Toothpowder with Natural Ingredients

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ABSTRACT

The activity of keeping one's mouth clean dates back as far as records exists. In modren era, this activity utilizes, Toothpastes, mouthwashes. But the old practice including toothpowder gave the better reliability of our precios food helpers called as teeths. As old formulas are herb based so have a strong constructive effect. In todays world there's a need of those well built formulas to these out worn and decayed teeths.

The components in the formulation are from natural and herbal source, are ecofriendly and do not have any adverse effect on the gums and teeth.The components in the formulation are from natural and herbal source, are ecofriendly and do not have any adverse effect on the gums and teeth. It comprises of powders of *Azadirachta indica* which is highly antibacterial and antifungal, powder of *Syzygium aromaticum* which is antiseptic due to presence of essential oil and relief toothache, Sodium Bicarbonate, for teeth whitening and removal of stains and Sodium Chloride that is a gentle abrasive and brightens the teeth. Our formula for toothpowder helped in reducing swelling, reducing pain, prevent from plaque, yellowness, provide strength after a week with continuous use. One of the individual in the test group got rid of severe toothache. The tooth powder is dry product so its moisture was lesser hence no measures for shelf life is required. The foaming characteristics is not required in tooth powder it required in toothpaste. Therefore, according to resultsthe foaming characteristics in tooth powder is negligible. In extractable matter testing, from several solvents toothpowder shouled highest solubility in etanol and lesser in chloroform. Bulk density is 0.762 gm/ml. Thats means it will not retain large void spaces between the particles during packaging. No swelling index was found.

Keywords: Teeths, *Azadirachta indica*, *Syzygium aromaticum*, toothache, Teeth whitening, Sodium Bicarbonate

INTRODUCTION

Tooth brushing is our normal routine. Tooth powder is a dentifrice once used as the tooth cleanser. It's usually made from three key ingredients: an abrasive, such as finely powdered chalk; a detergent; a sweetener such as xylitol. Toothpastes and gels generally contain humectants, water, thickeners, surfactants, flavors and sweeteners in higher ratio. These components do not participate in cleaning of teeth but necessary only for the stability of gels or for the sensory attributes. These non-cleaning agents contribute the paste or gel up to 50%. On the other hand, Tooth powders generally contain abrasives up to 99%, flavor, sweetener and sometimes a surfactant and do not contain non-cleaning agents. Herbal Toothpowder may contain:

1. Neem
2. Baking soda
3. Cloves
4. Salt

Neem (Azadirachta indica) is a plant of Asian subcontinent is known to give useful medicinal properties since old times. Neem has vast range of medicinal properties like antibacterial, antiviral, antifungal, and others.Brushing with baking soda is an effective way to whiten the teeth. Baking soda is used as an abrasive

compound that can remove the coffee, tea, smoking stains. It causes whitening of teeth and also may prevent discoloration. Baking soda can be used with regular toothpastes also. It is also used commercially in teeth whitening products.. Due to the mutual antioxidant, antimicrobial and anti-inflammatory properties of these compounds, clove is also used in the pharmaceutical and cosmetic industries. It also used as a flavor and preservative in the food industry.

This spice contain antibacterial, antiviral and antiseptic properties; and used as a natural anesthetic.

The chemical originate in cloves is eugenol, which provides cloves a medicinal value. Eugenol is antibacterial and antifungal agent extracted from cloves which used in dentistry to discomfort during root canals and temporary filling procedures because of its mild anesthetic and antiseptic properties.

OBJECTIVES

The objectives of the proposed study are:

- Production of herbal toothpowder and elimination of chemical-based tooth products
- To incorporate the ingredients that are proven antibacterial and antiviral as theres always more risk of microorganisms in our oral atmosphere.
- To develop a product that could fight against toothache

Methodology

1. Collection of Ingredients:

Neem (dried and ground to form powder), Clove (powder form), Baking Soda or Saodium Bicarbonate and Salt.

2. Formulation of Toothpowder:

All ingredients are mixed in certain amount:
Neem powder 37%, Clove powder 11%, Baking soda 33%, Salt 19%.

3. Chemical Testings:

1. Moisture Content
2. Foaming Character
3. Extractive value by cold maceration
4. Swelling Index
5. Bulk Density
6. Sensory Evaluation

CONCLUSIONS/RESULTS

Analysis of moisture content of toothpowder was done by texture analyzerand is found to be 0.08%. Foaming character of tooth cleansing agent is observed to be 0.2ml.

No swelling was seen in toothpowder. So swelling index is zero and the bulk density is 0.762gm/ml.

Table 1. Observations of Chemical Findings.

Moisture Content	Foaming Index	Swelling Index	Bulk Density
0.08%	0.2ml	No swelling index	0.762gm/ml

Table 2. Cold Maceration (extractable value) observations.

Pet Ether	279.5
Chloroform	60.5
Dichloromethane	30
Acetone	60.5
Ethyl Acetate	960
Ethanol	19.5
Water	620.5

DISCUSSION

Toothpowder are used from ancient times. In older days cloves is use to heal from tooth pain. Now with time the changes made and different toothpowders and toothpaste were sell into the markets. The purpose for this product is to use organic and herbal material either use chemical based toothpaste. It not only give strength to the teeth and reduce sensitivity of hot and cold, and pain. Neem, soda, alum, salt, cloves are all natural and organic ingredients which use in toothpowder and each have different function and properties in toothpowder.

REFERENCES

1. Dave, K., Panchal, L., & Shelat, P. K. (2014). Development and evaluation of antibacterial herbal toothpaste containing Eugenia caryophullus, Acacia nilotica and Mimusops elengi. Int J Chem Pharm Sci, 2(3), 666-673.
2. Diksha Sharma, Sweta Agarwal, Abhishek Sharma, R. B. Sharma, Hem Raj Vashist, Priyanka and Priya Thakur,Role Of Medicinal Plants In Oral Hygiene -A Review ,World Journal of Pharmacy And Pharmaceutical Sciences, 31 Dec. 2016, Volume 6, 1530-1539.
3. Pawar, C. R., Gaikwad, A. A., & Kadtan, R. B. (2011). Preparation and evaluation of herbal tooth powder composed of herbal drugs with antimicrobial screening. Indo American Journal of Pharmaceutical Research, 3, 196-202.
4. Kaurhp, Neha, Singh P and Wadhwa P, Antibacterial efficacy of clove (syzygium aromaticum), harad(terminalia chebula)and chewing sticks against cariogenic bacteria , International journal of biology, pharmacy and allied sciences (IJBPAS) 3june2014, Volume: 6, Page No:974-984.
5. Kumar, P., Ansari, S. H., & Ali, J. (2009). Herbal remedies for the treatment of periodontal disease-a patent review. Recent patents on drug delivery & formulation, 3(3), 221-228.