



LITERARY REVIEW ON DHOOPANA KARMA QUOTED IN VARIOUS AYURVEDIC CLASSICS FOR THE MANAGEMENT OF PAIN AND INFLAMMATION

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ABSTRACT:

Dhoopana Karma (fumigation therapy) is mentioned in various scriptures of Ayurveda as *Rakshoghna Karma* (protective action) to prevent and cure diseases. It is less practiced for pain management in Ayurveda, whereas it is widely practiced in the Chinese Medicine System. *Dhoopana Karma* can be used effectively when there is involvement of *Kapha Dosha* along with *Vata Dosha*, where *Kleda* (discharge) is more. But in Ayurvedic classics, we get very few references regarding *Dhoopana Karma* as Chikitsa for *Shoola* (pain). *Sukshma Srotogamitva* (subtle channel penetration) of *Dhoopana Dravya* (fumigating substance) is due to *Akasha, Vayu, and Agni Mahabhoota*. Hence, they possess properties like *Kledaghna* (reduces discharge), *Shoolaghna* (pain-alleviating), *Vranaropaka* (wound-healing), and *Shothahara* (anti-inflammatory), etc. *Dhoopana Karma* also improves blood circulation, which helps to reduce pain and inflammation. In this article, an attempt is made to understand the anti-inflammatory action of *Dhoopana Karma* mentioned in various Ayurvedic treatises.

Key words: *Dhoopana, Shoolahara, Shothahara, Pain and inflammation.*

INTRODUCTION

Inflammation is the local physiological response to tissue injury. It may have beneficial effects like destruction of microorganisms, thus prevents spread of infection. But equally it may produce disease. Inflammation may be acute or chronic. The essential physical characteristics of acute inflammation are rubor (redness) calor (increase in temperature), tumor (swelling) dolor (pain) and loss of function [1].

Inflammatory responses must be suppressed to prevent progression of acute inflammation to chronic inflammation. Inflammation resolution is a well-managed process involving the spatially and temporally controlled production of mediators, during which chemokine gradients are diluted over time. Circulating white blood cells lose their ability to detect these gradients, resulting in the cessation of recruitment to injury sites. If this process is disrupted, it can result in chronic inflammation. The processes involved in resolving inflammation to rectify tissue homeostasis include reduction or cessation of tissue infiltration by neutrophils and apoptosis of spent neutrophils, counter-regulation of chemokines and cytokines, macrophage transformation from classically to alternatively activated cells, and initiation of healing. When acute inflammatory mechanisms fall short in eliminating tissue injury, it paves the way for

chronic inflammation, which is implicated in a range of diseases including cardiovascular diseases, atherosclerosis, type 2 diabetes, rheumatoid arthritis, and cancers. Understanding the common mechanisms that orchestrate dysfunction in the various organ systems will allow for development and production of improved targeted therapies [2].

Dhoopana Karma (fumigation) is a significant therapeutic approach outlined in Ayurvedic texts, proving effective in both preventive and curative aspects. It involves the fumigation process utilizing *Dhoopana Dravya* (fumigant), which may be of herbal, herbo-mineral, or animal origin. This treatment, categorized as *Bahirparimarjana Chikitsa*, can be applied to specific areas such as *Vrana* (wounds), *Karna* (ears), *Nasa* (nose), *Guda* (rectum), *Yoni* (genitals), or the entire body. Additionally, it serves for disinfecting places like *Bheshajagara* (medicine storage), *Sutikagara* (maternity rooms), *Vranagara* (wound care units), *Kumaragara* (pediatric care areas), and *Shastrakarmagruha* (surgical suites). *Dhoopana* improves blood circulation and helps relieving pain and inflammation. But in Ayurveda it is less practiced for the management of pain and inflammation [3].

AIM AND OBJECTIVES

1. To study effect of *Dhoopana* in pain and inflammation.

2. To analyze the probable mode of action of *Dhoopana Dravya* in pain and inflammation.

MATERIALS AND METHODS

Brihatrayi (Charaka Samhita, Sushruta Samhita, Asthanga Sangraha and Asthanga Hridaya), classical Ayurvedic textbook and Various pre reviewed journals were analysed to compile references regarding *Dhoopana karma* in *Shoola* and *Shotha* (Pain and inflammation)

Derivation and definition of the word *Dhoopana* [4,5]:

The word *Dhoopana* is derived from '*Dhoop Dhatu*' and '*Lyuhu Pratyaya*'. Definition of Dhoopana: "*Dhoopayati svagandhena pranayithva adeepyati iti*". Fumigants are the materials which gives characteristic odour,

when ignited. *Dhoopana* is the process of fumigation where the dry fine powder of selected medicinal drugs is sprinkled over glowing charcoal to produce smoke. The word fumigation is derived from Latin term '*fumus*'- smoke and '*ago*'- to drive away. It is the exposure to the action of smoke or fumes of any kind as means of disinfection or eradication.

Derivation and definition of the word *Shoola* [6,7]:

The word *Shoola* is derived from '*Shool Dhatu*' and '*Ach Pratyaya*'. "*Shoola Rujayaam*". That which causes pain is known as *Shoola*. This pain may be physical or psychological. In Ayurvedic classics various terminologies like *Shoola, Ruja, Toda, Vyatha, Ruk, Vedana, Saada, Upataapa* etc were used for pain.

Table No.1 showing nature of pain based on *Dosha* dominance

Dosha Dominance	Charaka Samhita Sutrastana 20 th chapter [8-13]	Astanga Hrudaya, Sutrastana 12 th chapter [14-19]
Vataja	<i>Toda</i> (pricking pain) <i>Vyatha</i> (Aching pain) <i>Shoola</i> (pain) <i>Supti</i> (Numbness) <i>Stambhana</i> (Rigidity)	<i>Vyadha</i> (piercing pain) <i>Swapa</i> (numbness) <i>Sada</i> (exhaustion) <i>Ruk</i> (colic) <i>Toda</i> (tormenting pain) <i>Bhedana</i> (Splitting pain) <i>Anga-bhanga</i> (malaise) <i>Sankocha</i> (spasm) <i>Varta</i> (twisting) <i>Spandana</i> (throbbing pain)
Pitta	<i>Daha</i> (burning sensation)	<i>Daha</i> (burning sensation)

	<i>Sadana</i> (torpor)	<i>Sadana</i> (torpor)
Kapha	<i>Staimitya</i> (Timidness) <i>Gourava</i> (heaviness) <i>Supti</i> (numbness)	Gourava (heaviness) Sthaimitya (Timidness)

Source of *Dhoopana* drugs [20]:

1. *Sthavara* (Plant origin) eg: *Guggulu* (*Commiphora wightii*), *Jatamamsi* (*Nardostachys jatamansi*) etc.
2. *Jangama* (Animal origin) eg: Hair, Nails etc.
3. *Paarthiva* (Minerals) eg: *Haratala* (Arsenic trisulphide), *Manashila* (Arsenic disulphetc) etc.

Procedure of *Dhoopana karma* [21]:

Dhoopana drugs are collected and dried properly and coarsely powdered. This powder put on fire to expose smoke. Ignited cow dung cake or coconut shell or hot charcoal or electric *Dhoopa* pot can be used. Fumes exposed to affected part.

Table No.2 showing references of *Dhoopana* drugs/yoga for pain and inflammation mentioned in different Ayurvedic classics:

Sl. No.	Drugs	Purpose	Reference
1.	<i>Hingu, Lavana</i>	For <i>Vedana</i> and <i>Rakshognartha</i> , <i>Dhoopana</i> has to be done.	<i>Sushruta Sutrasthana: Agropaharneeya Adhyaya</i> [22,23].
2.	Cotton cloth dipped in ghee and <i>Dhoopana</i> Drugs mentioned in Su.Su 37 th chapter of <i>Sutrasthana</i> . i.e. <i>Shreevestaka, Sarjarasa, Sarala, Devadaru</i> etc,	If <i>Vrana</i> is having <i>Vata</i> dominance with <i>Ugra Ruja</i> (Ulcer with Severe Pain and inflammatory condition)	<i>Sushruta Chikitsasthana: Diviraneeya Adhyaya</i> [24-27].
3.	<i>Shirishapushpa, Ahishira, Nata, Kusta</i>	Used for <i>Shotha</i> (inflammation). This fumigation is also good for all types of poison.	<i>Astanga Sangraha Uttaraasthana, Vishopadravaprathisheda Adhyaya</i> [28].
4.	<i>Shreevestaka, Sarjarasa, Devadaru, Shimshapa, Khadira, Asana, Kaidarya, Yava, Madhuchista, Bhoorjapatra, kshouma</i> and <i>sarpi</i> .	Ulcer with discharge and severe pain (<i>Vata- Kaphaja Vrana</i>)	<i>Astanga Sangraha Uttaraasthana, Vranaprathishedha Adhyaya</i> [29].
5.	<i>Yava, Bhoorja, Madana, Shreevestaka Surahva</i> along with	For the ulcer with discharge and severe pain (<i>Vata- Kaphaja Vrana</i>)	<i>Astanga Hrudaya Uttaraasthana, Vranaprathishedha Adhyaya</i> [30].

	Ghee.		
6.	<p><i>Shuddha Parada, Vanga Bhasma, Khadira Tvak, Haritaki, tender kadali Bhasma and Pooga phala</i> each 1 tola (12gms).</p> <p>The fine powders of <i>Shudda Hingula, Shuddha Haratala, Shuddha Gandhaka, Shuddha tutta, Padma Kashta, Sarala Kashta, Rakta Chandana, Shweta Chandana, Devadaru, Vakama Kashta,</i> and <i>Nagakesara kashta</i> each 1masha (1 gm)</p>	<p>Process of Drug-Making: All drugs are triturated together in <i>Khalva Yantra</i> to get homogenous mixture followed by <i>Bhavana</i> with <i>Changeri Swarasa</i> and <i>Tulasi swarasa</i>. Then jaggery and ghee of 6gms each and triturated to prepare pills of 1kola (6gms) size.</p> <p>Method of Administration: considering the severity of the disease, 4 pills are tied in a cotton cloth and <i>Pottali</i> is prepared and is placed over burning charcoal in patient's room.</p> <p>Patient is asked lie down over a netted cot with his body covered with rug and the eyes, ears and nose covered with cotton cloth.</p> <p>This procedure is repeated thrice daily for 3days. On 4th day warm water bath has to be done. This procedure is continued until patient starts sweating heavily.</p> <p>During this period the patient is advised to avoid <i>Shaka, Amlarasa Dravya, Vidahi,</i> Curd and heavy food for 1 month.</p> <p>Therapeutic benefits: Such smoke treatment is very much effective in <i>Kusta, Upadamshajanya Vrana</i> and also it can be used for <i>Shoatha, Amavata</i>.</p>	<p><i>Bhaishajya Ratnavali, Upadamsha Rogadhikara: Paradadi Dhoopana</i> ^[31,32].</p>
7.	Corn flour mixed with mustard oil.	The patient's body should be covered with thick blanket and should do <i>Pranayama</i> (breathing exercise) then <i>Dhoopana</i> should be done	<p><i>Bhaishajya Ratnavali, Shoolaroga Chikitsa Prakarana Adhyaya: Shoolahara Dhoopa (Chakradatta)</i> ^[33-35].</p>

8.	Ghee, Akshata, Jati Pushpa, honey, Siddhartaka and Vacha	This Dhoopa is known as Gana Dhoopa, it removes pain of all the leaving beings.	Kashyapa Kalpasthana, Dhoopakalpana Adhyaya ^[36] .
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Table N. 3 showing some of the common fumigants mentioned Ayurvedic classics for the management of pain and inflammation ^[37-46]:

Sl. No.	Drug name	Rasa panchaka	Part used	Indication	Reference
1.	Shreevestaka / Guggulu: Botanical name: Commiphora mukul, C.wightii Family: Burseraceae.	Rasa: Tikta, Katu Guna: Laghu, Rooksha, Sukshma (old) and sara, snigdha (new) Veerya: Ushna Vipaka: Katu Karma: Tridosahara, Rasayana, Vrushya (new), Lekhana (old)	Oleo-resin/gum	Sthoulya, Amavata, Vata vyadhi, Prameha, Apachi, Gandamala, Shotha, Pitaka, Ashmari, Arsha, Kusta.	Sushruta Chikitsa 5/40. Bhava Prakasha, Karpuradi varga, 34-37.
2.	Sarja: Botanical name: Vateria indica Family: Dipterocarpaceae	Rasa: Kashya, Tikta Guna: Snigdha Veerya: Sheeta Vipaka: Katu Karma: Vata-Pittahara, Kandughna, Kustaghna.	Bark, gum	Kandu, Kusta.	Bhava Prakasha Vatadi varga 21
3.	Sarala: Botanical name: Pinus longifolia Family: Pinaceae	Rasa: Katu, Tikta, Madhura Guna: Laghu, Tikshna, Snigdha Veerya: Ushna Vipaka: Katu Karma: Kapha – Vatahara, Vrana Shodhana	Stem/stem bark, gum-resin, oil	Dusta Vrana, Kusta, Shotha, Urusthambha	Bhava Prakasha Karpuradi varga 26-27
4.	Devadaru: Botanical name: Cedrus deodara Family: Pinaceae	Rasa: Tikta, Katu, Kashaya Guna: Rooksha, Laghu Veerya: Ushna Vipaka: Katu Karma: Kapha – Vatahara, Deepana, Kasahara	Bark, heartwood, oil, leaves, resin	Dusta Vrana, Shopha, Kandu, Kusta, Kasa – Shvasa, jvara, Krimi, Kandu	Bhava prakasha Karpuradi varga 146

5.	Khadira: Botanical name: <i>Acacia catechu</i> Family: Mimosoideae	<i>Rasa: Tikta, Kashaya</i> <i>Guna: Laghu, Rooksha</i> <i>Veerya: Sheeta</i> <i>Vipaka: Katu</i> <i>Karma: Kapha – Pittahara,</i> <i>Medoghna, Deepana.</i>	Bark, heartwood	<i>Kandu, Kasa, Krimi,</i> <i>Shotha, Pandu,</i> <i>Vrana, Arsha</i>	<i>Raja Nighantu</i> <i>Guduchyadi varga</i> <i>27</i>
6.	Yava: Botanical name: <i>Hordeu vulgare</i> Family: Poaceae	<i>Rasa: Kashaya, Madhura</i> <i>Guna: Picchila, Iekhana,</i> <i>Guru,</i> <i>Veerya: Sheeta</i> <i>Vipaka: Katu</i> <i>Karma: kapha- pittahara,</i> <i>Mehahara, Vrushya,</i>	Dried Fruit	<i>Meha,</i> <i>Shonitapitta,</i> <i>Peenasa, kasa</i> <i>Shwasa,</i> <i>Rujapaha</i>	<i>Sushruta Sutra</i> <i>46/41.</i>
7.	Haratala: Orpiment/ Arsenic trisulfide (As ₂ S ₃)	<i>Rasa: Katu, Tiikta, Kashaya</i> <i>Guna: Snigdha</i> <i>Veerya: Ushna</i> <i>Vipaka: Katu</i> <i>Varna: Peeta varna.</i>	–	<i>Shwasa, Kusta,</i> <i>Rakta Vikara,</i> <i>Vatarakta</i> <i>Vrushchika</i> <i>Damstra.</i>	<i>Ayurveda Praksha</i> <i>20/176.</i> <i>Rasendra Sara</i> <i>Sangraha 1/187.</i>
8.	Gandhaka: Sulphur (S)	<i>Rasa: Madhura</i> <i>Veerya: Ushna</i> <i>Vipaka: katu</i> <i>Karma: Deepana, Pachana,</i> <i>Kandughna, Kustaghna,</i>	–	<i>Kandu, Kusta,</i> <i>Visarpa, Viasha,</i> <i>Tvakroga.</i>	<i>Rasa Ratna</i> <i>Samuchhaya 3/16</i>
9.	Madhu (honey):	<i>Rasa: Madhura pradhana,</i> <i>Kashaya Anurasa</i> <i>Guna: Rooksha, Lekhana,</i> <i>Ropana,</i> <i>Veerya: Sheeta</i> <i>Vipaka: Madhura.</i> <i>Karma: Pittashleshma</i> <i>Prashamana, Tridosahara,</i> <i>Chakshushya, Sangrahi,</i> <i>Hrudya, Vajeekarana,</i> <i>Sandhana</i>	–	<i>Meha, Hikka,</i> <i>Shwasa, Kasa,</i> <i>Atisara, Chardi,</i> <i>Trushna, Visha,</i> <i>Krimi.</i>	<i>Sushruta, Sutra</i> <i>45/132</i>
10.	Sarpi (ghee):	<i>Rasa: Madhura</i> <i>Guna: Mrudu, Guru</i> <i>Veerya: Sheeta,</i>	–	<i>Shoola, udavarta,</i> <i>Unmada,</i> <i>Apasmara, Jwara,</i>	<i>Sushruta Sutra</i> <i>45/96</i>

		<p><i>Vipaka: Madura</i> <i>Karma: Vata - Pittahara,</i> <i>Kaphakara, Madhya,</i> <i>Vrushya, Vayasthapana,</i> <i>Vishahara, Rakshoghna.</i></p>		<p><i>Visha, Murcha,</i> <i>Timira, Kusta etc.</i></p>	
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DISCUSSION

Dhoopana can be used in the management of multiple diseases. Pain may affect the person physically as well as mentally. So *Dhoopakalpana* can be also useful for the management of psychological issues.

Probable mode of action:

Dhoopana Dravyas possess *Ushna* (hot), *Laghu* (light), *Rooksha* (dry), and *Vishada* (non-slimy) *Gunas* due to *Akasha, Vayu, and Agni Mahabhoota Pradhanata*. Hence, they have *Srotoshodhana* (cleansing of channels), *Vedanahara* (analgesic), and *Kledagna* (reduces discharge) effects. Fumigants mentioned in the classics for managing pain and inflammation often exhibit *Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent) *Rasas*, and *Ushna Veerya* (hot potency). Therefore, *Dhoopana Karma* proves effective in conditions involving *Kapha* and *Vata* doshas, especially where *Kledata* and severe pain are predominant.

Shuddha Guggulu, known for its potent anti-inflammatory, anti-arthritic, and analgesic properties, useful in *Amavata, Vata vyadhi*, and *Shotha*. The stem bark of *Devadaru*

possesses anti-inflammatory properties. Plant oil of *Sarala* is having analgesic and anti-inflammatory action. *Cedrus deodara* is known for anti-bacterial, anti-fungal and anti-ulcer properties. Anti-inflammatory properties of baicalin and catechin of *Khadira* have been widely reported. Other substances such and mineral drugs like *Haratala* and *Gandhaka* exhibit antimicrobial activity, which will be effective in managing inflammatory conditions [37-46].

When fumes are exposed to the affected area, they aid in dilating blood vessels and promoting the oxidation of blood, thereby facilitating adequate tissue perfusion and oxygenation. Thus, reduces inflammation [47].

Some of the commonly used fumigation techniques for the management of pain and inflammation in Traditional Chinese Medicine:

Fumigation of Traditional Chinese Medicine is an external treatment method which use the decocted liquid of Traditional Chinese Medicine to fumigate and then wash the affected area. The fumigation and washing of Traditional Chinese Medicine utilizes the warm

effect of medicine heating to promote blood and lymphatic backflow, reduce the excitability of the sensory nerve of the skin, so as to reduce the swelling and relieve the pain [48].

Bone-healing Powder fumigation is a technique used for the management of osteoarthritis, osteoporosis and also helps to elevate post operative neurological pain and swelling in traumatic fracture. Herbs used in Bone- Healing powder fumigation are safflower, *Angelica sinensis*, *Radix dipsaci*, and *Rhizoma drynariae* [49].

Moxibustion is an ancient science of medicine where herb moxa (*Artemisia vulgaris*) is burnt and fume is exposed to vital points of the human body to cure or prevent disease. Moxa – local name of the herb, Bustion-ignite or burn. These herbs are commonly seen in the forests of Tibet. The Moxa leaves were collected, dried and then powdered, later mixed with wool in order to catch fire [50].

Further Research Scope:

Acharaya Charaka in *Sutrastana*, *Shadvirechana Shatashriteeya Adhyaya* mentioned 10 drugs each for *Shothahara*, *Shoolaprashamana*, *Angamardaprashamana* and *Vedanastapana Dashemani* [51]. These Drugs can also be used in the form of fumigations to know its effects on pain and inflammation. Here *Shothahara Dashemani* can be used for inflammatory condition.

Shoolaprashamana Dashemani act as anti-spasmodic, *Angamardaprashamana* can be considered as Anti-malaise and *Vedanastapana Dashemani* may be having analgesics effect [52]. However further research has to be done on these *Dashemani* to know their effect when administrated in different forms (external as well as internal administration).

CONCLUSION

Pain is caused not only because of *Vata Dosha*, but also due to *Pitta* and *Kapha Dosha*. *Dhoopana* can be useful in *Vata-Kaphaja* conditions where there will be more *Kledata*. In Ayurvedic classics, very few references are available about *Dhoopana* for the management of pain and inflammation. *Dhoopana* is widely practiced as *Rakshoghna* as *Dhoopana* drugs have antimicrobial action, which may alleviate inflammatory condition also. Most of the drugs mentioned in Ayurvedic classics have *Tikta*, *Katu Rasa* and *Laghu*, *Rooksha Guna*, indicating that *Dhoopana* can be used when *Vedana* is due to *Kapha* along with the involvement of *Vata Dosha*. It can be used effectively in *Sandhigata Vata*, *Amavata*, cellulitis, etc conditions. But it is less practiced in Ayurveda for pain management. However, Clinical practice and further research will help to understand its scientific mode of action and to get maximum benefits.

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