield Teeth From Being Harmed By • Cold Foods.	

Divya Dant Manjan	• Babool • Neem • Tumbaru • Pudina • Majufal • Haldi • Samudra Fen	• Results In Strong Gums. • Dental • Problems • Like Pieria I.E • Flow of Excess Blood And Pus From Gums Would Be Solved.	
Vicco Vajradanti Powder	• Ajwain • Dalchini • Khair • Patang • Harada • Amala • Behada • Maifal • Babhul • Jambhul • Acrod	• Treats • Pyrorrhoea, • Swollen • Gums, Bleeding Gums And Gum • Irritation • While Preventing Tooth Decay. • Used To Treat Toothaches. • Cure Wounds. • Harden Gums And Teeth.	

INGREDIENTS

SR.NO.	INGREDIENTS	QUANTITY	USES
1	Clove	7.9 gm	Reduces inflammation
2	Babool	16 gm	Strengthen your teeth
3	Tulsi	8.9 gm	very effective in preventing halitosis.
4	Pink salt	10 gm	help to remineralize ename
5	Alum	10 gm	Prevent the buildup of plaque and tartar
6	Fennel	13 gm	Promotes Healthy Gums
7	Mentha	3 gm	cleanses the teeth
8	Amla	4 gm	reduce bleeding,
9	Reetha	5 gm	gently remove germs and dental deposits from the gums

METHOD OF PREPRATION :

Step 1

Every plant material was ground and dried.

Step 2

Weighing each of the necessary herbal powders for tooth powder preparation.

Step 3

Involve gathering the raw materials and using a hand-driven mixers to reduce their size one at time.
Step 4

Using a mixer, all the ingredients were combined to create a uniform powder.
Step 5

Then this fine powder passed through sieve no. 80 to get the sufficient quantity of the fine powder.
Step 6

After that, it was appropriately labeled and packed.

Methods of preparation :

Drying

Every powder has been ground and is in dry state.
Weighing

Each of the herbal powders need to prepare teeth powder was weighed separately.

Reduction in size.

After the raw material were gathered, each one was size-reduced using a hand powered mixer.
Blending

To create a uniformly fine powder, all of these fine ingredients were thoroughly combined using a mixer.
The process of sieving

To obtain an adequate amount of fine powder, this fine powder was then run through sieve no. 80.

Evaluation parameter

1. **COLOUR**- The colour of toothpowder was checked visually.
2. **ODOUR** - Odour would be found by smelling the product.
3. **TASTE**- Taste will be checked manually by tasting the product.
4. **ABRASIVENESS**- They make up the tooth polishing particles. Each of these powders is designed to remove material, with some powders being more aggressive than others. The "grit" of the powder is typically referred to as the abrasiveness of the particles. It would be evaluated manually.
5. **SPREADABILITY-** Spreadability would be evaluated by spreading the powder manually. It is thus calculated by placing the powder between two slides and measuring the length which is spread between them.
6. **ABRASIVENESS**- They make up the tooth polishing particles. Each of these powders is designed to remove material, with some powders being more aggressive than others. The "grit" of the powder is typically referred to as the abrasiveness of the particles. It would be evaluated manually.
7. **FOAMABILTY**-Some amount of drug should be taken in a flask containing boiling water. It should be cooled and filtered in volumetric flask and volume was make-up. The decoction should be poured in test tubes and the volume of test-tube should be made up with water.
8. **DETERMINATION OF FLOW PROPERTY** -The angle of repose is calculated using the formula below. • Tan θ = h/r
9. **DETERMINATION OF BULK DENSITY**- The volume of powder and the bulk density in gm/ml is calculated as
10. **BULK DENSITY**=WT. OF DRUG / TAPPED VOL.
11. **DETERMINATION OF TAPPED DENSITY**- The formula to calculate tapped density is –
    TAPPED DENSITY = WT.OF DRUG/TAPPED VOLUME
12. **DETERMINATION OF SWELLING INDEX**- The formula to calculate swelling index is-S.I=FINAL VOLUME-INITIAL VOLUME
    S.F=SWELLING INDEX X 100/ INITIAL VOLUME.

CONCLUSION :

Products made from natural plants are a valuable way to manage bacterial infections. As a result, a herbal tooth powder was created for the current study and tested for antimicrobial activity, yielding excellent results. The components are utilized As indicated by its results, the tooth powder used in this study was screened and chosen for its antimicrobial properties and ability to maintain oral hygiene. . Our herbal tooth powder is considered safe To use twice a day and it does not cause any harmful effects.

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