

Effect of Steam Inhalation on Strep Throat

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Abstract:- Strep Throat is a bacterial infection that can inflame and hurt the throat. Strep throat causative organism Streptococcus pyogenes (Group A Streptococcus) is an important species of gram-positive extracellular throat bacterial pathogens. It is characterized by sore throat, including swallowing Pain, fever, red and swollen tonsils, tiny red spots on the roof of the mouth, and swollen lymph nodes in the front of the neck. It's an airborne infection that spreads through respiratory droplets through sneezes or coughs. To overcome the Strep Throat infection, Steam Inhalation with Tulasi, Neem, Turmeric, Nochi leaves, and Common salt is given to the infected patients. This study is done at Sree Ramakrishna Medical College Hospital of Naturopathy and Yogic Sciences, Kulasekharam. The sample of 30 patients aged 10 to 14 years for 7 days. Herbal Steam Inhalation helps for a speedy recovery from the Strep Throat Infection. The Strep throat-infected patients got the result of 98% cure from their symptoms.

Keywords:- Streptococcus, Steam Inhalation, Tulasi, Neem, Nochi Leaves, Common Salt.

I. INTRODUCTION

Strep Throat is a bacterial infection that can inflame and hurt the throat. Strep throat causative organism Streptococcus pyogenes (Group A Streptococcus) is an important species of gram-positive extracellular throat bacterial pathogens. The current study tells that about 288 million people affect Strep A sore throat among children from 5 to 14 years each year

globally. Strep throat is spread by contacting each other's saliva or nasal secretions. Group A Strep throat incubation period is approximately 2 to 5 days. Streptococcus bacteria adhere to the pharyngeal mucosa and invade the mucosal tissue by producing various proteases and cytolysins, causing inflammation. It is characterized by sore throat, including swallowing pain, fever, red and swollen tonsils, tiny red spots on the roof of the mouth, and swollen lymph nodes in the front of the neck. Steam Inhalation with Tulasi, Neem, Turmeric, Nochi leaves, and Common salt is given to the infected patients. The chemical constituents present in the given herbs act as Anti-microbial and anti-inflammatory properties.

II. MATERIALS AND METHODS

➤ Materials

Steam Inhaler, Water, Tulasi, Neem, Turmeric, Nochi leaves, and Common salt.

➤ Methods

This study includes 30 patients aged 10 to 14 years for 7 days. The parameters used in this study are symptomatic changes. This study is done at Sree Ramakrishna Medical College Hospital of Naturopathy and Yogic Sciences, Kulasekharam. This study takes around six months for the patients to be treated and analyzed on different days. During the investigation, patients were hospitalized for 7 days for treatment. Steam Inhalation is given for 2times per day (morning and Evening).

Table 1 one week's Temperature chart of the patients in Fahrenheit.

| SL. NO | DAY 1 | DAY 2 | DAY 3 | DAY 4 | DAY 5 | DAY 6 | Day 7 |
|--------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 102 | 101 | 97.4 | 98.2 | 97.6 | 98 | 97.8 |
| 2 | 100 | 97.3 | 97.2 | 97.5 | 97 | 98.6 | 97 |
| 3 | 101.2 | 98.2 | 97 | 97.2 | 97 | 97 | 97.2 |
| 4 | 102 | 100 | 98 | 97.2 | 97 | 97 | 97.2 |
| 5 | 103.2 | 101 | 98.8 | 97.5 | 97.2 | 97 | 97 |
| 6 | 103 | 101 | 97.5 | 97.2 | 97 | 97 | 97 |
| 7 | 102.6 | 100 | 98.6 | 97.2 | 97.2 | 97 | 97 |
| 8 | 102 | 98 | 97.5 | 97.2 | 97 | 97 | 97 |
| 9 | 100.2 | 97.1 | 97.8 | 97 | 97 | 98 | 97.5 |
| 10 | 100 | 98 | 97.5 | 97.2 | 97 | 97 | 97.5 |
| 11 | 101 | 98.2 | 98.2 | 97.2 | 97.5 | 97 | 97.2 |

| | | | | | | | |
|----|-------|------|------|------|------|------|------|
| 12 | 102 | 98.5 | 98 | 97.5 | 97.2 | 97 | 97 |
| 13 | 103 | 102 | 98.5 | 97.5 | 97.4 | 97.4 | 97.2 |
| 14 | 100 | 97.7 | 97.5 | 98 | 98 | 98.6 | 97.5 |
| 15 | 99.8 | 98 | 97.5 | 98.5 | 97.8 | 97.2 | 97.5 |
| 16 | 102 | 98.5 | 98.2 | 98 | 98.2 | 97.4 | 97.8 |
| 17 | 101.2 | 99.2 | 98.5 | 98 | 97.6 | 98.4 | 97.5 |
| 18 | 102 | 100 | 98.2 | 97.5 | 97.5 | 97 | 97.5 |
| 19 | 103 | 101 | 97.5 | 97.2 | 97.5 | 97 | 97.2 |
| 20 | 101 | 98.2 | 97.5 | 97.2 | 97 | 97 | 97 |
| 21 | 100 | 97.3 | 98.6 | 97 | 97 | 97.2 | 97 |
| 22 | 102 | 97.6 | 97.4 | 98 | 97.6 | 97.5 | 97.5 |
| 23 | 102 | 98 | 97.6 | 97.5 | 98 | 97.4 | 97.6 |
| 24 | 101 | 98.6 | 97.5 | 97 | 97 | 97 | 97.5 |
| 25 | 102 | 100 | 98.5 | 98 | 98.2 | 98.2 | 98 |
| 26 | 102 | 98 | 98.5 | 98.5 | 98 | 97.8 | 97.5 |
| 27 | 102 | 97.5 | 97.2 | 98 | 98.2 | 97.2 | 97 |
| 28 | 103 | 100 | 98.4 | 98 | 98 | 97.6 | 97 |
| 29 | 102 | 101 | 98.6 | 97 | 98 | 98 | 97.5 |
| 30 | 101 | 98.2 | 98.2 | 98 | 98 | 98.2 | 97.2 |

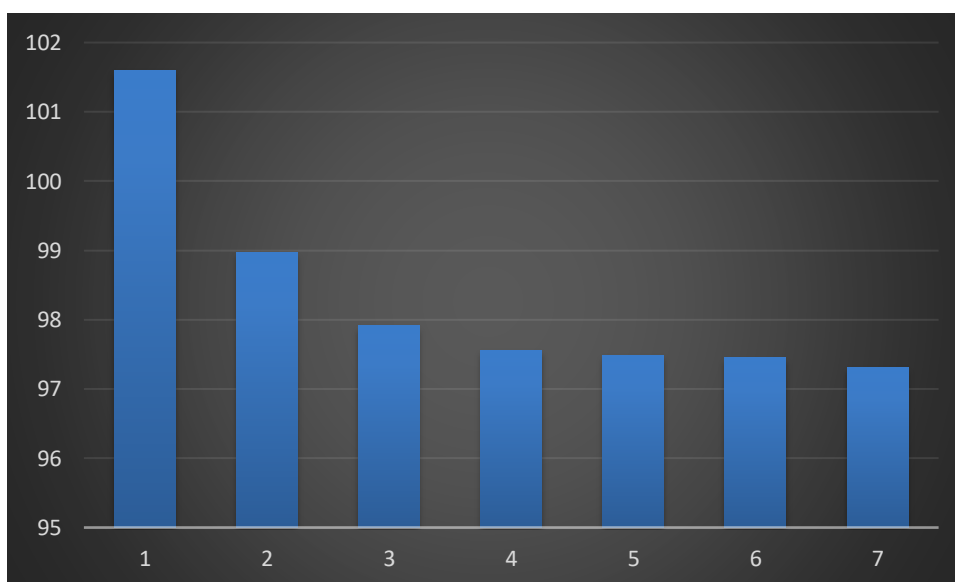


Chart 1 one week's Temperature chart of the patients in Fahrenheit.

Table 2 The Symptoms and Recovery chart.

| Symptoms | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|
| Fever | - | 18 | 12 | - | - | - | - |
| Sore Throat | - | - | 5 | 3 | 7 | 6 | 8 |
| Swollen Tonsils | - | - | 5 | 3 | 7 | 6 | 8 |
| Tiny Red Spots | - | - | 4 | 6 | 8 | 8 | 4 |
| Swollen Lymph nodes | 1 | 5 | 7 | 6 | 4 | 7 | - |

III. DISCUSSION

From this study, Steam Inhalation is given along with some herbs like Tulasi, Neem, and Nochi leaves, and also common salt is added along with water. The primary chemical constituents present in the herbs act as Anti-Microbial and Anti-Inflammatory properties. Tulasi has Anti-Microbial, Anti-Spasmodic, Anti-Analgesic, Anti- Pyretic, and Anti-Inflammatory properties. Tulasi has a lot of

chemical components, like Eugenol, Oleanolic acid, Ursolic Acid, and Carvacrol. Mainly, Eugenol acts as a COX-2 inhibitor to reduce pain in Strep Throat. Active principles present in the Neem are Nimbin, Nimbinene, Nimocinol, Nibadiol, and Nimbiene. They act as Anti-Microbial and Anti-Oxidant properties. The active ingredient present in Turmeric is Curcumin, which has Anti-Microbial and Anti-Inflammatory properties. It also enhances immunity. Nochi Leaves have active principles like D-Guaiene, Caryophyllene

epoxide, and Ethyl hexadecenoic; they have the properties of Anti-Inflammatory, Anti-Bacterial, Anti-Allergic, and Pain reliever. Common salt, and water, help remove the mucus build-up in the nasal cavity and throat. It helps to reduce the inflammation and pain in the throat.

IV. RESULT

This study shows that 98% of Strep Throat-infected patients recovered by Steam Inhalation without any medication.

REFERENCES

- [1]. Desrosiers M, Evans GA, Keith PK, et al. Canadian clinical practice guidelines for acute and chronic rhinosinusitis. *Asthma Clin Immunol* 2011
- [2]. Glicklich RE, Metson R. The health impact of chronic sinusitis in patients seeking otolaryngologic care. *Otolaryngol Head Neck Surg* 1995
- [3]. Singh M, Singh H. Heated, humidified air for the common cold. *Cochrane Database Syst Rev* 2013
- [4]. Tsevat J, Kotagal UR. Management of sore throats in children: a cost-effectiveness analysis. *Arch Pediatr Adolesc Med.* 1999
- [5]. Leung TN, Hon KL, Leung AK. Group A Streptococcus disease in Hong Kong children: an overview. *Hong Kong Med J.* 2018
- [6]. Carapetis JR, Steer AC, Mulholland EK, Weber M, The global burden of group A streptococcal diseases. *Lancet Infect Dis.* 2005
- [7]. Nelson GE, Pondo T, Toews K-A et al. Epidemiology of invasive group A streptococcal infections in the United States, 2005–2012.
- [8]. Steer AC, Lamagna T, Curtis N, Carapetis JR Invasive group a streptococcal disease: epidemiology, pathogenesis, and management. *Drugs* 2012.
- [9]. Roestenberg M, Hoogerwerf MA, Ferreira DM, Mordmüller B, Yazdanbakhsh M Experimental infection of human volunteers. *Lancet Infect Dis.* 2018.
- [10]. Christensen AM, Thomsen MK, Ovesen T, Klug TE. Are procalcitonin or other infection markers useful in the detection of a group of acute streptococcal tonsillitis? *Scand J Infect Dis.* 2014.