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Review Article

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Gurusakthi-A Medicinal Lollipop

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ABSTRACT

An herbal lollipop was designed from few herbs Coleus amboinicus Lour. (Mexicanmint), Ocimum tenuiflorum Linn. (Tulsi) and Borassus flabellifer Linn. (Palm candy powder). Children adore chocolate, but they typically dislike medicine. This study aims to create medicated chocolate by incorporating an herbal drug, specifically the anti-tussive Tulsi, to combat common ailments like cough and viral infections in children. The formulation involves an aqueous extract of Tulsi, providing antitussive properties. In order to prove its efficacy, the lollipop was screened for the presence of phytochemicals and the organoleptic characters and IR spectrum to analyze the different functional groups present.

Keywords: Herbal Candy, Phytochemicals, Ir, Functional Groups, Herbal Lollipop

Introduction

Herbs and spices play a crucial role in medicinal applications, with ginger and tulsi being employed in the Indian system of medicine for cold and cough. Utilizing candy as a rapid and efficient delivery system for medications, an investigation was undertaken to create herbal candy employing a standardized method, incorporating ginger oil to enhance its medicinal value. Through the optimization of citric acid and ginger oil, hard-boiled sugar candy was developed. A ginger oil concentration of 2.5 percent yielded the maximum overall acceptability score (7.05), with slightly lower scores for color, texture and mouthfeel compared to herbal candy produced with 2.0 percent ginger oil. Herbal candy prepared at 145ºC exhibited the best hardness and sensory characteristics.

Children adore chocolate, but they typically dislike medicine. This study aims to create medicated chocolate by incorporating a herbal drug, specifically the anti-tussive Ocimum sanctum (Tulsi), to combat common ailments like cough and viral infections in children. The formulation involves an aqueous extract of Tulsi, providing antitussive properties. The resulting medicated chocolate undergoes evaluation for factors such as general appearance, dimension, hardness, blooming test, drug content determination, and physical stability. [1]

The primary aim of this study is to create a nutritious chocolate with antioxidant and anti-cancer properties, incorporating beneficial ingredients such as Ocimum-Tulsi-for its medicinal qualities and black sesame for improved blood pressure and anti-aging benefits.

The formulation involves blending cocoa with finely powdered coconut sugar to produce a confectionery, aiming to enhance patient compliance and overall value. [2]

Herbs like Azadirachta indica and Bacopa monnieri, known for their rich antioxidant content, along with nutrient-dense seeds, are incorporated into an herbal chocolate bar due to their bitter taste when consumed alone. The sensory panel approved the chocolate with herbs, with all samples having an acceptance index above 70%. [3].

Materials and Method

Preparation

Grind all wet Karpuravalli, Tulsi, and dry Sitharathai, Cinnamon, Thippili, Kandan thippili, Cardamon, Clove, Pepper, Val milagu ingredients with water. Filter the mixture. In a clay pot add 100g of palm candy along with other powder add little water. Heat till it dissolves. Strain it and add to the mixture. Take a molding plate and apply oil or butter to it. Boil the mixture and check sugar syrup.Add 1 tblsp of honey after room temperature along

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with 12 lemon. Add palm candy powder to avoid stickiness. Store it in a dry airtight container in a fridge.

Table 1: Ingredients of Herbal Lollipop

S.No.	Ingredients Common Name	Ingredients Botanical Name	Quantity
1	Karpuravalli	Coleus amboinicus Lour	2 leaves
2	Tulasi	Ocimum tenuiflorum Linn	5 leaves
3	Palm candy	Borassus flabellifer L	100 g
4	Sitharathai	Alpinia officinarum Roxb	1 gm
5	Cinnamon	Cinnamomum zeylanicum J.Presl	1 gm
6	Thippili	Piper longum Linn	1 gm
7	Cardamon	Elettaria cardamomum L(Maton)	1gm
8	Clove	Syzygium aromaticum L(Merr)	1gm
9	Val milagu	Piper cubeba L	1gm
10	Pepper	Piper nigrum L	1gm
11	Turmeric powder	Curcuma longa L 2 pinch	2 pinch
12	Honey	Apis mellifera L	1 tablespoon

Figure 1: Ingredients Of Herbal Lollipop

Phytochemical Tests

For the initial test and estimation, 1g of powdered candy was mixed in 10mL of water.[4]

A) Organoleptic Test has high relevance on the quality of the product because it deals with direct contact with the consumer preferences. This method is easy and applicable.

B) Preliminary Phytochemical Screening

The following tests were carried out individually for aqueous extract of herbal candy to detect various phyto constituents present in the extract.

1. **Carbohydrates:** MOLISCH TEST: Take 1mL aqueous candy extract. Few drops of Molisch's reagent are added to the test tube. Few drops of concentrated H2SO4 are added dropwise along the wall of the test tube. Purple to Red brown colour indicates the presence of carbohydrates in the sample.
2. **Terpenoids (**CARDIAC GLYCOSIDES): SALKOWSKI TEST: Take 1mL of aqueous candy extract. To it, add 2mL of chloroform and 3mL of concentrated H2SO4. Reddish brown colour indicates the presence of terpenoids in the sample.
3. **Phenol** FERRIC CHLORIDE TEST: Take 50mg of extract and dissolve it in 5mL of distilled water. To it, add few drops of 5%ferric chloride solution. A dark green colour indicates the presence of phenolic compound in the sample
4. **Alkaloids:** DRAGENDORFF'S TEST: Take 1mL of aqueous candy extract. To it, add few drops of Dragendroff reagent. Orangebrown precipitate indicates the presence of alkaloids in the sample.
5. **Flavanoids:** FERRIC CHLORIDE TEST: Take 1mL of aqueous candyextract. To it, add drops of ferric chloride solution.Intense greencolour indicates the presence of flavanoids in the sample.
6. **Proteins:** BIURET TEST: Take 2mL of aqueous candy extract. To it, few drops of Biuret reagent is added. Purple colour indicates the presence of proteins in the sample.
7. **Saponin:** FOAM TEST: Take 1mL of aqueous candy extract. To it, add1mL of distilled water. Shake it vigorously for 2 minutes. Foam indicates the presence of saponin in the sample.
8. **Tannin:** Take 0.5mL of aqueous candy extract. To it, add 10mL of bromine water. Decolouration of bromine water indicates the presence of tannin in the sample.
9. **LIPID:** HUBLE'S TEST: Lipid on reaction with Huble's reagent fades the violet colour of iodine when it is unsaturated and if the colour persists then the given fat is saturated.

Table 2: Organoleptic Tests

Serial Number	Organoleptic characters	Inference
1	Colour	Dark brown
2	Odour	Aromatic
3	Taste	Sweet pungent
4	Texture	Smooth
5	Appearance	Sticky oily
6	Shelf life	21 days

Table 3: Phytochemical Analysis

Serial number	Phytoconstituents	Inference
1	Carbohydrates	+
2	Terpenoids	+
3	Phenols	-
4	Alkaloids	-

5	Flavanoids	+
6	Protein	-
7	Saponin	-
8	Tannin	-
9	lipid	-

Ir Spectrum

The infrared technique is one of the oldest techniques which depicts the frequencies of bond vibration in a molecule. The main uses of this technique are to identify and determine components in various organic or inorganic compounds. IR spectrum was obtained using Jasco FT/IR-6300 without using KBr. pellets.

Figure 2: Herbal Lollipop

Results

A) ORGANOLEPTIC TEST Sensory evaluation parameters revealed that herbal candy is brown in colour, with a little sweet I ntaste.

B) PHYTOCHEMICAL ANALYSIS: The sample shows positive result in only carbohydrates, flavanoids and terpenoids.

C) IR SPECTRAL ANALYSIS: IR spectrum depicts the functional groups -OH stretching and O-H stretching.Futher analysis are to be carried out using mass spectroscopy.

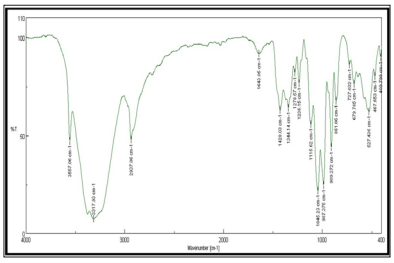

Figure 3: IR Spectrum of Herbal Lollipop

Discussion

In conclusion, herbal candies for cough and cold can be a natural and soothing alternative to conventional remedies [5]. The blend of medicinal herbs in these candies, such as Coleus, Betel, Tulsi,Liquorice, Ginger, and Honey, may offer relief from symptoms like sore throat and cough while providing a pleasant and palatable experience. Additionally, the immune-boosting properties ofcertain herbs can contribute to the overall efficacy of herbal candies in supporting the body's defense against respiratory infections [6]. Overall, the appeal of herbal candies lies in their potential to offer relief with no side effects, making them a popular choice for those seeking natural alternatives for respiratory health. In conclusion, herbal candies for cough and cold can be a natural and soothing alternative to conventional remedies [7]. The blend of medicinal herbs in these candies, such as Coleus, Betel, Tulsi, Liquorice, Ginger, and Honey, may offer relief from symptoms like sore throat and cough while providing a pleasant and palatable experience [8]. Additionally, the immune-boosting properties of certain herbs can contribute to the overall efficacy of herbal candies in supporting the body's defense against respiratory infections. Overall, the appeal of herbal candies lies in their potential to offer relief withno side effects, making them a popular choice for those seeking naturalalternatives for respiratory health. [9,10]

Future Prospects

Vitamin C content can be estimated and a case study of individuals of varying age groups can be analyzed for its activity such as taste and cold cough efficacy.

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