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Research Article

EFFECT OF SAIREYAKA (*BARLERIA PRIONITIS*) IN TUNDIKERI (TONSILLITIS): A CLINICAL STUDY

Jindal Radha^{1*}, Jindal Dilbag², U Shailaja³, Powar Sudhakar⁴¹PG Scholar, Department of Post Graduate Studies in Kaumarabhritya, SDM College of Ayurveda and Hospital, B.M. Road, Hassan, Karnataka, India²Resident Medical Officer and Consultant Panchakarama, SDM College of Ayurveda and Hospital, B.M. Road, Hassan, Karnataka, India³Professor and Head, Department of Post Graduate Studies in Kaumarabhritya, SDM College of Ayurveda and Hospital, B.M. Road, Hassan, Karnataka, India⁴Professor, Department of Post Graduate Studies in Kaumarabhritya, SDM College of Ayurveda and Hospital, B.M. Road, Hassan, Karnataka, India

*Correspondence

Dr. Radha Jindal
PG Scholar, Department of Post Graduate
Studies in Kaumarabhritya, SDM College of
Ayurveda and Hospital, B.M. Road, Hassan,
Karnataka, India

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Abstract

Tundikeri is a highly prevalent disease in pediatric age from 6-10 years of age. The recurrent attack of Tonsillitis makes the disease chronic and vulnerable for infectious diseases. Tonsils, the lymphoid tissue play important role in maintaining the immunity in children, hence timely treatment is most essential. Use of Saireyaka (Peeta) (*Barleria prionitis*) Moola Churna with Nimbuka (*Citrus limon*) Svarasa is a famous folklore medicine for Tundikeri in some regions of Karnataka state. Saireyaka (Peeta) is Tridoshaghna in action which exactly correlates with Doshic configuration of Tundikeri. Considering the above points, the present study was planned to evaluate the effect of Saireyaka Moola Choorna in management of Tundikeri. Saireyaka Moola Choorna was given to 30 patients of Tundikeri of 6-10 years. Patients were administered with 4 g of Saireyaka Moola Choorna (*Barleria prionitis*) with Nimbuka Svarasa as Sahapan for 10 days twice a day before food. With help of Brodsky assessment criteria gradation of symptoms was done. There was statistically significant effect of Saireyaka Moola Choorna (*Barleria prionitis*) ($p < 0.001$) on reduction of overall signs and symptoms of Tonsillitis. There was significant effect in TLC and ESR. Subjects also showed improvement in weight.

Keywords: Tundikeri, Saireyaka Moola Choorna, *Barleria prionitis*, Tonsillitis, folklore.

INTRODUCTION

India being a tropical country is blessed with vast diversity of healing traditions wherein 70 % of the population uses traditional system of medicine for the betterment of health. There are over 400 different tribal and other ethnic groups in India having a medicinal tradition of their own. Ayurveda describes many drugs in detail which are used effectively in folklore practices. It will be indeed rewarding if their tradition is upheld and proper scientific documentation and study is made¹. Taking into consideration the above fact, the present study is taken up on a folklore practise of Karnataka. Use of Saireyaka (*Barleria prionitis*) Moola Choorna with Nimbuka (*Citrus limon*) Svarasa is a famous folklore medicine for Tundikeri being practiced in some regions of Karnataka state.

Tundikeri is one of the common prevalent diseases which generate morbid conditions in children during the first few years of life. The incidence of this disease is about 7 % of all visits to the paediatrician. It is a highly prevalent disease in paediatric age from 5 – 10 years of age². The recurrent attack of Tonsillitis makes the disease chronic and vulnerable for

infectious diseases. Several health hazards like laryngeal oedema, acute otitis media, quinsy, rheumatic fever, rheumatic heart diseases are often seen as systemic complications³. Surgical excision is the current treatment option, but it is not the ultimate solution for recurrent episodes of Tonsillitis. Tonsils and adenoid, situated at the opening of the pharynx, provide primary defence against foreign matter. They regulate the production of secretory immunoglobulin. Immunological role of tonsils in preventing infections are to be considered against surgical intervention of Tonsillitis⁴. Saireyaka (Peeta) is Tridoshaghna especially Vata-Rakta-Kaphagna⁵ in action which exactly correlates with Doshic configuration of Tundikeri⁶. Similarly Nimbuka Svarasa has Vata-Kaphahara property with special indications in Kaphotklesha, Asyavairasya and Amajanya Vyadhi⁷.

Objectives

A therapeutic, convenient sampled trial was designed with the objective to test the efficacy of Saireyaka Moola Choorna (*Barleria prionitis*) with Nimbuka Svarasa (as oral

medication), in the management of Tundikeri in the age group of 6-10 years.

MATERIALS AND METHODS

This clinical trial was done over the 30 patients of Tonsillitis. Before starting clinical trials, ethical clearance taken from institutional ethics committee vide number: SDMCAH/IEC/08-09/14/09.03.09

Source of Data

Patients were selected from the outpatient department of Kaumarabhritya in SDM College of Ayurveda and Hospital, Hassan, India.

Diagnostic Criteria

Diagnosis was made on the basis of Symptoms of Tundikeri⁸ like Ragata (congestion), Galoparodha (dysphasia), Kathina Shotha (enlargement of tonsils), Asyavairasya (distaste in mouth), sore throat, and episodes of cough, halitosis, changes in voice, enlargement of lymph nodes.

Inclusion Criteria

- Children of age group of 6 - 10 years.
- Children of both sexes.
- Children with history of Tundikeri for more than 3 months.

Exclusion Criteria

- Patients with Peritonsillar Abscess, Tonsillar Cyst, Tonsillolith will be excluded.
- Patients associated with any other systemic disorder.

Laboratory Investigation

Blood routine investigation (Hb %, TLC, DLC, ESR)

Drug

A drug survey was done in and around Hassan, India. The drug sample was obtained and verified by experts from department of Dravyaguna, SDMCA Hassan, India. Further to identify and standardize the trial drug, it was sent for analysis to SDM Centre for Research in Ayurveda and Allied Sciences, Udupi, India. The report gave the finger print images of the drug *Barleria prionitis* Linn, indicating the genuinely of the trial drug.

Procedure

Saireyaka (*Barleria prionitis*) Moola Choorna 4 g mixed with 5 ml of Nimbuka Svarasa (lemon juice) was given orally, before food twice a day in the morning and evening. Duration of treatment was for 10 days.

Assessment Criteria

Suitable scores were assigned to give some objectivity to the subjective symptoms to assess improvement in the signs and symptoms of Tonsillitis. Self-defined scoring was made for each parameter like Galoparodha (dysphasia), Asyavairasya (distaste in mouth), Kathina Shotha (enlargement of tonsils), Toda (pain), sore throat, episodes of cough, halitosis and change in voice and enlargement of lymph nodes. Objective parameters included regression in the size of tonsils using suitable Brodsky assessment criteria.⁹

Observations

In present study among 30 patients of Tundikeri maximum number of patient (36.7 %) were of 6 years age group. 63.3 % patients were females and 36.7 % were male. Among all the patients 86.7 % were Hindu while 13.3 % were Muslims. The maximum numbers of patients (23.3 %) were studying in 3rd standard. Consideration of socio economic status of the patients showed that 7 % patients were of upper class, 17 % were of upper middle class, 40 % were of lower middle class, 26 % were of upper lower class and 10 % were of lower class.

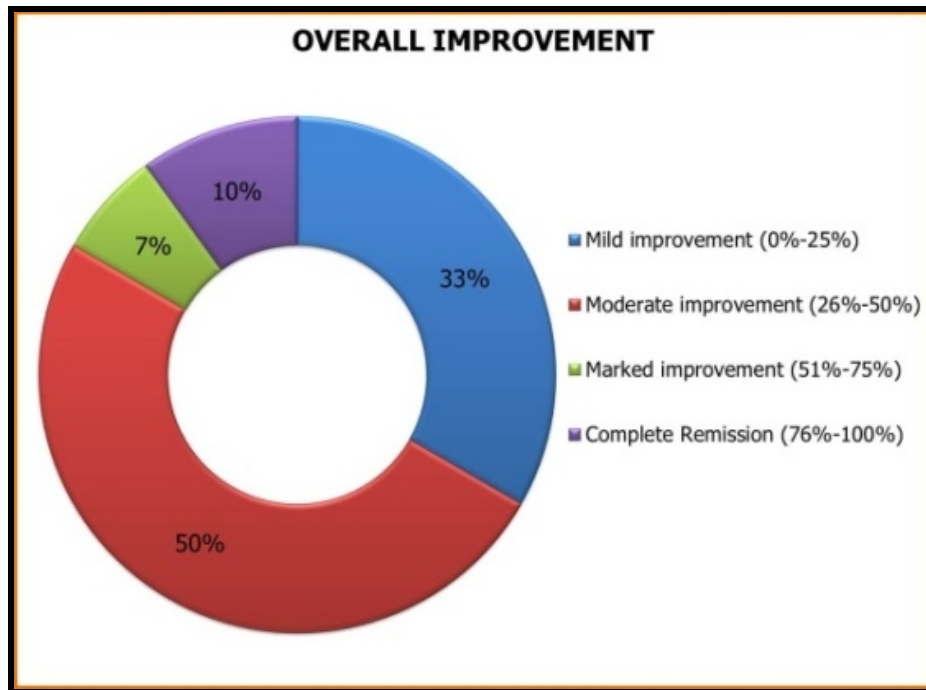
This assessment was done using Kuppuswamy scale. In this study 63 % patients had normal sleep while 37 % had disturbed sleep due to cough or throat pain. Among the 30 patients 76.7 % were of mixed food habits and 23.3 % were vegetarian. It is evident from the study that maximum no. of patients (46.6 %) was having Vata-Pitta Prakriti and 40 % were having poor oral hygiene. It is noticed from the study that 13.3 % patients were habituated to eat bakery items/junk food, 3.3 % were habituated to eat sore items/pickles, 16.6 % were consuming more sweets/chocolates, 6.6 % were taking more ice creams, 16.6 % were excessively using Masha, 30 % patients were consuming excess of Dadhi, 3.33 % consumed Matsya on regular basis and 10 % patients were taking Mamsa in excess. Out of 30 patients, 30 % reported with pain in throat, 16.6 % with difficulty in deglutition. 10 % patients were having increase in size of tonsils, 6.6 % have reported with halitosis and 6.6 % were having jugulo-digastric lymphadenopathy. 13.3 % patient came with the complained of Kasa and 16.6 % with Pratishaya. Among all 90 % patients were diagnosed as chronic parenchymatous tonsillitis while 10 % were diagnosed as chronic follicular tonsillitis. On examination it was revealed those 96.7 % patients were having congestion in soft palate while 3.3 % had oedematous soft palate. 90 % were having normal movement of soft palate while 10 % had impaired movement of palate. 50 % patients had congested uvula, 3.3 % had elongated uvula and 20 % had oedematous uvula, 10 % had uvula deviated to right and 16.7 % deviated to left. 73 % patients had bilaterally palpable lymph nodes while 7 % patients had unilateral palpable lymph nodes and in 20 % patients lymph nodes were not palpable. On examination of left tonsil it was noted that 13.3 % patients had congested tonsil, 33.3 % had oedematous/swollen tonsils and 53.3 % had hypertrophied tonsils. While on examination of right tonsil it was found that 16.7 % patients had congested tonsil, 3.3 % had pustule in the tonsil, 20 % had oedematous/swollen tonsils and 60 % had hypertrophied tonsils. The patients were assessed three times throughout the study based on 8 parameters. The assessment was done with self-defined scoring for each parameter. The score was standardised with Cronbach alpha test. The score was 0.79 indicating the questionnaire was highly significant.

RESULTS

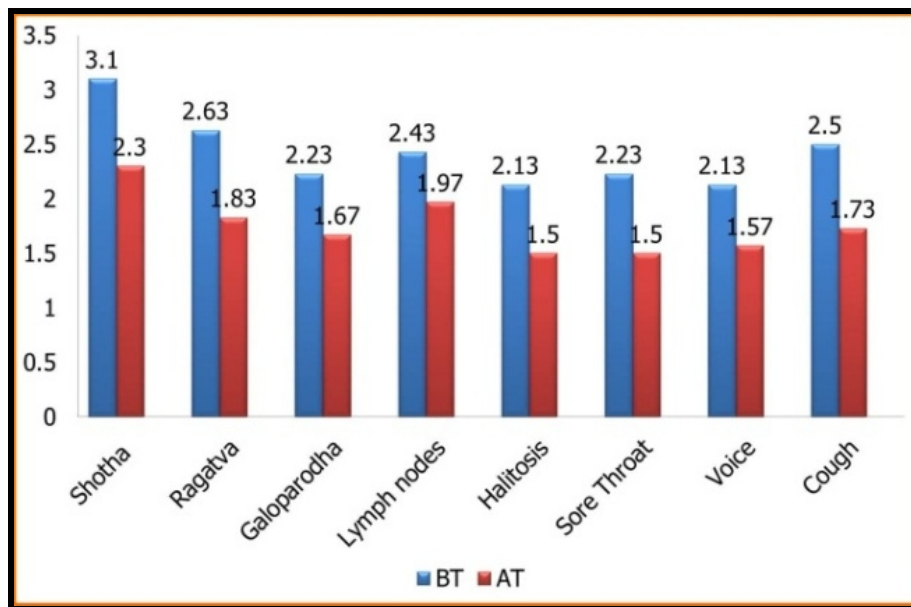
This clinical study shows that 25.80 % reduction was noticed in Shotha (size of swollen tonsils), 30.41 % in Ragatwa (congestion), 25.42 % in Galoparodha (dysphasia), 19.22 % in Jugulo-Digastric Lymphadenopathy, 29.71 % in halitosis, 32.87 % in sore throat, 26.62 % in changing of voice and 30.68 % in the episodes of cough with significant p value < 0.001.

Table 1: Statistical Analysis of Clinical Manifestation of Tundikeri BT and AT

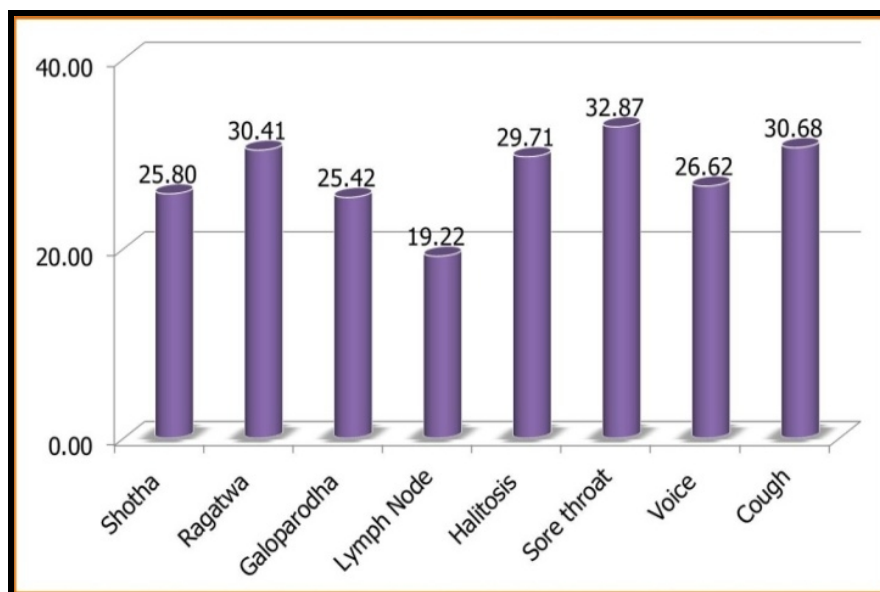
Parameters	Mean BT	Mean AT	d	%	SD	SE	t	p	Significance
Shotha	3.10	2.30	.800	25.80	.484	.088	9.049	.000	HS
Ragatva	2.63	1.83	.800	30.41	.610	.111	7.180	.000	HS
Galoparodha	2.23	1.67	.567	25.42	.679	.124	4.572	.000	HS
Lymph Nodes	2.43	1.97	.467	19.22	.507	.093	5.037	.000	HS
Halitosis	2.13	1.50	.633	29.71	.615	.112	5.641	.000	HS
Sore Throat	2.23	1.50	.733	32.87	.640	.117	6.279	.000	HS
Voice	2.13	1.57	.567	26.62	.568	.104	5.461	.000	HS
Cough	2.50	1.73	.767	30.68	.568	.104	7.389	.000	HS



Graph 1: Mean difference of clinical manifestations of Tundikeri BT and AT



Graph 2: Overall Effect of Saireyaka in Tundikeri



Graph 3: Percentage Relief of Clinical Manifestations of Tundikeri BT and AT

DISCUSSION

The Shotha (Swelling) is due to inflammatory process in tonsils. When the inflammatory process begins in the tonsillar tissue, it becomes swollen and causes the symptoms like pain in throat, difficulty in deglutition (dysphasia). Present study shows that due to the antibacterial and anti-inflammatory action of the Saireyaka clears the infective focus. Thus, the tonsillar tissues might have relieved from inflammatory symptoms. The overall property of the given drug is Sothaghna¹⁰. The change in colour of mucus membrane is due to the inflammatory process in the tonsillar tissues. The change in colour of mucus membrane varies as per changing pattern of vascularity. Due to the anti-bacterial and analgesic actions of Saireyaka it reduces the inflammation and hence colour of the mucus membrane becomes normal. Amla rasa and Ushna Veerya of Saireyaka subsides vitiated Vata and Kapha. The Shoolahara¹¹ property of drug reduces pain on deglutition. Though, halitosis is not mentioned in classics as a clinical feature of Tundikeri, it is found in clinical practice and literature of contemporary sciences. Halitosis is one of the features observed in chronic tonsillitis, pharyngitis or Pharyngo-tonsillitis. Halitosis responded well to Saireyaka with lemon juice. The probable reason can be taken as the medication acts on overall oral cavity mucosa and gums (Vaktrashodhana)¹². It is the drug of choice in dental disorders which might have acted upon the accumulated Vikrita Kapha causing Halitosis. The Tikta Rasa of drug acts as Ropana (healing) and hence reduces sore throat. The Kasaghna¹³ Guna of Saireyaka helps in reducing the episodes of cough in Tundikeri. Analysis of change in the haemoglobin concentration within the group had insignificant changes in the haemoglobin percentage which implied that treatment was ineffective in increasing the haemoglobin concentration of tonsillitis patients of the study. Evaluation of the change in the total Leucocyte count suggested significant reduction ($p < 0.001$) in the subjects, thus proving the efficacy of the trial drug. Trial drug was effective in the reduction of ESR after treatment ($p < 0.001$). Statistically significant reduction of these parameters implies the control of the infection.

Properties of Saireyaka

Antibacterial phytochemicals Balarenone act against oral pathogens- *Streptococcus*, *Staphylococcus aureus*¹⁴. Saireyaka has Antifungal activity against *Candida albicans*.² potent Iridoid glycosides possess Antiviral activity against respiratory syncytial virus detected in drug Saireyaka¹⁵. It has Anti-inflammatory action as they inhibit cyclooxygenase which inhibit prostaglandin synthesis involved in pain sensation¹⁶.

Probable Mode of Action

Tundikeri is caused due to the vitiation of Kapha and Rakta and is preceded by impaired digestive capacity (Mandagni / Vishamagni) and obstruction of channels (Sroto-avarodha) which is manifested as difficulty in swallowing, mouth breathing. The formulation Saireyaka (*Barleria prionitis*) Moola Choorna is a widely known folklore practise for treating tonsillitis. The drug Saireyaka is having Deepana (digestive stimulant), Pachana (digestive) and Sroto-shodhana (clearing of channels) action. It is known Kasahara (relieves cough), Shothahara (reduces glandular swellings), Soolaghna (reduces dysphagia), Kanduhara (reduces irritation in throat), Kasaghna (reduces cough). Nimbu Swarasa (lemon juice) has Yogavahi property by which it enhances the action of these medicines. Nimbuka Swarasa has Vata-Kaphahara, Rochana and Shoolaghna property with special indications in Kaphotklesha, Aruchi, Asyavairasya and Amajanya Vyadhi. The combination does Vaktrashodhana (cleansing of oral cavity). Thus the trial drug is having a combined action over vitiated Dosha i.e. Kapha Dosha and obstructed Srotas (channels) i.e. Annavaaha Srotas (Gastro intestinal tract) and Pranavaha Srotas (Respiratory tract) by virtue of its Kaphahara, Shophahara (anti-inflammatory), Deepana (digestive stimulant), Pachana (digestive), and Rasayana (rejuvenating) effect due to the combination of bitter taste (Tikta Rasa), astringent (Kashaya Rasa), Ushna Veerya, Laghu Guna and thus effective in reducing the signs and symptoms of Chronic Tonsillitis (Tundikeri).

CONCLUSION

Tundikeri is a Kanthagata Vyadhi which is more predominantly seen in children with no significant relation to sex, religion and geographical distribution. Its signs and symptoms correlates with Tonsillitis in contemporary medicine. If the condition is left untreated it may lead to several serious health hazards. Saireyaka provides good relief in the symptoms of Tundikeri effectively.

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