



# “Formulation And Evaluation Of Herbal Cough Syrup”

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## ABSTRACT:

Medicine presently used to treat cough are among the most extensively used over the counter medicines in the world, despite a recent analysis suggesting that there is a little evidence to similar medicines produce any meaningful efficiency. Syrup is generally useful and popular dosage form which is used for the treatment of cough and cold. We prepared the herbal cough syrup by adding decoction of herbal drugs such as Ginger, Tulsi, Liquorice, black pepper, funnel, peppermint, clove and excipients like peppermint oil, methyl paraben with jaggery as a base. The herbal cough syrup is formulated by using decoction method. Adding the decoction of herbal drugs with base of jaggery is helpful to the formulation for thick and preserve the formulation. That was helpful to increase the shelf life of formulation of herbal syrup. The added jaggery sweetener can also help to increase the palatability of some herbal drugs. The finally develop the herbal cough syrup with the base of jaggery.

The aim of this study is to develop a herbal cough syrup and evaluate the parameters such as turbidity, colour, odour, taste were compared with the changes in accelerated stability testing. Quality of final herbal cough syrup was evaluated with the parameters such as physical appearance like colour, odour, taste, pH, viscosity. Clove oil acts as an expectorant for treating respiratory disorders, including colds, bronchitis, cough, asthma and upper respiratory conditions.

**KEYWORDS:** Herbal cough syrup, Dry cough, wet cough, decoction extraction, Evaluation.

## INTRODUCTION:

A cough is a sudden and often repetitively occurring process which helps to clear the large breathing passages from secretions, irritants, foreign particles and micro-organisms. When there is a blockage or irritation in the throat or upper air passage, the brain thinks a foreign element is present and tells the body to cough to remove that element. Generally coughing is perfectly normal. A cough can help to keep your throat clear from phlegm and other irritants. However, sustained coughing can also be symptomatic of a number of conditions. The cough reflex consists of three phases: an inhalation, a forced exhalation against a closed glottis, and a violent release of air from the lungs following opening of the glottis, usually accompanied by a distinctive sound. Coughing is either voluntary or involuntary.

It is one of the most common health problems. Coughing can also be due to a respiratory tract infection such as the common cold, acute bronchitis, pneumonia, pertussis, flu and smoking or health problems such as asthma, tuberculosis and lung cancer. In the vast majority of cases, acute coughs, i.e. coughs shorter than three weeks, are due to the common cold. Pertussis is increasingly being recognized as a cause of troublesome coughing in adults.

## **Type of Cough**

Manly there two types cough, which are classifies as follows.

### **(A) Wet Cough.**

### **(B) Dry Cough.**

#### **A. Wet Cough.**

- i. Non-productive cough
- ii. It expels secretion mucous or foreign Material from respiratory tract.
- iii. The main purpose of wet cough is to remove the foreign matter

#### **A. Dry Cough**

- i Productive cough.
- ii. It expels secretion or mucous from lungs.
- iii. Dry cough is chronic in nature and it caused by dry irritation

### **1.3 Classification of Herbal Cough syrup:**

- (A) Acute cough- Not more than 3 weeks duration.
- (B) Chronic cough- More than 3 weeks.
- (C) Dry cough- No mucous or secretion.
- (D) Wet cough- with mucous or secretion.
- (E) Cough from chest and throat- productive and non-productive.
- (F) Paroxysmal cough- spasmodic and recurrent.
- (G) Bovine cough- soundless cough due to paralysis or larynx.
- (H) Psychogenic cough self-conscious activity of the patient to draw-attention.

#### **Advantages of herbal cough syrup:**

- No side effects
- No Harmless
- Easily available
- Easy to adjust the dose for child's weight
- No nursing is required, which main and the patient can take it with no help.
- The liquid dosage dosage form is executed for products like cough medicines.
- Herbs Grow in common place.
- Antioxidant by retarding the oxidation as sugar is hydrolysed in to cellulose and dextrose.
- Good patient compliance especially paediatric patient as syrup are sweet in test.
- It is preservative by retarding the growth of bacteria, fungi and mould as osmotic pressure.

## Disadvantages of herbal Cough Syrups:

- ADR with prescription drug.
- Risk of self-dosing of herbals which is very rare.
- The effectiveness of herbal cough syrup is not optimized in laboratory so it taken time to produce effect.

## Formulation of Herbal cough syrup.

- Take of each herbal ingredients.
- All the herbs ingredients are individual extraction process.
- Then liquid was allow to cool and filtered it.
- After that adulsa herb extract should be added, and the mixture should be stirred carefully before mint, clove, black paper, fennel, and dry ginger extract are added.
- Now take 10gm sucrose and dissolve 50ml water.
- Slowly heat the water to a gentle simmer and cover.
- Allow it to simmer for 30-40 minutes, and until it boils down to about 50ml.
- Then sucrose solution was cool
- Sucrose solution was added to the filtered extract slowly by continuous stirring.
- Volume made up to 100ml.
- Herbal cough syrup are prepared.



## List of herbal ingredients:-

### 1. Adulsa:-

Adhatodavasica has various biological activities such as antioxidant, anti-inflammatory, immunomodulating, antispasmodic and antiallergic properties, and acts as a cough suppressant. Arabinogalactan samples extracted from the plant showed 67% cough suppression [12]. After oral administration to the guinea-pig the antitussive activity of A. vasica was similar to codeine against coughing induced by irritant aerosols.



## Use.

1. Adulsa cough syrup is non –narcotic formulation that gives quick and safe relief from - bronchitis - chest congestion

## 2. Mint (Pudina)



## 3. Dry ginger

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, Curbes Cancer Growth, Lowers Blood Sugar, Eases Period Pains.



### Use.

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

## 4. Black paper.

Black kraft paper has found a comfortable home in the picture framing industry as a liner for the back of picture frames. It's also used for arts and crafts projects or where light barriers and borders are needed.

### Use.

1. High in Antioxidants
2. Antibacterial properties



## 5. Clove.

Cloves are the aromatics flower buds of tree in the biological name is *syzygium aromaticum* and belongs to the family Myrtaceae. Cloves also possess antibacterial properties and helps alleviate the pain caused due to constant coughing and sore throat.

## Uses

1. cloves also help get rid of the itchy feeling which is common during dry cough.
2. it is used as expectorant.



## 6.Fennel

Fennel consists of the dried ripe fruits of *Foeniculum vulgare* Miller, belonging to Family Umbelliferon. 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.

### Use.

1. Flavouring agent.
2. It is also used for upper respiratory tract infections, coughs, bronchitis, cholera.



## Composition and role of 100ml Herbal cough syrup:

Sr.no	Ingredients	Quantity
1.	Adulsa	20 Leaves
2.	Mint (Pudina)	10gm
3.	Fennel	5gm
4.	Clove	10gm
5.	Black paper	5gm
6.	Dry ginger	10gm
7.	Sucrose powder	10gm
8.	Water	q.s

## Evaluation of parameters:

### Physical Appearance:-

- Colour:- Dark Brown
- Odour:-2ml of prepared syrup was taken and smell individually.
- Taste:- Slightly pungent

### Stability Testing:-

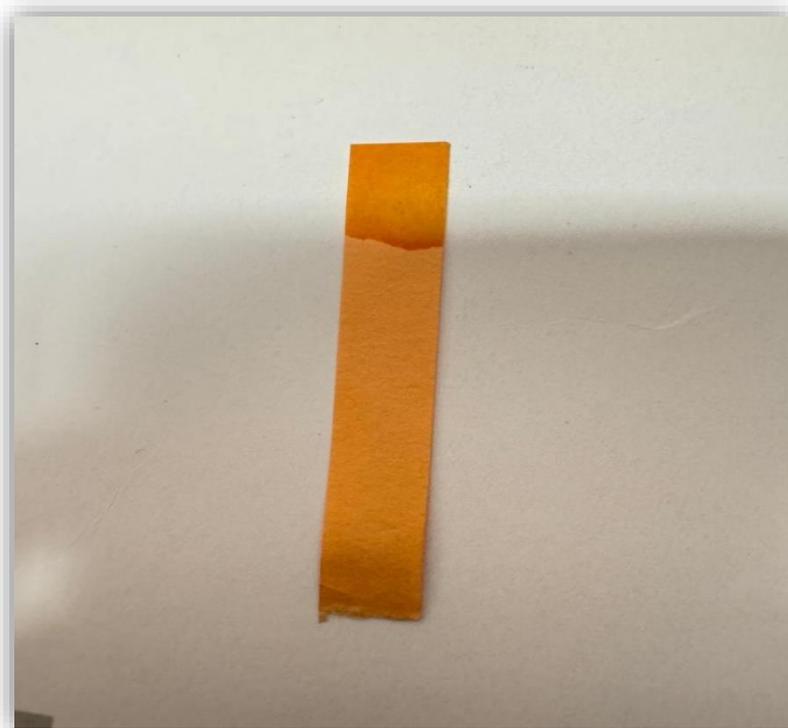
- Stability testing of the prepared herbal syrup was performed on keeping the sample at room temperature condition.
- The samples were tested for all the physicochemical parameters, turbidity and at the interval of 24hr, 48hr to observe any change.

### Density:-

- Density of the syrup is determine by using density bottle method by measuring the weight and volume. Deny is calculated as a substances mass per the volume it occupies.
- The symbol “p” is used to denote density. 10

### pH Test:-

- Take 10 ml of herbal syrup and checked the pH of the syrup with pH paper.
  - The evaluated pH is in betw een 6.4.





## Result:

The results obtained in this study suggest that the herbal formulations prepared possess herbal cough syrup activity. The component of the herbal cough formulation was selected due to their reported action that plays a preventative and curative role in prevention of cough. Syrup prepared passes all the physical parameters and shows the significant Antitussive activity.

We were able to determine the purity of the drug using macroscopic criteria like colour, aroma, taste, size, and shape as well as proximate analysis parameters like density, specific gravity, and pH value determination. Following formulation completion, many physical parameters were examined. We were able to standardise the formulation and its specificity to the users with the use of many factors including colour, taste, pH, specific gravity, viscosity, and density. All of the parameters were discovered to be within the limit.

<u>Sr. no.</u>	<u>Parameter</u>	<u>Observation value</u>
1.	Colour	Dark brown and red
2.	Odor	Aromatic
3.	pH	6.2
4.	Density	10.

## Conclusion

An ancient time peoples use various plant, roots, and leaves for treatment various disease. Herbal cough syrup is an Ayurveda medicine which is useful in many chronic health problem such as cough, cold, fever, respiratory infection and disorders among human. As a combination of herbs, it is safe, can be made at home, has a low production cost, and can be easily available in any area. Herbal syrup including natural herbs, like Mint(Pudina), clove, fennel, Black paper, Dry ginger and adulsa which have various action and effect on reducing acute or chronic cough and cold and act as cough suppressant having expectorant and anti-tussive property. In this review, I conclude about herbal cough syrup that, herbal cough syrups is a safest herbal medicine which is use for treatment of cough and cold.

The aim of this project was to formulate and evaluate Herbal cough syrup. The present study helped us to understand what actually cough means, what are different types of coughs, factors responsible for causing cough. Herbal treatments for cough were studied briefly. As the study shows that the herbal treatment is more beneficial than that of allopathy treatment which uses standard drugs for treatment as Herbal drugs have less or no side effects. Herbal treatments are more preferred widely. Herbal drugs are easy to available than that of prescribed drugs. This study helps us to understand cough and measures to be taken in order to avoid cough. The pre-formulation studies of all three formulations were within specification. Three formulations were prepared and evaluation test such as colour, odour, taste and pH were performed. The present study will help us to understand effectiveness of herbal cough syrup compared to chemical- based syrups.

The formulation studies of all these formulation were within specifications. Also the physiochemical properties of prepared syrup like colour, odour, taste, pH, viscosity were satisfactory but among the 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 effective and safe herbal cough with 50% w/v sucrose as a base of cough syrup.

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