

Critical Review of *Swedana Karma* w.s.r. to Physical Medicine

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Abstract

Panchakarma a penta purificatory measure is sub branch of ayurveda. Oldest medicine of health systems in the world widely accepted among large segments of populations. Swedana is major procedure of panchakarma. Due to its versatility it shows its effectiveness in curing almost all systems by causing vasodilatation, improving blood circulation. Swedana comes under shadupakramas. In Swedana different heating modalities are explained, using moist air, steam, poultice etc., in this paper attempt of comparison on basis of the principle of sudation, a correlation is done. In physical medicine, using different physical properties like light, water, etc., treatment is done. In Ayurveda, sudation consists of vapors in different forms that imparts due to its medicinal action, therapeutic action of the Swedana karma.

Keywords

Swedana, Physical Medicine, Heat, Light, Poultice, Vasodilatation



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INTRODUCTION

The imperishable fundamentals of Ayurveda, which are laid down by the great sages of olden days are still applicable because of their scientific background, such fundamentals must be subjected to scientific research not only to prove its standard but also to add something new to existing knowledge. Therefore, research has to begin to know how the concepts can be rationalized in light of latest advancement of medical knowledge and diagnostic techniques. These days, whole world is looking towards best disease healing methods in the lines of holistic approach. We can find only *Ayurvedic* science which completely fulfills this criterion. Ayurveda has got vivid area for treatment of diseases by *Shodhana* and *Shamana*. *Samshodhana* a unique measure, dealt under *Panchakarma* therapy. This is the unique therapy of Ayurveda which gives Ayurveda as seat of anchor.

The procedure which eliminates the vitiated doshas from the body is called *Shodhana*. *Vamana*, *Virechana*, *Vasti*, *Nasya*, *Raktamokshana*. *Swedana karma* is important *purva karma* next to *snehana*. Besides being the principle *purva karma* procedure, *swedana* is the specific treatment

for a number of disorders of *vatapradhana* and *vatakapaha* diseases. *Acharya Charaka* has included *swedana karma* under *shad upakramas*¹.

Swedana karma in principle consists of induction of sweating by the application of heat. Sweat is considered as *sweda* and is one of the *trimalas* described in ayurveda. *Sweda* arises out of *ushma* or heat, sweat is secreted from *ecrine glands* which are distributed throughout the skin. Sweat is less viscous and contains the same constituents as the blood, but in lower concentration. *Swedana* is the procedure which relieves stiffness, heaviness, cold and induces sweating or produce heat.

CLASSIFICATION OF SWEDANA KARMA

Acharya Charaka a classified *Swedana* according the mode of application of heat as *Saagni*, *Niragni*. *Saagni* includes *sankara*, *prastara*, *nadi*, *pariseka*, *avagaha*, *ashmaghana*, *jentaka*, *karshu*, *kuti*, *bhu*, *kumbi*, *kupa*, *holak*².

Niragni includes *vyaayama*, *ushnasweda*, *gurupravarana*, *kshudha*, *bahupana*, *krodha*, *upanaha*, *ahata*, *atapa*³.

Each one of these *sagni* and *niragni sweda* can be further grouped under following

categories. according to sthana sarvanga to whole body, ekanga to affected part. According to guna as *snigdha* done with snigdha (unctuous) materials after bahya snehana, *rukshana* is done with ruksha materials. According to intensity mahan, madhyam, durbala.⁴

- According to *Sushruta swedana* is mainly classified into four types *tapa*, *ushma*, *upanaha*, *drava*.⁵

Sushruta has clubbed the different types of sweda under these 4 major types. All the 13 varieties of sagni sweda mentioned by charaka may be grouped under the 4 types mentioned by Sushruta as commented by dalhana⁶. *Tapa sweda* includes jenthaka, karshu, kuti, kupa, holaka.

UShma sweda includes. Sankara, prasthara, ashmaghana, nadi, kumbhi, bhu.

Drava sweda includes Pariseka, avagaha.

Niragni sweda⁷ is variant uses diverse techniques to include the effects of swedana without direct heating or it is a passive heating. It is mostly non thermal and utilizes body's self generated or conserves heat to restore the physiology.

Indications are obstructive pathology of vata with medas or kapha. we may interpret the indication as, selected mild or self-limiting

conditions, where heating is not necessary or contraindicated.

Niragni includes of *nivata sadana*, *atapa swedana*, *gurupravarana*, *niyudha*, *adhva*, *vyayama*, *bhara harana*, *amarsha*.

Table 1 Showing types of sweda and indications

Type of sweda	Indication
Taapa	Kapharoga
Ushma	Kapharoga
Drava	Pittanubandhi vataroga
Upanaha	Vata roga
Niragni	Kapha medavruta vataroga

Dalhana mentioned two varieties of sweda⁸ are *samshaniya sweda*, *samshodhanangabhutha sweda*.

Ashtanga sangraha elaborate further subdivides *drava* and *ushma sweda* into *ushma sweda* eight, *drava sweda* two.⁹

Ashtanga hridaya explained sagni sweda which includes *tapa*, *upanaha*, *ushma*, *drava*.

*Anagneya sweda*¹⁰ is *nivata gruha*, *ayasa*, *gurupravarana*, *bhaya*, *upanaha*, *ahata*, *krodha*, *bhuripana*, *kshudha*, *atapa*.

- According to Sharangdhara, sagni sweda same as Sushruta as 4types¹¹ niragni sweda¹²

Kashyapa explained 8 types of *swedahasta*, *pradeha*, *nadi*, *prastara*, *sankara*, *upanaha*, *avagaha*, *pariseka*.¹³

- On basis of dosha, in vataja diseases upanaha swedam, in pittaja disorders drava swedam, in kapha dominant diseases tapa and ushma sweda¹⁴ in amashaya gatavata. *Rukshapoorva sneha sweda* Indicated, in pakwashayagata kapha sneha poorva ruksha sweda indicated.^{15,16}
- According to vyadhi and vyadhita bala, mahan. Mahavyadhi and mahabala of vyadhita, madhyama in madhyamavyadhi and madhyama vyadhita bala, durbala (mridu) durbalavyadhi and alpa vyadhita bala.¹⁷
- As per ritu, in shita kal Mahan sweda, in ushna kala durbala (mridu) sweda indicated.¹⁸
- According to age, new born to 4months old baby hasta sweda is advised.¹⁹
- On basis of intensity of sweda, in vrushana, hridaya, chakshu mridu sweda, in vankshana madyama sweda, in other body parts mahan sweda.²⁰

Physical medicine is a branch of medicine that aims to enhance and restore functional

Ability and quality of life to those with physical impairments or disabilities.

Physical medicine employs the effective physical properties like light, heat, cold, water, electricity, massage, rest, exercise & mechanical agents for diagnosis & treatment of patients suffering from different types of disorders.²¹

Taapa sweda: *Tapanamtaapah*, tapa means heating i.e., direct application of heat to the body by heated materials, kaphagn as per dalhana, *jentaka*, *karshu*, *kuti*, *kupa*, *holaka sweda* of charaka sweda types are included in tapa sweda media is dry heat, action superficial and pacifying. Heat is conducted through conduction. Specific heat values of some of the substance used in tapa swedana are as follows sand-0.15-0.25, brick-1.31, and salt-0.9. Indicated in ama pradhana sotha valuka swesda in frozen shoulder, calcaneal spur, stiff neck, cervical spondylitis.

Now a days, we can see similar way of conduction of heat in infra red, heating pads, hot water bottles, short wave diathermy etc.

Infra red radiation is one of the least used heat modalities in modern practice. It is delivered using luminous or non iluminous sources with effective penetration depth of

electromagnetic energy of 1 or 15mm, hence very superficial form of heating. Heat is generated in superficial tissues only so pain relief is significant. It gives rise to local increase in blood flow, induce a reduction in pain by increasing the absorption of inflammatory metabolites, decrease local muscle spasm, re-absorption of edema, increasing tissue repair by means of metabolic stimulation.²²

Electric heating pads are produced commercially in various sizes their construction is such that the temperature produced by a heating element may be regulated by a series of resistors to required level heating of the tissues is by conduction so that the effect is merely superficial, both easy and comfortable.²³

Hot packs also called as hydro collar packs, this heat application is referred as moist heat, in that pack is heated by immersion in heat (70° c) water to bring pack up to therapeutic temperature. Pack wrapped with towel prior. Placing on skin of patient it produces superficial heating. Down to depth of 2-3cm at least, done about duration of 15-20 minutes it is clinically effective and the rise of tissue temperature.²⁴

Short wave diathermic current has a frequency of between 107 and 108 Hz and

sets up radio waves with a wave length of between 30-3m with a frequency of 27120000Hz and sets up radio waves with a wave length of 11m, this current is generated in a machine circuit, which is in turn coupled to a patient (resonator) circuit which is used to treat patient, it provides as deep form of heat it is possible to pass through the tissues currents of a much greater intensity than can be used with low frequency currents. The intensity of the current can be great enough to produce a direct heating effect on the tissues and the term diathermy means 'through heating'.²⁵

Upanaha

sweda:

Upanahobandhanamitiarthah in which swedana is done by *bandhana*, *upanaha* is application of warm paste of roots of vata mitigating drugs are macerated with a sour liquid added with salt, fats and tied on the body. Bandaging materials should be soft, but should have ability to retain heat, (silk, wool, leather, leaves) *vataghna* property. Medium of action is through soft moist type's saagni, niragni, saagni warm liquid is used. Niragni is operated with a media, which is not heated, and the retained warmth of the body acts as stimulus acted by retention therapy which exerts deep and

exciting action. Heat transferred by conduction it is indicated in headache, arthritis, bursitis, swelling, frozen shoulder, plantar fasciitis, varicose vein, tennis elbow, vatakantaka.

Now a days in physiotherapy, similarly heat wrap therapy are used in poultice, cataplasm, paraffin baths etc.,

Paraffin wax baths available in many variations of size and shapes. The melted wax needs to be maintained at a temperature of 40⁰-44⁰ c for treatment purposes, so thermostatic control is essential check temperature before treatment. Most convenient way of applying conducted heat to the extremities as the wax solidifies from its molten state it releases its energy of latent heat and this heat energy is conducted into tissues, wax gives off heat slowly due to its low thermal conductivity in order to retain the heat, wrap the part in a layer of plastic sheet ,towel. Duration 20min it increase temperature of the skin and to a lesser degree that of the other superficial tissues. The neurogenic vasodilatation may be due to action of a vasodilator formed as the result of sweat gland activity, mild heating have a sedative effect on the sensory nerve endings. It helps to soften adhesions and scars in the

skin prior to mobilizing and stretching procedures.²⁶

Ushma sweda: *Ushmahapah* i.e., bhaspa steam, vataghna. Dalhana included *sankara, prastara, asmaghna, nadi, kumbhi, bhushwedas of charaka in ushma sweda*, medium moist heat action is relatively, deep and exciting. Heat is transferred through forced conduction, *bhaspa sweda* is indicated in sciatica, hemiplegia, paraplegia, arthralgia, kyphoscoliosis, muscular contractures rheumatoid arthritis, osteoarthritis, post fracture stiffness of joints, rejuvenation therapy. *Ksheera bhaspa sweda in ardita, jihvastambha, hanustambha, swarabhanga.*

Now a day's heat is conducted using, vaporizers, steam chambers, sama, steam towels may be correlated. There are several methods of steam bath, ordinarily water is boiled in a container and patient is covered with thick blanket now the stem of the boiling water is allowed to enter into the coversheet on the body of patient steam continued till person has good perspiration. 5-15 minutes is enough, steam bath purifies the body. The incompatible stagnated products of the body get liquefied and go out of the body with sweat relieves stiffness of the body.²⁷

Drava sweda: *Dravatitidravah kashaya ksheeradibhi* in which hot liquids are used for pouring over the body or the affected part or complete body is made to immerse in the tub containing hot liquids, medium used is fluid heat, liquid less conducive so indicated for conduction less conducive or nonspecific for swedan i.e., *pitta samsrishta*.

(a)Avagaha: It used in pitta vata conditions retention procedure. Indicated in arshas, bagandhara, neurological problems of hip and lower limbs, lumbosacral pain, urogenital problems like renal calculi, and retention of urine.

(b)Pariseka: it used in pitta kapha conditions during procedure, indicated in sciatica, hemiplegia, paraplegia, arthralgia, kyphoscoliosis, muscular contractures, rheumatoid arthritis, osteoarthritis, post fracture stiffness of joints, rejuvenation therapy. Heat transfer is done through forced

convection, Modernized as submersive hydrotherapy, full body immersion tanks-hubbard tank, partial immersion - Sitz Bath. Hydrotherapy that involves the use of water for pain relief and treatment.

Therapeutic methods that take advantage of the physical properties of water, such as temperature and pressure for therapeutic purposes to stimulate blood circulation and treat the symptoms of certain diseases it is also used as a medium for delivery of heat and cold to the body. It involves submerging all or part of the body in water basing on part i.e., full body immersion tanks (a hubbard tank) is a large size and arm, hip, leg whirlpool.

It produces vasodilation, vasoconstriction these changes in blood flow and associated metabolic functions, via physiological mechanism, including those of thermoregulation²⁸.

Table 2 Sweda classification²⁹

Type	Definition	Indication	Modality	Action	Heat transfer
Tapa	Dry heat	Kapha	Thermal	Superficial and pacifying	Conduction/ Radiation (solids, air)
Ushma	Moist heat	Kaphavata	Steam/vapour	Deep and exciting	Forced convection, Radiation (fluids, air)
Drava	Fluid heat	Pittanubandha	Baths	Superficial and deep	Forced and natural convection (liquids)
Upanaha	Latent heat	Vata	Poultice	Deep and exciting	Conduction (occlusive bandage)

DISCUSSION

Properties of swedana ushna, tikshna, Sara, snigdha, rukshna, sukshma, drava, sthira, guru.

Stambhaghna: Swedana relieves stambha stiffness, vyana vayu sleshmaka kapha, amarasa, mamsa, meda, vasa are mainly responsible for stambha. vayu by rukshna guns absorbs snigdha and so causes stambha, swedana is snigdha and ushna so it relieves stambha, ushna guns of swedana does sroto shuddhi and Amapachana and so it relieves stiffness.

Gauravaghna: Swedana relieves heaviness in the body, it causes excretion of watery content of the body through sweda, kleda is guru, by elimination of kleda lightness is achieved, swedana stimulates muscles and nerves and so Lightness is produced.

Sitaghna: mainly due to ushma guna.

Sweda karaka: Swedana promotes sweating, sweda is type of mala, impurities of the body come out with sweda.³⁰

Physiological effects of heat:

Systemic/general effect: Raise in body temperature, increase in blood flow & blood volume in skin, raise in respiratory rate, pulse, decrease of renal blood volume, splanchnic blood flow, central venous

pressure, central blood volume, blood pressure.

Local effects of heat: Increase in metabolic rate, blood flow (hyperemia), improves fluid dynamics; it controls pain increase tissue elasticity, decrease muscle spasm.

CONCLUSION

Ayurveda, being a system which utilizes permutations and combinations of properties as its base, advocates a spectrum of heating modalities and media for distinct clinical conditions. We can identify a gradient in swedana based on properties, ranging from ruksha through snigdha (lubricating) with its multitude of variants and combinations with other properties. When other systems use only the heat in various intensities, ayurveda apply heat with specific attributes and intensities for a given condition. It is mere heating but adds quality to heating or else, health or else, health to heating. This wisdom of distinctness is the distinctiveness of ayurveda from other systems.

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