

## PHARMACODYNAMICS OF BASHPA SWEDA- REVIEW ARTICLE

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## ABSTRACT

*Swedana* (sudation/ medicated Vapour) is an independent *Upakrama* (therapy) as included under the *Shadavidha Upkramas* as well as *Purva Karma* measures (prepurificatory procedure). *Susruta* and *Vagbhata* mentioned the four types of *Swedana* (sudation). *Dalhana* described *Ushma Sweda* as *Bashpa Sweda*. *Bashpa Sweda* as per *Susrut* included under *Pras-tara*, *Nadi*, *Ashmaghan*, *Bhoo*, *Kumbhi Sweda* types described by *Charaka*. Perspiration or sweating is produced by the sudoriferous glands. It is mixture of water, salts, urea, uric acid, amino acid, ammonia, lactic acid. Sudation therapy activates these glands to produce more sweating so as to flush out the bodily wastes or toxins which can be eliminated through sweat, from the body through secretory portion of eccrine sweat glands. *Acharyas* describes effects of *Swedana* (sudation) as *Gauravghana*, *Sheetaghana*, *Agnideepti*, *Twakamardavata*, *Twak Prasadana* and *Sandhichestakar*. Therapeutic heat acts by increased vascular blood flow helps to remove some of pain provoking metabolites resulting from tissue metabolism i.e. lactic acid, pyruvic acid and the products of tissue injury like prostaglandins and bradykinin. It increases extensibility of connective tissue, & decreases joint stiffness, & muscle spasm. It produces analgesia by releasing endorphin and other neurotransmitters which break the pathway of pain. Heat exerts a modulating effect at the spinal and supraspinal levels. In *Bashpa Sweda* medicated water vapour used. Water is an ideal medium to deliver heat to the affected tissues due to its high specific heat, produces pain relieving effects even in deeper tissues. Thus *Bashpa Sweda* simultaneously provides heat by convection method with medicinal properties which are *Kapha Vataghna* in nature and helps to cure various disorders by eliminating the morbid factors through *Sweda*.

**Keywords:** *Bashpaswedana*, Heat transmission, Pain relief, *Swedana*, *Vatashamana*.

## INTRODUCTION

*Ayurveda* the ancient system of medicine showering its valuable treasures to mankind since ages and even today

competing with the modern system of medicine which has incorporated latest biotechnologies and developments of the science and also getting immense global

support. *Ayurveda* is a holistic system of medicine; it treats the individual as a whole but not independent system wise. Among the *Tridoshas* (Body humours), *Vata* has given prime importance both in physiological and pathological conditions. The remaining two are being inert, their equilibrium depends on *Vata*. *Vayu* is also chief driving force of all the normal movements in the body. When *Vayu* gets vitiated, all these movements get hampered. The *Vayu* vitiates by different etiological factors, spreads through different channels of the body and get settle in the particular site to manifest the disease. In *Ayurvedic* classics, our Great Sages have given so many special therapeutic procedures for specific disease along with thousands of medication. *Panchakarma* (Purificatory therapy) is a very unique therapeutic procedure, because of its preventive, promotive, and rejuvenative properties as well as providing a radical cure. Among these *Panchakarma* (Purificatory therapy), *Swedana* (sudation) is such a treatment that is applicable in all the *Vatavyahdis* (Vata diseases). Uses of *Swedana* (sudation) are explained by Lord Buddha for *Vatyadhi* (Vata diseases) in ancient time. E.g. *Sāmbhar Sweda*, *Mahasweda*. *Swedana* (sudation) is also described in Brahman literature like *Hiranyakeshi*. *Panchakarma* (Purificatory therapy) deals with elimination of the provoked *Doshas* from the body. It helps to eradicate the disease completely by acting at the root of disease<sup>1</sup> i.e. *Malas* or disease causative factors by eliminating them, thus purifies the body. Prior to *Panchakarma* (Purificatory therapy) therapy, *Purva Karma* (preparatory measures) viz. *Snehan* (oleation) and *Swedana* (sudation) to be performed. *Swedana* (sudation) is defined as the process which produces perspiration in the body and removes stiffness, heaviness, coldness of body.<sup>2</sup> *Susruta* and

*Vagbhata* described four types of *Sweda* – viz- *Ushma*, *Tapa*, *Upanaha* and *Drava*. *Dalhana* described *Ushma Sweda* as *Bashpa Sweda* (Warm steam)<sup>3</sup>. *Bashpa sweda* (Warm steam) is one the variety of *Sarvang*, *Snigdha*, *Agni Swedana*. Here the perspiration is produced by exposing the body to *Bashpa* or medicated steam or vapours. *Bashpa Sweda* as per *Susrut* included under *Prastara*, *Nadi*, *Ashmaghan*, *Bhoo*, *Kumbhi Sweda* types described by *Charaka*. *Harita* describes seven varieties in which *Bashpa Sweda* is main variety.

#### **MATERIAL & METHOD:**

This is conceptual type of study. All sorts of references has been collected and relevant material is compiled from various available *Ayurvedic* classics texts like *Charak Samhita*, *Sushruta Samhita* and *Ashtanga Hridaya* and available commentaries on it. Research articles are also searched from various websites. All Compiled matter is reorganized and critically analyzed for the discussion and attempt has been made to draw some fruitful conclusions.

#### **PHARMACODYNAMICS OF BASHPA SWEDA**

Heat and cold have been used in the treatment of pain since the time of Hippocrates. *Swedana* (sudation) is an independent *Upakrama* (therapy) as listed in the *Shadvidha Upakramas*. Most of the *Swedana* (sudation) procedures described by various *Acharyas* can be included under the *Bashpa Sweda*. Through the different methods of *Bashpa Sweda*, *Sweda* can be induced at a required site i.e.at local by way of *Sweda Petika*. In the present era it is most convenient, effective, more practiced procedure, so we should know the pharmacodynamics of *Bashpa Sweda*. It relieves the stiffness which may be due to *Sama* and *Dustha Kaphadosha* (Vitiated), *Aavaran* of *Meda* on *Vata* (covering of

*Meda* over *Vata*), which are subside by *Teekshna Guna* of *Swedana Dravya* (penetrating quality of sudation substance). It produces lightness in body by excreting the morbidities in the form of *Sweda*. *Ushna Guna* (hot) is predominate as *Aagneya* and having in corporating property. *Teekshna guna* (penetrating quality) having *Pak-kara*, *Stravana* (perfusion), *Shodhana* properties, so *Ushna* (Hot) and *Teekshna gunas* (penetrating quality) helps to digest the *Ama* and liquefies the *Vikruta Malas* (waste product) producing lightness in body. They also help to enhance the *Agni* (digestive fire) and improve the appetite causing desire for food<sup>4</sup>. Skin is the site for *Swedana* (sudation). *Romakupas* (hair follicles) are the *Moolasthan* (principle organ) of *Swedavaha Srotas* which are located in skin. *Swedana* (sudation) eliminates the waste product from skin and also cause *Prasadana*, & softness to skin.

It helps in proper movement of joints due to relaxation of muscles, tendons by supplying more nutrition through increased blood flow. Drugs used for *Swedana* (sudation) which increases the mobility of channels are generally *Snigdha* (unctuous), *Sara* (mobile), *Dravya* (liquid) in nature, due to these quality joints becomes lubricant. Perspiration or sweating is produced by the sudoriferous glands. It is mixture of water, salts, urea, ammonia, uric acid, amino acid, lactic acid. Sudation therapy activates these glands to produce more sweating, so as to flush out the bodily wastes or toxins which can be eliminated through sweat from the body through Secretory portion of eccrine sweat glands. Heat transmitted in body by – conduction,

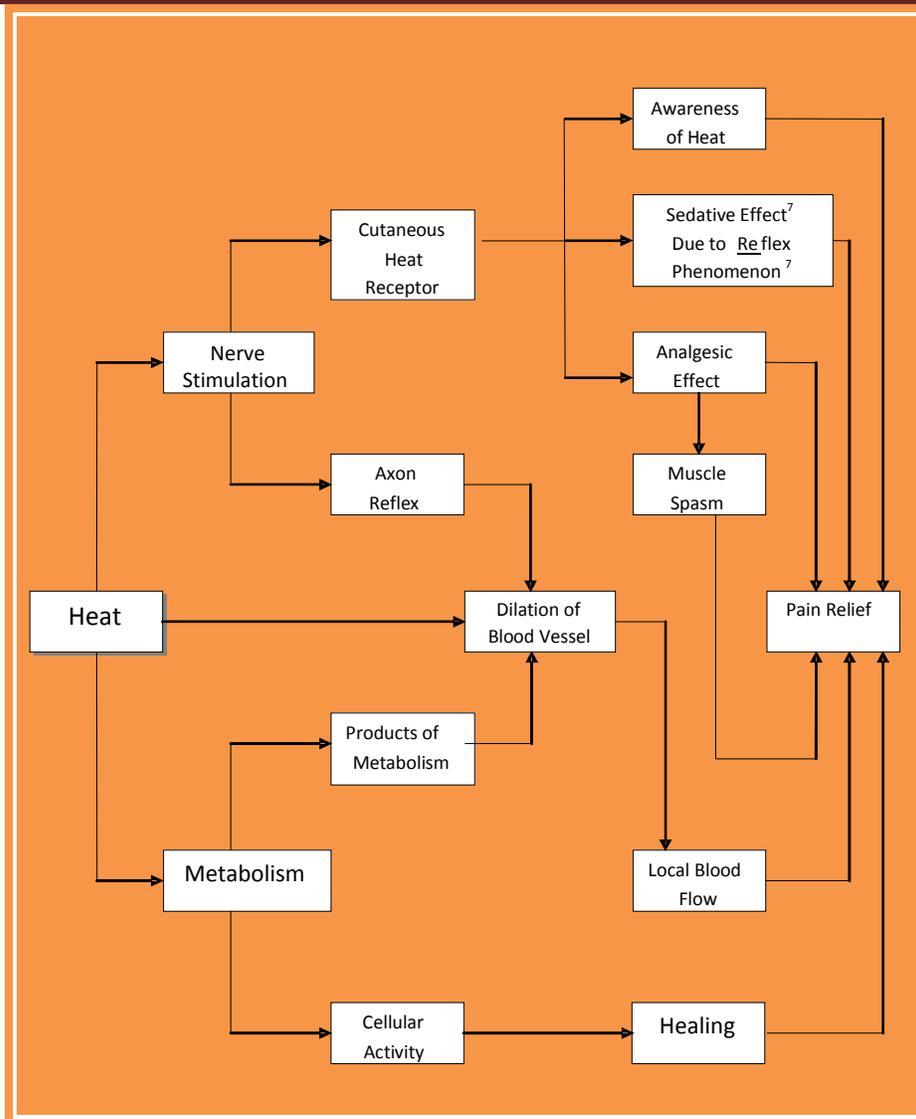
convection, radiation methods which induces sweating. In *Bashpa Sweda* heat is transferred to the body by convection method.

*Sweda* relieves the pain by –

- 1) Increased vascular blood flow helps to remove some of pain provoking metabolites resulting from tissue metabolism i.e. lactic acid, pyruvic acid and the products of tissue injury like prostaglandins and bradykinin<sup>5</sup>.
- 2) By releasing endorphin and other neurotransmitters which breaks the path way of pain<sup>6</sup>.
- 3) Sensation of temperature and pain both are carried to the higher centres via same neural path ways. Heat exerts a modulating effect at the spinal and supraspinal levels<sup>7</sup>.
- 4) Relieves the muscle spasm by reducing the levels of ischemia associated with prolonged contraction in affected muscles by removing fatigue products and by induction of fresh blood. *Sweda* relieves pain and muscle spasm which is interdependent, a reduction in one will cause a reduction in other.
- 5) Increase of range of joint of motion by neural and mechanical mechanisms. The analgesic effect of heat allows tolerance for stretching of tendon and ligaments during movement. *Sweda* also increase extensibility of collagen tissue providing free movements of joints. It helps to increase blood flow improving the nutrition and drains the products stagnated in cells and tissues. It also controls the infection by enhancing defence mechanism.

At the time of *Snehana* (oleation) and *Swedana* (sudation) as every nearby cell expands peripherally the blebbing of the cell membrane is restricted tangentially. The only possibility that remains is a blebbing of the cell membrane inside. The temperature gradient and pressure gradient caused by the *Swedana* further helps blebs detached. From the cell membrane and remain there till a critical

surface area is reached. These membrane then blebs out and spread further. Same principle explained in *Ayurveda*. *Sweda* helps to dissolve the waste product. *Sweda* (sudation) cause *Srotovivruutha* (enlargement of channels) with the help of *Sukshma* (Subtle), *Drava* (liquid), *Sara* (mobile) quality, and *Malas* (waste product) comes to the *Kostha* (alimentary canal) under control of *Vata* for further elimination by *Panchakarma* (Purificatory therapy) procedures. In *Bashpa Sweda* medicated decoction vapour is used. Water is an ideal medium to deliver the heat to the affected tissues due to its high specific heat. This



principle helps to produce pain relieving effects even in deeper tissues.

#### DISCUSSION:-

*Shoola* or pain is the main symptom of *Vata Vyadhi*. Our *Acharyas* prescribe *Swedana* (sudation) as prime remedy for *Vata* since it contain opposite quality of *Vata*. Hence *Swedana* (sudation) is described as independent *Upakrama* as listed in *Shadvidha Upkramas*. In the present era it is most convenient, effective and more practiced procedure. *Bashpa sweda* relieves the stiffness and heaviness in body by in corpoting the *Sama* and vitiated *Kaphadosha*. According to modern science *Sweda* relieves the pain by

1. Increased vascular blood flow – removing lactic acid, pyruvic acid, prostaglandins.
2. Release of endorphin and other neurotransmitters – breaks the pathway of pain.
3. Heat exerts - a modulating effect at the spinal and supraspinal levels.
4. Relieves muscle spasms - by reducing levels of ischemia.

#### CONCLUSION:

*Bashpa Sweda* transmits heat through convection method the effects of Sweda Dravya (sudation substance) and the effects of heat will reach to micro level. Hence *Bashpasweda* is superior to all other types of *Swedana*, since it is able to take out the morbid factors even at cellular level and also removes the obstruction of *Stotras* at that level which enable free movement of *Doshas* and more specifically *Rasa - Raktha* to nourish the tissue at desired part.

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