



Concept of Dhupana – A Preventative Approach in Ayurveda for Air Borne Infection

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ABSTRACT

Airborne infections are such type of infections which are caused by pathogens that can be transmitted by air over time and distance by small particles. These pathogens may be viruses, bacteria or fungi that can spread through sneezing, breathing, talking etc. In our surroundings, there are millions and tons of such pathogens that are responsible for spreading such airborne infections. In *Ayurveda*, this airborne infections are correlated with *Aupsargikarogas* which spreads very easily in society. In current days the world is facing such *Aupsargik Roga* which is known as COVID 19 and which is a Pandemic disease. This *Aupsargikarogas* can sometimes prove fatal if they are not treated at a proper time or if proper prevention against this rogas is not taken. The organisms which are responsible for these airborne infections are opportunistic, as they attack such individuals who are with low immunity. So that these organisms can grow easily inside the individual's body without any type of disturbances can finally cause fatal disease. The whole world is suffering from this pandemic and there is a need to prevent the world from this pandemic disease. The most classical, authentic and best way to prevent from transmission according to *Ayurveda* is *Dhupan karma* which is correlated with fumigation or sterilization. For this *Karma*, there are many such *Dhupan dravyas* which are explained by *Acharyasin S amhitas*.

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INTRODUCTION

There are multiple small pathogens which spread airborne infections are very small in size and may cause various diseases. The most common airborne infections are: common cold, influenza, measles,

mumps, tuberculosis, chickenpox etc. while the least common include: adenovirus and coronavirus. These pathogens which cause most common infections have a size smaller than 5µm, but the pathogens causing less common infections have their size greater than 5µm. So now the need for *Dhupan Karma (fumigation)* is more because of the rapid transmission of these coronaviruses causing the deadly disease COVID-19, which is a basic need for the current health status of the world.

Since this coronavirus has a size greater than 5µm gets to drop down on the floors, clothes, metallic surfaces, and many such other places, and remains alive at the surfaces for a specific duration. As a result, there is a need for *Dhupan Karma/ fumigation /sterilization* of the surrounding which will help in killing this pathogen and helps in prevention.

Through this paper novel efforts are done to review

matter about various fumigation techniques narrated by the ancient *Acharyas* in air ancient sciences to prevent pathologies occurred due to such type of airborne infections. Various *Dhupan yoga* and its role in airborne infections are highlighted through this paper.

For this article, an extensive search for review is done through various *Ayurvedic* compendium including *Bhruhattrayis* (*Charaka Samhita*, *Sushruta Samhita*, *AshtangSanghaha*, *AshtangHridaya*), *Laghutrayis* (*KashyapaSamhita*, *Nighantus*), various research articles from databases such as Pubmed, google scholars, etc. In all the above resources, there are scattered references about these special *Dhupan Yogas* have been mentioned for *Dhupan* in different *thanas* or *Vastu* which is beneficial for discarding pathogenic contamination.

Dhupan Karma is also beneficial for the prevention of internally which method is classically known as *Dhumapan Vidhi*. As per recent condition, there is a need of this *Dhumapan Vidhi* which can be used for two purposes, one for preventive aspect and another one for curative aspect. *Acharyas* have explained it as follows

1. Shirovirechanik Dhumapan- This is a preventive aspect just like that of *Nasya* which means inhalation of the medicated fumes with the help of *Dhumavarti* prepared with *Dravyas* such as *Aparajita*, *Hartals*, *Manashila*, *Agaru*, *Tejpatta* and *Gandhavarga Aushadhis*.
2. *Kasaghna Dhumapan*- This is a curative aspect which is helpful to relieve the symptoms such as *Shwasa*, *Kasa*, *Swarabheda* etc.

OBSERVATION AND RESULT

Information regarding this topic is collected and narrated under headings as follows-

Concept of *Dhupan Karma* (Fumigation)

Dhupan Karma i-e fumigation is one of the ancient classical remedy of sterilization in which medicated herbal fumes, animal products fumes etc. are used to maintain a healthy biological environment all over the world. In *Ayurveda* the term *Krimi* is correlated with pathogens which are responsible for causing airborne infections such as COVID-19. This includes both pathogenic and non-pathogenic organisms. To get prevention from such *krimi* (causative pathogens), *Rakshoghna Vidhi* is indicated in our *classics*. For this *human Karma (fumigation)*, varieties of are uniquely told by our *Acharyas*.

Various uses of *Dhupan Karma*

1. Preventive Aspect: It includes fumigation for creating an aseptic environment for healthy beings, so that no infection can develop especially forwards and mess area fumigation i-e *Kumaragaradhupan*, *Vranitagaradhupan*, *Sutikagardhupan* ([Ahlavati and Sharma, 2019](#)).
2. Curative Aspect: Useful for curing or preventing both pathogenic and non-pathogenic diseases especially in *Jwara*, *Vrana* etc ([Ahlavati and Sharma, 2019](#)).

Preparation of *Dhupa*

The preparation of fumigation material and their collection is done in *Pushya / MaitrayaNakshatra* from southeast/north direction. The desired *Dhupan Dravyas* are taken in required quantity and are coarsely powdered and then the homogeneous paste is formed. Then required a number of cow dung cakes are taken and burnt in *S arvasamput* and on the burnt cakes mixture is poured which produces smoke and as a result, the *Dhupan* is produced which initiates *Dhupan procedure (fumigation)*.

Various kalpa of *Dhupan* from different *Samhitas*

Various *Kalpa* of *Dhupan* according to different *Acharyas* and collected from different *Samhitas* are described in a tabular manner ([Shreshtra et al., 2017](#)).

Acharya Charaka has mentioned *Dhupan Karma (fumigation)* of *Vastra* and *Vranitagara* in *Jatisutriyaadhayay* and *Dhupan Karma of Vranain Vranachikitsa Adhyaya*. Various *Dhupana Yoga* given by *Acharya Charaka* is mentioned in Table 1.

Acharya Sushruta has mentioned *Dhupan Karma (fumigation)* of *Shalya Mnadir* in *Vranitoupasniya adhyaya*. Various *Dhupana Yoga* given by *Acharya Sushruta* is mentioned in Table 2.

Acharya Vagbhata has mentioned *Dhupan Karma (fumigation)* of *Vastra*, *Shayya* in *S utrasthana*. Various *Dhupana Yoga* given by *Acharya Vagbhata* is mentioned in the Table 3.

Acharya Kashyapa has mentioned 40 *dhupanyogas* in *Dhupakalpa adhyaya*. In this various medicinal plants are burnt on fire and the smoke generated from plants is used for *Dhupan* of the surrounding or infected areas. Various *Dhupana Yoga* given by *Acharya Kashyapa* is mentioned in Table 4.

Discussion

Dhupankarma (fumigation) is an *Ayurvedic* procedure which helps in the prevention of airborne infections by ceasing the growth of pathogenic as well as non-pathogenic organisms on various surfaces and

Table 1: Dhupan Dravyas as per Acharya charak

S.N.	Dhupan ingredients	Dhupansthanas (use of fumigation for subject)
1	Sarshap, atasi, hingu, guggulu, vacha, brahmi, jatamansi	Shayaa, vastras, surroundings
2	Guggulu, neemba, vachasarshap ghee	Vishamjwara
3	Peacock feathers, sirisha and ghee	Vastra, rooms, shayya
4	Agaru, chandana, Ghee, majja, vasa	Vranakathinyakardhupa, Varanamridukaradhupa

Table 2: Dhupan Dravyas as per Acharya Sushruta

S.N.	Dhupan Ingredients	Dhupansthanas (use of fumigation for subject)
1	Guggulu, Agaru, Sarjarasa, Vacha, Shweta Sarshap, Lavan, Neemba, Ghee	Shalyamandir (operation theatre)
2	Sarshap, ghee, neemba, lavan	Vranaagar
3	Haridra, ativisha, abhaya, ela, musta	Vayushuddhi

Table 3: Dhupan Dravyas as per Acharya Vagbhata

S. N.	Dhupan Ingredients	Dhupansthanas (use of fumigation of subject)
1	Shikhipiccha (plumes of peacock), Sarshap, chandana	Agara, vastras, Shayyas and chairs
2	Guggulu, neemba, vacha, kushtha, haritaki, sarshap	Jwara
3	Guggulu, tivritta.	For child's bed, clothes, pillows, blankets

Table 4: Some Dhupanyoga in Dhupalpaadhyaya in Kashyapa Samhita

S. N.	Dhupan Ingredient	Dhupansthanas (use of fumigation of subject)
1	Ghruta, sarjarasa, haridra, Daruharidra, usheera, sarshap, vidanga, vacha	Kumar dhoopa (facilitates proper development of children)
2	Ghruta	Agneya dhupam (useful in all diseases)
3	Ghruta, sarshapa, hingu, dev nirmalya, sarpatvaka	Rakshoghna Dhupa (offers protection)
4	Ghruta, jatamansi, hartala, musta, ela	Shishuk Dhoopa (destroys all diseases)
5	Ghruta, nimbi patra, puspa, phala, tvaka	Arishta Dhupa (destroys all diseases)

surroundings. Description of some *Dhupan Dravyas* and their properties are given in Table 5. This *Dhupan Dravyas* possess the quality of killing both gm+ve and gm-ve bacteria, viruses and fungi. A few drugs mentioned are: *Guggulu* (Commiphora mukul), *Nimba* (Azadiractaindica), *Sarshap* (Brassicacompesteris), *Vacha* (Acoruscalamus), *Haridra* (Crucumalonga), *Lavana* (Sodiumchloride), *Agaru* (Aqualariaagollacha) etc.

Mode of action of dhupandravyas

Guggulu

It possesses properties such as Tikta, Laghu and Saugandhit. Also, its extract has antibacterial activity against gram-positive and gram-negative organisms. The most effective extract of Guggulu is ethanol which works more efficiently and is used in Dhupan Karma (fumigation) (Gadkari, 2018).

Table 5: Dhupan Dravyas and their properties

S.N.	Dravya	Latin Name	Properties	Active Principle	Karma
1	Guggulu	Commiphoramukul	Tikta,Katu, Laghu Saugandhi	Diterpinoids, amino acids	Krimighna
2	Neemba	Azadiractaindica	Tikta,Laghu, Ruksha	Azadicar thinnimbin	Krimighna, vishgna
3	Vacha	Acoruscalamus	Katu,Laghu, Tikshna	asarynidehyde	krimighna
4	Sarshap	Brassicacompesteris	Katu,Tikta, Teekshna Ruksha	Allylisothiocyanate	Krimighna
5	Haridra	Crucumalonga	Tikta, Katu, Ruksha	Resin curcumene	krimighna
6	Sarjarasa	Resin of Shorear Obusta Garten	Tikta, kashaya	Resin	Grahanashaka
7	Devdaru	Cedrusdeodara	Tikta,kashaya, Ruksha Laghu,	Deodarin, toxi- folin	Krimighna, vranashodhak
8	Ela	Eletteria car- damomm	Katu,Madhura, Laghu	Camphenecyaniol	Krimighna
9	Agaru	Aqualariaagollacha	Katu, Laghu	Agarospinol	Krimighna

Neemba

The main active component is azadiracthin which possess antimicrobial properties. And also Neemba is Vayu and Akash Mahabhuta Pradhan because of TiktaRasa this Vayu and Akash Mahabhuta along with Laghuand Vishad Guna of the Neemba helps azadiracthin to dry up the intracellular fluid present inside the bacterial wall. As a result, this hampers the growth of the bacteria and Neemba acts as an antibacterial and antifungal agent in DhupanKarma (fumigation) (Rajesh *et al.*, 2012).

Vacha

This contains volatile oils, Asaryl aldehyde, Eurganol. It is Laghugunatmak and also acts as Krimighna and excellently works as an antibacterial agent, so it is used for Dhupan Karma (fumigation) (Ahire *et al.*, 2019).

Sarshapa

This contains a contrasting profile of glucosinolates which have the biocidal action on different pathogens. Hence it is useful in Dhupan Karma (fumigation) (Pandurang and Nita, 2018).

Haridra

The active component is curcumene which acts as resins and possess antibacterial properties against gm+ve and gm-vebacterias and is useful in DhupanKarma(fumigation).

Sarjarasa

It is a resin of Shorear Obusta Garten which is Tikta and Kashaya Rasatmak, Sheeta in nature and most importantly it is Grahanashaka. And hence it is useful in Dhupan Karma (fumigation) of operation theatres (Shekokar and Borkar, 2013).

Devdaru

Wood of Cedrus deodar is used for air purification which has anti microbial potential this acts as a disinfectant and prevent from various infectious diseases (Yadavi *et al.*, 2010).

Ela

It contains camphenecyaniol which is a volatile oil and shows antibacterial activities against pathogens (Khedekar *et al.*, 2016).

Agaru

It contains agarospinol which acts as volatile oil. The properties such as Katy and Laghualso helps in killing microbes. The Dhupanis specially used in human karma (fumigation) of the Sutikagara because of its anti-inflammatory nature in Dhupan karma (fumigation) (Kanade and Deshpande, 2016).

CONCLUSION

The above *Dhupan Dravyas* mentioned poses properties such as antimicrobial, antifungal, antiviral and helps in fumigation of the entire surrounding with the help of *DhupanKarma*. This *Dhupan Karma*

(fumigation) can prove the best method for protection against the worldwide deadly pandemic disease COVID 19.

Conflict of Interest

The authors declare that they have no conflict of interest.

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