

**Research Article**

**Ayurved Dhoopana(medicated smoke) chikitsa in present era – Review according to Ayurveda and modern**

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**ABSTRACT:**

Environment we are leaving in is laden with billions of microorganisms. Maximum of them lives in commensalism with human, and are not harmful, or are opportunistic which may prove hazardous in old age, children, hin-satva, immune-compromised host. They may prove harmful operation theater setting, hospital, neonatal ward or labour room and crowded area. Thus proper disinfection and sterilization is always major issue especially in operation theater and hospital settings. Modern disinfection procedure having number of side effects in human with a cumbersome process with emerging resistance. Ayurveda explains many herbal drug which may prove to be safe, effective and lucrative with less side effects in present era. In this present study eight such drugs which are explain in ayurveda in Sushrut Samhita classical text for dhoopan (fumigation) namely Guggul, agaru, sarjras, vacha, gaursarshapa, lavan, nimbapatra, ghrut have been studied for their action as antibacterial and disinfected properties according to panchabhautik view of ayurveda. All drug have been found to be effective safe to be used especially in Operation Theater and in hospital for post-operative care of patient. Further study is needed on large scale for practical implementation of these herbal drug as a primary drug for disinfection for Operation Theater and in hospital for post-operative care of patient.

**KEY WORDS:** Anti-bacterial, *Ayurveda*, *Dhoopan*, Disinfectant, Fumigation

**INTRODUCTION:**

Acharya Sushruta was the first to make advances in respect of body dissection to get the perfect knowledge of anatomy. He developed many Yantra, Shastra and surgical technique that are accepted today even by modern science. He was first to introduce use of alcohol for the purpose of anesthesia.<sup>1</sup>

Ayurveda explains multiple sterilization Measures like water purification, homa, yagna, dhoopana. Dhoopana is a method by which drugs of herbal, herbo-mineral or animal origin are used for fumigation.<sup>2</sup>

There are millions of micro-organisms around us, in air, cloths etc. The dead cells fallen from the surface of the body carries thousands of such organisms and to our surprise, it countributes almost 37% of our house hold dusts. Not only this, even gram positive cocci called staphylococcus Aureus lives in nostrils of 30% population.<sup>2</sup> All the things around us can get

contaminated by such organisms. They are harmful and pathogenic, especially on open wounds, incision, scars and can results into major complications. Thus it carries a lot of importance to disinfect the operation theatre before proceeding to any major or minor operative procedures<sup>3</sup>

In Ayurveda, Acharya Sushruta as described above was the one, who developed the surgery most, in his Sushruta Samhita, he has advised to do dhoopan with Rakshoghna Dravya.<sup>4</sup>

He has stated many combination & different types of Dhoopa for different types of organisms. Whether one believe it or not, but all our ancient literature proves on more or less extend that, though the terminology was different i.e., Bhutavidya means microbiology. But our Acharyas had very detailed knowledge about human anatomy, principles of remaining healthy &

medicinal cure. Acharya Charaka gives Dhoopana for Varna Chikitsa.<sup>5</sup>

In Ashtanga Sangra there is description of Dhoopana in Rakshavidhi. Also there is advice of Dhoopana to the Sutikaagara with the help of Dravyas mentioned in Vrana Chikitsa.<sup>6</sup>

Acharya Kashyapa has given separate Dhooma-kalpaadhyaya for Dhoopana, aim of this Adhyaya is to keep Sutika and new born healthy. He has described different Dhoopas and also advised in Garbhaavastha, Dhoopana of bed, clothe, chair and whole Sutikagruha. It shows that Dhoopana is helpful in disinfecting environment of that particular area.<sup>7</sup>

Acharaya Sushruta mentioned aseptic precautions before any surgical procedures, all instruments being used should be heated up to red hot to prevent infection.<sup>8</sup>

Iatrogenic causes may affect patients as well as health care workers in a hospital set up. Hospitals provide a breeding ground for drug-resistant bacteria which can be transmitted due to poor infection control practices in the hospital. It is estimated that nosocomial infections cost \$ 4.5 billion and contribute to 88,000 deaths annually. Although infection control and hospital epidemiology activities have been the subjects of increasing scientific study over the past 30 years, efforts to lower infection risks have been continually challenged by the growing numbers of immune-compromised patients, antibiotic resistant bacteria, fungal and viral super-invasive functions. Most often, the mode of infection occurs through cross infections. Hence a sterile atmosphere like operation theatre or labour theatre in a health care setup is essential.<sup>9</sup>

Fumigation is commonly practiced in many developed nations in view of toxic nature of formalin. Too frequent use and inhalation of these is dangerous to health. Several new safe chemicals are emerging,

but due to constrains of economy limit the use and closing of operation theatres for long hours can be managed with fumigation.<sup>10</sup>

For Rakshoghna, Vayu and Agni mahabhoot pradhan dravyas used. It is believed that, those dravyas that protect us from any external hazardous influences are called as Rakshoghna. Due to these properties Nimb patra dhoopana dravyas selected.<sup>12</sup>

From above references we can conclude that Ayurvedic drugs have efficacy for sterilization so this attempt is made to check the efficacy of Ayurvedic Dhoopana Dravyas.

**Aim:**

To study efficacy of Dhoopan karma in present era.

**Objectives:**

To review and study of Panchabhautic Action of Dhoopan dravya in operation theater and hospital setting according to Sushrut samhita.

**METHODS:**

*“Agnitapten Shastren Cchindyat | Anyatha atapta Shastachedane Paakabhayam syata ||”*

Su. Chi. 2/46 Dalhana

*“Tato Guggulvagaru sarjarasa vacha gaursarshapachurnai*

*lavananimbapatravimistrairajyayuk te Dhupayet, Aajyasheshenachasya Pranana samalabhet ||”*

*“Sarshaparishtapatrabhyam Sarpisha lavana cha | Dviranaha karyeda dhoopam Dasharatramatndrit ||” .*

In this present study eight above drugs which are explain in ayurveda in Sushrut Samhita classical text for dhoopan (fumigation) namely Guggul, agaru, sarjras, vacha, gaursarshapa, lavan, nimbapatra, ghrut have been taken for their action as antibacterial and disinfected properties according to panchabhautik view of ayurveda.

**Table No. 1: Properties of Dhoopan Dravya - Rasa**

S R N O	Dravya	M A D H U R	A M L A	L A V A N	K A T U	T I K T A	K A S H A Y	G U R U	L A G H U	R U K S H A	T I K S H A N A	V I S H A D	S U K S H M A	S A R	S U G A N D H I	S N I G D H A	M R U D U	S H I T A	U S H N A	M A D H U R	A M L A	K A T U	V A T A G H N A
1	Guggul				✓				✓	✓	✓	✓	✓	✓	✓				✓			✓	
2	Aguru				✓				✓	✓	✓							✓				✓	✓
3	Sarjaras					✓			✓	✓							✓					✓	
4	Vacha				✓				✓		✓								✓			✓	✓
5	Sarshap				✓										✓				✓			✓	✓
6	Lavan	✓													✓				✓			✓	

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**Table No. 2: Properties of Dhoopan Dravya**

Sr. No.	Properties	Number	Percentage
1	Madhur	2	25
2	Amla	0	0
3	Katu	2	25
4	Tikta	3	37.5
5	Kashay	1	12.5

**Table No. 3: Virya of Dhoopan Dravya**

Sr. No.	Properties	Number	Percentage
1	Ushna	5	62.5
2	Shita	3	37.5

**Table No. 4: Vipaka of Dhoopan Dravya**

Sr. No.	Properties	Number	Percentage
1	Katu	7	87.5
2	Madhur	1	12.5

**Table No. 5: Doshaghna of Dhoopan Dravya**

Sr. No.	Properties	Number	Percentage
1	Vataghna	4	50
2	Pittaghna	3	37.5
3	Kaphaghna	5	62.5
4	Tridoshaghna	1	12.5

**Table No. 6: Guna of Dhoopan Dravya**

Sr. No.	Properties	Number	Percentage
1	Laghu	5	62.5
2	Ruksha	3	37.5
3	Tikshna	3	37.5
4	Vishad	1	12.5
5	Sukshma	1	12.5
6	Sar	1	12.5
7	Sugandhi	1	12.5
8	Snigdha	2	25
9	Guru	1	12.5
10	Mrudu	1	12.5

**Table No. 7: Gana, Prabhava and Chemical composition of Dhoopan Dravya**

Sr. No.	Dravya	Gana	Prabhav	Chemical Composition
1	Guggul	(Su)- Eladi	Tridoshaghna	Volatile oil, ral
2	Aguru	(Su)- Eladi , Salsaradi, Shleshmasanshaman, (Ch.)- Sheetprashaman, Shwashar, Shiravirechan, Tiktaskandha	Krumikushthanilhar	Alcohol-48%
3	Sarjaras	(Ch.) Kashayskandha	Kaphapittashamak	Seed- Oil, Fragerance, Oleic Acid
4	Vacha	(Ch.) Virechan, Lekhniya, Arshoghna, Treuptighna, Aasthapanopag, Shitprashaman, Sandyasthapan, Tiktaskandha, Shirvirechan, (Su)- Pipalyadi, Vfachadi, Musthadi, Urdhwabhaghar.	Medhya	Volatile oil, Asaryl aldehyde, Caffaine, Eurganol
5	Sarshap	(Su.)- Krumighna, Chakshushya, Kandukushthapah, ( Kash.)- Plihanashanam	Rakshoghna	Vit. C, Kshar, Cellulose, Oil
6	Lavan		Vatahar	
7	Nimba	(Ch.)- Kandughna, Tiktaskandha. (Su.)- Aaragvadhadi, Guduchyadi, Lakshadi	Krumivishahar	Tannin, Nimbin, Volatile Oil, Margosin
8	Ghruta		Yogavahi	

**DISCUSSION:**

Various operative procedures are explained in Sushruta samhita. Ayurveda recommends fumigation (Dhoopana) as a method of sterilization in OT rooms and various chambers (such as Kumaragar, Sutikagar etc.) and for instruments [yantra shastra] etc) methods like kashaya, dhupana, parishekah, agnitapan etc are used.

Ayurvedic selected eight dhoopana drugs are krimighna, kaphagna and laghu gunatmaka excellently work as antibacterial and antifungal.

**CONCLUSION:**

It is necessary to have a more detailed and systematic evaluation of the phytochemical and pharmacodynamic properties of Ayurvedic drugs mentioned under the process of sterilization in order to facilitate the identification of novel bioactive compounds and more effective drugs administration methods.

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