



## **Scientific validation of nasal applications in Siddha system**

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### **Abstract**

Siddha system of medicine is the most ancient and spiritually enriched one. There are two procedures of drug administration namely Agamarunthu- Internal medicine, Puramarunthu- External therapies. They are 32 each in number. External therapies are as important as internal medicine in the management of health and diseases. These therapies are classified into Topical applications, nasal applications, ophthalmic applications, blood-letting, surgical procedures etc., based on their route of administration. Among these treatment methods nasal applications (nasiyam, naasigabaranam, oothal)helps to treat many diseases like sinusitis, nasal polyp, rhinitis, bronchial asthma etc. This article explains the methods of application, probable mechanism of action and some siddha formulations about nasiyam-nasal drops, naasigabaranam-nasal insufflations, oothal -blowing.

**Keywords:** External therapies, Nasal applications, Mechanism, Formulations by siddhars.

### **Introduction**

In ancient times drugs have been administered through nasal route for therapeutic and recreational purposes. Intra nasal administration of drugs offers an interesting alternative for achieving systematic and therapeutic effects of

drugs that are comparable to the other parenteral route which can be inconvenient at times.

There are three main types of nasal applications administered in siddha.

*Nasiyam* - Nasal drops

*Naasigabaranam* - Nasal insufflations

*Oothal* – Blowing

***Nasiyam* - nasal drops:**



*Nasiyam* is one of the simplest and most convenient delivery system among all formulations. It is the key treatment procedure for bringing a balance in *mukkutram*. It is usually done in the case of deranged *kabam* particularly for the head and neck disorders. Some prepared medicines are used as nasal drops dissolving them in breast milk or fresh plant juice.

#### **Method of applications**

To instill the nasal drops patient should sit in an upright position with the head and noses tilted

slightly back and maintain that position for two to three minutes. patient has to undergo gentle massage over the head ,forehead, and face then instill the drops into each nostril.

#### **Dose:**

**(4-10 DROPS)** depends upon the medicines used for *nasiyam*.

#### **Duration: 7-14 Days**

| S.no | <b>Formulations for nasiyam</b>                             | <b>Indications</b>   |
|------|---|--|
| 1.   | <i>Occimumgrattismum</i><br>-( <i>karunthulasi</i> ) juice. | Controlling cough.   |
| 2.   | <i>Peenisathylam.</i>                                       | sinusitis  |
| 3.   | <i>Naasiroganasathylam.</i>                                 | Sinusitis, other kaba diseases.<br>( <i>theraiyar thyla varka churukkam</i> .) |

|    |   |   |
|----|---|---|
| 4. | Equal quantity of<br>➤ <i>Punica granatum-Madulai</i><br>➤ <i>Callotropis giganteae-Erukam</i><br>➤ <i>Crocus sativus-kunguma poo</i><br>are triturated in breast milk.   | Sinusitis<br><i>(Pulipaani-500)</i>                 |
| 5. | Equal quantity of<br>➤ <i>Dry Zingeber officinale-Chukku</i><br>➤ <i>Alum-Seenakaram</i><br>➤ <i>Borneol –Pachai karpooram</i><br>➤ <i>Crocus sativus-Kumgumapoo</i><br>are triturated with breast milk& Six drops instilled in each nostril. | <i>Treat kabam</i><br><i>(Agathiyan Ayulvetham)</i> |

#### ***Naasigabaranam (nasal insufflation):***



Raw drugs are powdered or soaked in milk or herbal juices, dried made into a fine powder and applied into the nostril.

It is used in the treatment of derangement of *Mukkutram* and also it treats Delerium, Epilepsy, Psychiatric illness, Sinusitis, Glaucoma, Tinnitus etc.

#### **Method of application:**

Take a pinch of medicated powder placing in between the Thumb and Forefinger & gently intake through each nostril.

| S.no | Formulations  | Indications  |
|------|---|--|
| 1.   | Dry ginger powder   | Treat headache.  |
| 2.   | The Roots of<br>➤ <i>Solanum tarvum-Chundai</i><br>➤ <i>Leucas aspera-Thumbai</i><br>are powdered and dried under sun& mixed with<br>➤ Oilcakes of <i>Maduka longifolia-Ellupai</i> used<br>for instillation. | Treat headache & detoxify<br>the affected <i>Mukkutram</i> |

### Oothal-blowing :



Some medicated substances chewed and blown by the physician, in to the ear and nose of the patient.

**OOTHAL-** One of the treatment used to revive unconscious patients.

This type of administration is used extensively in varmam treatment and in poisonous bites.

### Method of application

The physicians chew the medicated substance and blow the powder into the nostril of the patient. Nowadays instead of blowing directly tubes are used for blowing.

| S.No | Formulations       | Indications                 |
|------|--------------------|-----------------------------|
| 1.   | Dry ginger blowing | Revive unconscious patients |
| 2.   | Trikadugu powder   | To regulate mukkutram,      |

**Other types of nasal drug administration:**

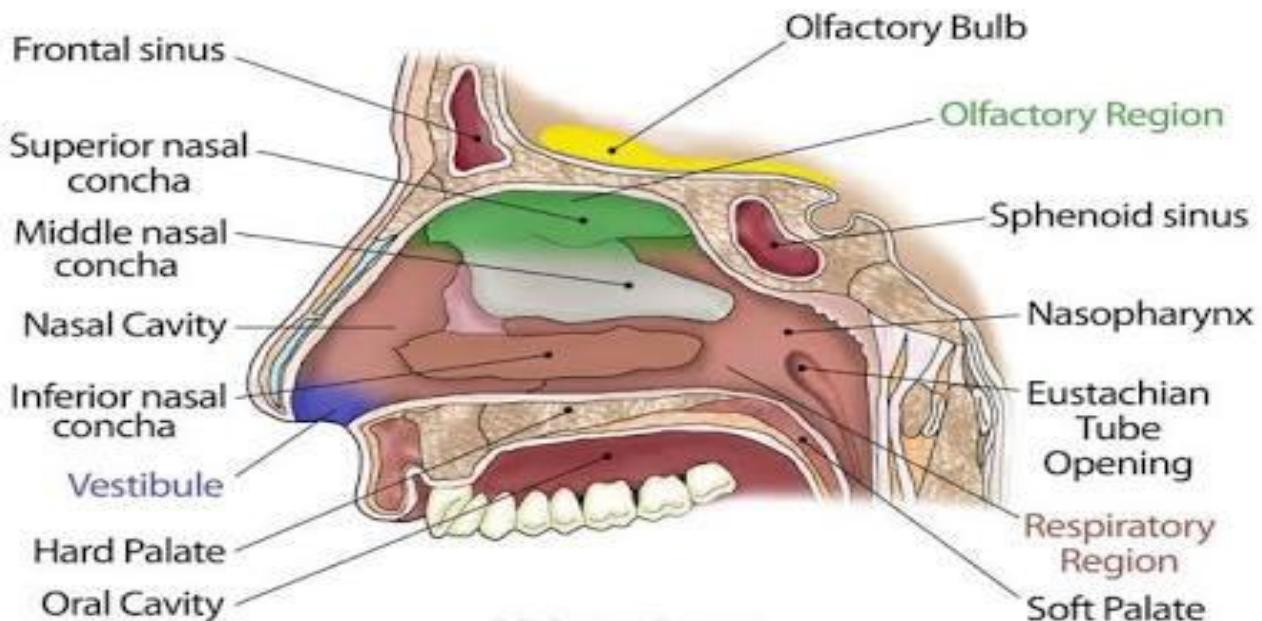
**Pugai:** Patient is made to inhale medicated fume.

(Ex): *chukku thiri pugai*.-Treat head ache.

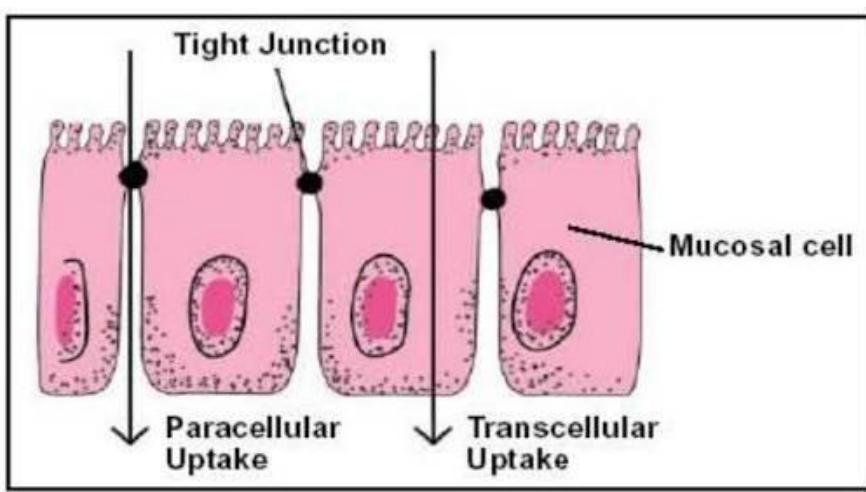
**Neeravi pidithal:** Patient is made to inhale steam from boiled medicated water.

**Mechanism of drug absorptions in nasal applications:**

## Nasal Cavity



Several mechanisms have been proposed but the following two mechanisms have been considered predominantly.



| Aqueous route<br>(Para cellular route)   | Lipoidal route<br>(Trans cellular route)  |
|--|---|
| <ul style="list-style-type: none"> <li>➤ Slow and passive.</li> <li>➤ Inverse log- log correlation between intranasal absorption and molecular weight of water- soluble compounds.</li> <li>➤ Poor bioavailability was observed for drugs with a molecular weight greater than 1000daltons.</li> </ul> | <ul style="list-style-type: none"> <li>➤ Responsible for the transport of lipophilic drug.</li> <li>➤ Drugs across cell membranes by an active transport route via carrier mediated means or through the opening of tight junctions.</li> </ul> |

Nasal mucosa is the perfect site for Bioadhesive drug delivery system, Liposomes have good bioadhesive characteristics. thus siddha formulations which are having phospholipid components will easily absorb by nasal mucosa.

### Advantages of nasal drug delivery system

1. A non invasive route.
2. Hepatic first-pass metabolism is absent.
3. Rapid drug absorption.
4. Quick Onset of action.
5. Better Nasal bioavailability for smaller drug molecules.
6. Convenient route when compared with parenteral route for long term therapy.

### Limitations

1. The absorption enhancers used to improve nasal drug delivery system may have histological toxicity which is not yet clearly established.

2. Absorption surface area is less when compared to GIT.
3. Once drug administered cannot be removed.
4. Nasal irritations.

### Contraindications for nasal medications:

- ❖ Pregnancy.
- ❖ Immediately after taking food
- ❖ Indigestion
- ❖ Bleeding disorders
- ❖ Fever
- ❖ AGE: Below 7 yrs. And above 80 years.

### Conclusion

Nasal drug delivery offers benefits such as Rapid onset of action with lower dose and minimal side effects. It enhances the activity of sense organs, It can be used as preventive therapy, curative therapy, rejuvenation therapy.

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