



Exploring The Therapeutic Outcomes Of Jal Neti In Addressing Chronic Maxillary Sinusitis: A Review Article

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ABSTRACT: -

The *shat karmas* are six sets of purifying rituals as described under *hatha yoga*. It includes *Dhauti, Basti, Neti, Trataka, Nauli and Kaphalabhati*. It should be practiced when *medas* and *kapha* are in excess. *Shat karma* practices are thought to help balance both the *sharir* and *manas doshas*. One of the essential components of *shat karmas*, or the six purifying practices that make up the core of *hatha yoga*, is *neti kriya*. When this *neti* is performed using water this is called as *jala neti*. The aim of this process is to purify the nasal tract. This way *Jala Neti* rinses mucosal lining and helps add moisture inside the nose to dissolve and soften thick or crusty mucus. *Jal neti* is generally followed by *Kaphala bhati* which also aids in removal of residual water from the upper respiratory tract, beside this it also helps in proper cleaning and aeration of the upper respiratory tract. An endeavor is being made to collect and examine articles highlighting the therapeutic benefits of *neti kriya*. Databases like PubMed, Scopus, and Ayush Portal were searched. For the search, we utilized keywords like *jala neti*, *neti kriya*, *neti*, as well as terms like *yoga*, *sinusitis*, *rhinitis*, *common cold*, *vision*, *snoring*, and *mental health*. *Sinusitis* is one of the most common disease encountered routinely in general practice among the population. Our sinus cavities get clogged with impurities which can cause infections, headaches, and inflammation. *Jal neti* plays an important role in the drainage of collection present in maxillary sinus. Luke warm water leads to vasodilatation, increase phagocytosis and NACL help in conversion of thick mucus into thin secretion. The aim of this review article is to showcase the therapeutical effect of *jala neti* in chronic maxillary sinusitis.

KEYWORDS: - *jala neti*, *shat karma*, chronic maxillary sinusitis.

INTRODUCTION: -

It is truly emphasized by *Ayurveda* that health is not only the state of not having any disease but it is the state of normal balance of *Doshas*, *Dhatus*, *Agni*, *Malakriya*. Whenever the balance between these *Doshas* is disturbed, a disease may occur. Now a days, people have sedentary life style and the quality of living hampers their lifestyle and due to this they face imbalance of *doshas* which lead to development of disease. *Sinusitis* is one of the most common diseases encountered routinely in general practice with incidence rate of 15% among the population. Its prevalence rate increased due to increase in *RajoDhoomasevana* (atmospheric pollutants), *Purovatasevana* (exposure to wind currents), *Ambukakrida* (swimming), *Sheeta*, *Madura*, *guru*, *snigdha ahara*. Exposure to cold and flu also have increased this condition.

Sinusitis is the inflammation or swelling of the tissue lining the sinuses. Sinuses are hollow cavities in the skull, and when they become blocked and filled with fluid, it can lead to an infection. This condition can be acute (short-term) or chronic (lasting for an extended period). Common symptoms include facial pain or pressure, nasal congestion, discolored nasal discharge, and difficulty breathing through the nose. Sinusitis can be caused by various factors, such as viral or bacterial infections, allergies, or structural issues in the nasal passages.

MATERIAL AND METHODS: -

ACUTE SINUSITIS: -

It refers to the sudden onset of inflammation and swelling of the sinus lining, typically caused by a viral or bacterial infection. The sinuses are air-filled cavities located within the bones of the face and skull. When the nasal passages leading to the sinuses become blocked, mucus can accumulate, leading to infection and the characteristic symptoms of sinusitis. Common symptoms of acute sinusitis include-

- ✓ Facial pain or pressure: Often felt around the forehead, eyes, and cheeks.
- ✓ Nasal congestion: Difficulty breathing through the nose due to swelling and mucus buildup.
- ✓ Discoloured nasal discharge: The mucus may be green or yellow.
- ✓ Coughing: Especially at night.
- ✓ Fatigue: Feeling generally tired or unwell.
- ✓ Headache: Typically located around the forehead or behind the eyes.

CHRONIC SINUSITIS: -

Chronic sinusitis is a long-term inflammation of the sinuses, which are air-filled cavities in the bones of the face and skull. Unlike acute sinusitis, which is often caused by a viral or bacterial infection and has a more sudden onset, chronic sinusitis persists for an extended period—usually for 12 weeks or longer, despite medical treatment.

- ✓ Persistent Symptoms: Symptoms such as nasal congestion, facial pain or pressure, discoloured nasal discharge, and reduced sense of smell persist over an extended period.
- ✓ Recurrent Episodes: Individuals with chronic sinusitis may experience recurrent episodes of acute exacerbation, where symptoms worsen temporarily.
- ✓ Tissue Swelling: Prolonged inflammation can lead to thickening of the sinus lining and may cause structural changes in the sinuses.
- ✓ Reduced Quality of Life: The persistent nature of chronic sinusitis can impact a person's quality of life, leading to fatigue, irritability, and difficulty concentrating.
- ✓ Potential Causes: Chronic sinusitis can be caused by various factors, including persistent infections, nasal polyps, deviated septum, or allergic reactions.

Chronic maxillary sinusitis is suspected of being caused by impaired paranasal sinus ventilation and drainage disorders. Women appear to be at higher risk than men.

In *Ayurveda*, *Shatkarma* refers to a set of six cleansing techniques that aim to purify and detoxify the body. These practices are considered essential for maintaining balance in the *sharir and manas doshas* and promoting overall well-being. The term "*Shatkarma*" is derived from the Sanskrit words "*Shat*," meaning six, and "*Karma*," meaning action.

The *shatkarma* are-

- I. *Neti*: Nasal cleansing using a saline solution to clear the nasal passages.
- II. *Dhauti*: Various techniques for cleansing the digestive tract, stomach, and esophagus.
- III. *Nauli*: Abdominal churning to massage and cleanse the internal organs, particularly the digestive organs.
- IV. *Basti*: Enema or colon cleansing to eliminate toxins and promote healthy bowel function.

V. *Kapalbhati*: A breathing technique involving rapid, forceful exhalations to cleanse the lungs and invigorate the mind.

VI. *Trataka*: Gazing at a fixed point, often a candle flame, to enhance concentration and purify the eyes.

Some of the commonly cited benefits include-

- ✓ Detoxification: *Shatkarma* practices help eliminate toxins and impurities from various organs and systems in the body, promoting a cleaner and healthier internal environment.
- ✓ Improved Digestion: Certain techniques, such as *Nauli* and *Dhauti*, focus on cleansing and strengthening the digestive organs, potentially enhancing digestion and nutrient absorption.
- ✓ Respiratory Health: Practices like *Neti* and *Kapalbhati* aim to cleanse and strengthen the respiratory system, improving lung capacity and promoting respiratory well-being.
- ✓ Balancing Doshas: *Shatkarma* practices are thought to help balance the *sharir* and *manas doshas*, contributing to overall *Ayurvedic* constitutional balance.

Among the six traditional *Shatkarma* practices of *hatha yoga*, *Neti* is considered as the most important *yoga* practices for the prevention and management of upper respiratory disorders. The underlying mechanism for the reported benefits of saline nasal irrigation (*Jalaneti*) may be also due to the property of water used in *Jalaneti*. The warm saline water helps to add moisture inside the nose to dissolve and soften thick or crusty mucus from the sinuses. It also can whisk away bacteria, thin mucus, and cut down on postnasal drip. Due to gravity and a venturi-effect, the sinus passages are also drained by the vacuum pressure flow of the water. The post *Jalaneti* procedure of active and forceful exhalation through nasal cavity also helps in elimination of the remaining water and sticky mucus out of nasal cavity.

PROCEDURE OF JALANETI: -

Preparation: -

- A special neti lota, 'neti pot' made of copper was used.
- The nozzle on the end of the neti pot fit comfortably into the nostril so that the water did not leak out.
- The water was pure, at body temperature and was thoroughly mixed with salt i.e. 3gm per half liter of water. The addition of salt made the osmotic pressure of the water is equal to that of the body fluids, thereby minimizing any irritation to the mucous membrane.

Washing the nostrils: -

- Neti pot was filled with the prepared salt water
- The patient had seated in *Kagasana*, then they lean forward and tilted the head to one side. • Patient had breathed through the mouth during the process.
- The nozzle was inserted gently into the uppermost nostril.
- The nozzle pressed firmly with no force involved against the side of the nostril so that no water leakage occurred.
- Neti pot was tilted in such a way that water runs into the nostril, mouth was kept open during this process.
- Elbow of the hand was raised which holds the neti pot and the body position was adjusted so that the water flows out through the lower nostril.
- When 250 ml water had passed through the nozzle was removed from the nostril, then the head position was centered and let the water ran out of the nose.
- Mucus was removed from the nose by blowing gently.
- Head was tilted to the opposite side and the process was repeated on another side of nostril, when this process was completed, the nostrils were dried thoroughly.

Drying the nostrils: -

- The patient was standing in erect posture than right nostril was closed with the right thumb and breathed in and out through the left nostril in quick succession 10 times, as in Kapalbhathi Pranayama. • Same process was repeated through the right nostril, with the left nostril closed.
- Waist was bended forward so that the trunk was horizontal.
- The same process was repeated as described above, but the head was tilted to the right after closing the right nostril.
- Same process was repeated again, tilting the head to the left and closing the left nostril.
- Finally, the head was in centered position and process was repeated with breathing through both nostrils.
- Standed erect with the feet was apated, right nostril was closed and exhaled forcefully while bending forward rapidly from the waist and inhaled normally while returning to the upright position. Process was repeated 5 times and vice versa and then with both nostrils open.

Precautions in jala neti: -

- The water should only pass through the nostrils, if any water enters the throat or mouth, it causes no harm, but indicates that the position of the head needs to be adjusted.
- The nose is properly dried after the practice, otherwise the nasal passages and sinuses may become irritated and manifest the symptoms of a cold.
- The mouth should be kept open and breathing should be done from mouth in entire Jala Neti Process

DISCUSSION: -

Jalaneti is a basic nasal lavage method that clears the nasal passages with lukewarm isotonic saline water. *Neti* is one of the six cleansing techniques suggested to get the body and mind ready for more advanced stages of *yoga*. It comes from the literature of *yoga* and is mentioned in relation to *shatkarma* (six procedures). Because of *jalaneti's* positive effects in cases of acute and chronic sinusitis, nasal polyps, and upper respiratory tract infections, doctors, ENT experts, and veterinarians have given it enough attention in recent years. Some of these are as follow- A study has been done to determine the effect of nasal irrigation on sinonasal symptoms. A total of 150 adult subjects with chronic sinusitis symptoms were recruited from the community and assigned to 1 of 3 treatment groups: nasal irrigation with bulb syringe, nasal irrigation with nasal irrigation pot, or control treatment with reflexology massage. Groups 1 and 2 performed daily hypertonic saline irrigation with 1 device for 2 weeks and then with the other device for 2 weeks. Group 3 performed reflexology massage daily for 2 weeks. Prospective data collected included pretreatment Medical Outcomes Study Short Form, pretreatment and posttreatment Rhinosinusitis Outcomes Measure, daily medication use, subjective treatment efficacy, and preference of irrigation method. A study to evaluate the effectiveness of normal saline nasal irrigation in the management of acute sinusitis in children. It included 69 participants with acute sinusitis. 30 of 69 participants underwent normal saline nasal irrigation. 39 of 69 participants were not receiving nasal irrigation.

To review clinical evidence on the efficacy of saline nasal irrigation for treatment of sinonasal conditions and to explore its potential benefits. Flushing the nasal cavity with saline solution promotes mucociliary clearance by moisturizing the nasal cavity and by removing encrusted material. The procedure has been used safely for both adults and children, and has no documented serious adverse effects. Patients treated with nasal irrigation rely less on other medications and make fewer visits to physicians. To determine if isotonic sodium chloride (hereinafter "saline") nasal irrigations performed with large volume and delivered with low positive pressure are more effective than saline sprays at improving quality of life and decreasing medication use. Total of 127 adults with chronic nasal and sinus symptoms were selected. Interventions -Patients were randomly assigned to irrigation performed with large volume and delivered with low positive pressure (n = 64) or spray (n = 63) for 8 weeks.

CONCLUSION: -

Daily nasal irrigation using either a bulb syringe, nasal irrigation pot, and daily reflexology massage were equally efficacious and resulted in improvement in the symptoms of chronic sinusitis in over 70% of subjects. Medication usage was decreased in approximately one third of participants regardless of intervention. All participants were requested to record the symptom diary card every day and were followed-up every 1 week during this period. A physical examination, nasal smear and nPEFR were performed at each visit, and all daily diary cards collected. This study evidence that normal saline nasal irrigation improves Pediatric Rhinoconjunctivitis Quality of Life and decreases acute sinusitis symptoms. Nasal irrigation is an effective adjunctive treatment for pediatric acute sinusitis. Normal saline nasal irrigation in atopy children also improves allergic-related symptoms. We may need larger, longer and extended study to assess the conclusion. Nasal irrigation is a simple, inexpensive treatment that relieves the symptoms of a variety of sinus and nasal conditions, reduces use of medical resources, and could help minimize antibiotic resistance. Nasal irrigations performed with large volume and delivered with low positive pressure are more effective than saline sprays for treatment of chronic nasal and sinus symptoms in a community-based population.

Jalaneti is helpful in treating sinusitis, most likely because of its cleaning function, which is a result of its warmth and ability to enter deeper sinuses than other medications can. The primary *Shodhana* procedure is using *jalaneti*, as it has the ability to eliminate deeply ingrained *Doshas* and treat them from their source. The *Laghu Tikshna Guna of Saindhava Lavana* disperses through channels and eliminates the accumulated *Doshas*. Warm salt water has anti-inflammatory properties that function as a vasodilator, local cleaner, and immunity booster because of its presence. It provides a calming effect that aids in headache prevention. Additionally, because of its antibacterial qualities, it stops the spread of the disease and stops subsequent infections. By clearing all of the mucus from the clogged nasal passages, *Jala neti* allows a person to breathe freely and deliver more oxygen to their lungs without obstruction.

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