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PREPARATION OF HERBAL SYRUP

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ABSTRACT

Ile in the cough it is one of the most prevalent issues that everyone faces. There are two different kinds of cough: dry cough and wet cough, or wet cough. When you have a dry cough, you produce no mucus, mucous, or secretion; however, when you have a wet cough, you produce mucus, mucous, or secretion. Due to its ease of patient compliance, syrup is the most widely used and popular dosage form for treating colds and coughs. Raw medications such as Pudina and Tulsi or cinnamon as a primary ingredient were combined with honey to create the herbal cough syrup. Syrup is now used to treat May ailments and alleviate the symptoms of.

KEYWORDS: Decoction extraction, evaluation, wet cough, and dry cough.

INTRODUCTION

Herbal syrup is defined as a concoction made by combining honey, sugar, and alcohol, sometimes used in a specific amount.

The basic ease of administration of the oral liquid medication has been confirmed for those with the issue in the use of cough syrup as a medication is in liquid dosage form.

The process of ingesting a solid medicine dosage. One type of syrup is Pure water and sugar are combined to create a concentrated solution. Syrup from the alternative kind of syrup mixtures. The syrup might or might not contain mixed flavouring agents or medication. Flavoured or non-medicated syrup is defined as syrup that contains a flavouring ingredient but no medication. Flavoured syrup is commonly used as a vehicle for the uncomfortable drug test.

ACKNOWLEDGEMENT

RECOGNITION Since there is no better way to express one's feelings of respect and gratitude than this, I would like to take this opportunity to thank the following people who have helped to complete this project. Words are very poor comforters to express the deep depth of gratitude which one feels in one's corner of the heart when one is helped to achieve the ultimate goal, in this endless and boundless field of research work. First of all, I would like to take this opportunity to sincerely thank and owe my respected supervisor, PROF. (DR.) Meera Devkor, professor in the department of herbal drugs at the late Laxmibai Phadtare College of Pharmacy. She has always inspired, supported, encouraged, and guided me. Their unwavering support and invaluable advice in every way allowed me to finish my thesis, and I could not have given this dissertation a successful presentation without their assistance. The administration of the late Laxmibai Phadtare College of Pharmacy in India has my sincere gratitude for providing all facilities and infrastructure for the B. Pharm academic programme. With great appreciation and respect, I give Prof. Dr. Pravin Uettekr, Principal / Director.

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INTRODUCTION

What is syrup ?

Concentrated aqueous preparations of 85% of sugar or sugar substitute with or without flavoring agents and medicinal substances.

In medical terminology, medicinal syrups are nearly saturated solutions of 85% of sugar in water in which medicinal substances or drugs are dissolved.

Due to the inability of some children and elderly people to swallow solid dosage forms, it is fairly common today for a pharmacist to be asked to prepare an oral liquid dosage form of a medication available in the pharmacy.

TYPES OF SYRUP

Aromatic or adjuvant syrups

They are mostly used to improve the taste of salty, bitter, or otherwise unpleasant mixtures.

Medicinal Syrups

They are of two types

Made from extractive drugs: Here, the fluid extract of the respective medicines is mixed with the syrup.

Made from chemicals: This can be either by simple solution or by chemical reaction and solution. Here the taste of the medicinal agents is greatly modified.

ADVANTAGES OF SYRUP

- Appropriate for any patient, whatever the age is
- The most natural and easiest route of administration
- Economical and safe to the patient
- No nursing is required, which means the patient can take it with no help
- The liquid dosage form is expected for certain types of products like cough medicines.

DISADVANTAGES OF SYRUP

- Delayed onset of action because absorption takes time
- Not suitable in emergency and for unconscious patients
- Not convenient for a patient with a gastrointestinal disorder such as diarrhoea, constipation, ulceration, and hyperacidity in stomach Can't avoid first pass metabolism.

COMPONENTS OF SYRUP

Most syrups contain the following components in addition to the purified water and any medicinal.

Agents present

(a) Sweetening Agent- the sugar, usually sucrose, or sugar substitute used to provide sweetness and viscosity.

(b) Antimicrobial Preservatives.

(c) Viscosity Modifier.

(d) Flavorants.

(e) Colorants.

Many types of syrups, especially those prepared commercially, contain special solvents, solubilizing agents, thickeners, or stabilizers.

The general process

Filling

Sealing

Capping

Coding & labelling.

Wrapping Process Involved in Syrup Packaging

- Empty Bottles are rinsed though Air-jet cleaning.
- After complete cleaning, bottles are tested & transferred ahead for filling.
- Filling machines with their automatic piston fills the bottles with accurate volume of syrup.
- Capping is done on bottle through capping machines.
- Plastic or aluminium capsules are bound over the neck of the bottle for secure sealing.
- Important details regarding packaging date & expiry date are printed on bottles.

Herbal syrup preparations

Concentrated herbal teas preserved in sugar or honey are called herbal infused syrups. Herbal syrups have traditionally been used to make bitter medicinal herbs more palatable and extend their shelf life. For kids or those who are abstaining from alcohol, they are a flexible substitute for tinctures made with alcohol.

Various kinds of herbal syrup

1. A syrup with flavour
2. Pharmaceutical syrup
3. Artificial sweeteners

Benefits of a herbal syurp

- No adverse reactions
- Not innocuous
- Accessible with ease
- Simple dosage adjustments based on child weight
- It doesn’t require nursing care, and the patient can handle it on their own.
- Products such as cough medicines are administered in liquid dosage form.
- Herbs are commonly grown.

- By delaying the oxidation process as sugar is broken down into dextrose and cellulose
- Good patient compliance, particularly for younger patients because the test syrup tastes good
- As osmotic pressure, it acts as a preservative by preventing the growth of bacteria, fungi, and mould.

Drawback of herbal syrup is

- Sometimes a solid's sedimentation gives rise to a product.
- Suspension suspensions packed in unit dosage forms are necessary for achieving dose precision.
- The same microbiological contamination occurs.

Ingredients: The following herbal parts are combined to create a herbal Syrup.

1) Cinnamon

Substitute words (synonyms): Cinnamon oil Cortex Chinese cassia, Ceylon cinnamon, Saigon cinnamon, and aromatic cinnamon oil.

Origin biologically

Cinnamon umzeylanicum is extensively Grown in Brazil, India, West Indies, Sumatra, Ceylon, and Mauritius.

Family

Falling under the Lauraceae family.

Chemical components

1. Ten percent of oil that is volatile.

2. 5–10% eugenol.
3. Cinnamon aldehyde (50–60%).

Uses

1. Anti-arithmetic.
2. Carminative.
3. Flavouring agent
4. Stomachin.

2) Tulsi

Synonyms: Sacred basil, holy basil.

Biological source: Dried ocimum santum leaves are used. Of the **Labiatae family.**

Ingredients in terms of composition: Pleasant volatile oil (0.1–0.9%) Comprise 20% methyl-ether and 70% eugenol, along with 3% carvacrol.

Uses

- A variety of uses for volatile oil and leaves.
- The oil has insecticidal and antibacterial properties.
- Utilising fresh leaves in stomachic.

3) Honey

Synonyms: Madhu, Madh**.**

Biological source: A viscous and sweet secretion, honey is kept in honey combs by a variety of bee species.

For example, APIs florea, dorsata, florea, and indica, which are members of the **Apideae family.**

Chemical components

1. The fibres check for synthetic invert sugar.
2. The solution of reducing feelings.
3. Limit assessment.

Uses

1. Bactericidal and laxative.
2. Alkaline, sedative personalities.
3. It's used for cold food.
4. It is employed as a flavouring agent.
5. It is a medium used to preserve corneas.
6. A sweetening ingredient.
7. Automobiles.

4.) Fennel

Synonyms: Herb.

Fennel from Florence.

Genus: Foeniculum.

Foeniculum vulgare dulce.

The vulgar foeniculum.

Foeniculum.

Felicum dulce.

Fennel vulgare.

Family: Apiaceae.

Biological source: The dried, ripe fruits of Foeniculum vulgare are used to make fennel.

Chemical components.

Fennel has 1-3 percent volatile oil, which is mostly made up of 20–40% de-fenchone and 50–60% anethole.

Uses

In addition to being a herbal treatment for stomach ailments and poisoning, fennel has been used as a flavouring, fragrance, and insect repellent. It has also been used as a menstrual stimulant and to encourage the flow of milk in breastfeeding.

MATERIAL AND METHODS

A preparation for the infusion

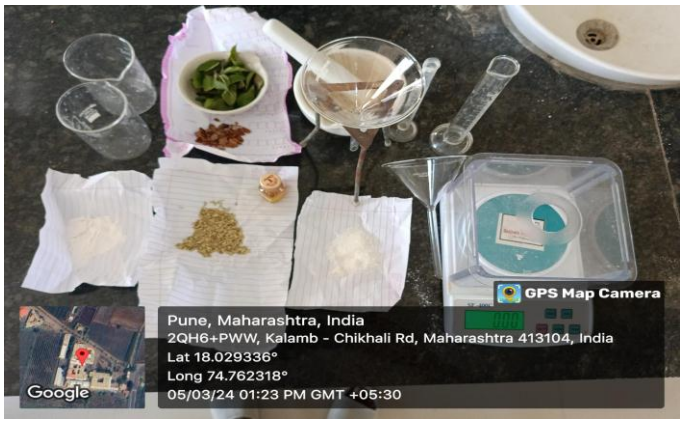
100 ml of water was combined with 5 g of the prepared formulation. The mixture was brought to a boil until its overall volume was one-fourth of its starting volume. Next, the infusion was allowed to cool and filtered. Filtrate was used to make the herbal syrup in the end.

Method of preparation of simple syrup

After being weighed, 66 gram of sucrose were added to purified water and heated, stirring occasionally, until it dissolved.There was added enough boiling water to yield 100ml.

Method of preparation of final herbal syrup

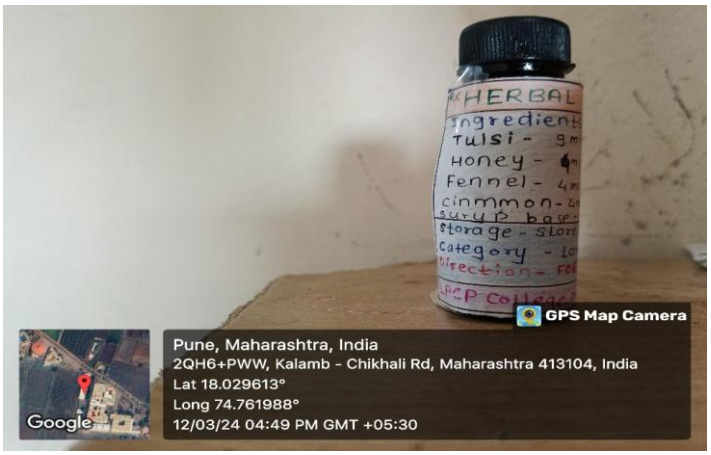
Five parts simple syrup to one part decoction were combined (1:5). The mixture above received the necessary amount of sodium benzoate (0.2%) as a preservative. Visual inspection of the solution's clarity served as a means of verifying solubility. After that, the finished herbal syrup was evaluated.



Method 2

How the final herbal syrup is prepared

The final herbal syrup was prepared by adding 16 millilitres of fennel decoction, 17 millilitres of Tulsi or cinnamon decoction, and 50 percent of honey preservative, slowly and continuously stirring. Following preparation, the finished herbal syrup was evaluated. Herbal syrup was made, and solubility was assessed by looking at the solution's visual clarity.



Sr.no	Ingredients	Quantity	Activity
1	Fennel	4ml	Wheezing
2	Tulsi	4ml	Antioxidant
3	Cinmmon	4ml	Antitussive
4	Honey	50%	Base viscosity modifier

Evaluation of herbal syrup

Physical and chemical characteristics of the herbal syrup were assessed, including pH, Wt./ml, specific gravity, and physical characteristics (colour, flavour, and odour).

Colour examination

Using a white background and a white tube light, five millilitres of the finished syrup were poured into watch glasses.Its colour was noticed with the unaided eye.

The colour of formulation was to found to be greenish colour for optimized batch .the colour Of formulation ranges form greenish colour with respectively.

Odour examination

Two millilitres were each smelled. Two minutes separated the two scents in order to counteract the effects of the preceding scent.displays the findings from the smell of syrup batches that were created. The formulation had an overpowering scent.

Taste examination

A small amount of Final Syrup was taken and its flavour was assessed on the tongue's taste buds.

Determination of pH

pH was determined by adding distilled water to a 100 ml volumetric flask to fill it up to 100 ml after precisely measuring 10 ml of the finished syrup. About ten minutes were spent sonicating the solution. Using a digital pH metre, the pH was determined. PH is 6 acidic nature.

Viscosity: Use warm chromic acid to thoroughly clean the Ostwald viscometer, and if required, use

1. A solvent that is organic, like acetone.
2. Place the viscometer vertically on an appropriate stand.
3. Fill the dry viscometer with water to the mark G.
4. Determine how long it takes, in seconds, for water to move from mark A to mark B.
5. To get an accurate reading, repeat step 3 at least three times.
6. After rinsing the viscometer with test liquid, fill it up to mark A and record the amount of time it takes the liquid to reach mark B.
7. Calculating liquid densities as specified in the experiment for determining density.

Calculation of viscosity

Density of the test liquid × Time needed for the liquid to flow − Viscosity × Water Viscosity Density.

Stabilty testing

The produced polyherbal syrup underwent stability testing while the samples were kept at elevated temperatures. Nine equal parts of the finished syrup (1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, and 3C) were transferred into amber-colored glass bottles and stored at 40C, room temperature, and 470C, in that order. In order to detect any changes, the samples were examined for all physicochemical parameters, turbidity, and homogeneity at intervals of 24 hours, 48 hours, and 72 hours.

Evaluation of parameters for formulations

Sr. No.	Parameter	Observation/value
1	Colour	Yellowish brown
2	Odour	Aromatic
3	PH	6.2
4	Viscosity	0.0492

OUTCOMES AND COMMENTS

The study's findings imply that the prepared herbal formulations have antitussive properties. The component used in the herbal cough formulation was chosen because of its demonstrated ability to both prevent and treat coughing. The prepared syrup satisfies all physical requirements and exhibits a notable antitussive effect.

Sr. No.	Parameter	Observation/value
1	Colour	Yellowish brown
2	Odour	Aromatic
3	PH	6.2
4	Viscosity	0.0492

CONCLUSION

Every formulation study that was done fell within the parameters. Additionally, the physiochemical qualities of Syrup’s prepared attributes, such as colour, flavour, pH, and viscosity, were all acceptable; however, the formulation met all requirements; it contains the right amount of honey (according to IP) and works well as a preservative.

The current study aids in the development of safe and effective herbal cough syrup that uses 50% w/v honey as its base.

MENTION (REFERENCE)

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