



**ASSESSMENT OF VARIOUS PRESCRIPTION PRACTICE AMONG SIDDHA PHYSICISANS IN THE TREATMENT OF AZHAL THALAINOKKADU (SINUSITIS)**

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**ABSTRACT**

Sinusitis known by its name azhal thalainokkadu in siddha is a common condition that carries a large healthcare economic burden. A recent systematic review and meta-analysis reported that the prevalence of bacterial infection in acute sinusitis. Sinusitis is one of the ten most common reasons for visits to primary care physicians, and it is the fifth most common diagnosis for which antibiotics are prescribed. Primary care physicians tend to consider acute sinusitis to be of bacterial origin and prescribe antibiotics in 85% to 98% of cases. But the major problem relies in antibiotic therapy is occurrence of frequent resistance. Hence it is right time to explore the alternate therapy from the Indian system of traditional medicine. Siddha being an ancient practice not only cures but also rejuvenate the biological system for long lasting benefits. Hence the main aim of the present observation study is to analyze the pattern of therapeutic approach and medication utilized by the siddha physicians at clinical level for the management of azhal thalainokkadu (Sinusitis). Results of the study clearly depicts that the majority of the physicians prescribed pre-treatment procedure. Most preferred siddha medicines are Thalishathi Chooranam, Gowri chindhamani chendooram, Muthuchippi parpam, Thippiliyathi legiyam for treating sinusitis. Further in oil therapy sukku thylam is the majorly recommended one and there is no serious adverse effect have been documented during the treatment duration. In conclusion the results of the present investigation provide evidence based result for the budding physician and researcher in the similar field in choosing appropriate medicine and recommendations while treating azhal thalainokkadu.

**KEY WORDS:** *Siddha, Azhal thalainokkadu, Sinusitis, Physicians, Therapeutic approach, Siddha medication*

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## 1. Introduction

Sinusitis is accompanied by inflammation of the contiguous nasal mucosa; hence, rhinosinusitis has become the preferred term [1]. Inflammation of nasal mucosa and blockage of the sinus ostium play an essential role in the development of sinusitis [2]. The characteristic signs and symptoms of rhinosinusitis are sinus obstruction, mucus retention, and infection. Complications can occur through intracranial extension of the infection. Local and systemic host immune responses interact under such conditions, leading to bacterial and respiratory virus effects in the pathophysiological events which is characterised by hyperaemia, haemorrhage and submucosal oedema with polymorphonuclear infiltration of rhinosinusitis [3]. Therefore, treatment of rhinosinusitis must break the vicious cycle of inflammation, oedema formation and mucous hypersecretion, before antibiotic treatment. Although treatment of rhinosinusitis is usually based upon use of antibiotics and/ or surgery, it may result in both high medical costs and development of multiple drug resistance in sinusitis-causing pathogenic microorganisms in humans [4,5]. Nasal and paranasal sinus mucosa have a highly efficient system for the physiologic functions of olfaction, respiration, and protection [6]. The respiratory epithelial cell layer presents a physical barrier that prevents invasion by micro-organisms, and the mucociliary action prevents bacterial infection and protects the mucosa from injury and drying [7]. Sinusitis is one of the most frequently reported acute or chronic and heterogeneous diseases, which shows several types of aetiology. Where a bacterial or viral aetiology is well established, this has been defined as an inflammation of the mucous membrane of the paranasal sinuses resulting from impaired transport mechanisms [8]. Various systemic and local factors are known to be associated with nasal and sinus infections [9]. To maintain the physiologic condition of the nasal cavity and sinuses, it is known that nasal airflow, anatomical conditions, patency of the natural ostium, oxygen saturation in sinuses and mucociliary clearance all play important roles. When one of these physiologic conditions is changed, these abnormal conditions cause inflammatory reactions, due to an abnormal mucous membrane immunity, phagocytosis and bacteriologic action of the nasal secretion

enzymes. The local and systemic host immune responses interact under such conditions, leading to bacterial and respiratory virus effects in the pathophysiological events, which are characterised by hyperaemia, haemorrhage and submucosal oedema with polymorphonuclear infiltration of rhinosinusitis [10].

Siddha system of medicine majorly relies on ancient traditional preparations for treating several infectious and non-communicable diseases. As per the vedic literature it has been provoked that this method of treatment has emerged from southern region of India and progressed though out the world. Contribution of herbs towards siddha formulation is considerably innumerable as its playing a very vital role in healing, rejuvenation and mode of action of the drugs [11]. Hence the main aim of the present observation study is to analyze the pattern of therapeutic approach and medication utilized by the siddha physicians at clinical level for the management of azhal thalainokkadu (Sinusitis).

## 2. Materials and Methods

### 2.1. Study design

Cross sectional observation study comprises of 50 siddha physician subjected to prescription practice for treatment of Azhal thalainokkadu (Sinusitis) in and around Chennai, Tamil Nadu, India. Study conducted with the prior approval from the concerned authority. Physicians were also explained about the objective of the study and purpose of the questionnaires. Data were dealt with the high level of anonymity and confidentiality.

### 2.2. Questioner Pattern

The questionnaire was divided accordingly to cover the entire purpose of the study such as pretreatment procedures, drugs of choice, external therapy, add on therapy, treatment duration and details on adverse drug reactions if any.

## 3. Results

### 3.1. Existence of pretreatment procedure

It was observed from the study that, 43 physicians (86%) prescribed pre-treatment procedure in Azhal thalainokkadu (Sinusitis). As shown in Figure 1.

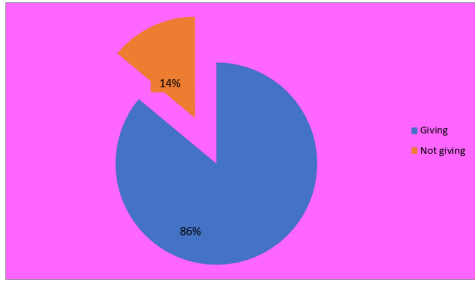


Figure 1: Existence of pretreatment procedure

**3.1.1. Percentage preference on pretreatment – Purgation**

From the data's obtained from the study it was observed that 24 Physicians (48%) had given Agashthiyar kulambu, 6 Physicians (12%) Muruganvithai mathirai, 6 Physicians (12%) vellaiennai to the patients and 10 Physicians (20%) had not given purgation to Azhalthalai nokkadu (Sinusitis). As shown in Figure 2.

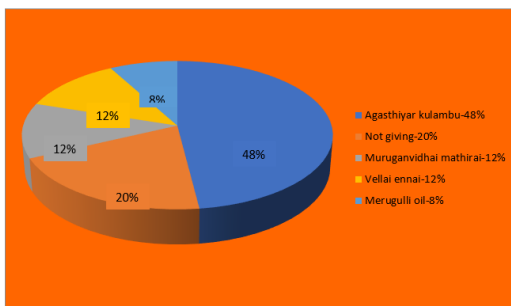


Figure 2: Percentage preference on pretreatment - Purgation

**3.2. Physicians therapeutic preference towards Chooranam based preparations**

It was observed from the study that 18 Physicians (36%) given Thirikadugu chooranam, 15 Physicians (30%) Thalishathi chooranam, 3 Physicians (6%) Kanduparanki Chooranam and 7 Physicians (14%) Peenisa chooranam to the patients in Azhal thalainokkadu (Sinusitis). As shown in Figure 3.

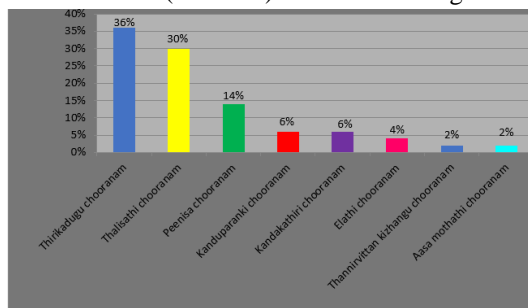


Figure 3: Physicians therapeutic preference towards Chooranam based preparations

**3.3. Therapeutic preference towards drug of choice on Chendooram based preparations**

According to the study, out of 50 Physicians 18 Physicians (36%) prescribed Gowri chindhamani chendooram, 10 Physicians (20%) Sivanar amirtham to the patients and 18 Physicians (36%) had not given chendooram in Azhal thalainokkadu (Sinusitis). As shown in Figure 4.

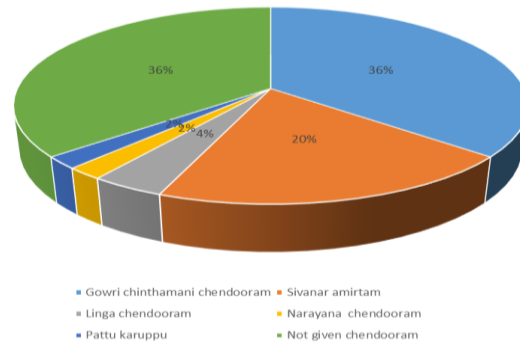


Figure 4: Therapeutic preference towards drug of choice on Chendooram based preparations

**3.4. Diagonal approach towards Parpam based preparations**

From the investigation it was observed that out of 50 Physicians 14 Physicians (28%) treated with Muthuchippi parpam, 6 Physicians (12%) with palagarai parpam to the patients and 23 Physicians (46%) not treated with parpam in Azhal thalainokkadu (Sinusitis). As shown in Figure 5.

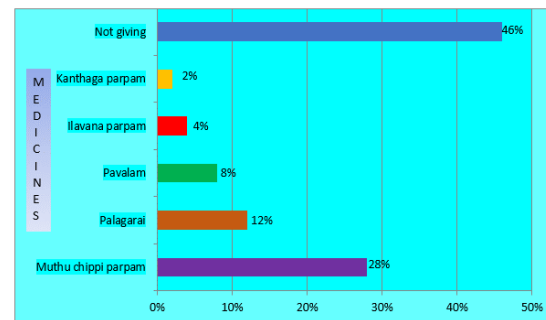


Figure 5: Diagonal approach towards Parpam based preparations

**3.5. Preferable choice on Chunnam based preparations**

It was indicated from the study that out of 50 Physicians 7 Physicians (14%) had given Sangu chunnam, 4 Physicians (8%) Pavalam chunnam to the patients. 39 Physicians (78%) had not given chunnam

in Azhal thalainokkadu (Sinusitis). As shown in Figure 6.

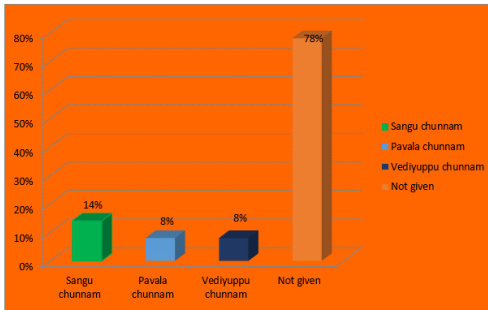


Figure 6: Preferable choice on Chunnam based preparations

### 3.6.Physician choice towards Legiyam based preparations

According to the study, out of 50 Physicians 14 Physicians (28%) treated with Thippiliyathi legiyam, 9 Physicians (18%) with Vilvathi legiyam to the patients and 26 Physicians (52%) not treated with legiyam in Azhal thalainokkadu (Sinusitis). As shown in Figure 7.

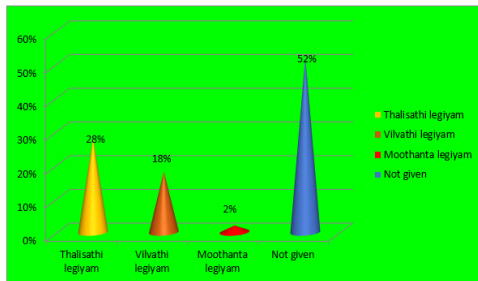


Figure 7: Physician choice towards Legiyam based preparations

### 3.7.Drug of choice towards Nei based preparations

From the study it was observed that out of 50 Physicians 3 Physicians (6%) had given Seenthil nei, 1 Physician (2%) had given Panjathikka nei to the patients and 46 Physicians (92%) had not giving nei in Azhal thalainokkadu (Sinusitis). As shown in Figure 8.

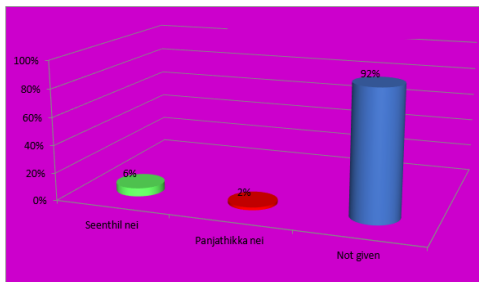


Figure 8: Drug of choice towards Nei based preparations

### 3.8. Influence on External therapy

External therapy given by the 50 Physicians were stated as, 48 Physicians (96%) treated with Oil bath, 26 Physicians (52%) treated with Varmam therapy, 24 Physicians (48%) with Pattru, 21 Physicians (42%) treated with Nasiyam , 17 Physicians (34%) gave pugai in Azhal thalainokkadu (Sinusitis). As shown in Figure 9.

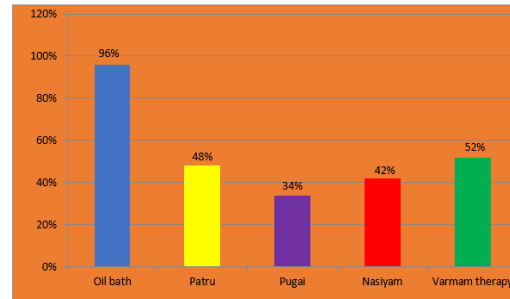


Figure 9: Influence on External therapy

#### 3.8.1. External therapy in specific to oil bath therapy

It was observed from the oil bath therapy application that out of 50 Physicians, 22 Physicians (44%) prescribed Sukku thylam, 13 Physicians (26%) Asai thylam , 5 Physicians (10%) Arakku thylam , and 2 Physicians (4%) Vettiver thylam for Azhal thalainokkadu(Sinusitis). 2 Physicians (4%) not prescribed oil bath. As shown in Figure 10.

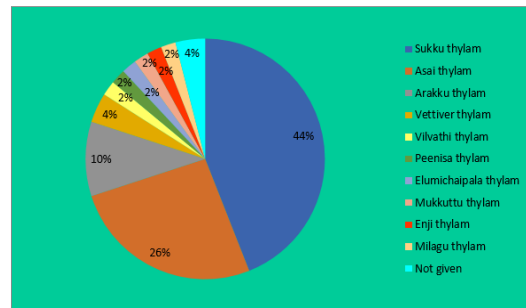
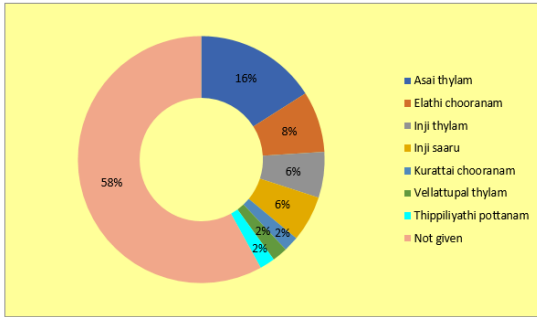


Figure 10: External therapy in specific to oil bath therapy

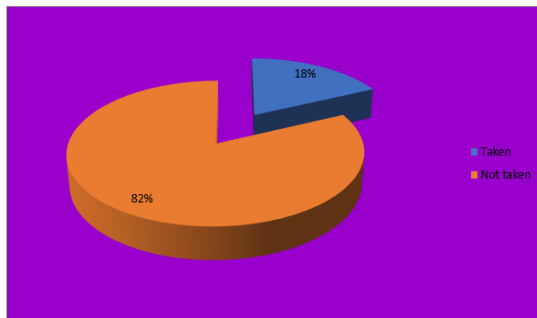
#### 3.8.2.External therapy in specific to Nasiyam

From the results of the present investigation it was observed that in external therapy Nasiyam the medicines treated for the patients by the physicians were follows,8 Physicians (16%) gave Asai thylam , 4 Physicians (8%) treated with Elathi chooranam, 3 Physicians (6%) gave Anu thylam, 3 Physicians (6%) treated with Inji thylam . 29 Physicians (58%) not treated with Nasiyam in Azhal thalainokkadu (Sinusitis). As shown in Figure 11.



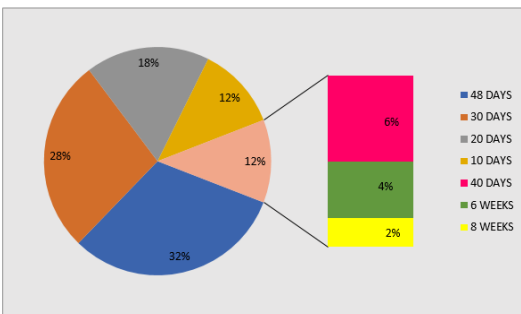
**Figure 11: External therapy in specific to Nasiyam**  
**3.8.3. Beneficial Application on Add on Therapy**

According to the study it was observed that out of 50 Physicians, 9 Physicians stated that, the patients treated by them had taken add on therapy during their treatment and 41 Physicians (82%) stated that no Add on therapy was taken by their patients in Azhal thalainokkadu (Sinusitis). As shown in Figure 12.



**Figure 12: Beneficial Application on Add on Therapy**  
**3.8.4. Influence on duration of therapy**

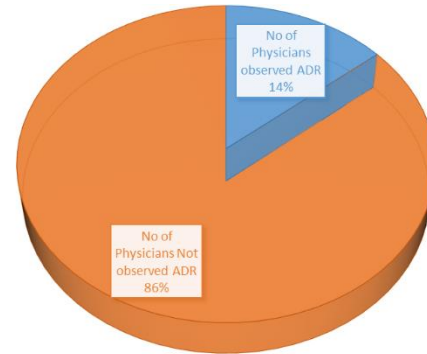
Result analysis indicates that the duration of the treatment given by the 50 Physicians to the patient in Azha thalainokkadu follows: 6 physicians -10 days , 9 Physicians - 20 days , 13 Physicians - 30 days , 3 Physicians - 40 days , 16 Physicians -48 days , 2 Physicians - 6 weeks , 1 Physician -6 weeks . As shown in Figure 13.



**Figure 13: Influence on duration of therapy**

**3.10. Monitoring of Adverse drug reactions**

From the present study it was observed that out of 50 Physicians 7 Physicians had observed adverse reaction, 43 Physicians (86%) had not observed adverse reaction during their treatment in Azhal thalainokkadu (Sinusitis). As shown in Figure 14.



**Figure 14: Monitoring of Adverse drug reactions**

**4. Discussion**

Acute sinusitis is a common condition seen by general practitioners worldwide. It is estimated that the incidence of sinusitis is 35 million people each year in the United States, contributing to between 15 and 40 cases per 1000 patients. Episodes of acute sinusitis are more prevalent in adults and are the second leading cause of infectious disease encountered in clinical practice [12]. Women have a greater incidence of the infection than men and have a higher probability of seeking care [13,14].

The conventional medicine treatment strategy for acute sinusitis emphasizes the use of antibiotics. In the United States, 85% to 98% of sinusitis patients are prescribed antibiotics [15]. However, evidence shows that most cases of acute sinusitis are viral in origin and only a marginal number of cases develop a secondary bacterial infection [16]. Other pharmaceutical agents that are employed for the treatment of acute sinusitis are oral or topical decongestants, topical anticholinergics, antihistamines, mucolytics, nasal corticosteroids, and hypertonic saline nasal irrigation [17]. It was observed from the study that 18 Physicians (36%) given Thirikadugu chooranam, 15 Physicians (30%) Thalishathi chooranam, 3 Physicians (6%)Kanduparanki Chooranam and 7 Physicians (14%) Peenisa chooranam to the patients in Azhal thalainokkadu (Sinusitis). According to the study, out of 50 Physicians 18 Physicians (36%) prescribed

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In 2001 the ARIA (Allergic Rhinitis and its Impact on Asthma) Group published a document establishing the link between the upper and lower airways.<sup>7</sup> Evidence suggests that allergic inflammation affects the entire respiratory tract as a continuum, with a high proportion of asthmatic individuals having comorbid allergic rhinitis. The existence of a relation between rhinitis and asthma is supported by evidence that control of rhinitis improves asthma control<sup>7</sup>; this has led to phrases such as one airway, one disease. In the present study external therapy given by the 50 Physicians were stated as, 48 Physicians (96%) treated with Oil bath, 26 Physicians (52%) treated with Varmam therapy, 24 Physicians (48%) with Pattru, 21 Physicians (42%) treated with Nasiyam, 17 Physicians (34%) gave pugai

The incidence of rhinosinusitis is higher in patients with allergy (particularly those with IgE mediated allergic rhinitis (25% to 50%)) than in the general population, although a causal relation is difficult to show [18]. Studies have shown a higher prevalence of atopy in patients with chronic rhinosinusitis, [19] although this does not necessarily correspond with clinical allergy. Several radiological studies have shown an increase in mucosal abnormalities on computed tomography of sinuses in allergic patients [20,21]. From the present study it was observed that out of 50 Physicians 7 Physicians had observed adverse reaction, 43 Physicians (86%) had not observed adverse reaction during their treatment in Azhal thalainokkadu (Sinusitis).

## 5. Conclusion

Approximately 0.5% of all upper respiratory tract infections are complicated by sinusitis; the incidence of acute sinusitis ranges from 15 to 40 episodes per 1000 patients per year, depending on the setting. Acute sinusitis is the second most common infectious disease seen by general physicians. In conclusion the results of the present investigation provide evidence based result for the budding physician and researcher in the similar field in choosing appropriate medicine and recommendations while treating azhal thalainokkadu (Sinusitis).

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