



Review Article

REVIEW ON THE EFFECT OF AN AYURVEDIC MANAGEMENT PROTOCOL IN CHRONIC  
OBSTRUCTIVE PULMONARY DISEASE

Aswathy M<sup>1\*</sup>, Jithesh M<sup>2</sup>

\*1PhD Scholar, <sup>2</sup>Professor & HOD, Department of Kayachikitsa, Vaidyaratnam P S Varier Ayurveda College, Kottakkal, Kerala, India.

Article info

Article History:

Received: 28-02-2024

Accepted: 23-03-2024

Published: 04-04-2024

KEYWORDS:

COPD, *Tamaka shvasa*, *Pranavaha srotodushti*, *Shodhana*, *Rasayana*.

ABSTRACT

Considering the similarities noticed in the etiology and clinical features, COPD can be correlated to *Tamaka shvasa* among the *Pranavaha srotodushti vikara*, a condition where *Pitta* is involved along with *Kapha* and *Vata*. *Rasayana* is the main intervention in such a chronic disease and considering the *Doshas* and *Rasayana*, *Virecana* is the best preparatory *Shodhana* here to be administered for the patients. In Ayurveda, drug is denoted by the term '*Bheshaja*' which is defined as the substance through which we can overcome the fear of disease. The '*Upakarana*' which helps physician for maintaining the healthy condition or to alleviate disorders is said to be *Bheshaja*. Physician accomplishes the object '*Vikara shamana*', by giving the appropriate *Bheshaja* according to different stages and conditions of the patient and disease. According to Ayurveda, action of a drug is based on its *Guna*, *Virya*, *Vipaka* and *Prabhava*. Fate of the drug always depends on *Rasapancaka* and it goes in line with modern pharmacodynamics. Besides that, the drug action also depends on the action of *agni* on that particular drug. In this article, a management protocol review on Chronic Obstructive Pulmonary Disease was carried out. The protocol selected and reviewed was *Dipana* with *Panchakola curna* in hot water, *Snehapana* with *Kantakari ghrta*, *Abhyanga* with *Tila taila* followed by *Ushmasveda*, *Virecana* with *Vidangatanduladi curna* and finally *Pippali Vardhamana rasayana*.

INTRODUCTION

In Ayurveda, the management strategy of diseases can be broadly classified into *Daiva vyapasraya*, *Yukti vyapasraya* and *Satvavajaya*. *Shamana* and *Shodhana* therapies come under the *Yukti vyapasraya cikitsa*. *Shodhana* is intended to eliminate excessively vitiated *Doshas* out of the body and there by eradicate diseases as a whole, while *Shamana* is directed towards pacification of vitiated *Doshas*. Ayurvedic classics have given paramount importance to the *Shodhana* therapy, owing to its credential of providing a complete cure. According to *Acarya*, *Doshas* subdued by *Langhana* and *Pacana* therapies may provoke, but in case of *Shodhana*, there is seldom possibility of such recurrence.<sup>[1]</sup> *Shodhana cikitsa* is performed mainly by employing *Pancakarma*

procedures which includes- *Vamana*, *Virecana*, *Asthapana vasti*, *Anuvasana vasti*, *Nasyakarma* and *Raktamoksha*.<sup>[2]</sup> In the classics *Shodhana* is specially indicated in *Bahudoshavastha* as a curative measure, in *Rtucarya* as preventive measure and prior to *Rasayana Prayoga* as a promotive measure which enhances the action of *Rasayana*.<sup>[3]</sup> *Vamana* is the choice of *Shodhana* in *Kapha* dominant conditions, *Virecana* in *Pitta* and *Vasti* in *Vata*. *Nasya* or *Murdha virecana* is indicated in elimination of *Doshas* above neck.

Chronic Obstructive Pulmonary Disease can be related with the symptoms of *Tamaka shvasa* in Ayurveda considering the similarities in etiological features and clinical features. Even though the features of *Kasa* especially *Vatika kasa*, *Kaphaja kasa* and *Kshayaja kasa* were seen, the particular dominating symptom *Shvasa* was not present in those conditions. In COPD, the stage had progressed from *Kasa* to *Shvasa* and thus *Tamaka shvasa* was only considered as correlation which includes the symptom *Kasa* in it. Here a protocol was selected in which *Rukshana* in the form of *Dipana* was done with *Panchakola curna* in hot

Access this article online	
Quick Response Code	
	<a href="https://doi.org/10.47070/ijapr.v12i3.3169">https://doi.org/10.47070/ijapr.v12i3.3169</a>
Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)	

water. *Snehapana* was done with *Kantakari ghrta*. *Ushmasveda*, *Virecana* with *Vidangatanduladi curna*. *Abhyanga* was done with *Tila taila* followed by and finally *Pippali vardhamana rasayana*.

## MATERIALS AND METHOD OF ADMINISTRATION

**Table 1: Management protocol**

	Intervention	Medicine	Dose & Anupana	Time of intake	Duration
1	<i>Dipana</i>	<i>Pancakola curna</i>	12gm (6gm twice daily with hot water)	Before food	1-7 days or till <i>Agni dipthi</i>
2	<i>Snehapana</i>	<i>Kantakari ghrta</i>	<i>Arohana matra</i> as per <i>Agni</i> and <i>Koshta</i> (starting dose 30ml with <i>Ushna jala</i> )	6:00 am	Up to <i>Samyak snigdha lakshana</i> /7days
3	<i>Abhyanga</i> and <i>Ushma sveda</i>	<i>Tila taila</i>			3days
4	<i>Virecana</i>	<i>Vidangatandula di curna</i>	30 g with hot water	Between 7:00am and 8:00am	1 day
5	<i>Samsarjana krama</i>				3- 7 days according to <i>Shuddhi</i>
6	<i>Rasayana</i>	<i>Pippali vardhamana</i>	<i>Pippali</i> as <i>curna</i> starting with 6 <i>pippali</i> (1.22 gm) on first day and then increase 1.22 gm daily till 60 <i>Pippali</i> (12.2 gm) - (maximum dose) on 10 <sup>th</sup> day and then reduce in the same way till it reaches 1.22 gm on 19 <sup>th</sup> day. (Total - 600 <i>Pippali</i> )	8 am with milk	19 days

## Procedure Review

### *Dipana* and *Rukshana*

*Dipana* was done to enhance the digestive capacity. The quality which is devoid of stickiness is *Ruksha*. *Dipana* is a procedure done prior to *Snehapana* for the correction of *Agni*, and for removing *Ama* in *Srotas*. It also helps to prevent the *Snehavyapat*. *Gunas* of *Rukshana* are dryness (*Ruksha*), lightness (*Laghu*), hot (*Ushna*), stable (*Stira*), non-sticky (*Apiccila*) and *Katina*.<sup>[4]</sup> *Ruksha* and *Dipana dravyas* helps to achieve *Vatanulomata* and *Agnidipti* prior to *Snehapana*. Proper excretion of flatus, urine and faeces, lightness of the body, feeling of lightness of chest, purity in eructation, and clarity in throat are the *Samyakruksha lakshanas*.<sup>[5]</sup> *Dipana* drugs increases appetite and increases the better absorption of drugs. These drugs should be administered till the *Nirama avasta* is achieved. *Pacana* drugs have the capacity of digesting *Ama*, but may/may not increase the *Agni*.

### *Snehapana*

*Snehana*, a procedure mentioned under *Shadvidha upakrama* is being used independently for the promotion of health, cure of many diseases as well as a part of *Shodhana* as its *Purvakarma*.<sup>[6]</sup> *Snehana* is an important pre-operative procedure that has to be done before *Shodhana* and proper *Snehana* is essential

for the attainment of *Samyak shuddhi*. *Snehapana* plays a pivotal role by its action of *Dosha Utkleshana* thereby mobilizing the *Utklishta doshas* from *Sakha* to *Koshta* and this can be achieved by adopting either *Arohana krama* or *Sadyo-snehana*.

The procedure of *Snehana* brings about *Vishyandana*, *Mardavata* and *Kledana*. Here *Vishyandana* refers to *Vilayana* i.e., dissolution or diffusion. After diffusion, excretion and overflowing of *Sneha* is known as *Vishyandana*, which is described as "*Vishyandanam drava sruti*".<sup>[7]</sup> *Mardavata* is softness and *Kleda* is moistness or wetness. *Kleda* signifies the increase of *Apya guna* in the body or *Utkleshavastha*. *Snehana* therapy can be broadly classified of two types mainly: Internal (*Abhyantara*) and external (*Bahya*). In this context more emphasis is given on *Shodhananga snehapana* which is *Abhyantara snehana*.

### *Shodhananga Snehapana*

This type of *Snehapana* is performed as a preoperative measure to purificatory therapies. In this, higher quantity of *Sneha* is given in early morning when the meal of previous night is completely digested. The purpose of *Snehapana* is to elicit proper *Doshotkleshana* to facilitate succeeding *Shodhana*. This

is also known as *Shodhanartha* or *Shodhanapurva snehapana*.<sup>[8]</sup>

*Arohana snehapana* is defined as an oral administration of *Shodhananga sneha* in increasing dose for the period of 3, 5 or 7 days. *Cakrapani* mentions about, the *Vardhamana krama* for *Shodhanartha snehapana* in his commentary where he explains that the *Snehapana* should be administered till *Samyaksnigdha lakshana*.<sup>[9]</sup> The minimum and maximum number of days for *Shodhananga snehapana* is 3 to 7 respectively. In a person with *Mrdu koshta snehapana* has to be done for 3 days, in *Madhyama koshta* for 4 to 5 or 6 days and *Krura koshta* for 7 days. *Vagbhata* emphasizes that *Shodhananga snehapana* should be continued till one achieves *Samyak snigdha lakshana* or for 7 days whichever is earlier. After 7 days it will lead to *Sneha satmyata* and fail to produce *Doshokleshana*.<sup>[10]</sup> If the person doesn't get *Samyak snigdha lakshana* in 7 days then *Arundatta Acharya* advises to give rest for one day and resume *Snehapana* in a higher dose.

The administration of *Arohana krama snehapana* is followed in three different stages such as *Purva karma*, *Pradhana karma* and *Paschat karma*.

**Purvakarma:** Here the physician should examine the patient regarding his *Prakrti*, *Vikrti*, *Sara*, *Samhanana*, and *Satmya* which helps the physician to decide the right *Sneha dravya*, *Anupana*, and *Agni bala* and helps to assess the *Matra* and *Satmya* of *Snehapana*.<sup>[11]</sup> *Koshta pariksha* helps in understanding *Snehapana prakarsha kala* and in deciding the number of days required for *Snehapana*.

**Administration of Sneha:** In the early morning, patient is advised to take medicated *Taila* or *Ghrta*. The *Sneha* should be administered after complete digestion of food which was taken on previous night. *Ushna jala* is advised to take as *Anupana*.<sup>[12]</sup>

**Observation of Sneha jiryamana and Jirna lakshana**  
After administration of *Sneha*, one should carefully observe for symptoms which are produced during the digestion of *Sneha* i.e., *Jiryamana* and after digestion i.e., *Jirna lakshanas*. During *Jiryamana avasta*, patient may develop some discomforts which get subsided after some time with no need of any specific treatment. However, if symptoms persist, only warm water is advised. *Jirna lakshanas* are found after the complete digestion of *Sneha*. In *Jiryamana avasta* i.e., first phase of *Avasta paka*, production of *Kapha* takes place, which is having similar qualities to *Sneha*. The increased production of *Kapha* cause *Lalasarava*. The onset of symptoms like *Kshut*, *Trshna* etc. indicate the completion of *Sneha* digestion (*Sneha jirna*).<sup>[13]</sup> In doubt regarding digestion of *Sneha*, one should take hot water, which brings *Suddha udgara*, *Laghuta*, and desire for food. After complete digestion of *Sneha* the patient can be advised to take food. Attainment of

*Samyak snigdha lakshana* is an important milestone of *Shodhananga snehapana*. *Snehapana* has to be terminated after the observance of *Samyak snigdha lakshanas* which are enumerated by *Acarya* as proper movement of *Vata* downwards, increased digestive power, *Snigdha purisha* which is soft and not well formed and softness and oleation of body parts.<sup>[14]</sup>

In the study *Shodhananga snehapana* was administered with *Kantakari ghrta*. Considering the *Pitta* involvement in the disease *Tamaka shvasa*, *Ghrta* is opted here instead of *Taila*. In the *Kasa* and *Shvasa adhikarana* also, more importance is given to ghee preparations.

### Abhyanga

*Abhyanga* is an important procedure which is included in *Dinacarya adhyaya*.<sup>[15]</sup> It is also a part of pre therapeutic procedures of *Pancakarma*. *Abhyanga* comes under the classification of the *Bahya snehana*. In the modern concepts, the internal fluids of the skin are subjected to movement because of osmotic pressure which causes mechanical hydrostatic pressure in the extra cellular compartment. Massage helps fluid enter into viscera, tissues and dilute the accumulated toxins. After the completion of procedure; when it refills the peripheral vessels, the diluted toxins are brought into general circulation and during the course; they are expelled out via elimination procedures.<sup>[16]</sup>

### Sveda - Ushmasveda

The basic aim of *Snehana* and *Sveda karma* is to bring forth the vitiated *Doshas* in the latent state to a form which could be easily eliminated. *Sveda* is usually given after *Snehana* therapy. *Sveda* has relaxing and detoxifying effects on the human body. It relieves *Sthamba* or stiffness by virtue of its *Ushna* and *Snigdha guna*. *Ushna guna* helps in *Srotoshuddhi* and *Amapacana* which in turn helps in relieving stiffness. *Sveda* promotes sweating. *Sveda* is a type of mala and impurities of the body come out with *Sveda*. This *Sveda* has direct influences on *Dhatvagni* and *Bhutagni*. *Sveda* drugs by *Ushna* and *Tikshna guna* are capable of penetrating the microcirculatory channels where they activate the sweat glands to produce more sweat. After dilatation of micro channels, *Laghu* and *Sara guna* of these drugs enable them to act on the *Snigdha dosha* in the channels and direct them to move towards *Koshta* or excrete them through micropores of the skin in the form of sweat, resulting in *Srotoshodhana*. *Dosha* brought in *Koshta* are expelled out of the body with the help of *Vamana* or *Virecana* therapy.<sup>[17]</sup>

In *Shvasa*, *Sveda* is given prime importance as it is mentioned in the *Cikitsa* to apply oil mixed with salt on the chest region and to do *Sveda* to loosen the *Kapha* and eliminate it easily.<sup>[18]</sup> In the present study, *Abhyanga* was done after *Snehapana* with *Tila taila* followed by *Ushma sveda* for 3 days. This helped to bring the *Doshas* to *Koshta* which attained *Kleda avasta*

by intake of *Ghrta* and further eliminated out by purgation. *Tila taila* was selected as it is *Tridosahara*, *Ushna*, easily available and well-practiced without any side effects.

### **Virecana**

*Virecana*, primarily a *Samshodhana karma* is one of the five *Pradhana karmas* of *Pancakarma*. *Virecana karma* means inducing therapeutic purgation or to expel out the vitiated *Doshas* through anal route.

### **Rasayana**

*Rasayana* is the branch of Ayurveda which aims at preventing or reducing the progression in degenerative processes, eliminating diseases and prolonging life i.e., rejuvenation. "*Urjaskara*" is the synonym of *Rasayana* which give strength to the body. *Apunarbhava* means it does not allow recurrence of the disease.

## **DISCUSSION**

### **Action of Dipana and Ruksana in COPD**

The subjects affected with respiratory ailments often suffer from *Anannabhilasha*, *Arocaka* and *Agni sada* due to the presence of *Ama*. It was already mentioned in the pathogenesis of *Shvasa* as *Amashayodbhava* i.e., originating from stomach. Thus *Rukshana* in the form of *Dipana-pacana* will help to remove the *Ama* and *Agni mandhya* prior to *Snehapana*.

### **Dipana with pancakolaurna**

*Pancakolaurna*<sup>[19]</sup> contains an equal part of *Pippali*, *Pippalimula*, *Cavya*, *Citraka* and *Sunti*. It is a poly-herbal Ayurvedic formulation used for improving appetite, promoting digestion, curing different GI disorders. Characteristic property of *Katu rasa* is *Bhedana* of *Sanghata* therefore it liquefies the *Kapha*. *Pancakola* has *Pacana*, *Rucikara* and *Dipana* property which helps to increase appetite of *Shvasa rogi* as they suffers from *Agnimandya* due to *Kapha avarana*.

### **Snehapana, Abyanga ushma sveda and Virecana in COPD**

In *Shvasa*, *Kapha* obstructs the passage of *Vayu*, the obstructed *Vayu* gains the *Pratiloma gati*. The vitiated *Kapha* that causes *Srotorodha* and *Vata Pratiloma gati* diffuses and reaches *Utkleshavasta* by *Snehapana*. This increased *Kapha* is then directed to *Koshta* by oil massage and sudation and is expelled out by purgation. *Virecana* drugs having the quality of *Vatanulomana*, *Ushna guna*, *Kaphavataghna* property may be more beneficial in the condition of *Shvasa*. *Virecana* removes mainly *Kapha* and *Pitta dosha* and makes *Vata* in *Anuloma gati*.

### **Snehapana with kantakari ghrta**

*Acarya Caraka* explains that drug which has the properties of *Kapha-vatahara*, *Vatanulomana* and *Ushna virya* has to be used for the treatment of *Tamaka shvasa*. To full fill these needs we have selected

*Kantakari ghrta* which is *Kapha-vatahara* and indicated in the treatment context of *Vatika* and *Kaphaja kasa* by *Acarya Caraka*. This formulation which is mentioned as *Kapha vyadhi nashana* is easily available and cost effective with no known side effects.

*Kantakari ghrta*<sup>[20]</sup> consists of *Kantakari*, *Ghrta*, *Bala*, *Sunthi*, *Marica*, *Pippali*, *Vidanga*, *Sati*, *Citraka*, *Souvarcala lavana*, *Yavakshara*, *Pushkaramula*, *Brhati*, *Haritaki*, *Yavani*, *Dadima*, *Draksha*, *Punarnava*, *Cavya*, *Duralabha*, *Amlavetasa*, *Srngi*, *Tamalaki*, *Bharngi*, *Rasna*, *Gokshura* in specified proportions should be effective in reducing *Vata dosha* improving the signs of severity of breathlessness, abnormal breath sounds and thereby improving the movement of *Vata dosha* in *Pranavaha srotas*. *Kantakari*, the drug itself is considered to be best among *Pranavaha sroto vikara* due to its anti-inflammatory and expectorant activity.

### **Abhyanga with Tila taila**

The vitiated *Doshas* in *Utkledavasta* after *Snehapana* is directed into the *Koshta* by *Abhyanga* and *Usma sveda* which can then be easily eliminated by *Shodhana*. *Tila taila*<sup>[21]</sup> is selected for massage as it possess *Ushna virya*, *Vatakaphahara* and *Tvacya* properties. *Tila taila* can be easily prepared and purchased.

### **Virecana with Vidangatanduladiurna**

*Vidangatanduladiurna*<sup>[22]</sup> is mentioned in *Virecana adhyaya* with specific indications for *Vatakapha hara*, *Krimighna* and *Shvasa kasa hara*. *Medohara*, *Srotoshodhana* and *Lekhana* are the properties which made to choose this drug for purgation as the pathogenesis of this disease shows *Kapha avarana* and thus *Srotoshodhana* is needed with balance of *Tridoshas*. *Vidangatanduladiurna* was found easy to consume than other purgative powder medicines such as *Avipathyurna*.

### **Rasayana cikitsa in COPD**

The etiological factors that provokes *Vata* or increasing vitiation of *Kapha* causes *Srotorodha* and then *Shvasa*. *Rasayana* plays an important role in *Samprapti vighatana* and *Apunarbhavatva* too. As COPD is a chronic progressive disease which has the chance for exacerbation and needs the support of medicine, *Rasayana* was selected in current study. Chronicity of the disease, age and causative factors were pointing towards the *Vata* vitiation and thus leading to structural changes which made the condition irreversible. To enhance the immunity and to prevent the recurrence and severity *Rasayana* was administered after proper *Shodhana*. The function of *Rasayana* is to remove diseases, refresh body cells and accelerate the various systems of body, thus giving strength to every organ enhancing the physical resistance and providing immunity against disease which further improves the quality of life of the subjects.

### **Pippali vardhamana rasayana**<sup>[23]</sup>

*Carakacharya* explains *Pippali vardhamana rasayana* in *Karapracitiya rasayana pada adhyaya* as *Pippali* should be consumed along with milk by gradually increasing at the rate of ten *Pippali* per day. After ten days, *Pippali* should be gradually decreased. Thus, in total the person should take thousand *Pippali* for the purpose of rejuvenation. After the digestion of *Pippali*, the person should take *Shastika shali* along with milk and ghee. Depending upon the nature of *Dosha* and disease, these *Pippali* should be taken in the form of *Kalka* by the person with *Sreshtha bala*, person having *Madhyama bala* should take *Pippali* in the form of decoction and those having *Hrasva bala* should take them in the form of powder or cold infusion. With ten *Pippali* the dosage is excellent and should be administered to person with good strength. Six *Pippali* are of moderate dose to the person with medium strength and three *Pippali* are of mild dose to person with less strength.

*Pippali* alleviates *Ama*, the factor responsible for *Balabramsha* or development of autoimmune disorders in the body, resulting in the correction in immune system activities. *Pippali* has *Rasayana* and immunomodulator actions. Thus, because of all these actions together, it plays an important role in the *Samprapti-vighatana* of the COPD.

*Vardhamana pippali rasayana* can be advised for *Pranavaha srotodushti vikaras*, as *Rasayana* is that which attains *Rasa* etc *Dhatu*s with affluence or the means of attainment of longevity, strength energy and firmness and sustaining youthfulness. Though *Shvasa* is said to be disease of *Pranavaha srotas*, it's also mentioned as *Amashayodhbhava*. *Mahasrotas* is the *Mulastana* of *Pranavaha srotas*. Hence, it is found to be beneficial to use the drugs acting on *Annavaaha srotas*. *Vardhamana pippali rasayana* stimulates digestive system and can break *Srotorodha* due to vitiated *Kapha* and *Ama*, which ultimately results in *Samprapti vighatana* of *Shvasa*. The function of *Rasayana* is to remove diseases, refresh body cells and accelerate the various systems of body, thus giving strength to every organ enhancing the physical resistance and providing immunity against disease. Hence, as *Rasayana* therapy promotes immunity for disease, longevity, strength of sense organs, better stimulation of digestive system, clarity of complexion and regulates the movements i.e., *Gati* of *Vayu*. *Rasayana cikitsa* is important as preventive therapy, and increases immunity in COPD.

### **CONCLUSION**

As COPD is a chronic progressive disease which has the chance for exacerbation and needs the support of medicine, *Rasayana* is a need of choice. To enhance the immunity and to prevent the recurrence and

severity *Rasayana* is to be administered after proper *Shodhana*. The use of Ayurvedic drugs having *Dipana*, *Pacana*, *Srotoshodhana* and *Rasayana* actions like *Pippali* (*Piper longum*) can be beneficial to these patients. The use of *Pippali* in gradually increasing and tapering dose known as *Vardhamana pippali* is more effective because it can be administered in its maximum doses without any discomfort to the patient. The etiological factor that provokes *Vata* or increasing vitiation of *Kapha* causes *Srotorodha* and then *Shvasa*. *Rasayana* plays an important role in *Samprapti vighatana* and *Apunarbhavatva* too. The protocol was found to be very effective in reducing the symptoms and improving the quality of life of COPD patients.

**ACKNOWLEDGMENTS:** The authors express sincere thanks to CCRAS and Dr. C.V Jayadevan, Principal, V.P.S.V Ayurveda College, Kottakkal for their extensive support.

### **REFERENCES**

1. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Sutra Sthana; Chapter-13; Verse-16; Pp no-956; Pno-214
2. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurveda rasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Sutra Sthana; Chapter-14; Verse-5; Pp no-956; Pno-223
3. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Uttara Sthana; Chapter-39; Verse-3; Pp no-956; Pno-923
4. Sharangadhara Samhita; Adhamalla's and Kasirama's Gudharthadipika; Chowkhamba Surabharati Prakashana; Varanasi; Edition-1, 2001; Poorva Khanda; Chapter-5; Verse-43; Pp no-454; Pno-47
5. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Sutra Sthana; Chapter-14; Verse-17; Pp no-956; Pno-225
6. Agnivesha, Caraka Samhita; Ayurveda Dipika tika by Cakrapanidatta; Chowkhamba Krishnadas Academy; Varanasi; Edition-2010; Sutra Sthana; Chapter 13; Verse- 99; Pp no-738; Pno-87
7. Agnivesha, Caraka Samhita; Ayurveda Dipika tika by Cakrapanidatta; Chowkhamba Krishnadas Academy; Varanasi; Edition-2010; Sutra Sthana; Chapter 22; Verse- 11; Pp no-738; Pno-120
8. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi;

- Edition-2010; Sutra Sthana; Chapter-16; Verse-19; Pp no-956; Pno-247
9. Agnivesha, Caraka Samhita; Ayurveda Dipika tika by Cakrapanidatta; Chowkhamba Krishnadas Academy; Varanasi; Edition-2010; Sutra Sthana; Chapter 13; Verse- 58-59; Pp no-738; Pno-85
10. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2006; Sutra Sthana; Chapter-16; Verse-29; Pp no-956; Pno-249
11. Agnivesha, Caraka Samhita; Ayurveda Dipika tika by Cakrapanidatta; Chowkhamba Krishnadas Academy; Varanasi; Edition-2010; Sutra Sthana; Chapter 13; Verse- 62; Pp no-738; Pno-86
12. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2006; Sutra Sthana; Chapter-16; Verse-23; Pp no-956; Pno-248
13. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Sutra Sthana; Chapter-16; Verse-28; Pp no-956; Pno-249
14. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chawkhamba Sanskrit Series Office; Varanasi; Edition-2006; Sutra Sthana; Chapter-16; Verse-30; Pp no-956; Pno-250
15. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2010; Sutra Sthana; Chapter-2; Verse-8; Pp no-956; Pno-26
16. Arun B Jainar, Pratibha M. Mode of action of Abhyanga in relation to skin anatomy- A conceptual review. IJAYUSH. 2020, 9 (4), 92-99.
17. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2006; Sutra Sthana; Chapter-13; Verse-22; Pp no-956; Pno-216
18. Vagbhata; Ashtanga Hrdaya; Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Chowkhamba Sanskrit Series Office; Varanasi; Edition-2006; Cikitsa Sthana; Chapter-4; Verse-1; Pp no-956; Pno-603
19. Srikanta Murthy K R, translator, Sarngadhara Samhitha by Sarngadhara, Madhyama khanda, 6th edition, Chowkhamba Orientalia, Varanasi 2006, 6/13- 14.
20. Govindan vaidyan P M, Ashtanga Hrdaya Cikitsa Sthana. Edition reprint 17. Devi book stall, Kodungallur. 2016; Volume1. p102. 3/59-61.
21. Govindan vaidyan P M, Ashtanga Hrdaya Sutra Sthana. Edition reprint 17. Devi book stall, Kodungallur. 2016; Volume1.p63.5/64-68
22. Govindan vaidyan P M, Ashtanga Hrdaya Kalpa Sthana. Edition reprint 17. Devi book stall, Kodungallur. 2016; Volume1.p23.2/15-16
23. Dr Shastri J LN, Illustrated Dravyaguna Vijnana, Chawkhambha Publications, 2003 Vol- 2, pg 452.

**Cite this article as:**

Aswathy M, Jithesh M. Review on the Effect of An Ayurvedic Management Protocol in Chronic Obstructive Pulmonary Disease. International Journal of Ayurveda and Pharma Research. 2024;12(3):121-126.

<https://doi.org/10.47070/ijapr.v12i3.3169>

**Source of support: Nil, Conflict of interest: None Declared**

**\*Address for correspondence**

**Dr. Aswathy M**

PhD Scholar,

Department of Kayachikitsa,

Vaidyaratnam PS Varier

Ayurveda College, Kottakkal.

Email:

[draswathym.212@gmail.com](mailto:draswathym.212@gmail.com)

Disclaimer: IJAPR is solely owned by Mahadev Publications - dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.