



THE HEALING HEAT – CLINICAL UTILITY OF SHAMANANGA SWEDA IN RAJAYAKSHMA : A CONCEPTUAL STUDY

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ABSTRACT

Rajayakshma, is a chronic debilitating condition resembling pulmonary tuberculosis in conventional medicine. It involves the derangement of all *tridosas* and *saptadhatus*. Hence, regarded as ‘KING OF DISEASES’ in classics. Ayurveda, with its holistic approach offers unique insights into managing this condition. *Shamananga sweda* (~ Therapeutic sweating) is an independent treatment procedure mainly aimed at restoring the body’s equilibrium by balancing *doshas* and facilitating in the removal of *ama* (~ toxins) from the body. Additionally, *swedana* helps in enhancing the permeability of tissues, thereby improving the absorption of therapeutic agents. This study aims to explore various *shamananga swedana* techniques, as a complementary approach in the management of *Rajayakshma*, specially focusing on its mode of action, thus providing a comprehensive understanding to enhance the treatment results in the context of *Rajayakshma*.

Key words: *Rajayakshma*, Pulmonary tuberculosis, *Shamananga sweda*, Therapeutic sweating, Ayurveda

INTRODUCTION: The term ‘*Rajayakshma*’ is derived from *Raja* (king) and *Yakshma* (diseases) signifying its eminent position among other ailments. Acharya Charaka describes it as a condition with profound depletion of body tissues. Acharya Sushruta, refers to it as ‘*Sosha*’ due its wasting nature. It involves the vitiation of *tridosas* and *saptadhatus*, classified under *pranavahasrotovikaras*, *sankramika* and *aupasargika vyadhi*¹. The *nidana* (*viprakishta hetu*) includes *sahasa*² (~over exertion), *vegadharana*³ (~suppression of natural urges), *kshaya*⁴ (~depletion of *dhatu*s) and *vishamashana*⁵ (~irregular eating habits). The *samprapti* involves, initial imbalance of *doshas* due to *nidana sevana* leading to, depletion of *dhatu*s which manifests a group of

symptoms (*Rogarata*). Based on clinical features, *rajayakshma* is classified into 3 types; *Trirupi*⁶, *shadrupi*^{7,8} and *ekadasharupi*^{9,10,11} *rajayakshma* comprising *amsaparshva abhitapa* (~discomfort in shoulders and flanks), *santapa kharapadayo* (~burning sensation in hands and feets), *jwara* (~fever), *kasa* (~ cough), *swarabheda*(~hoarseness of voice), *aruchi* (~anorexia), *atisara* (~diarrhoea), *shwasa* (~dyspnoea), *shirashoola* (~headache) and *shleshma chardi* (~vomiting with excess mucous) which is analogous to pulmonary tuberculosis in contemporary medicine. Worldwide, around 10 million people develop tuberculosis each year, resulting in over a million deaths. India alone contributes to about 25% of the global TB

burden, with an estimated 2.77 million new cases in the year 2022¹².

In Modern science, the treatment protocol for TB includes a combination of antibiotics taken over an extended period (upto 9 months). The initial phase, typically lasting 2 months, aims to reduce bacterial load followed by continuation phase that prevents relapse. Adherence to the full course is mandatory to avoid drug-resistant TB¹³.

In contrast, Ayurveda focuses on balancing *tridosha*, *pathya ahara-vihara*, *rasayana*, *swedana* and *shodhana* therapies which mainly focuses on enhancing quality of life in TB affected patients. The general line of treatment in ayurveda includes both *shodhana* and *shamana* therapy, if the patient is *balavan* (~ strong) with severe aggravation of *doshas* then *panchakarma* therapy ¹³(*vamana,virechana...*) are indicated. If the patient is *durbala* (~weak) then, *shodhana* is harmful and acts as *visha* (poison), in such individuals strength depends on their *mala* and *retas*. Hence, *mala samrakshana*¹⁵ is advised.

In the context of respiratory symptoms, *shamananga sweda*, an independent modality of *swedana*, described by Acharya Dalhana plays a crucial role. It facilitates the expulsion of *ama* and balances *tridoshas*, this helps in alleviating symptoms of congestion, cough and breathlessness by cleansing respiratory passages. *Shamananga sweda* also

supports the revitalization of *sapta dhatus* particularly *rakta* and *prana* which are essential for optimal respiratory function.

METHODOLOGY

This conceptual study examines the therapeutic approach of *shamananga swedana* in the management of *Rajayakshma*, based on classical ayurvedic texts. *Rajayakshma*, a condition parallel to pulmonary tuberculosis, is characterized by a complex pathophysiology involving vitiation of all *tridoshas* and depletion of *ojas*, resulting in respiratory and systemic symptoms. The therapeutic interventions primarily focus on balancing the *doshas*, improving immunity, and restoring the body’s vitality.

Shamananga swedana is emphasized for its ability to alleviate stiffness, heaviness and congestion by pacifying *vata* and *kapha doshas*. *Swedana* techniques like *sankara sweda* (~ bolus fomentation), *parisheka* (~ steam pouring) and *nadi sweda* (~ medicated steam) have been employed to relieve symptoms like *pratishyaya* (~chronic rhinitis), *peenasa* (~sinusitis), *kasa* (~cough), *shwasa* (~dyspnoea) and *swarabhangha* (~hoarseness of voice) by promoting *strotoshodhana*, elimination of *doshas* and muscle relaxation. Herbal preparations used in these procedures, including *krshara*, *masha* and *yava* reduces inflammatory responses promoting respiratory relief.

Table. 1 Different modalities of *shamananga sweda* in *Rajayakshma*

SAGNI SWEDA	NIRAGNI SWEDA
<i>Sankara</i> <i>Parisheka</i> <i>Nadi</i> <i>Avagaha</i>	<i>Upanaha</i>

***Sankara Sweda/ Pottali sweda*¹⁶**

It is the application of heat using *pottali*’s made out of medicated drugs or herbs with

or without being wrapped by a cloth. This type of *swedana*, mainly focuses on localized warmth and pressure

Procedure

Sankara sweda in *rajayakshma* is performed by using a combination of herbal preparation like *krishara*, *utkarika*, *masha*, *kulatha* and *yava* after heating the drugs. The *pottali* is gently tapped on specific areas such as *kanta*, *parshva*, *ura* and *shira*¹⁶.

Parisheka sweda¹⁷

It is a type of *swedana* in which, *kashaya* of prescribed drug is prepared and the luke-warm *kashaya* is filled inside a *kumbhi* (pitcher) or *varshanika* (pot with several tiny openings) and uniformly poured on the affected part.

Procedure: *Sthanika Abhyanga* with *vatakaphahara taila* is done, luke warm *kashaya* prepared out of *bala*, *guduchi* and *madhuka* is poured on *ura* and *shira* *pradesha*¹⁷.

Nadi sweda¹⁸: *Swedana* with the use of vapours produced by boiling medicated *kashaya*'s, which are directed through a *nadi* (pipe) to specific areas of the body.

Procedure: The steam obtained by boiling *panchamoola kashaya* is directed through a tube/ pipe onto the affected area i.e; *kanta*, *parshva* and *shira*¹⁸

Upanaha sweda¹⁹

Poultice is applied on the affected part and is covered/ bandaged with a cloth. If *upanaha* is applied at the night, it is removed in the morning and vice-versa.

Procedure: Medicated poultice made out of *shatapushpa*, *bala*, *madhuka*, *veshavara*, *vidara*¹⁹ is applied on *shira* and *ura pradesha*

Avagaha sweda²⁰

Swedana done by immersing the affected part/ whole body in the luke-warm medicated liquid

Procedure

Liquid immersion with *taila* (medicated oil), *dugdha* (milk) and other *kashaya*'s after performing *sarvanga abhyanga* with suitable oil²⁰

Therapeutic Benefits of Shamananga sweda in Rajayakshma

Improves Respiratory Function – *Shamananga sweda*, through the application of mild heat, increases the extensibility of collagen tissues. In the context of *rajayakshma*, this helps ease the tightness in the chest and upper body muscles, promoting better breathing in chronic respiratory conditions

Reduces Inflammation and edema – helps in reducing localized inflammation and swelling in *rajayakshma* patients suffering from inflammatory responses in lungs and surrounding tissues by improving lymphatic drainage and increasing blood flow, it helps in managing chronic inflammation.

Muscle relaxation and Spasm reduction²¹ – *Swedana* acts on muscle spindle nerve endings and golgi tendon organs, reducing the excitability of motor neurons and relieving muscle spasms. In TB patients where muscles can become tense due to frequent coughing and breathing difficulties, *swedana* relaxes the muscles and reduces spasms

Swedana treats *pratishyaya* and *peenasa* by removing excess *kapha*. It Relieves congestion and discomfort by improving blood flow and reducing stiffness and eases stiffness and discomfort in targeted areas by reducing inflammation. Provides overall relief for ailments of *shira*, *parshva*

and *ura* promoting relaxation, circulation and treating systemic symptoms.

DISCUSSION

Vasodilation

Indirect Reflex

Swedana alters the cutaneous, intra-articular and core temperature of soft tissues, which then through Afferent pathway activates the thermo receptors in

dorsal root ganglion leading to Systemic Vasodilation and through Efferent pathway there will be decreased sympathetic output which further leads to Systemic vasodilation

Nerve conduction

Increased temperature changes nerve conduction velocity. It increases the conduction latency of both sensory and motor neurons.

Flow chart .1 a) Effects on Nerve conduction

Application of heat elevates the temperature of muscles and surrounding tissues

Nerve conduction velocity increased by approx. 1°C rise in temperature

Increase in temperature reduces conduction latency of both sensory and motor nerves

b) Alpha motor neurons

i) Reduction in firing rate

Reduced firing rate in alpha motor neurons decreases muscle contraction force

ii) Decreased gamma neuron activity

Further decreases the muscle spindle's response to stretch, reducing muscle tone and contraction.

c) Muscle Relaxation

Cummulative effect of these changes results in a decreased alpha motor-neuron activity

Increases Metabolic Rate

Changes in temperature will have a significant influence on metabolic process by altering enzymatic activities, these changes can affect the biochemical reactions, leading to increased oxygen consumption and accelerated healing.

Increase in Breathing Rate - Rise in metabolic activity leads to increased rate of breathing. This heightened respiratory rate aids in oxygen dissociation and supports the metabolic processes.

An analytical comparison between various *swedana* modalities and physiotherapy approaches in Respiratory therapy²³

Physiotherapy for managing respiratory conditions and *ayurvedic swedana* practices share several therapeutic similarities and mode of action, making them complimentary approaches in improving respiratory health.

Breathing exercises including diaphragmatic and segmental breathing, aim to enhance ventilation, restrain respiratory muscles, which can be compared to *vyayama sweda* which employs physical activity to generate internal heat, improve lung function and clear obstructed channels. Similarly, postural drainage uses body positioning and techniques like percussion and vibration to mobilize and clear bronchial secretions, resembling *sankara sweda* where heated poultices are applied to relieve congestion and promote mucous removal. Manual / Mechanical percussion help move secretions towards the main

bronchi and stimulate coughing which can be compared to *nadi sweda*, where medicated steam is used to loosen and facilitate the expulsion of mucous.

In addition, postural awareness improves thoracic mobility and lung expansion, aligning with *shamananga sweda*, which can alleviate stiffness and enhance posture.

Both physiotherapy and *swedana* aims to improve ventilation, strengthen respiratory muscles and clear secretions, with physiotherapy focusing on mechanical and positional interventions and *swedana* utilizes thermal and herbal treatments

CONCLUSION: *Swedana* offers a versatile and effective approach in managing symptoms of *Rajayakshma* by targeting aggravated *doshas*, promoting expulsion of accumulated toxins, improving circulation and tissue repair. One of the key benefits of *shamananga sweda* is its applicability across diverse patient population, unlike more invasive *panchakarma* procedures like *vamana* and *virechana*, which can be challenging to be administered in aged, debilitated and children. This aspect makes it particularly suitable for patients with varying level of vitality and overall health, thereby increasing their quality of life. Hence, *shamananga sweda* emerges as a practical, effective and adaptive therapy in the management of *rajayakshma*.

Future research on *shamananga sweda* should focus on clinical trials and standardization of protocol. This will help in validating *shamananga sweda* and expand its application in treating *rajayakshma* and other respiratory conditions.

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