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Sitopaladi Churna As Anti-Tussive: A Review

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Abstract

“SitopaladiChurna” is an Ayurvedic preparation used as an antitussive, analgesic and antipyretic. The present study reports on the anti-tussive activity of the macerated extract of SitopaladiChurna by comparison to other marketed formulations as well as reference drug Codeine phosphate using the acetic acid induced cough models in guinea pigs. The percentage inhibition of bouts of cough for in-house formulation was very significant compared to the standard as well as other marketed formulations. Thus the present study justifies the traditional claims of SitopaladiChurna in the treatment of cough.

Keywords: Sitopaladi churna, anti-tussive, Review.

Introduction

Ayurveda, the traditional Indian medicine is the great tradition with sound philosophical, experiential and experimental basis. As per the increasing demands for safer drugs, attention has been drawn for the quality, safety, efficiency and standards of Ayurvedic formulations.[1] Ayurvedic pharmacy advocates the use of quality control tests to make sure that the formulated products adhere to the standards mentioned in Ayurveda. Equality is critical determinant of safety and efficiency of herbal medicines. So there is a need for standardization, and development of reliable quality protocol for Ayurvedic formulation using modern techniques of analysis is extremely important.[2,3] W.H.O has appreciated the importance of public health and care in developing nations. Ayurvedic formulation prescribed for intercoastal neuralgia, cold, cough associated with bronchitis, pneumonia, viral respiratory infections, digestive impairments and in pharyngeal and chest congestions.[4-7] The investigation was carried out to develop the standardization parameters.

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Ingredients

Sitopaladi

Sitopaladi Churna is an Ayurveda medicine containing *cinnamomum zeylanicum*, *Elettaria cardamomum*, *Piperlongum*, *Bambusa bambos*, cane sugar, claimed to have an antihistaminic effect. It is used for upper respiratory congestion and bronchial conditions.[8]

Twak: cinnamon is a species obtained from the inner bark of the several tree species. Cinnamomum trees are 10–15 metres (30–50 feet) tall. The leaves are ovate-oblong in shape and 7–18 cm (3–7 inches) long. The flowers, which are arranged in panicles, have a greenish color and a distinct odour. The fruit is a purple 1-cm drupe containing a single seed. It is mainly used for sweet dishes, tea and traditional food and used to treat Diarrhoea, Gastrointestinal upset.[9]

Botanical name: *Cinnamomum zeylanicum*

Family: Lauraceae

Common name: True cinnamon

Kingdom: Plantae



Ela: cardamom is accept by their small seed vessel: three sided in cross-section and spindle-shaped, with a thin, papery outer shell and small, black seeds; Elettaria vessels are light green and smaller, while Amomum vessels are larger and dark brown. It is used to cure indigestion, nausea, Vomiting and used to expel out phlegm out of body.[10-12]

Botanical name: *Elettaria cardamomum*
Family:Zingiberaceae
Kingdom: Plantae



Pippali: The fruit of the pepper consists of many minuscule fruit – each about the size of a poppy seed - embedded in the surface of the flower spike that closely resembles a hazel tree catkin. It helps one lose weight, clears the skin, augments the metabolism, strengthens the bones, cures respiratory disorders.[13]

Biological Name: *Piper Longum*
Family:Piperaceae
Kingdom: Plantae



Vamsalochan:It is a tall, bright-green colored spiny bamboo species, which grows in thickets consisting of a large number of heavily branched, closely growing

culms. It reaches a height of 10–35 m and grows naturally in the forests of the dry zones. Used as anti-inflammatory, astringent, laxative, diuretic, anti-ulcer, anti-arthritis, anti-obesity and abortifacient activities.[14-15]

Botanical name:*Bambusa bambos*
Family:Poaceae
Subfamily:Bambusoideae
Kingdom : Plantae



Sitopala:Good for eyes, removes fatigue or tiredness, laxative, improves seminal fluid in males, improves strength, balances acid levels in the blood, treats vomiting and nausea.

Botanical name:*Saccharum officinarum*
Family:Poaceae
Kingdom: Plantae



Collection of Plant Materials

Commercially available brands of SPC [Baidynath Ayurveda Bhawan Pvt. Ltd., Kolkata, India (SPC-II) and Dabur India Ltd., New Delhi, India (SPC-III)] were procured from local market. SPC-I was prepared according to Ayurvedic Formulary of India by mixing equal parts by weight of each of the five ingredients of formulation.

Ingredients of Sitopaladi churna

Sanskrit Name	Plant Name	Plant Used	Quantity
Sitopala	Saccharum officinarum	Sugar Candy	40 gram
Vamsalochan	Bambusa bambos	Siliceous Concretion	30 gram
Pippali	Piper longum	Dried fruit	15 gram
Ela	Elettaria cardamomum	Dried seed	10 gram
Twak	Cinnamomum zeylanicum	Stem bark	5 gram

Manufacturing Materials

All the chemicals used in the experiments were of analytical grade. Acetic acid used in the experiment was procured from Nice Chemical Ltd. Cochin, India.

Plant Material

Sitopaladichurna containing cane sugar, *Piper longum* (dried fruit), *Cinnamomumzeylanicum* (stem bark), *Bambusabambos*, *Elettariacardamomum* (dried seed). All these ingredients were purchased from the local market.

Preparation of Sitopaladi Churna

In lab formulation of sitopaladichurna was prepared as per Ayurvedicformulatory of India. All ingredients are powdered individually in pulverizerand pass through 80# sieve. Each ingredients *Piper longum* (15gm), *Bambusa bambos* (30gm), *Elettaria cardamom* (10gm), *Cinnamomum zeylanicum*(5gm) and cane sugar (40gm) were weight separately, mixed together to obtain a homogeneous blend.[16]

Marketed Samples

Two marketed samples of various brands of SitopaladiChurna i.e. Dabur India Ltd. Rajasthan, Badyanathayurvedbhawanpvt ltd. Were collected and chosen for comparison of various activities.

Animals

Healthy guinea pigs of both male and female Saxes (500±150gm) were used in the study. Animals were maintained at 25 to 27°C with free access to laboratory guinea pig pellets and filtered tap water.[17]

Plant Extract

We prepared the different extracted formulation by maceration method. We took 50gm of each formulation and macerated it with 300ml of water and shake for 48

hours. Then we observed that solvent was removed under reduced pressure and get the crude extracts.[18]

**Health Benefits of Churna
Enhales Respiratory Problems**

Sitopaladichurna has been used to control fever related with flu, congestion, and other respiratory illnesses. Ayurveda uses sitopaladichurna for a range of respiratory problems from chest congestion, cold and flu to pneumonia, tuberculosis and bronchitis. This expectorant helps loosen and expel phlegm.[19] Its antioxidant and anti-inflammatory properties also help to control respiratory infections.

Sitopaladichurna's ability to mild a cough is especially worth noting. Ayurveda categorizes coughs into 5 categories: vata (dry cough with little mucus); pitta (cough with moderate, sticky mucus); kapha (cough with heavy mucus and congestion), ksataja (cough due to a chest injury); and ksaya (cough due to a chronic disease like TB).[20]And sitopaladichurna is a adaptable remedy that is recommended for all these kinds. Depending on the nature of the cough, it may be mixed with honey, water, or ghee or given alongside other herbal formulations. Animal studies established its ability to block cough. The anti-tussive activity of this medication is assign to its ability to effect the central nervous system and suppress a cough. This soft remedy is considered safe enough for children as well.[21]

Fights against allergies

While your immune system safe you from toxins, it may sometimes scare against what it distinguish as allergens. The result is an allergic reaction. Sitopaladichurna is used in ayurveda to treat allergies. And research confirm this traditional use. So how does it work? In people liable to allergies, the immune system responds to an allergen such as dust, dander, pollen etc. by releasing a chemical known as histamine. This is responsible for sign or symptoms like running nose, watery eyes, or bitter throat you experience during an allergic reaction. Animal studies show that sitopaladichurna has antihistaminic activity and can help you tackle allergies.It inhibits the release of

inflammatory mediators from mast cells in our body and stabilizes them. This, in turn, helps to control those classic allergy symptoms. [22]

Help in Digestion And Appetite

Sitopaladichurna is used to treat digestive problems. According to ayurveda, proper digestion has a critical role in preventing disease and maintaining health as improper digestion cause "ama" or toxins. The element of fire or "agni," which is present in 13 different forms within the body, is responsible for metabolism and digestion. Sitopaladichurna is believed to increase the digestive fire, improve appetite, as well as remove ama. Its carminative action may help with problems like gas and bloating.

Inflammation and Free Radicals Damage

Sitopaladichurna has vigorous antioxidant properties that may help fight the damaging effects of free radicals. Free radicals are made by your body as it produces energy from food. They are also produced via external agents such as cigarette smoke, toxins, alcohol, environmental pollution, processed foods etc. Free radicals can damage your DNA and cells and are indicative in the aging process as well as a wide range of diseases like diabetes, heart disease and cancer. Sitopaladichurna may avert this thanks to its antioxidant capacity. Animal studies of sitopaladichurna show that the churna can fight chronic inflammation, which is again damaging to your body, by inhibiting the release of inflammatory mediators in the body. This binary action means that sitopaladichurna can work to improve your general health [23]

Useful to Improve Anemia

Anemia can leave you short of breath, cold, dizzy, tired and irritable. And iron deficiency is the most common cause of this condition. While supplements are commonly used to improve nutritional deficiencies that lie at the root of anemia, ayurvedic remedies like sitopaladichurna can help too. In one study, teenage children were put on an ayurvedic treatment plan that included sitopaladichurna and another ayurvedic formulation known as sootshekhar rasa. Sootshekhar rasa is a herbo-mineral preparation that contains copper, mercury, silver, bhringraj, cinnamon, ginger etc. This combination was found to be effective in improving nutritional anemia. How does it work? The researchers attributed it to the formulation's ability to increase the absorption of iron by the body. [24]

Recovery With A Migraine

Migraine is a common health condition, affecting around 1 in 5 women and around 1 in 15 men. They usually begin in early maturity. One study manipulated an ayurvedic treatment plan on subjects that included

taking sitopaladichurna and four other medicinal formulations, namely narikellavan, sootshekhar rasa, rasonvati and godantimishran, along with lifestyle changes which include a healthy diet, sufficient sleep and exercise.

Fight with Diabetes

Sitopaladi churna may have the capability to help you manage diabetes. Your digestive system commonly breaks down carbohydrates into sugar which then enters the blood and causes an increase in blood sugar. Complex carbohydrates need to be broken down by the digestive enzyme amylase and other secondary enzymes before they are absorbed. In vitro studies show that sitopaladi churna has strong α -amylase inhibition activity. Amylase inhibitors are important substances that can help to prevent the body from absorbing these starches, thus prevent the spike in blood sugar after meals and controlling postprandial hypoglycemia. Further animal and human studies will help to confirm sitopaladichurna's role as a natural treatment option for diabetes.

Sitopaladichurna is not known to have any major side effects and is considered safe for children and pregnant women. Some experts suggest that you don't take it on an empty stomach, especially if you are prone to gastric problems. Your safest bet is to consult an ayurvedic practitioner and take the remedy only in prescribed doses. [25-26]

Conclusion

Sitopaladichurna is presently used for the treatment of cough and it is justified by the traditional claims. Specific antagonists using in the same experimental model for the confirmatory studies and study of action of the extracts on the central nervous system proves this mechanism conclusively

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