

Conceptual Study on Dhoopana – A Review Article

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ABSTRACT

Ayurveda stated various methods for disinfection and sterilization which are developed at ancient time, among these *Dhoopana* is one which is widely used and there are many references of *doopana* in *Sushruta Samhitha*. Acharya *Sushruta* successfully conducted various surgical procedures. Probably this *doopana* might have helped in preventing infections. Current day fumigation is also an important method of sterilization before surgical procedures and *doopana* can be correlated with fumigation. In many classical texts we get scattered references of *doopana* and many drugs having *krimigna* property which are used for *doopana*. Hence an attempt is made to compile all the *doopana* references in this article.

KEYWORDS: *Dhoopana*, sterilization, anti microbial, disinfection.

INTRODUCTION

There are millions of microorganisms around us, the dead cells fallen from the surface of the body carries thousands of such organisms. All these organisms can be potential in causing surgical site infection especially on open wounds, incised areas and they can result them into major complications¹. Thus it carries lot of importance to disinfect the OT and surgical instruments before preceding any major or minor operative procedures.

Overall, the prevalence of hospital acquired infection in the year 2017 was 3.76% whereas, surgical intensive care unit (ICU) -25%, medical ICU (20%), burns ward (20%) and pediatric ward (12.17%) were identified to have significant association with hospital acquired infection².

In Ayurveda, there are many references of *Homa-havana* and *Yajna*, sterilization of air by *Agnihotra*, sterilization of house and place around it by *Dhoopana*. In *Ayurveda*, Acharya *Sushruta* is the pioneer in surgery. In his work, *Sushruta Samhita* there is description to do *dhoopana* with *Rakshoghna Dravyas*³

He has stated many combinations of drugs and different types of *Dhoopa* for different types of organisms and for various chambers like *Shastragara*, *Kumaragara*, *Sutikagara* and for instruments like *Yantra* and *Shastras*, sterilization methods are *Payana*, *Dhoopana*, *Parisheka*, *Agnitapana*. In this article all the *doopanayogas*, *dravyas* mentioned in different classics for disinfection of ot or ot materials are compiled.

NIRUKTI OF DHOOPANA

Dhoopayatisvagandhenapranayithvaadeepyathiithi | Gandhadravyavisheshoththadhoomasthadvarthishcha|
*Dhoopayathisandhukshayathi vanhimithi*⁴

Fumigants are the materials which fumigate the area with its typical odour when ignited". It is a method of fumigation in *Ayurveda* that uses natural substances to sterilize, disinfect, and purify. It can be used for

variety of purposes, including:

Sanitizing: To purify premise.

Sterilizing: To sterilize pots for storing medicines

Repelling: To repel insects and poisonous animals

Treating diseases: To treat diseases like skin diseases, cold, fever, and epilepsy.

Healing: To heal wounds, ear diseases, and other conditions

TYPES OF DHOOPANA

According to *Kashyapa*, *Dhoopana* is of 3 types⁵

1. *Dhoopa* (Fumigation)

2. *Anudhoopa* (Subsequent Fumigation)

3. *Pratidhoopa* (Anti fumigation)

On the basis of origin, fumigation can also be classified as⁶

1. *Jangama* and *Sthavara*.

2. Acharya *Charaka* has classified *dhoopa* according to their pharmacokinetic properties in wound management in *Vrana Chikitsa*.⁷

3. Vrana Kathinyakara Dhoopa and Vrana Mridutakaraka Dhoopa

DIFFERENT TYPES OF *DHOOPANA* EXPLAINED BY *ACHARYA CHARAKA*

धूपनानिपुनर्वससांशयनास्तरणप्रावरणानांचयवसर्षपातसीहिङ्गुगुगुलुवचाचोरकवयःस्थागोलोमीजटिलापलङ्कषाशोकरोहिणीसर्पनिर्मो
काणिघृतयुक्तानिःस्युः॥Cha sha8/61॥

Fumigation of cloths, bedding, sheets etc. should be done with Yava, Sarshapa, Atasi, Hingu, Guggulu, Vacha, Choraka, Vayastha (Brahmi, Golomi (Sweta Durva), Jatila (Mamsi), Palankasha, Ashoka and Rohini and also slough of snake all together and added with Ghrita.

शिखिबर्हिबलाकास्थीनिसर्षपाश्चन्दनंचघृतयुक्तम्

धूमोगृहशयनासनवस्तादिषुशस्यतेविषनुत्॥cha chi 23/98॥

Fumigation of clothes, bed and room should be done with peacock feather, bagulabones, sarshapa and chandana to remove the visha.

DIFFERENT TYPES OF *DHOOPANA* EXPLAINED BY *ACHARYA SUSHRUTA*

ततोऽगुगुल्वगुरुसर्जरसवचागौरसर्षपचूर्णैर्लवणनिम्बपत्रविमिश्रैराज्ययुक्तैर्धूपयेत्।

आज्यशेषेणचास्यप्राणान्समालभेत ॥su su 5/18॥

Fumigation should be carried out by using drugs like guggulu, agru, sarja rasa, vacha, gaur sarshapa, lavana, nimbi patra along with goat ghee. Remaining product should apply over chest wall by covering heart & lungs.

Acc to Dalhana, dhupana should be carried over wound, patient bed, for foul smell & to keep away neelmakshika from wound.

सर्षपारिष्टपत्राभ्यांसर्षिषालवणेनच।

द्विरहःकारयेद्धूपं दशरात्रमतन्द्रितः ॥su su 19/28॥

Fumigation (of the chamber) should be done for ten days, twice a day without laziness, using sarsapa, leaves of arista (nimba) added with ghee and salt.

श्रीवेष्टकेसर्जरसेसरलेदेवदारुणि।

सारेष्वपिचकुर्वीतमतिमान्द्रणधूपनम् ॥su su 37/21॥

The wise physician should do fumigation of the wound by using srivestaka, sarjarasa, sarala, devadāru and piths (of trees like sala, sara etc) for cleansing the wound.

वातात्मकानुग्रजान्सास्रवानपिचव्रणान्।

सक्षौमयवसर्षिभिर्धूपनाङ्गैश्चधूपयेत् ॥su chi 1/80-81॥

Fumigation should be done with kshauma, yava, grita and dhupana drugs for lesions afflicted with vitiated vata are extremely painful and associated with discharge.

DISCUSSION

Acharya Sushruta explains about Dhoopana with guggulu, agaru, sarjarasa, vacha, gourasarshapa, saindavalavana, nimbapatra, ghrita for shastragara as a poorvakarma and paschat karma vidhi. This shows that dhoopana is one of the aseptic measures⁸. In Ashtanga Sangraha, there is description of dhoopana in Rakshavidhi. Also there is advice of Dhoopana to the Sutikaagara with the help of Dravyas mentioned in Vrana Chikitsa⁹. Acharya Kashyapa has given separate Dhoomakalpaadhyaya for Dhoopana, with the aim of keeping Sutika and the new born healthy. He has described different Dhoopas and in Garbhaavastha, he has advised Dhoopana of bed, clothes, chair and whole Sutikagruha. It shows that Dhoopana is helpful in disinfecting environment of certain area¹⁰.

Fumigation is the process by which we can sterilize the enclosed area by injecting the chemicals which will kill or destroy microbes present in the air and surface. By maintaining sterile environment a major part of exogenous infections can be controlled. Fumigation of hospital wards and OT with high concentration of toxic chemicals has been proposed to reduce microbial agents on hospital surfaces and to control infections¹⁰. Disadvantages of chemical fumigation are respiratory irritation, itchy eyes, runny or stuffy nose, sore throat and headache. Generally formaldehyde is used for OT fumigation. Formaldehyde can cause breathing difficulty in allergic individuals, particularly those with asthma or

another respiratory condition. In humans, formaldehyde exposure has been associated with cancers of the lung, naso pharynx and nasal passages. Health effects resulting from certain fumigants may include neurological signs and respiratory damage¹¹.

So it is necessary to establish an *Ayurvedic* method of fumigation, because *Ayurvedic* drugs are equally potent to kill the microorganisms. With the herbal fumigation several hours of operation theatre closure is not necessary like in chemical fumigation and it also don't cause the side effects as in the contemporary method of fumigation.

CONCLUSION

Ayurveda literature consists of a variety of *Dhoopana Kalpanas* aimed at deriving health, combating diseases and even purifying environment. These formulations have been used widely since *vedic* period. The *Dhoopana Dravyas* mentioned in the *Samhitas* have a lot of potential to manage different diseases and for sterilizing in an economical and eco-friendly way without developing any drug-resistant microorganisms. It is necessary to undergo detailed study to identify the bioactive chemical moieties of the formulations and establish their safety and efficacy profiles. Standardizing, characterizing and marketing these *Dhoopana* formulations is the need of the hour to bring a natural, eco-friendly and economically helpful tool to combat microbes.

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