



## Role of Panchakarma in the Management of COVID-19

Manab SJ, Beena B\*, Parul S and Sharma KK

Rishikul Campus, Uttarakhand Ayurved University, India

\*Corresponding author: Beena B, Post Graduate Scholar, Rishikul Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand, India, Tel: 9897410458; Email: beenabhouriyal24@gmail.com

### Review Article

Volume 5 Issue 3

Received Date: July 31, 2021

Published Date: August 30, 2021

DOI: 10.23880/jonam-16000322

### Abstract

Panchakarma is a branch of Ayurveda medicine that deals with both purification and palliative aspect. Covid 19 is a pandemic disease of recent outbreak affecting almost all age group people worldwide. Allopathic medicine is doing at its best to fight with severity as well as mortality of Covid 19. However, we can strengthen the current treatment protocol of Covid 19 by integrating Ayurveda and Panchakarma measures into it. Depending upon the severity, stages of the diseases as well as associated comorbidities, we have to advocate different Panchakarma therapy like Kavala, Nasya, Virechana etc. Panchakarma has great role in case of prevention and management of Covid 19 cases right from home isolation patients to patients managed in I.C.U. setup.

**Keywords:** Panchakarma; Covid 19; Ayurveda; Home Quarantine

### Introduction

Panchakarma is a branch of Ayurveda Medicine that deals with both purificatory and palliative medicine and modalities. It commonly uses various routes for drug administration like oral, per rectal, nasal, sub cutaneous etc. This branch of Ayurveda Medicine aims at detoxification of human body as well as immediate & effective treatment. History of Indian Medicine tells that Panchakarma has been serving the society during pandemic situations since time immemorial. Covid 19 is a disease caused by corona virus. This is a RNA virus with crown appearance due to presence of spike glycoprotein on its envelope. Subgroups of corona virus are Alpha, Beta, Gamma and Delta corona virus.

COVID 19 is symptomatic representation of the pathogenesis due to infection of corona virus on human body. Incubation period of this virus varies from 2 to 14 days. Mode of transmission is mainly droplet infection.

**After entering to the human body, virus completes its life cycle in four stages:**

- Attachment and entry

- Replicate protein expression
- Replication and transcription
  - Assembly and release. Virus first enters to the into the host body via aerosol transmission and then gets attached to host cell receptor ACE-2 (nasal mucosa) via S1 subunit of Viral Spike protein. Virus goes with conformational changes in the Spike protein. After that, viral and host cell membrane fusion occurs via S2 subunit of spike protein/receptor (clathrin) mediated endocytosis and entry of viral nucleocapsid into host cell and release of viral contents. Then, viral RNA replication, transcription and translation happens.

After maturation of the virus, it does protein biosynthesis in the cytoplasm and release new viral particles. Transportation of newly formed viral particles happens via golgi vesicles to the cell membrane and exocytosis to the extracellular space. It results release of new infective material for community transmission. When we are to plan the management of COVID 19 with Ayurveda and Panchakarma, we can plan it according to different Kriyakaal of the disease. Some of the important points that should be kept in mind during its management are preventing the virus

entering to our cells, stopping its replication inside human body, reducing the damage that occurs to our tissues.

### Panchakarma for Prevention on COVID 19

**There are some measures which can be adopted for preventive aspect of COVID 19**

- Gargle with lukewarm water added with a pinch of turmeric and salt. Water boiled with Triphala, Yastimadhu can be used.
- Nasal instillation of medicated oil i.e., Nimba taila, Anutaila, Sesame or Coconut oil, Goghrita twice daily.
- Especially before outing and after return from outside.
- Steam inhalation with Saindhav lavan, Ajwain, Tulsi once/twice daily use warm water or boiled with like ginger, basil, coriander or cumin seeds for drinking purpose.
- Shodhana may be a option of preparation of the host to fight with the virus.

### Panchakarma in different Stages of Pathogenesis of COVID-19

As we know, Corona virus follows a normal pathway of pathophysiology. As soon as we can arrest its pathway, the disease pathology will be prevented.

- **Nasal epithelium:** Pratimarsha nasya with taila (preferably anutaila, coconut oil, Goghrita, Yastimadhu ghrit etc). It may acts as barrier to virus cell on the nasal epithelium. Sneihik (Vasa, Ghrita, Madhu etc [1].) Virechanika (Jyotishmati, Harital etc [2].) and Kasahara Dhumpaana also can be used to prevent the virus entering to the nasal epithelium.
- **Upper respiratory tract including oral cavity:** Kavala with lukewarm water mixed with salt and Haridra Churna. It facilitates oral hygiene helps in secondary infection. Observational study shows use of Kavala reduces the risk of transmittion in healthy individuals and severity in COVID-19 positive cases. Taila Gandusa is also found beneficial in clinical trial. Steam inhalation is found beneficial in reducing the symptoms. It helps in oral hygiene. Shamana Dhumpaana is also favourable for oral hygiene and reduction of viral load creating the environment hot which prevents viral reproduction [3].
- **Lower Respiratory Tract:** Deepan Pachan Aushadhi (Pippali Churna, Trikatu Churna, Panchakola Churna etc.), Snehapana (Go Ghrita mixed with Saindhav, Pippali, Trikatu etc., Panchatikta Ghrita, Vasadi Ghrita etc.), Basti (Dashamooladi Basti, Guduchyadi Basti etc.), Mridu Sneihik Virechana (Eranda Taila etc.), Asthamahadosha Virjaniya Bhava (loud speaking, too much walking etc.), Pashyad karma (Peya, Vilepi, Yusha etc. mixed with medicines for Pranavaha Srota). These can be used to

manage the symptoms of lower respiratory tract in COVID 19.

- **Cytokine storm:** It is the over excitatory phase of body immune system. It is the most crucial phase of COVID-19 disease. Patients are advised for adequate rest, to take plenty of water and liquid diet. We can advise patients to avoid Asthamahadosha Varjaniya Bhava and to maintain other measures of Pashyad Karma like Manda, Peya etc. fortified with Pitta Shamak medicines. Besides this, Murdhni Taila, Abhyanga, Padabhyanga and Talam can be used in this phase of disease to arrest sympathetic excitement.
- **Stage with Complications:** This stage of COVID-19 can be studied under two sub-headings-A) COVID-19 with moderate symptoms: Patients of COVID-19 with moderate symptoms of different systems like chills with repeated shaking, deep cough, fatigue and body aches, muscle pain, generalised feeling of being unwell, some shortness of breathing etc. in these condition patients can take food and medicines orally but, they usually presents with tastelessness, loss of appetite etc. Therefore, we should prefer other route of drug administration like topical (Samvahan, Lepa etc.), intramucosal (Kaval, Gndush, Anjan etc.), transdermal (Abhyanga, Mardana etc.), per nasal (Nasya, Dhumpaana etc.) and per rectal (Basti). B) COVID-19 with severe symptoms: Patients of COVID-19 with severe symptoms, on oxygen or under ventilation support presents with severe breathing difficulty, chest pain and other respiratory, GIT, CNS, Circulatory symptoms. In this situation, route of drug administration except oral route may be useful for patients. In Panchakarma, we are using topical, intramucosal, transdermal, per nasal and per rectal route for drug administration which we can use for severe COVID-19 patients depending on the system involved.

### Role of Panchakarma in different Symptoms of COVID-19

**Respiratory Tract symptoms:** Kavala with lukewarm water mixed with Saindhav Lavan or with other Kwath (having antiviral property) is helpful in the respiratory symptoms of COVID-19 patients such as Sore throat, Dry/wet cough, Breathing difficulty etc. Nadi Sweda can be used (maintaining COVID protocol by therapist) for breathing difficulty and chest pain. Other Deepan-Pachan medicines, Rasayana and Yavagu meant for Pranavaha Srota can be used to combat with the respiratory symptoms of COVID-19 in both curative as well as rehabilitative aspect. Steam inhalation water added with aromatic oil can be helpful in regaining sense of smell during or post COVID patients [4].

**G.I.T. symptoms:** Gandusa with Irimedadi Taila or any other

medicated oil can be used in case of loss of taste for COVID 19 patients. It also helps in decreasing viral load of oral cavity. Manda, Peya, Vilepi and Yavagu fortified with medicine for Annava Srota and Agni can be useful in case of GIT related symptoms such as Gastrointestinal upset, loss of appetite, diarrhoea from its initial stage [5].

**Psychological symptoms:** Psychological symptoms occur to the patients as a result of disease pathogenesis or loneliness due to isolation. Other causes of psychological problems are change in daily routine, financial concerns, barrage of negative news and lack of physical activity during. Symptoms that often noticed in the patients during or after COVID attack are anxiety, depression, intrusion, loss of sleep and panic attack. Shirobhyanga, Shirodhara, Nasya, Padabhyanga etc can be utilised to help the patients with these symptoms. All these procedures lower anxiety level hence reduces the risk of panic attack.

**Neuro Psychological conditions:** Many patients presents with neuro-psychological symptoms like insomnia, restlessness, anxiety etc. Agni Deepan, Shirodhara, Ksheera Dhara, Nasya, Karma; Kala; Yoga Basti etc. can be used to combat with these symptoms.

**Musculoskeletal system:** Different kinds of Snehana and Swedana Karma like Samvahana, Abhyanga, Patra Pinda Swedan, Shastik Shali pinda Swdan, Dhanyamla Dhara etc. are helpful in musculoskeletal symptoms like body ache, joint pain etc.

**Cardiac condition:** Urah Basti, Lepa, Dhara with Hridya drugs is helpful to help the patients with cardiac symptoms in COVID-19.

**Hyper-pyrexia:** Yavagu (Javagu with Jwarahara Mahakashaya), Aushadha Siddha Jala (Shadanga Paneeya, Shunthi Siddha Jal), Astha Mahadosha Varjaniya Bhava etc. are helpful in reducing fever due to COVID pathology. Jala Dhara can also be an option for recurrent fever.

**Fatigue:** Judicious use of Manda, Peya, Vilepi and Yavagu with various Shukadhanya and Simbidhanya can help in relieving the symptoms like tiredness or weakness and pain in the different parts of body. In sever tiredness, Basti can be administered.

### Panchakarma for Post COVID-19 Management

Post COVID conditions can affect patients more than four weeks. Most common symptoms are tiredness, headache, loss of smell or taste, dizziness, chest pain, shortness of breath, cough, joint or muscle pain, depression or anxiety, lack of concentration etc.

According to Ayurveda concepts, there will be Dhatu-Kshaya & Angimandya Avastha in Post COVID-19 infection. Hence Deepan Pachan and Dhatu Poshan treatment may be beneficial in this stage. Along with this, Purva Karma, Pradhan Karma and Pashyad Karma of Panchakarma can be used in the management of post COVID complications. For this, Abhyanga, Samvahana, Sirodhara, Vaspa Sweda, Nasya, Kavala, Gandusha, Basti can be used. Along with these, Samsarjana Krama and Asthamahadosha Varjaniya Bhava can be practised in case of post COVID complications. Every Panchakarma Clinic, Panchakarma Physician and Therapist should follow the Guidelines for safe Panchakarma practice in context of COVID 19 (Institute for Post Graduate Teaching & Research in Ayurveda under Gujarat Ayurved University, Jamnagar, Ministry of AYUSH, Govt. of India, 2020).

### Discussion

#### Kavala/Gargling

Gargling with antimicrobial/antiviral agents lowers intraoral viral load in COVID-19 patients. Such reduction in the viral load through surface debridement could aid the effective immune response in the overall symptoms of the patients [6]. COVID-19 patients have highest salivary viral load in the oropharyngeal saliva swab sample during first week, specially on fourth day [7]. Higher SARS-CoV-2 RNA load in the nasopharynx is related to the severity of the disease [8]. Reducing the amount of virus in the body tissue at the initial stage of infection might positively influence the course of the disease. Thus, gargling might be potentially useful in controlling the COVID-19 pandemic. Chloride ion in hypertonic saline water helps to prevent virus replication and are used by cells to produce hypochlorous acid to exert antiviral effects [9]. Gargling acts as early viral clearance in COVID-19 patients. Gargling with turmeric and salt is advocated in Post Covid management [10].

#### Nasya

Nasal rhinase clears viral colony at its early stage of disease. It acts as a barrier layer in between the virus and nasal epithelium. Nasya with anutaila activates local immunity and has antiviral effect [11].

#### Niragni Sweda

Niragni Swedan is helpful in increasing body metabolism, eliminating by products properly thus reducing many symptoms like fever, anorexia, malaise etc. These are Ushna Sadana, Guru Pravarana, Vyayama etc. But, in the phase of cytokine storm, there should be some limitation of vigorous exercise.

### Vaspa Sweda

Steam inhalation with humidified warm water effective for partial lowering of viral load in nasal cavity which is a primary route for the virus. On smooth surfaces, the dried virus retains its viability for over five days at the temperature of 22 to 25°C and relative humidity of 40-50% that is typical air-conditioned environments [12]. Steam inhalation has a temperature of about 70°C TO 80°C which is above the instability temperature for SARS-CoV-2. Study concludes that incubating the SARS-CoV-2 at the temperature of 70°C make inactive from 14 days to 5 minutes [13]. Humidified steam inhalation improves ciliary functions, helps in mucociliary clearance; decongestion enhances the breathing and reduce the cough. Steam inhalation can be used as adjuvant therapy in the management of COVID-19 patients. Heat in the steam denature the SARS-CoV-2 virion's protein capsid [14].

### Nadi Swedan

Many COVID-19 patients often complaints of chest pain, chest tightness and breathing difficulty. Patients also complain of myalgia and arthralgia. Nadi Swedan relaxes skeletal muscles, decreases substance P, induces hyperaemia and tissue metabolism and thus helps in pain relief, acts as temporary bronchodilator [15].

### Urah Basti

Chest pain and compression in the chest region are very common complaints by COVID 19 patients. It is due spasm of respiratory /thoracic muscles because of repetitive coughing reflex and undergoing inflammatory pathology in the lower respiratory tract. Urah Basti relaxes local musculature, strengthen it. Subcutaneous absorption of drugs facilitates reduction of inflammatory responses. On the basis of situation, Taila can be Samskarit with specific drugs needed for the patient like muscle relaxants, muscle strengthening, anti-inflammatory, bronchodilators etc.

### Upanah

Upanah Swedan provides local heat transmission, immobilisation to a particular part for a specific time period and anti-inflammatory or strengthening effect based on the drug used [16]. It can be used in headache, chest pain, tightness of the chest, arthralgia, myelgia etc. conditions.

### Lepa

Lepa with anti-inflammatory/muscle relaxant drugs is an easy, cost effective and result oriented Panchakarma to be followed in COVID and Post COVID patients. Lepa has it's mode of action by sub cutaneous absorption of drugs. Lepa can be used in the conditions like sinusitis, sore throat,

dry cough, breathing difficulty, chest pain, body ache etc. Selection of the drugs is according to the situation.

### Murdhni Taila

Many COVID patients go through psychological trauma during or after the disease. Murdhni Taila such as Sirobhyanga, Siropicchu, Sirodhara are helpful in managing anxiety and stress. Sleep disorders are also obvious in many cases. Murdhni Taila helps in these complications also. Dipan, Pachan and Rukshana: increases appetite by increasing digestive juices right from oral cavity upto small intestine. GIT upset commonly occurs during or post COVID period. Dipan- Pachan medicines have stomachic & secretagogue property. Other GIT related symptoms such as loss of appetite, indigestion, diarrhoea and nausea can be managed by Dipan-Pachan medicines. Some of the Dipan-Pachan medicines have holistic approach symptoms as they have antioxidant property. Nature of the disease is Vata-Kaphaja, site of disease is in Kapha Sthana so, Rukshana will be helpful in Samprapti Vighatana.

### Shodhana

Cleansing of Mala present in the body by administrating Panchakarma is essential before Rasayana. Moreover, it normalises the body physiology hence these can be adopted as treatment protocol for COVID 19 patients depending on its severity and stage.

### Rasayana

Ayurveda has Rasayana herbs like Amla, Gduchi, Shatavari, Ashwagandha etc [17]. These drugs bring about the immune modulation, restoration and rejuvenation of the body tissues. Brahmarasayana, Amalak Rasayana, Chawanprash Rasayana and Vajikarana medicines like Madhuyasthi Yoga, Amalak Yoga, Vidaryadi Yoga etc. are immune-modulator, good source of macro and micro nutrients, acts as antioxidant [16].

### Samsarjana Krma

PeyadiKrama is advised to the patients after Panchakarma [18]. It's main goal is Agni-Raksha. Agni is considered as Prana in Ayurveda. So, Peyadi Krama supports vitality. Peyadi Krama already rich with carbohydrate, protein, fat and other micronutrients. In case of COVID-19, plenty of water, high rich protein, vitamin and minerals are needed. Therefore, Peya etc. we can fortify with different pulses and vegetables. Different Yavagu, which are mentioned in Charak, Sutrasthan we can use as per the need of the patient's complaints [19]. Balanced nutritious diet, preferably easy to digest freshly cooked soft diet with Shadrasa is helpful in increasing body immunity.

### Asthamahadosha Varjaniya Bhava

In the pathogenesis of COVID-19, there is hyper expression of immune system which is expressed as cytokine storm inside the body. It is a crucial phase in which adequate rest is very important. In Pashyad Karma there is mentioning about Astha Maha Doshakara Bhava which should be avoided by the patients. Some of these are loud speech, travelling, excessive walking and taking unwholesome food in improper time and sexual activities [20]. Avoidance of these factors provides adequate physical and mental rest to the diseased one which is proved to be life saving in the phase of cytokine storm. Adequate sleep and rest prevents cytokine storm thus decreasing chance of severity of disease.

### Conclusion

Maharshi Atreya says to Agnivesa that whatever the indications & contraindications told in Charak Samhita are not final. Physician can decide it as per the need of the situation to save the life of a patient. It is also clearly mentioned in our texts that in emergency conditions, Panchakarma can be done in any season, in any situation. Aim of treatment should be personalised, preventive, promotive, predictive and participatory in treating COVID patients. Panchakarma can help a lot in pre as well as post COVID 19 management.

### References

1. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, Sutra Sthana 5/25.
2. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, Sutra Sthana 5/26.
3. Acharya VYT (2013) Sushruta Dhoom Nasya Kaval Graha Chikitsa adhyaya, Sushruta Samhita with nibandhsamgraha Commentary by Dalhana, Varanasi, Chaukhambha Sanskrit Sansthan, pp: 222-224.
4. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika Chaukhambha orientalia, Varanasi, Sutra Sthana 2/27.
5. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, Sutra sthana 2/19.
6. Khan FR (2020) A clinical trial of gargling agents in reducing intraoral viral load among COVID-19 patients.
7. Wang KK, Tsang OTY, Leung WS, Tam AR, Wu TC, et al. (2020) Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2: an observational cohort study. *Lancet Infect Dis* 20(5): 565-574.
8. Liu Y, Liao W, Wan L, Xiang T, Zhang W, et al. (2020) Correlation between relative nasopharyngeal virus RNA load and lymphocyte count disease severity in patients with COVID-19. *Viral Immunol* 34(5): 330-335.
9. Sai CLT, Wu PC (2020) Possible beneficial role of throat gargling in the coronavirus disease pandemic. *Public Health* 185: 45-48.
10. (2020) Post Covid management protocol, Government of India, Ministry of Health & Family welfare.
11. Ashwini R, Mishra B (2021) A review on role of pratimarsha nasya with anutaila in the prevention of covid-19. *IJRIM* 5(2).
12. Chan KH, Peiris JSM, Lam SY, Poon LLM, Yuen KY, et al. (2011) The effects of temperature and relative humidity on the viability of the SARS coronavirus. *Adv Virol* 2011: 734690.
13. Chin AWH, Chu JTS, Perera MRA, Hui KPY, Yen HL, et al. (2020) Stability of SARS-CoV-2 in different environmental conditions. *Lancet Microbe* 1(1).
14. Marca GL, Barp J, Frenos S, Mugelli A, Galli L, et al. (2021) Thermal inactivation of SARS-COVID-2 virus: are stream inhalation a potential treatment? *Life Sci* 15: 265.
15. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, Siddhi Sthana 12/10-12.
16. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, sutra sthan 14/64.
17. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, chikitsa sthan1/75.
18. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, sidhhi sthan1/11.
19. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, sutra sthan2/27.
20. Acharya VYT (2007) Agnivesh, Charak Samhita with Ayurved Dipika, Chaukhambha orientalia, Varanasi, siddhi sthan12/11.

