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FORMULATION AND EVALUATION OF HERBAL COUGH SYRUP USING JAGGERY BASE

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ABSTRACT

Medicine presently used to deal with cough are the various maximum notably used over the counter drug treatments in the international, in spite of a recent evaluation suggesting that there is a bit evidence to comparable drug treatments produce any significant efficiency. Syrup is commonly useful and famous dosage form which is used for the remedy of cough and bloodless. We organized the herbal cough syrup by means of including Jaggery base and decoction of natural capsules together with Pudina, Tulsi, Cinnamon, Jaggery and other natural excipients. The natural cough syrup is formulated by using decoction method. Including the decoction of natural capsules with base of Jaggery is beneficial to the formulation for thick and preserves the system. That turned into beneficial to increase the shelf lifestyles of components of natural syrup. The brought Jaggery sweetener also can help to growth the palatability of some natural drugs. The ultimately increase the herbal cough syrup with the bottom of Jaggery. The purpose of this examine is to develop a herbal cough syrup and examine the parameters consisting of, coloration odour, taste have been as compared with the changes in multiplied balance checking out. Excellent of very last natural cough syrup changed into evaluated with the parameters such as physical appearance like shade, odour, taste, pH. Syrup acts as an expectorant for treating respiration issues, inclusive of colds bronchitis, cough, asthama and upper respiration conditions.

KEYWORDS: Pudina Syrup, Jaggrey Base, Herbal Syrup, Anti coughing Syrup.

INTRODUCTION

Herbal plants and formulation are used for the many types of disease like cough syrup and many more other diseases. In cough syrup, many types of herbal plants are used, for example ginger, Tulsi, honey, clove. For many years, the entire plant has been used to make medicinal herbs. Herbal formulations are most commonly used in development as well as developing countries as health care aid. Herbal syrup it is a defined as a prepared and combination and concentration decoction with Honey sugar or either some time use alcohol. The base of such syrup is a strong herbal decoction and mixing a decoction with sugar honey help to thicken preserves the decoction.[1] Herbal plant and formulation are used for many types of disease like cough syrup and other disease. The cough syrup many types of herbal plant are used for Pudina, Tulsi, Cinnamon, honey in that whole plant are used for making herbal medicine the many years. Herbal formulation a most commonly used a development as well as developing countries as health care. The cough syrup medication is a liquid dosage form use of oral liquid pharmaceutical has been confirm on basic ease of administration to those people who have the problem in the swallowing of solid dosage from medication. Syrup is a concentrated solution contains sugar and purified water. The syrup may be or may not be containing medication or mixed flavoring agent. When the syrup without a medication but the flavoring agent present are known as flavored or non-medicated syrup.[2] Flavored syrup are frequently used as vehicle for the unpleasant test of medications results (found as) is medicated syrups.

Syrup are present in syrup in high amount predisposes then to the bacteria infection so they often. Use as preservative.[3] Syrup are very prominent delivery vehicle use for the anti tissue medication because they give a more soothing to swallow (ingest) then the tablet and capsule. This medication is quickly observed. There are same available synthetic cough preparations they cause several adverse effect. So the present study was show to enlarge and in violet herbal cough syrup carry natural element having no any side effect.[4] In general health professionals having difficulties of accessing effectiveness and safety natural treatment (therapy). Number of instance allopathic medication product has not been studied in large scale and generally them solid without in knowledge of their mechanism of action or side effect. Even so the use of complementary medication is sometime helpful and the confirmation is same time helpful and the confirmation the effectiveness of some this all medication literature is limited, they frequently sold with the drug store.[5] A successful formulation of liquid, as well as other dosage forms, requires a blend of scientific acuity and pharmaceutical “art”.[6] Oral liquid medicines are being superseded gradually by tablets and

capsule because of deleterious changes take place more readily in solution.[7] Nevertheless there are still a large number of liquid oral preparations are available in the official books. The fact is that the absorption of medicaments in solution from the GI tract into the systemic circulation may be expected to occur more rapidly than other oral dosage forms of the same medicinal agent.[8] Ayurvedic formulations are preferentially administered by oral route[9], and most of the orally administered Ayurvedic formulations belong to liquid form of drug or drug combination. However herbal medicinal combination.[10]

MATERIAL AND METHOD OF PREPARATION

Following herbal part are used in the formulation of herbal syrup.

Table no. 1: List of materials.

SR.NO.	INGREDIENTS
1	Tulsi
2	Pudina
3	Tulsi
4	Cinnamon
5	Jaggery
6	Distilled water

Fig. No. 1: Pudina.

Fig. No. 2: Tulsi.

Fig. No. 3: Cinnamom.

Fig. No. 4: Jaggery.

Fig. No. 5: Other ingredients.

1. Pudina

Synonyms

Peppermint, fragrant, Mentha leaves.

Biological source

Pudina consists of dried leaves and obtained from flowering tops of *Mentha piperita* belonging to family *Lamiaceae*.

Chemical constituents

The main constituents of menthol (40.7%) and menthone (23.4%) further components were (%+-) menthyl acetate, 1, 8-cinecole, limonene, beta-pinene and beta-caryophyllene.

Uses

Flavoring agent Carminative, digestive, spasmolytic. Also use in one herbal syrup preparation.[11]

2. Tulsi

Synonyms

Holy basil, sacred basil. Biological source: It consists of dried leaves of *Ocimum sanctum* linn. Belonging to family *labiatae.*

Chemical constituents

Pleasant volatile oil (0.1to 0.9%) Also consist 70% eugenol and carvacrol (3%) eugenolmethyl-ether (20%).

Uses

Leave and volatile oil use in various purposes.

The oil is antibacterial and insecticidal used.

Fresh leaves are use in stomachic.[12]

3. Cinnamon

Synonyms

Cinnamon oil, Ceylon cinnamon, Saigon cinnamon, Chinese cassia, Cinnamon oil aromaticum.

Biological source

Cinnamomum zeylanicum is widely cultivated in Ceylon java Sumatra West Indies Mauritius Brazil and India. Belonging to family *lauraceae.*

Chemical constituents

10% of volatile oil, 5 to 10% eugenol, 50 to 60% cinnamon aldehyde.

Uses

Stomachic, carminative, flavoring agent**,** anti arithmetic.[13]

4. Jaggery

Synonyms

Gur.

Biological source

Chemical constituents

Approximately 60-85% sucrose, 5-15% glucose and fructose, 0.4% of protein.

Uses

Laxative, Sweetening agent, flavoring agent.[14]

Method of Preparation

The initial stage in studying medicinal plant is the preparation of plant samples to preserve the bio-molecules in the plants prior to extraction. Plants samples such as leaves, barks, roots, fruits and flowers can be extracted from fresh or dried plant materials such as grinding and drying also influences the preservation of phyto-chemicals in the final extracts.[15]

The weighed crude drug sample 5g of herbal ingredients. Then herbal ingredients were mixed 500ml of water. Then attach reflux condenser and materials was boil under carefully by using water bath for 3 hrs. The mixture was boiled until total volume become one fourth of the volume. Then the decoction was cooled and filtered.

Filtrate was taken to prepare final syrup.[16]

Fig. No. 6: Preparation of decoction extraction.

Method of preparation for final herbal syrup

To prepared final herbal syrup 16ml of Pudina decoction and 17ml of Tulsi or 17ml of Cinnamon decoction was added ad 50% of Jaggery preservative was mixed slowly by side by

side continually stirring. The final herbal syrup was prepared and then subjected for evaluation Herbal syrup was prepared and solubility was checking by observing clarity of Solution visually.[17]

Table No. 2: Material for Preparation of Syrup.

SR.NO.	INGREDIENTS	QUANTITY	ACTIVITY
1.	Pudina	In 16ml	Antioxidant
2.	Tulsi	In 17ml	Antioxidant
3.	Cinnamon	In 17ml	Antitussive
4.	Jaggery	In 50%	Base viscosity modifier

Fig. No. 7: Herbal syrup formulation.

Evaluation parameters

1. Formulation studies

Table No. 3: Results of organoleptic characters of formulated herbal syrup.

Formulation	Colour	Odour	Taste
A	Yellowish brown	Aromatic	Slightly pungent

Colour

Table. 3 shows the results obtained for color of formulated batches of syrup. The color of formulation was found to be yellowish brown for the optimized batch. The color of the formulation ranges from yellowish brown to dark brown for A, batches respectively.

Odour

Table. 3 shows the results obtained from odour of formulated batches of syrup. The odour of formulation was aromatic for A, an batches respectively.

Taste

Table. 3 shows the results obtained from test of formulated batches of syrup. The test of formulation was shightly pungent for A, batches respectively.

2. PH

pH of formulated batches of syrup was found to be 6.

3. Specific Gravity

The specific Gravity of formulation was found to be 6.2 for the optimized formulation B. The value was found to be in the range of 6.0-6.2 for all their formulations.

4. Stability Testing

Stability testing of the prepared herbal syrup was performed on keeping the sample at accelerated temperature conditions. Nine portions of the final herbal syrup A, B and C were taken kept at accelerated temperature at 4^0c. Room temperature and 47^0 c respectively. The samples were tested for all the physicochemical parameters, turbidity and homogeneity at the interval of 24hr 48hr and 72hr to observe any change.

CONCLUSION

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 honey as a base of cough syrup.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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