



A Review Article On The Formulation And Evaluation Of Herbal Cough Syrup

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Abstract

The most common problem suffered by individuals everywhere over many centuries cough. Coughing is the protective mechanism of the body. Coughs are classified further accordingly which are depending upon factors such as signs and symptoms, duration, type, character, etc. Most commonly used, prepared and popular dosage form to cure cough and cold is syrup. The most preferred dosage form to cure cough is herbal syrup, which is used mostly due its benefits over synthetic syrups. Medicinal plants are used as primary health care agents, mostly in Asian countries. Ingredients showing expectorant antitussive activity are used. Hereby cough and herbal treatments associated with cough are studied briefly. The herbal cough syrup is studied which is liquid dosage form, it is easy to administer than solid dosage form and is more effective and fast acting in order to cure cough. Method of preparation of cough syrups were discussed. The material and quantity used in preparation were listed. Here honey based three batches were performed having concentration such as 35%, 40%, 43% w/v the quality of final syrup was evaluated for pest formulation studies.

Keywords;- Formulation and Evaluation, Herbal Cough Syrup, material and quantity .

Introduction

Herbal cough syrup it is defined as a prepared and combination and concentration decoction with honey. Sugar or either some time use alcohol. Another name for “Cough” is “tussis” the voluntary or involuntary act which clears the throat and breathing passage of foreign particles, microbes, irritants, fluids, and mucus is nothing but cough ^[1]. It is the rapid expulsion of air from lungs. when we have blockage or irritation in the throat or upper air passage, the brain thinks a foreign element is there in body and it inform body immediately to cough to expel out foreign element out of our body. the cough reflex consists of the 3 phases which are an inhalation, a forced exhalation against a closed glottis, and a violet release of air from the lungs following opening of the glottis, and followed by a distinctive sound .

Types of coughs

Cough is classified depending upon duration, character, and type.

A. Depending upon type

Cough is classified into two types as dry and wet cough which is depend upon type. This are identified using signs and symptoms.

1. Dry cough

Productive and effective cough

Signs associated for dry cough

Sensitive throat

Non mucus expelled

Short, dry, and frequent cough

Persistent or constant tickle

Medicine: Cough suppressant and antitussive.

2. Wet cough:

Non productive cough.

It expels secretion mucous or foreign Material from respiratory tract.

The main purpose of wet cough is to remove the foreign matter

Medicine: Expectorant.

B. Depending upon duration

It may be classified into acute, sub -acute and chronic cough depending upon duration

1) **Acute cough**

The cough lasting for less than 3 weeks are categorized under this type.

Causes for acute cough is due to common cold, URTI, COPD, environmental pollution, and infective bronchitis

2) **Sub-acute cough**

The cough lasting for at least the period of 3 to 8 weeks is categorized under this type.

The respiratory causes are pneumonia, and B. pertussis infection.

Non respiratory causes are GERD and rarely Tourette's syndrome [8,9].

3) **Chronic cough**

a) The cough lasting for more than period of 8 weeks or more are chronic coughs.

b) The respiratory causes are COPD, asthma, lung cancer, tuberculosis, and pneumoconiosis [8,9].

List of herbal ingredient

1] Tulsi *Ocimum tenuiflorum*, commonly known as holy basil ,tulsi or tulasi, is an aromatic perennial plant in the family Lamiaceae.

Uses

1. Relieves chest congestion
2. Antimicrobial

2] Ginger (*Zingiber officinale*) is a flowering plant whose rhizome, ginger root or ginger, is widely used as a spice and folk medicine. It is a herbaceous perennial which grows annual pseudo stems (false stems made of the rolled bases of leaves) about one meter tall bearing narrow leaf blades. Fights Germs, Keeps your mouth health, Gingers antibacterial power may also brighten your smile, Calms Nausea, Soothes Sore Muscles, Eases Arthritis Symptoms, Curbs Cancer Growth, Lowers Blood Sugar, Eases Period Pains.

Uses

1. Anti-inflammatory effect you cough when you have a sore throat or bronchitis
2. Treatment of colds, nausea and hypertension.

3] Liquorice is the common name of *Glycyrrhiza glabra*. A flowering plant of the bean family Fabaceae, from the root of which a sweet, aromatic flavouring can be extracted.

Uses

1. Helping to loosen thick mucus in airway.
2. to inhibit infection of human respiratory syncytial virus (HRSV)

4] Fennel consists of the dried ripe fruits of *Foeniculum vulgare* Miller, belonging to Family Umbelliferae. Fennel contains a mix of antioxidants, antimicrobial components and anti inflammatory volatile oils, which help alleviate the risk of cold, cough and flu and provides instant relief.

Uses

1. Is used as carminative, flavouring agent.
2. It is also used for upper respiratory tract infections, coughs, bronchitis ,cholera.

5] Cardamom , sometimes cardamon or cardamom, is spice made from the seeds of several plants in the Elettaria cardamomum belongs to the family zingiberaceae

Uses

This is particularly useful for individuals who are -are asthmatic, suffer from bronchitis, pneumonia

6] Honey is a sweet, viscous food substance made by honey bees and some other bees. Bees produce honey from the sugary secretions of plants or from secretions of other insects, by regurgitation, enzymatic activity, and water evaporation. Rich in antioxidants, Better for blood sugar levels than regular sugar, May improve heart health, Promotes burn and wound healing, May help suppress coughing in children.

Uses

honey can be used to treat day and night time dry coughing. -honey has antibacterial properties and can also help to coat the throat, alleviating Irritation.

7) Glycerine:

Glycerine is typically derived from plant oils (like soy, palm, or coconut oil) or animal fats through a process called saponification (the production of soap). It can also be produced synthetically via hydrolysis of triglycerides.

Chemical Formula: C₂H₂O.

Properties: Viscous (thick consistency) Odorless, Colorless, Sweet taste (though not as sweet as sugar), Water-soluble (miscible with water)

Uses:

Preservatives

Protects skin

Helps the healing process

Cryoprotective agent

EVALUATION OF FORMULATION:

• Colour Examination:-

1. 5ml of prepared syrup was taken on a watch glass.
2. watch glass placed against white background in white tube light.
3. colour was observed by naked eyes.

• Odour Examination

1. 2ml of prepared syrup was taken and smelled by individually.
2. the time interval between 2 smelling was 2 min to nullify effect of previous smelling.

• Taste Examination

1. A pinch of final syrup was taken and examined on taste buds of the tongue.

• pH Determination

1. 10ml of prepared syrup taken in 100ml of volumetric flask.
2. make up volume to 100ml with distilled water.
3. sonicate for 10 min.
4. Ph was measured by using digital pH meter.

• Viscosity Determination

1. the viscosity of each formulation was determined by using Ostwalds U-tube Viscometer

Preparation of liquid oral:

The liquid oral is prepared by two methods; first is decoction method and maceration method.

A. Method of preparation decoction:

- 1] 5-7gm of each herbal ingredients.
- 2] Herbs was mixed using 500ml of water.
- 3] Attach reflux condenser and material was boil under carefully by using water bath for 3 hrs.
- 4] Boil until total volume become one forth part of previous.
- 5] Then liquid was cooled and filtered.

B. Method of preparation Maceration:

- 1] The 35 ml, 40 ml and 45ml of honey was taken.
- 2] 1.75gm, 2gm, 2.25gm of ginger mixed with 35ml, 40ml, 45ml honey in beaker and pack the aluminum foil.
- 3] Beaker aloe to stand at room temperature for 24 hrs.
- 4] After 24 hrs. the preparation are filtered and filter was used as final oral form.

C. Final herbal cough syrup

- 1] To prepared final cough syrup 35ml of macerated ginger with honey add 25 ml of decoction was mixed slowly by continuous stirring.
- 2] Again 40 ml and 45 ml macerated ginger with honey added 15 ml and 20ml of decoction was mixed slowly by continuous stirring.
- 3] Herbal cough syrup was prepared and solubility was checked by observing clarity of solution visually.

CONCLUSION

Among respiratory track disorders cold and cough are common symptoms having variety of reasons behind them. It can lead to the serious disease if not treated in time. Proper diagnoses can cure this problem by different types of medicinal drugs commonly found around us alone or in combination. The Preformulation studies of all formulations were within specifications. Also the physiochemical properties of prepared syrup like colour, odour, pH, taste were satisfactory but among the all three formulation is was within the all specification, it has proper concentration of honey as per IP and also a good preservative. The present study help to develop affective and safe herbal cough syrup with 40% W/Vhoney as a base of cough syrup.

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