

Formulation and Evaluation of Herbal Adulsa cough syrup by using Jaggery base

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ABSTRACT : Medicines 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 efficacy. 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 Adulsa, Ginger, tulsi, black pepper, fennel, peppermint, clove 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

KEY WORD: Herbal syrup, Jaggery base, cough, Adulsa, Ginger, tulsi.

INTRODUCTION

Malabar nut (Justicia adhatoda) belongs to family Acanthaceae is an ancient Indian medicine used in several diseases. Justicia adhatoda commonly called as „Adulsa“ in Hindi ‘Arusa’ and Gujrat Ardusi. It has various names such as Adulsa, Arusa, Ardusi. Constituents of Adulsa such as alkaloid, tannins, saponins, phenolics, and flavonoids. The most important is vasicine, quinazoline alkaloid. The vaccine yield of the herbage has been measured as 0.541 to 1.1 % by dry weight. Bromhexine a serine protease inhibitor with mucolytic properties available over-the-counter in Europe, was originally derived from Justicia adhatoda.

[1] Adulsa, Ginger, Tulsi act as antioxidants which are phenolic compounds and vitamin C. Antioxidants compounds have an important role in the human health and are also widely used as food additives to prevent food damage.

[2] Herbal cough syrup was prepared by adding decoction of herbal drugs with Jaggery as a base. The herbal cough syrup is formulated by using decoction method. Mix Decoction of herbal drugs with base of Jaggery helpful to the formulation for thicken and preserve the Formulation. That was helpful to increase the shelf life of formulation. The added Jaggery Sweetener can also help to increase the palatability of some herbal drugs.

Advantages of herbal medicine :

- 1) Low cost.
- 2) Easy to obtain than prescription medicine.
- 3) Stabilizes hormones and metabolism.
- 4) Strength in immune system.
- 5) More affordable than conventional medicine.

Advantages of liquid dosage form

- 1) Homogeneous liquid.
- 2) Drug is in solution, immediately available for absorption.
- 3) Liquid medications could also be used where solid dosage forms aren't practical to administer.
- 4) Easy to administration.

Disadvantages of liquid dosage form

- 1) Shorter life than another dosage forms.
- 2) Less stable.
- 3) Complicated to measure accuracy.
- 4) Liquid is bulky so inconvenience to transport and store.



Fig Ginger.



Fig. Adulsa.



Fig. Tulsi

AIM AND OBJECTIVE

Aim :

Formulation and Evaluation of Herbal Adulsa cough syrup by using Jaggery base.

Objective :

- To Formulate Herbal Adulsa Cough syrup.
- To evaluate the Formulated syrup.
- To identify the Stability of Syrup with Jaggery Base.
- To Formulate Cough syrup with using Jaggery base.

LITERATURE REVIEW

1. ASHOK MAHASHUR:-

In this review article have the description about chronic dry cough .This include diagnostic and management approaches and cause of cough and other details This have discussion about chronic dry cough management in children and management.

2. R M RULLER &DM JACKSON

In this review article have the description of physiology of cough .the physiological mechanism of cough that causes cough .and treatment of cough to cure cough.

3. MANOJ KUMAR &SHWETA PARIHAR

In this review article have description about herbal medication for treatment of cough. Herb which are used in management of cough .Indian herbs which are used in management and treatment of cough.

MATERIAL AND METHODS

Material

Ingredient	Activity	Quantity
Adulsa	Expectorant	2-3 leaves
Tulsi	Anti-tussive	3-4 leaves
Ginger	Anti-inflammatory	4gm
Cardamom	Aromatic	1gm
Clove	Expectorant	2gm
Black paper	Preservative	2gm
fennel	Flavoring agent	2gm
pappermint	Cooling agent	2leaves
Jaggery base	Syrup base	40%

Apparatus:-

Beaker, Conical Flask, Glass rod, „Measuring cylinder, Dropper, Funnel,

Instruments:-

Weighing balance, Heating Mantle ,Ostwald viscometer, ph-meter.

Methods

Method of Preparation of decoction :-

Sufficient quantity of herbs was taken. Herbs was mixed with 500ml of water. All ingredient was boiled ,until total volume become 1/4th of previous after boiling extract was cooled and filtered. Filtrate was taken and make final syrup.

Method of Jaggery base :-

40 gm of Jaggery was dissolved in sufficient water to get 100 ml of concentrated syrup. Then the solution was filtered .There Jaggery Syrup was used as vehicle

Methodology for herbal cough syrup: -

- 1) Crude herbs were taken in quantity as mentioned in Table
- 2) All the herbs were taken in water bath and added Sufficient water and boiled till 1/3rd part was left.
- 3) Syrup solution of varying concentration (40% w/v) was prepared.
- 4) Filtered extract of herbs and Jaggery Solution.
- 5) Jaggery solution was add to the filtered extract slowly by continuous stirring.
- 6) Volume was made upto 100 ml, Add preservative and flavour and evaluated it.



Fig. Filtered syrup.



Fig. Decoction method.



Fig. Jaggery base

EVALUATION OF SYRUP

1) Colour Examination:

Take 2ml of formulated syrup in test tube and Observe the Colour of the syrup.

2) Odour Examination :

2ml of prepared syrup was taken and smelled.

3) Taste examination :

A pinch of final syrup was taken and examined the taste of syrup.

4) pH examination:

The pH of the gel was measured using pH meter. Gel was taken into a beaker and the pH was noted.

5) Viscosity examination:

1) Cleaned the Ostwald viscometer with warm chromic acid and if necessary used an organic solvent such as acetone.

2) Placed the viscometer in vertical position on a suitable stand Filled water in dry viscometer up to mark G.

The time was counted in second for water to flow from mark A to mark B.

3) This step was repeated at least 3 times to. obtained accurate reading. Then washes the viscometer with sample liquid and then fill it up to

$$\text{Formula} = \frac{\text{Density of test liquid} \times \text{time require to flow test liquid}}{\text{Density of water} \times \text{time required to flow water}} \times 100$$

6) Stability testing:

1) Stability testing of the prepared herbal syrup was performed on keeping the samples at accelerated temperature conditions.

2) The final syrup was taken in culture tubes. Then kept at accelerated temperature at 4°C, Room temperature and 47°C respectively.

3) The samples were tested for all the physicochemical parameters (colour, odour, taste) turbidity and at the interval of 24 hr, 48 hr and 72 hr to observe any change.

RESULT AND CONCLUSION

Our overall study is determination of general physical and chemical parameters that are essential for the identification of crude drugs on the basis of available standard data. The physicochemical property of herbal cough syrup finished product were: pH (7.20), Viscosity (27.84), The Colour (Dark), Odour (aromatic), and taste (sweet) and of herbal cough syrup was Satisfactory in physical appearance. The herbal product is in high demand because of the least possibilities of side effect. The present studies help to develop a herbal cough syrup with 40% w/v Jaggery base Syrup, which is effective and safe

TIME DURATION (HOURS)	Temperature (°C)	COLOUR	ODOUR	TASTE	TURBIDITY
24hr	4 °C	No change	No change	No change	No turbidity
	Room temp	No change	No change	No change	No turbidity
	47 °C	No change	No change	No change	No turbidity
48hr	4 °C	No change	No change	No change	No turbidity
	Room temp	No change	No change	No change	No turbidity
	47 °C	No change	No change	No change	No turbidity
74hr	4 °C	No change	No change	No change	No turbidity
	Room temp	No change	No change	No change	No turbidity
	47 °C	No change	No change	No change	No turbidity

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