

Persistent Cough: An Integrative Review of Herbal and Conventional Therapies

Vallela Niveditha Reddy¹, Mulagapati Sharadha², Rapan Anusri³, Vankudoth Gowthami⁴, Dr. P. Ravi kumar⁵

¹²³⁴ B. Pharmacy 4th Students, Department of Pharmacognosy, Sarojini Naidu Vanita Pharmacy Maha Vidyalaya

Abstract: Coughing is a normal reflex response that helps clean the respiratory tract, but if it persists, it may be a sign of underlying disease. This review provides a thorough description of persistent cough, including how it is classified as acute, subacute, or chronic depending on how long it lasts, how severe it is, and how it affects quality of life. Conventional (allopathic) therapies, such as mucolytics, antihistamines, and natural remedies, are emphasized, along with their therapeutic benefits and related drawbacks, such as adverse effects or short-term respite. The growing acceptance of plant-based formulations because of their holistic approach, safety profile, and long-standing traditional use is the main subject of this critical comparison of herbal vs. allopathic medication. The article goes on to categorize herbal cough syrups according to their main components and pharmacological effects, such as mucolytics, cough syrups, and expectorants. The use of natural herbs like tulsi, sonth, mulethi, cinnamon, and honey in Ayurvedic home treatments for cold and cough symptoms is also highlighted. By fusing ancient herbal knowledge with contemporary therapeutic approaches, this review promotes an individual combined approach to respiratory health through evidence-based insights.

Keywords: Herbal medicine, Allopathic treatment, Chronic coughs.

1. INTRODUCTION

Cough is the most prevalent ailment that people have had for millennia, worldwide. The body uses coughing as a defence mechanism. The deliberate or involuntary act of clearing the throat and breathing route of foreign particles, bacteria, irritants, fluids, and mucus is simply cough [1]. Cough is also known as tussis. It is the quick release of air from the lungs. The brain perceives a foreign element in the body when there is obstruction or irritation in the throat or upper airway, and it instantly alerts the body to cough in order to remove the foreign element. Inhaling, forcing out air

against a closed glottis, and violently releasing air from the lungs after the glottis opens, followed by a characteristic sound, are the three stages of the cough reflex. Coughing repeatedly causes discomfort and inflammation, which makes a person cough more [2].

Types:

Acute cough: Rather arbitrary, an acute cough is defined as one that lasts no more than three weeks. Acute bronchitis, tracheo-bronchitis, or upper respiratory tract infections (URTI) caused by bacterial or, more commonly, viral infections account for the majority of cases [3].

subacute cough: A less severe cough This form of cough is defined as one that lasts for at least three to eight weeks. Pneumonia and B. pertussis infections are the respiratory culprits. GERD and, in rare cases, Tourette's disease are non-respiratory causes [4,5].

Chronic cough: A persistent cough Coughs that persist for eight weeks or longer are considered chronic coughs. COPD, asthma, lung cancer, TB, and pneumoconiosis are the respiratory causes [4,5].

2. Intensity of a persistent cough:

Around the world, chronic cough is a common ailment that seriously lowers quality of life. Because of the limited efficacy of traditional drugs, herbal medicine (HM) has been utilized to treat persistent cough. The purpose of this study was to compile and ascertain how HM affected patients who had persistent coughs.

According to Chang and Glomb and Irwin et al., a chronic cough is defined as one that lasts longer than eight weeks for adults and children over the age of fifteen, or longer than four weeks for children under the age of fifteen. According to Song et al., 10% of

people globally suffer from chronic cough, a widespread ailment that has a significant socioeconomic impact due to its direct influence on productivity and quality of life (Won et al.,Kubo et al.,) [6-9].

Patients with persistent coughs who were hard to diagnose or who did not respond well to orthodox therapy have often turned to East Asian traditional medicine (EATM), which includes herbal medicine (HM). Given the features of multi-components and multi-targets, HM may be able to cure both specific coughs and chronic coughs that are nonspecific or inexplicable as per Wang et al.,[10].

3. Treatment Options:

Since acute viral cough is nearly always benign, medical intervention may not be necessary.

Significant morbidity and suffering can result from an acute viral cough.

Although there is little proof of a particular pharmacological impact, patients claim benefits from a variety of over-the-counter medications.

Offering a "home remedy" like honey and lemon can be the simplest and least expensive suggestion.

The cough reflex is frequently centrally modulated; merely suppressing the cough voluntarily may be enough to lower the frequency of coughing [11].

This could be the way that linctus's and simple drinks work.

Opiate antitussives are not advised due to their substantial unfavourable side effect profile.

4. Conventional treatments for cough:

some of the conventional treatments are given below

Dextromethorphan

Numerous over-the-counter cough treatments contain this non-sedating opiate, which has been demonstrated in one meta-analysis to suppress acute cough [12]. The dosage that is typically advised is most likely subtherapeutic. There is a dosage response, with 60 mg causing the greatest suppression of the cough reflex, which can be sustained [13]. Because some mixed treatments contain other



Fig.1- medications, including paracetamol, caution must be used when recommending dextromethorphan at larger doses.

Pholcodine or codeine

Codeine or pholcodine are examples of these opiates. Although these opiate antitussives are not more effective than dextromethorphan, they are not advised due to their significantly higher severe side effect profile.

Menthol

Inhaled menthol reduces the cough reflex [14]. and can be administered as customized capsules or as menthol crystals BPC. The inhibition of coughing is severe and transient.

Antihistamine sedatives

Sedative first-generation antihistamines reduce coughing but also make you sleepy. They might be an effective remedy for coughing at night.

5. Herbal cough syrup versus allopathic medications

Compared to allopathic cough syrup, using herbal cough syrup may have a number of advantages. These are a few of the causes:

Natural components: Generally regarded as harmless and non-toxic, herbal cough syrups are prepared with natural substances. The colors, flavors, and preservatives frequently found in allopathic cough syrups are absent from them.

Kind to the body: Compared to allopathic cough syrups, which may contain potent chemicals that result in adverse effects including fatigue, lightheadedness,

and upset stomach, herbal cough syrups are typically kinder to the body.

Boosting the immune system: Several herbal cough syrups include immune-boosting components.

Fewer adverse effects: Compared to allopathic cough syrups, herbal cough syrups typically have fewer negative effects because they are manufactured with natural ingredients. For those who are sensitive to the chemicals frequently present in over-the-counter medications, this makes them a good choice [15].

6. Herbal cough syrup classification:

1) Mucolytics

These are medications that fall under the category of mucoactive drugs. With the intention of improving its removal, they expertly influence the mucus layer that lines the respiratory system. The numerous epithelia inside our bodies use mucus as their first line of defense against dangerous germs.

2) Expectorant:

In the US, guaifenesin is the most commonly prescribed expectorant and oral mucolytic.[16] It works by decreasing the mucus's surface tension and viscosity, which makes expectoration easier. The enhanced flow of the thinned secretion by ciliary activity facilitates the clearance of respiratory mucus.[17] Research on guaifenesin's effectiveness has not shown that it improves pulmonary function or reduces viscosity in the sputum. Its clinical utility is therefore in doubt.

3. Suppressant Cough:

The expectorant guaifenesin is frequently coupled with dextromethorphan, the cough suppressant used in over-the-counter cough medicines. The D isomer of the codeine analog levorphanol, dextromethorphan, suppresses coughing by acting centrally in the medulla's cough center. Using dextromethorphan can also cause drowsiness, nausea, dizziness, and gastrointestinal distress. [18, 19] Since the precise mechanism of action of first-generation antihistamines' antitussive actions is unknown, diphenhydramine, an antihistamine, is also used as a cough suppressor [20, 21].

4. Natural cures:

Given that doctors advise against administering cough drugs to children under the age of four, natural therapies are particularly beneficial for young children. Additionally, they advise seeing your child's pediatrician prior to administering cough medication to children aged 4 to 7.

7. Few Ayurvedic Natural Home Remedies to Treat Coughs:

1. Tulsi

Tulsi is referred to as "The Queen of Herbs" and "Mother Medicine of Nature" in Ayurveda. Tulsi leaves strengthen a person's defenses against coughing and the common cold.

How it functions

By increasing the synthesis of antibodies, tulsi helps to stop infections before they start. Tulsi has the ability to relieve coughing. It facilitates the removal of sticky mucus from your cough, which helps to clear your airways.

2. Honey

Honey has several antibacterial qualities and is not only delicious but also relieves sore throats. It works well to suppress coughing.

How it operates

By facilitating the coughing up of thick mucus, honey relieves chest congestion. This lessens moist coughing.

3. Mulethi

Mulethi, commonly called licorice or "sweet wood," is a useful Ayurvedic cough remedy. Coughing, sore throats, and excessive mucus production in the airways can all be treated with mulethi powder.

How it operates

Mulethi possesses expectorant qualities. It makes the mucus in the airways thinner and more pliable. This lessens congestion and eases coughing.

4. Sonth

One of the key components of herbal cough syrups is dry ginger, sometimes referred to as sonth, sukku, or soonth. Sonth is a calming treatment for colds and coughs when taken with honey.

How it operates

Some of the chemicals found in sonth have anti-inflammatory qualities. Sore throats are lessened by doing this.

5. Cinnamon

One of the many health advantages of this woody, pungent spice is that it helps with coughing and colds. It works wonders for a sore throat in addition to relieving the common cold.

How it operates

It is well known that cinnamon has antiviral properties. This aids in combating the common cold virus. Additionally, it contains anti-inflammatory qualities that aid in relieving sore throats.

8. How can one use natural therapies to recover from an allergic cough?

Try breathing in steam from hot water to relieve congestion and calm your throat while you recuperate from an allergy cough. In addition to consuming warm herbal teas like chamomile or peppermint, honey might help soothe inflammation. Further irritation can be avoided by keeping the surroundings free of allergens like dust and pollen.

9. Which natural cures are available for smoker's cough?

The following natural remedies can help soothe and lessen irritation in the throat: honey, cinnamon, garlic, ginger, clove, cardamom, lemon, turmeric, onion, and licorice.

10. Which natural treatments are available for wet cough?

A few cups of ginger tea per day may help reduce throat inflammation while maintaining hydration, and honey helps soothe the throat, making it a natural remedy for a wet cough. Additional treatments include vitamin C, a steam bath, a steam inhaler, thyme and clove tea, a humidifier, and adequate hydration.

11. CONCLUSION

Cough is still one of the most prevalent clinical complaints, with a variety of underlying causes and severity levels. Accurate diagnosis and successful

treatment planning depend on knowing the differences between acute, subacute, and chronic coughs as well as how severe a chronic cough is. While traditional allopathic remedies like corticosteroids, bronchodilators, antitussives, and antihistamines provide quick relief and have a solid clinical track record, they can also have drawbacks such side effects and the potential for abuse.

Patients with chronic cough may have an improvement in cough intensity and cough-related quality of life while using HM as a monotherapy. Moreover, HM can considerably lessen the severity of coughs and the quality of life associated with coughs when taken in combination to prescription drugs.

However, a natural and frequently safer substitute is offered by herbal remedies and cough syrups, which are categorized as suppressants, expectorants, mucolytics, etc. These mixtures aid in the body's healing processes in addition to symptom relief. Furthermore, based on millennia of traditional knowledge, Ayurvedic treatments that include plants like Tulsi, sonth, mulethi, cinnamon, and honey have demonstrated great promise in treating colds and coughs.

When herbal and allopathic medicines are compared, it becomes clear that each system has special benefits. While herbal and Ayurvedic therapies provide a comprehensive, supportive approach with little side effects, making them appropriate for long-term use and for managing milder or chronic diseases, allopathic treatments are excellent at handling acute and severe situations with rapid symptomatic control.

In conclusion, there is a lot of potential for improving cough management overall with an integrative therapy approach that makes use of both contemporary allopathic medication and traditional herbal knowledge. In order to close the gap between traditional and modern approaches and eventually provide more efficient, patient-centered respiratory health care, more scientific research and clinical validation of herbal formulations are necessary.

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