

Formulation and Evaluation of Poly Herbal Capsule from Natural Herbs Used As Respiratory Stimulants

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ABSTRACT: Respiratory stimulants are a group of medications that can be administered to clients with Asthma, Chronic Obstructive Pulmonary Disease or COPD for short or Respiratory depression; as well as to treat apnea of prematurity. These are also used to stimulate respiration post anesthesia or treat respiratory condition. The benefit of most of these herb shaving built-in-immune-stimulating and inflammation-modulating effects means that they can help prevent immune overreaction to viral respiratory infection (VRI) reviewed in detail include *Azadirachta indica* (*A. indica*) - Neem, *Andrographis paniculata*- Bhui neem, *Curcuma* - Turmeric, *Ocimum sanctum* - Tulsi, *Syzygium aromaticum*- Clove, *Zingiber officinale* - Ginger

KEYWORDS: Antiviral, cough, cold,

Asthma, COPD, Covid-19

I. INTRODUCTION

An ancient Indian text states that “*aushdham ucchyathe sarvam*” which implants that food is the absolute cure and healer. Ayurveda is the traditional Indian medicines system that stimulate several herbs, roots and spices to boost immune system naturally. In ayurveda, species and herbs are used to cure long-standing health condition by eliminating metabolism condition and commonly term, as cleansers. Traditionally in India cuisine, herbs and spices are used in dish according to their ability to strengthen our immune system, which in turn, can project us form ailments and infections. A strong immune system helps the body fight against flu, disease-causing viruses, as well as bacteria.

People weak immunity are more susceptible to fall sick and their symptoms for any disease are more severe as compared to other.

The immune system helps to prevent death by producing antibodies by binding the antigen of infectious agent. The immune system defends against bacterial infection through frequently interacting and adaptive mechanisms. The immune system estimates the amino acid sequence space of potential of antibody's for identifying attacking pathogens. The adaptive immune system and two components of the innate immune system form the pervasive immune system. The innate system includes extrinsic defences like serum proteins, nonspecific phagocytic leukocytes, mucous membranes and the skin. This system is primary to build into cell that are located on the front lines of defence against bacterial invasions, including epithelial cell in the gut, lung b, skin, periodontium, nitrophilous and macrophages. The adaptic immune system take longer time to develop the response specifically. In fact, it provides us specific response against attacking organism after evolvement. As reported in the literature, different immune function parameter is affected by viruses including immunoglobulin levels, antibody generation and induction of immunological tolerance, graft – versus- host reaction, delayed type skin reaction, graft rejection, lymphocyte transformation, and phagocytosis.

The infection may begin with a dry cough, tiredness, headache, mild fever, and rarely diarrhoea, sore throat, nasal congestion or running nose. In severe cases the patient may experience high-grand fever, pneumonia, breathlessness, and severe acute respiratory syndrome. A good percentage of people remain asymptomatic. Diagnostic tests currently in use involve polymerase

chain reaction, serological assay, and rapid antigen test. a chest X-ray or CT scan can be helpful for detecting pathological changes in the lungs, so far,

Fig.01 Ocimum Sanctum Linn- Holy Basil

It is the main part of the plant that can retain carbon dioxide for a mind-blowing duration. It

Fig.2. Azadirachta indica

The plant product or natural products show an important role in diseases prevention and treatment through the enhancement of antioxidant activity, inhibition of bacterial growth, and modulation of genetic pathways. Neem ingredients are applied in Ayurveda, Unani, Homeopathy, and modern

Fig.3. Curcuma longa-Turmeric

Antioxidant and anti-inflammatory properties are the two primary mechanisms that explain most of the effects of curcumin on the various conditions discussed in this review. Curcumin has been shown to improve systemic markers of oxidative stress. There is evidence that it can increase serum activities of antioxidants such as superoxide dismutase (SOD).that it can increase serum activities of antioxidants such as superoxide dismutase (SOD).

Fig4.Zingiberofficinalis

Ginger the root of the plant that is globally one of the most used spice and medicinal agent. The plant is known as Sringavera in Sanskrit, and it is speculated that this term may have given way to Zingiberi in Greek and then to the Latin term Zingiber (*Vasala, 2004*).Preserved or 'stem' ginger is made from fresh young roots, peeled and sliced, then cooked in a heavy sugar syrup. The ginger pieces and syrup are canned together. They are soft and pulpy, but extremely hot and spicy. The aromatic constituents include zingiberene and bisabolene, while the pungent constituents are known as gingerols and shogaols.

no specific treatment is available for novel coronavirus -2019 and the patients have to be managed only with symptomatic treatment.

dischargesthe oxygen in the early morning which is useful for the individuals in the breathing disorders. medicine for the treatment of many infectious, metabolic, or cancer diseases. Different types of preparation based on plants, or their constituents are very popular in many countries in diseases management.

Fig 5. Trachyspermum ammi

Trachyspermum ammi L. (Apiaceae) is commonly famous as Ajwain. Ajwain, Trachyspermum ammi (L.) Sprague, is an erect yearly herb with striate stem, India and eastern Persia is the origin of this plant. The most useful element of ajwain is the little fruit like caraway, which always especially admired in Indian delectable recipes, flavourful baked goods, and snacks. In Ayurvedic meds, it is utilized as a restorative plant for its stimulant, carminative, antispasmodic, and tonic properties. It is likewise a typical home cure utilized for an assortment of health conditions, for example, stomach torment, issues, acid reflux, retching, and stomach distension, intestinal gas, and free stool, diarrhoea, breathing inconvenience and heaviness in the belly after dinner. One such plant Trachyspermum ammi, usually famous as Ajwain. It belongs to family Apiaceae. It generally grows all over India especially in Rajasthan & Gujarat based on its traditional use.

Fig6. Eugenia caryophyllata

Clove is mainly used for preparation of food. Clove oil is used for antimicrobial, antiviral, anti-inflammatory, anti-diabetes and antioxidant properties. Comprising of

about 1200 to 1800 species of flowering plants, which are widely distributed in tropical and subtropical areas of Asia, Africa, Madagascar, and throughout Pacific and Oceanic regions.

COMPOSITION OF CAPSULE

Ingredients	F1 (mg/capsule)	F2 (mg/capsule)	F3 (mg/capsule)
<i>Azadirachta indica</i>	2 mg	3 mg	3.5 mg
<i>Curcuma longa</i>	2 mg	2 mg	3 mg
<i>Ocimum sanctum</i>	4 mg	4 mg	6 mg
<i>Eugenia caryophyllata</i>	2 mg	2 mg	2 mg
<i>Zingiber officinalis</i>	2 mg	3 mg	3 mg
<i>Trachyspermum ammi</i>	2 mg	2 mg	2 mg
Other excipients	q. s	q. s	q. s

Organoleptic characters

Sr. No	Name of the Test	Observation
1.	Description	Yellowish brown contained in yellow cap
2.	Colour	Yellowish brown powder
3.	Odour	Pungent
4.	Taste	Bitter

Qualitative Chemical Tests

Chemical constituents	<i>A. indica</i>	<i>O. sanctum</i>	<i>C. longa</i>	<i>Z. officinalis</i>	<i>T. ammi</i>	<i>E. caryophyllata</i>
Glycosides	+	+	+	+	+	+
Flavonoids	+	+	+	+	+	+
Alkaloids	+	+	+	+	-	+
Saponins	+	+	+	+	+	-
Tannins	+	+	+	+	+	+
Steroids	+	-	-	+	-	-
Protein	+	+	-	-	+	-
Carbohydrates	+	+	-	-	+	+

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