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A review of the preparation and evaluation of herbal nasal spray

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Abstract

Tulsi (Holy Basil) is widely used in traditional medicine to treat allergy, common cold, and associated respiratory diseases. The Tulsi distillate from the Tulsi herb is generally claimed to play a major role in the efficacious treatment of respiratory disease conditions. The purpose of the present study is to evaluate Tulsi distillate from different methods to prepare herbal nasal spray. An intranasal delivery system from the Tulsi distillate in an aqueous solution is used in the form of a nasal spray. Tulsi distillate, saline, sodium benzoate, eucalyptus oil, glycerine, purified water. From 250 g Tulsi was distillate in the amount of about 0.2 ml, which was slightly water-soluble and viscous. Different evaluation parameters were performed like sterility, visual appearance and stability.

Keywords: Tulsi, respiratory diseases, *Ocimum tenuiflorum*

Introduction

Nasal sprays are liquid medicines you spray into your nose. They are used to help relieve congestion (stiffness) in your nose. Congestion is often a symptom of a cold or allergies. Nasal sprays are available as either over the counter or as prescriptions. Also, they come in two types of containers: pressurized canisters and pump bottles. Nasal sprays are used to deliver medications locally in the nasal cavities or systemically. They are used locally for conditions such as nasal congestion and allergic rhinitis. In some situations, the nasal delivery route is preferred for systemic therapy because it provides an agreeable alternative to injections or pills. Substances can be assimilated extremely quickly and directly through the nose. Many pharmaceutical drugs exist as nasal sprays for systemic administration (e.g. sedative-analgesics, treatments for migraine, osteoporosis and nausea). Other applications include hormone replacement therapy, treatment of Alzheimer's disease and Parkinson's disease^[1].



Fig 1: Herbal Nasal Spray

Herbal Nasal Spray

Nasal hygiene spray or saline spray for nasal irrigation is recommended as part of the management of Allergic Rhinitis. Studies have shown reduction in nasal symptoms when it is added to a nasal steroid regimen. When used alone, it provides gentle, non-medicated relief by cleansing, hydrating and irrigating nasal passages. It effectively manages and relieves allergy symptoms that may be caused by: Mold, pollen, dust mites, or pet dander often trigger allergies when you breathe them in and nasal hygiene spray can relieve cold-like respiratory flare-ups such as sneezing, runny or blocked nose.

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If you're sick with the common cold, flu, or sinusitis, nasal hygiene spray can be a supplement to your management plan. Use a nasal hygiene spray to relieve nasal congestion, itchiness, swelling, or sinus pressure or sinus pain related to these conditions [2-6].

Plant Profile

Tulsi (Holy basil) is member of family is the most significant medical plant mentioned in ayurvedic creative writing for its medicinal and religious properties. The root, seed, and leaves are majorly used due to it's therapeutically properties.



Fig 2: Tulsi (Holy Basil)

Physical Properties

Table 1: Physical Properties of Tulsi

Synonyms	Holy basil, Tulasei, Tulsi, Tulasi
Biological sources	Tulsi consists of the fresh and dried leaves of Ocimum species like Ocimum sanctum L. and Ocimum basilicum L. etc.
Family	Lamiaceae
Class	Magnoliopsida
Odour	Lamiales
Colour	Green
Taste	Astringent
Species	<i>Ocimum canum</i> (Ram Tulasi or kali Tulsi), <i>Ocimum kalimand</i> , <i>Ocimum scharicum</i> .

Medicinal uses

Fever and Common cold

The leaves are used in many types of fevers. In the duration of rainy season, when dengue and malaria fever is speeded all over the areas then its leaves are used as a prevalent method, as leaves are boiled with tea and given to patients.

Coughs: It is a main ingredient in many Ayurvedic cough syrups and other kind of dosage forms because they help in release mucus in respiratory disorders.


Sore Throat: Leafs of this plant are boiled with water and given to a patient with sore throat illness. This extract also used as a gargle.

Respiratory Diseases: Tulsi is very good herb to cure the asthma and other swasa diseases.

Kwath of leaves with ginger and honey is very good and effective home remedy used for all kind of respiratory disorders and cold. This extract with the mixture of laving and laving shows instant aid in influenza.

Evaluation Parameters

Table 3: Evaluation Parameters

Sr. No.	Evaluation Parameters	Outcome	Result
1.	Visual appearance, Clarity		Colorless, Satisfactory





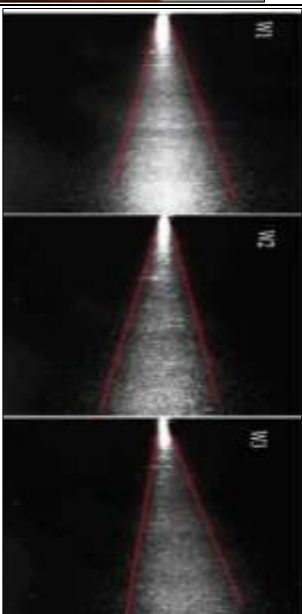
Skin Disorders: Application of Tulsi juice can helps to treat the fungal infection and other types of skin disorders, It can also used to cure leucoderma.

Boosts immunity: Tulsi has immune-boosting properties and is known to help fight infections caused by virus, bacteria and fungi. It help to increase the production of antibodies, white blood cells, and interferons, which are vital components of the immune system.

Preparation of nasal spray

Table 2: Preparation of Nasal Spray

Sr. No.	Ingredients	Quantity
1	Tulsi distillate	0.3 ml
2	Sodium benzoate	0.015 ml
3	Saline (levana)	0.097 ml
4	Eucalyptus oil	0.45 ml
5	Glycerine	3.4 ml
6	Purified Water	Q.s.

2.	pH		5.5
3.	Sterility		Sterile and free from contamination of microorganisms
4.	Stability		Stable for two months
5.	Pump delivery		0.6 ml / spray
6.	Spray content uniformity		

Result

This invention relates to an improved herbal-based decongestant nasal spray which includes known constituents in specific ratios. They work to very quickly open up nasal passages by constricting blood vessels in the lining of the nose. The preservatives, antioxidants, excipients (e.g., sodium benzoate, saline solution, Eucalyptus oil) are used in this formulation, there are components with associated acceptance criteria in at a concentration of 0.10 percent or 1.0 milligram per day.

Conclusion

After conducting extensive research and analysis, it can be concluded that the preparation of a new Tulsi nasal spray holds potential benefits for individuals seeking natural remedies for nasal congestion and respiratory issues. The use of Tulsi in a nasal spray form offers several advantages. Incorporating Tulsi into a nasal spray, it can help combat nasal congestion, and infections in the nasal passages and reduce the risk of respiratory illnesses. In addition to its therapeutic properties, Tulsi nasal spray offers a convenient and easy-to-use method for delivering the beneficial compounds directly to the nasal passages. Nasal sprays provide localized treatment by delivering the medication directly to the affected area, ensuring maximum effectiveness.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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