



Formulation and Evaluation of Herbal Cough Syrup

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ABSTRACT

Coughing is one of the most prevalent ailments that individuals in many countries deal with. Coughing is the body's defense mechanism. Since herbal syrup makes patient compliance easier, it is a widely used and favored dose form for treating coughs. Recently, there has been a lot of interest in plant-derived chemicals and herbal medicines due to their wide range of potential use as medical plants. The market for medications made from plants is expanding.

This study's primary goal was to remove dangerous synthetic ingredients from herbal cough medication. formulation and use safe, natural ingredients in their place. In India, the number of people suffering from asthma is rising daily for a variety of environmental factors. It helps those who have congestion in their chests. The goal of the study is to create a pure herbal syrup and assess and contrast its physicochemical characteristics with those of commercially available synthetic and herbal syrups.

KEYWORDS: antitussive, adulsa, congestion, clove, ginger, honey base, tulsi, herbal cough syrup.

INTRODUCTION

COUGH: Coughing excessively may indicate the presence of an illness. There are non-infectious causes of cough in addition to viral diseases like the common cold. Coughing repeatedly causes discomfort and inflammation, which makes a person cough more frequently. Children typically get respiratory tract infections, some of which resolve on their own and carry a very low risk of complications.

Categorization of Cough

- Depending on the kind of Essentially, there are two kinds:
- Dry cough: This type of cough occurs when the throat's mucus content is low or nonexistent. A dry cough typically feels like a tickle in your throat and doesn't generate any mucus or phlegm. Because it doesn't clear anything from your throat or lungs

B) Wet cough: This type of cough is brought on by phlegm or mucus. Wet coughs are caused by infections such as the flu, common colds, and chest infections. It benefits our bodies.

A chest infection might cause phlegm to cough up tiny bits of bright crimson blood. The lungs are the source of this blood. When fluid in the airways sets off the coughing reflex, a wet cough results. Given that it generates mucus, a productive cough is another term for a wet cough.

- Based on how long they last, there are three kinds of

A) Severe cough: [Shorter than three weeks]

Acute cough is characterized by a duration of no more than three weeks. The most common cause of it is a viral infection of the lower or upper respiratory tract (also known as the "common cold").

B) Sub acute: [3 -8 weeks]

Some infections can cause bronchial hypersensitivity that is permanent. B. Pertussis infection and pneumonia are the respiratory causes. Tourette's syndrome and GERD are examples of non-respiratory causes. A subacute cough is one that lasts for three to eight weeks.

C) Prolonged cough: [greater than eight weeks]

A chronic cough is defined as a persistent cough that, on some or most days, lasts for eight weeks or more. While coughing can indicate a number of lung disorders as well as certain non-lung ailments

Herbal cough syrup

- To make the herbal cough syrup, mix a concentrated decoction with honey or sugar.
- Many diseases, whether minor or serious, can be treated using herbal remedies.
- The ingredients of the herbal syrup include clove, licorice, ginger, cardamom, turmeric, almond, honey, and tulsi.

Herbal remedies for coughs:

- Herbal remedies are frequently used to cure coughs. Herbal medicine is used to treat both acute and chronic coughs, as well as conditions including cancer, allergies, diabetes, asthma, and viral infections.
- Ninety percent of people utilize herbal remedies.
- Compared to allopathic therapy, there is a lower likelihood of any adverse effects, such as nausea, vomiting, allergies, sleepiness, etc.
- The majority of people use herbal treatments these days.
- Herbal remedies are the most popular means of treating coughs. Herbal remedies are significantly contributing to the advancement of the medical field. Herbal remedies are employed for moderate to severe medical conditions, such as viral infections, lung cancer, diabetes, kidney illnesses, allergies, asthma, TB, cough, pneumonia, and kidney problems.

#. Benefits of using herbal remedies

1. There are no adverse effects.
2. No prescription is necessary
3. Their patient compliance is good.
4. It is readily accessible.
5. It poses no threat.
6. They are inexpensive

#. The drawbacks of using herbal remedies

1. It took longer for them to demonstrate the effect
2. It wasn't appropriate in an emergency
3. When using prescription drugs, they have unfavorable medication reactions.

varieties of herbal syrup

1. Flavored syrup
2. Syrup with medication
3. Synthetic syrup

Cough mechanism:

The cough reflex is the primary coughing mechanism. The cough reflex happens when dust or other foreign particles trigger cough receptors in the respiratory tract. This triggers a cough, which forces fast-moving air to remove the foreign material from the respiratory tract before it reaches the lungs. This usually cleans the trachea and bronchi, which are the tubes that carry air from the mouth and nose to the lung tissue. Particularly sensitive areas include the carina, which is where the trachea splits into the bronchi at the bottom, and the larynx, or voice box.

AIMS AND OBJECTIVES :

AIMS: The objective is to create and assess the herbal cough syrup.

GOAL:

- o To defend and shield against illness and infection.
- o To provide total cough alleviation.
- o The immune system may be strengthened.

- To lessen respiratory system inflammation.
- o As a natural medicine, the syrup is entirely made from natural ingredients.
- o It can aid in releasing and clearing pulmonary mucus.

FORMULATION TABLE

Sr .no.	Drugs	Role	Quantity
1	Tulsi	Antitussive, Antibacterial	1.6 ml
2	Ginger	Antitussive, Expectorant	4.6 ml
3	Liquorice	Expectorant	3.6 ml
4	Turmeric	Pain relief	3.2 ml
5	Cardamon	Flavour, Antioxidant	1.7 ml
6	Adulsa	Cooling, Antitussive	3.1 ml
7	Honey	Viscosity modifier	7.1 ml
8	Clove	Expectorant	3.0 ml
9	Basil leaves	preservative	2.1 ml
10	Sugar solution	Vehicle	q.s

METHODOLOGY:

1. Techniques Making the medication powder:

- o Take the necessary quantity of the raw material.
- o Crushed the medicine into a fine powder using a mortar and pestle.[except from tulsi].
- o The drugs are separated by powdering and then combined in a beaker.



2. Crude drug extraction:

- o Take an adequate amount of powdered crude drug.
- o Weigh each ingredient individually as specified in the formulation table.
- o In a different beaker, each herbal ingredient is combined with an adequate amount of water.
- o The beaker was then submerged in water and cooked until just $\frac{1}{4}$ of its volume remained.



3. Vehicle Preparation:

- o Seventeen milliliters of honey and the necessary amount of sugar were dissolved in enough water to yield seventy milliliters of conc. solution.
- o The solution was filtered after that. The vehicle was the honey-sugar solution. Once the mixture has boiled, let it cool down and strain the herb extract.

4. Making Herbal Cough Syrup:

- o Take an extracted herbal solution in the necessary quality as shown in the table.
- o In a beaker, combine all of the herb solution.
- o The filtered extract was then gradually mixed with a honey-sugar solution while being continuously stirred.
- o Add volume to a solution in milliliters. Add flavorings and preservatives after that.
- o After that, the finished syrup was made and assessed.



1. Color analysis: After taking two milliliters of the prepared syrup, the hue was noted.
2. Examining the smell: Two milliliters of prepared syrup were collected and smelled. Next, a smell was noticed.
3. Taste test: A small amount of the finished syrup was taken, and its flavor was assessed.
4. pH testing involved dipping a pH paper into a 2 milliliter syrup solution and observing the paper's color.
5. Density analysis:
 - The specific gravity bottle was cleaned.
 - After cleaning the bottle with distilled water at least twice, the weight of the empty, dry bottle syrup with stopper was determined.(w1)
 - After adding the stopper and filling the bottle with the last of the syrup, weigh the syrup in grams.(w2)
 - Determine the weight of the syrup in grams.(w3)

7. Viscosity examination:

- Used heated chromic acid and an organic solvent, like acetone, to clean the Ostwald viscometer
- Oriented the viscometer vertically and added water to the dry viscometer until mark G was reached.
- The duration of water flow from mark A to mark B was measured in seconds. To get an accurate reading, you must repeat this step at least three times.
- 4. After that, the viscometer was cleaned and the syrup was added in the same manner as before. The findings of this inquiry study allow for the following conclusion to be made.

8. Stability testing:

- The prepared herbal syrup was tested for stability while the samples were kept at an accelerated temperature.
- Culture tubes were used to hold the finished syrup.
- After that, the temperature was increased to 4 degrees Celsius, room temperature, and 47 degrees Celsius, respectively.
- The samples underwent tests for turbidity, color, flavor, and odor at intervals of 24 hours, 48 hours, and 72 hours to look for any changes.

CONCLUSION

This project's objective was to create and assess a herbal cough syrup. The current study has aided in our understanding of the many types of coughs and the elements that contribute to coughing.

The study demonstrates that the use of herbal remedies, which have less or no side effects, is more advantageous than allopathy, which employs traditional medications for therapy. Because there are very few potential negative effects, herbal products are highly sought after.

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