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A Literature Review on Herbs Used in Herbal Cough Syrup

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ABSTRACT:

The main objective of this study was to eliminate harmful synthetic ingredient from herbal cough syrup. Formulation and substitute them with safe natural ingredient. An ancient time peoples use various plant, roots, and leaves for treatment various disease. Cough refers to a strong explosive exhalation that clears the tracheobronchial tract of fluids and foreign matter. Medicinal plants have the potential to provide compounds with potent antitussive efficacy and few side effects. Herbal syrup including natural herbs, like tulsi, clove, fennel, turmeric 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. The purpose of this review is to discuss the status of the plant, which is used as a food source, antitussive, and expectorant to suppress cough, as well as its active ingredients

Keywords: anti-tussive, expectorant, tracheobronchial, suppressant etc.

Introduction:

Cough: A cough is characterized as a sudden and sharp expulsion of air from the lungs, serving as a protective mechanism to clear the airways or as an indication of pulmonary issues. Also referred to as tussive, a cough can be either a voluntary or involuntary action that removes foreign particles, microbes, irritants, fluids, and mucus from the throat and respiratory passages. It is among the most prevalent health concerns, and coughing may result from respiratory tract infections such as the common cold, acute bronchitis, influenza, as well as from smoking or other health conditions.

•Cough History:

1. Onset and Duration

Acute : < 3 weeks

Subacute :3-8 weeks

Chronic:> 8 weeks Acute cough such as during and after common cold is usually due to upper respiratory viral infection. Non -viral causes include environmental pollution, asthma and occupational exposure .From therapeutic point of view, chronic cough with normal chest x-ray . a) Glucocorticoid responsive= due to eosinophilic disorder as in asthma . b) Inhaled Glucocorticoid resistant =example postnasal drip ,(GERD),gastro -oesophageal reflux disease ,post -respiratory infection and drug induced . Barking cough ,stridor and chest wall with drawal are characteristic of croup .common in children. Cough becomes worse at night .

2. Character Bovine with Hoarseness

Left recurrent laryngeal nerve palsy causing left vocal cord paralysis due to CA lung . Barking With Hoarsness and Stridor Acute Epiglottitis ,laryngitis, larynx . Wheezy -COPD ,Asthma .

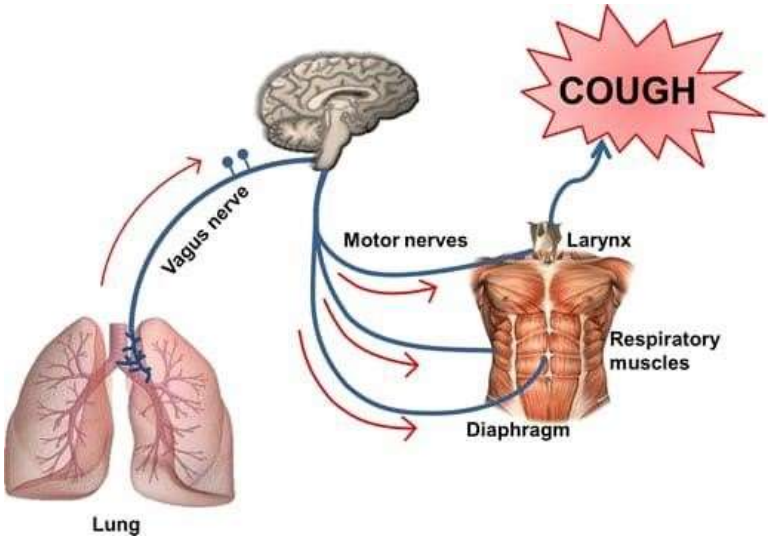

Fig. Mechanism of action of cough

3. Types of Cough

A. Wet cough

B. Dry cough

C. Acute cough

D. Subacute cough

Mainly there are two types of coughs, which are classifies as follows.

A. WET COUGH

Non-productive cough refers to a type of cough that does not result in the expulsion of mucus or other secretions from the respiratory tract. Its primary function is to eliminate foreign substances from the airways.

B. DRY COUGH

On the other hand, a dry cough is characterized as a productive cough that facilitates the discharge of secretions or mucus from the lungs. This type of cough is typically chronic and is often triggered by irritation in the throat or airways.

Herbs Used in Cough Syrup

Vasaka

•It is also known as Adhtoda or Adults, is derived from the dried and fresh leaves of the Adhatoda vasica plant, commonly referred to as Malabar nut. It belongs to the Acanthaceae family. The chemical constituents of Vasaka include vasicine, vasicinone, 6-hydroxy vasicine, and adhatodic acid.

Its applications encompass:

• Acting as an expectorant

• Providing relief for asthmatic patients

• Serving as an ingredient in cough syrups.

Fig. Vasaka

2)Tulsi

Biological Source: Tulsi is derived from the fresh and dried leaves of various Ocimum species, including Ocimum sanctum L. and Ocimum basilicum L.

•Family: Labiateae

•Chemical Constituents: Phytochemical analyses have identified several key chemical constituents in Tulsi, such as oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, and β-caryophyllene.

Uses: • Expectorants • Treatment for asthmatic patients • Cough syrup formulation • Nasal decongestant

Fig. Tulsi

3) Honey

•Biological Source: Honey is a natural substance produced by honeybees, specifically Apis mellifera, from the nectar of various flowers.

•Family: Apidae

•Chemical Constituents: Honey comprises small quantities of several B vitamins, including riboflavin, niacin, folic acid, pantothenic acid, and vitamin B6. Additionally, it contains ascorbic acid (vitamin C) and essential minerals such as calcium, iron, zinc, potassium, phosphorus, magnesium, selenium, chromium, and manganese.

Uses: • Expectorants • For patients with asthma • Cough syrup • Nasal decongestant.

Fig. Honey

4) Ginger:

•Biological Source: Ginger is a flowering plant characterized by its rhizome, scientifically known as Zingiber officinale.

Family: Zingiberaceae

•Chemical Constituents: Ginger is rich in various active compounds, including phenolic and terpene substances, as well as paradols. The predominant polyphenols found in fresh ginger are gingerols.

Uses: • Expectorants • Cough syrup • Nasal decongestant • Flavouring agent

Fig. Ginger

5) Pudina

•Biological Source: Pudina is derived from the dried leaves and flowering tops of Mentha spicata Linn.

•Family: Labiatae

•Chemical Constituents: The primary components include menthol (40.7%) and menthone (23.4%), along with additional constituents such as menthyl acetate, 1.8-cineole, limonene, beta-pinene, and beta-caryophyllene.

Uses: Flavoring agent.

Fig. Pudina

6) Cinnamon

•Biological Source: Cinnamon melanic is extensively cultivated in regions such as Ceylon, Java, and Sumatra.

•Family: Lauraceae

•Chemical Constituents: The bark of cinnamon contains 0.5% to 1.0% volatile oil, 1.2% tannins, and the volatile oil comprises cinnamaldehyde, eugenol, benzaldehyde, and cuminaldehyde. Additionally, it contains mucilage, calcium oxalate, starch, and the sweet substance mannitol.

•Uses: It serves as a stomachic, carminative, stimulant, mild astringent, and antiseptic.

Fig. Cinnamon

7) Liquorice

•Biological Source: The material comprises the roots and stolons of Glycyrrhiza glabra.

•Family: Leguminosae

•Chemical Constituents: Liquorice is characterized by the presence of saponin glycosides, particularly glycyrrhizin. Additionally, it contains flavonoids such as liquiritin and isoliquiritin.

•Uses: The ammonium and sodium salts of glycyrrhizin acid are extensively utilized in cosmetic formulations due to their skin-enhancing properties, making them valuable in skincare products.

Fig. Liquorice

8) Fennel

•Biological Source: Fennel is derived from the dried mature seeds of the plant Foeniculum vulgare Miller.

•Family: Umbelliferae

•Chemical Constituents: Fennel contains 3 to 7% volatile oil, approximately 20% proteins, and around 20% fixed oil.

•Uses: It serves as a carminative, aromatic agent, and stimulant. Additionally, it functions as an expectorant and is utilized pharmaceutically as a flavoring agent.

Fig. Fennel

9) Haridra

•Biological Source: Harida is derived from the desiccated rhizomes of Curcuma longa Linn.

•Family: Zingiberaceae

•Chemical Constituents: Haridra comprises a minimum of 1.5% w/w of curcumin, based on the dried weight.

•Use: Turmeric possesses antiseptic and antioxidant characteristics, making it suitable for use in skincare cosmetics.

Fig. Haridra

10) Clove

•Biological Source: Cloves are the desiccated flower buds of Eugenia caryophyllata Thumb (also known as Syzygium aromaticum).

•Family: Myrtaceae

•Chemical Constituents: Cloves contain 14-21% volatile oil. Other components include eugenol, acetyl eugenol, gallotannic acid, and two crystalline compounds: α- and β-caryophyllenes, along with methyl furfural, gum, resin, and fiber. Caryophylline is an odorless component that appears to be a phytosterol, while eugenol is a colorless liquid. Clove oil consists of 60-90% eugenol, which contributes to its anesthetic and antiseptic properties.

•Uses: Cloves are utilized for alleviating upset stomachs and function as an expectorant. They are also employed in treating diarrhea, hernia, and halitosis.

Fig. Clove Buds

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 ingredient.

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 aluminium 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 and20ml of decoction was mixed slowly by continuous stirring.

3] Herbal cough syrup was prepared andsolubility was checked by observing clarity of solution visually.

Conclusion

Traditional medicine and complementary and alternative medicine have become increasingly popular in both developed and developing countries over the past two decades. Due to the current global interest in Traditional medicine, many medicines used by different ethnic groups around the world are rapidly being developed and studied. The information is held in the form of a common name for the botanical name, a Family name, a used part, an active component and a reference. Scientists from many fields are investigating plants with antitussive and expectorant effects. Finally, the current study concludes with a holistic view of herbal medicines for the treatment of cough, arguing that both raw and poly-herbal formulations are effective alternatives to modern cough medicines that have diverse effects negative effects. This study also suggests that future clinical trials could be conducted with these polyherbal formulations as well as individual raw drugs to provide clinical evidence of use.

In Future Scope

In the upcoming years, it is anticipated that the cough syrup sector would continue to rise. The future of the industry will be shaped by important variables such product innovation, growing customer desire for healthier and natural options, and expanding uses in the food and beverage sector. The market for polyherbal cough syrup is expected to grow in the future due to the growing popularity of herbal and natural treatments for respiratory ailments. The fact that polyherbal cough syrup is a natural product without artificial ingredients that might have unfavourable side effects is one of its key benefits.

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