



## MANAGEMENT OF POST COVID SYNDROME THROUGH AYURVEDA

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### ABSTRACT

Covid 19 is a disease caused by SARS- CoV-2 virus, which is a pathogen responsible for the corona virus disease 2019 as a pandemic. It has resulted in global health care crisis and strained health resources. Till date we have observed that Covid-19 is a multi-organ disease with a broad spectrum of manifestation. At the beginning of pandemic we were mostly focusing on clinical presentation of patients in the acute, inpatient setting. But recent data suggests that some patient continue to experience symptoms related to Covid-19 after the acute phase of infection i.e. beyond 4 weeks from the onset of symptoms. These conditions are termed as Long Covid, Post Covid syndrome or Long haulers. It is hypothesised that people with weaker immune response may land up into this conditions. So a holistic approach is required to follow up care and well being of all post Covid recovering patient. Owing to this consideration the study was performed in 100 patients of post covid syndrome through Ayurvedic medicine. It was observed that there was significant improvement in all subjective as well as objective parameters of long Covid. This Paper describes about the same in detail..

**Keywords:** Covid 19, SARS- CoV-2, Post Covid syndrome, Long haulers.

### INTRODUCTION

We are facing the deteriorating impact of COVID -19 pandemic on body and mind. There are few hypothesis that have been proposed which could be contributing to prolongation of post covid symptoms. Some peoples immune response may respond more strongly than other while weaker immune response in covid 19 might lead to symptoms lasting from several weeks to several months . weaker immune response can be caused by advanced age, pre existing health condition and patients on immuno modulatory drug. On the other hand some patients immune response are so strong that their immune system become so aggressive for fighting against covid 19. As a result make a cellular damage to other organ leading to acute respiratory distress syndrome and systemic inflammatory response syndrome. So cause of continued symptoms beyond the acute phase of illness are due to weak immune response or aggressive immune response. Such long lasting symptoms after acute phase of illness are called as chronic covid symptoms, post covid symptoms or long term covid symptoms and these patients are termed as long haulers.

**British National Institute for health and care excellence (Aka NICE) has categorised 3 stages of covid 19 recovery-**

1. Acute covid 19 stage - within 4 weeks after diagnosis.
2. Ongoing covid 19 stage - lasts 4-12 weeks after diagnosis.
3. Long covid 19 stage - over 12 weeks after diagnosis.

It has been observed that most common symptoms that persists after covid 19 infection is fatigue(10 weeks after initial diagnosis). Other symptoms include cough (4-8 weeks after initial diagnosis), chest pain, breathlessness and some neurological issues (3 months after initial diagnosis) like headache, numbness, tremors, cognitive impairment, loss of taste, smell etc. So, it's a challenge to find regime that meets all challenges. During the emergency OPD sessions in government PG ayurvedic college and hospital, Varanasi and government Ayurveda college and hospital, Handia, it was observed that many patients

who were either covid positive or post covid showed breathlessness, dry cough, weakness, headache, loss of appetite, nausea, increased liver markers as their common symptoms even after getting negative report of covid. It is well understood that the symptoms like increased liver markers, loss of appetite, nausea these all indicates towards increased pitta because of so many medications that aim at vata-kaphahara plan. This shows that at some point during the infection all three doshas are equally contributing towards the severity of covid infection. So, for better treatment plan it has to be assured to find out such regime that works on all three doshas combating the situation. Also, the drugs should be easily available for home delivery in the lockdown sessions. In the proposed study 100 patients of post covid symptoms were selected to see the efficacy of therapeutic interventions in Post Covid illness.

### PROPOSED SAMPRAPTI

The COVID-19 virus is a type of RNA virus i.e. severe acute respiratory syndrome corona virus (SARS- CoV-2) belonging to the family Coronaviridae. The crowned like spike protein are present on its surface. Since it's a RNA based virus so they constantly change through mutation, and new variants of virus occur over time[1]. symptoms of corona virus include fever, cough, sore throat, loss of taste and smell, fatigue, dizziness, unexplained weakness along with some neurological problem, Pneumonia, ARDS and even death can occur[2]. The post covid infection symptoms indicates the vitiation of dosha which can be understood. since it's a pranavaha sroto dushti vyadhi, and the moola sthana of pranavah is hridaya (thoracic cavity), mahasrotas (gastrointestinal region)[3].so it's very clear that we have two ways of dushti, i.e.

The covid infection itself – the virus has its affinity towards pranavaha srotasa which is the seat of prana vayu, udana vayu which facilitates the breathing process, sadhaka pitta which supports cell biological functions and avalambaaka kapha which protects and maintain the organs[4].The chikitsa of pranavaha sroto dushti is swash chikitsa which is vata kapha hara.

The medicines taken: the ushna aushadis taken goes through amashaya which is the sthana of pitta and kledaka kapha[5]. The Shwasa Vyadhi is Pittasthana Samudbhava (originating from seat of Pitta). The kledaka kapha has influence over kapha sthana being one of them[6]. thus, playing an important role in pathology of pranavaha sroto vyadhi. the medicines used are vata kapha hara which means it increases pitta so pitta dushti is also observed in post covid patients giving raised liver markers.

These two different ways (covid itself and ushna aushadis) creates a havoc in tridoshas leading to symptoms like breathlessness, dry cough, weakness, headache, loss of appetite, nausea, increased liver markers. Since Mahasrotasa (alimentary canal) is Mulasthanas for Pranavaha Srotasa, any disturbance in Gastrointestinal system will affect Pranavaha srotasa. Amashaya is the common seat of Kapha and Pitta Dosha[7]. Therefore, Dushti of Sthana (abode) leads to Pitta Dushti.

### MEDICINES TAKEN

Keeping the above points in focus the combination of kalmegh 2gm guduchi 1gm shunti 500mg with honey twice day empty stomach was given along with amlapittamishran 10ml b.d, amastha avaleha 10gm twice a day, kas shwas hari rasa tablet 1 tab bd . All these medicines were standard and were easily available for home delivery and local market. Kas shwas hari tablet contains shwasa kasa Chintamani, laxmivilas nardiya ras, sutshekhar rasa, talishadi churna which balances kapha and reduces vata dosha. It cures cough and cold related rasa in ghana form.

### OBJECTIVES OF STUDY

1. To study and understand the symptomatology of post covid infection
2. To evaluate the effect of Ayurvedic medicine in the management of post covid symptoms.

### Materials and method

It was a single group observational study. Total 100 patients were taken from emergency OPD of RAC Varanasi and from Ayurvedic college Handia, Prayagraj. Patients were in the age group of 20 to 50 years irrespective of sex and economical status. The data was analysed by using 't test'.

### Criteria for assessment

Assessment of clinical trial was done based upon the change in both subjective and objective parameters. Initial assessment was done before commencement of study and final assessment was done after 15 days of complete treatment.

### Assessment of subjective parameters

#### Cough

0. No cough

1. Mild, single cough
2. Moderate, > 1 cough lasting < 5 sec.
3. Severe sustained cough or lasting for > 5 sec. [Table 1]

**Table 1** Severe sustained cough or lasting for > 5 sec

	ALT	AST
0	<40	<40
1	40 - 80	40 - 80
2	>80 - 120	>80 - 120
3	> 120	> 120

**Breathlessness**

0. Not troubled by breathlessness except on strenuous exertion
1. Short of breath when hurrying on level ground or walking up a slight incline
2. Walk slower than contemporaries because of breathlessness or has to stop for breath when walking at own pace
3. Stops for breath after walking about 100 meters or stops after a few minutes of walking on level ground.
4. Too breathlessness to leave the house or breathlessness on dressing or undressing.

The obtained data was analysed statistically with the help of 't test'. P value of < 0.05 was considered as statistically significant and P value of < 0.01 and < 0.001 were considered as highly significant. Level of significant was noted and interpreted accordingly. Overall assessment of study was done by calculating the mean of parameters.

**OBSERVATION AND RESULT**

In the present study total 100 patients were enrolled and observed for the effect of therapy after 15 days of treatment.

Maximum number of patients were employed i.e. 45%. 30 % patients were housewife and remaining 25% patients were students. Which reveals communicable nature of the disease. Out of 100 patients 74 patients (74%) were from middle class family and remaining 26 patients (26%) were from lower class family. However there is no significant relationship between disease and economical status of patients. 68% were non vegetarian and 32% patients were vegetarian. Diet has no influence on disease manifestation and its progression. 58% were of Vata Kaphaj prakriti while 30% patients were of Pitta Kaphaj prakriti and remaining 12% patients were of Vata Pitta prakriti. It can be said that post covid symptoms are more prevalent in Vata Kaphaj prakriti due to similarity in disease prakriti.

In this study 100 patients of post covid symptoms were taken. Each patient was observed carefully on different parameters as mentioned in our study. Based on these observation necessary charts and graphs were made.

**Age wise Distribution of Patient**

Out of 100 patients 17 patients (17%) were of age group 21-30 years. 33 patients (33%) were of age group between 31- 40 years and remaining 50 patients (50%) were of age group between 41-50 years.

**Sex wise distribution of patient**

Above observation shows that there are almost equal distribution of symptoms of post Covid in both sexes. Incidence in Male was 37 (49.3%) and in Female was 38 (50.7%). It indicates that there is no relation of sex with the disease.

**Cardinal symptoms wise distribution**

In the present study, out of 100 patient 42 patients (42%) had symptoms of cough, 44 patient (44%) had chest pain, 60 patients (60%) had complaint of breathlessness, 50 patients (50%) had loss of appetite and all 100 patients (100%) had symptoms of fatigue.

**Effect of treatment on Cough**

Out of 100 patients of post covid symptoms 42 patients had symptom of cough. it was observed that out of 100 patients, before treatment 26 (26%) patients were suffering from severe or sustained cough lasting for more than 5 second, 16 patients (16%) were suffering from moderate cough lasting from 1 second to 5 second and remaining 58 patients (58%) had no

complain of cough. Which was fairly improved after treatment that is only 4 patients (4%) had complaint of mild or single cough and 96 patients (96%) had no symptoms of cough. The result obtained on Cough showed statistically highly significant result with 'P' value <0.001.as shown in the following table

Statistical analysis showed that mean score which was 1.10 before treatment was reduced to 0.04 after treatment with 96.36% improvement. It was statistically significant with ( $p < 0.001$ ). Result are graphically represented in [Figure 1].

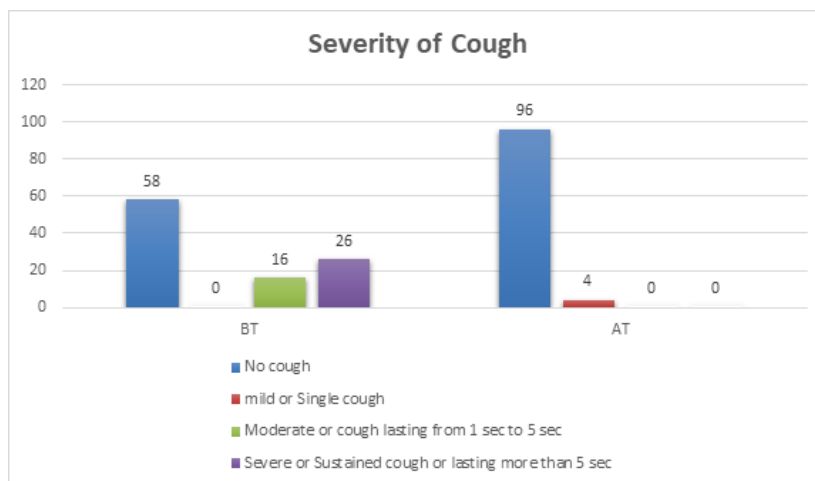


Figure 1 Statistical analysis.

#### Effect of treatment on Chest pain

Out of 100 patients 44 patients were suffered from Chest pain as mentioned in table.

Statistical analysis showed that mean score was reduced to .00 from 0.44 with 100% efficacy. which was statistically significant with ( $p < 0.001$ ). Results are graphically represented in [Figure 2].

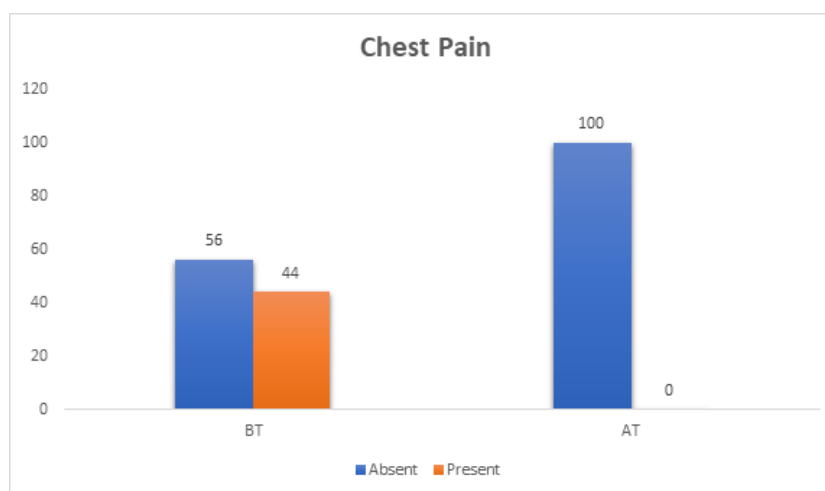


Figure 2 Statistical analysis showed that mean score was reduced to .00 from 0.44 with 100% efficacy.

#### Effect of treatment on Breathlessness

Out of 100 patients 60 patients had symptom of Breathlessness as shown in the table below. In that 18 patients (18%) had complaint of Breathlessness on walking about 100 meters, 29 patients (29%) had breathlessness on walking at their own pace, 13 patients (13%) had breathlessness on exertion or climbing upstairs while remaining 40 patients (40%) had no complaint of Breathlessness[7]. Condition was markedly improved after treatment as only 4 patients (4%) had breathlessness on exertion or walking upstairs while remaining 96 patients (96%) had no complaint of Breathlessness. So result obtained on Breathlessness showed statistically highly significant result with 'P' value <0.001[8].

Statistical analysis showed that mean score which was 1.25 before treatment was reduced to 0.04 after treatment with 96.80%

improvement. It was statistically significant with ( $p < 0.001$ ).

#### Effect of treatment on loss of appetite

Out of 100 patients 60 patients were suffered from loss of appetite as mentioned in the following table. In that 60 patients, 50 patients (50%) had normal desire for food while in remaining 50 patients 24 patients (24%) had desire for food only after long interval, 22 patients (22%) had desire for food little late than normal time and 4 patients (4%) were eating timely without much desire[9]. After treatment it was observed that 8 patient (8%) were eating timely without much desire and rest 92 patients (92%) had normal desire for food. So result obtained were highly significant with 'P' value  $< 0.001$ .

#### DISCUSSION

After 15 days of complete treatment we had observed that there was 100 % relief in the symptoms of cough, breathlessness and chest pain. Also symptoms of chronic fatigue was fairly improved. Here the subjective graded parameters are subjected to statistical evaluation using 't test' to evaluate the difference between before and after treatment and thereby to know the percentage of improvement.

#### CONCLUSION

The present study revealed that efficacy of treatment given was safe and effective in post covid symptoms without any reported adverse reaction. The drug was well accepted by patients. In the pathology of post covid illness along with Vata and Kapha there is involvement of Pitta dosha also. Hence Kasa Shwas hari rasa along with other medicine showed significant result in all the subjective parameters of Post covid illness as well as objective parameters like Liver markers.

In this study we observed that treatment was very effective in post Covid infection without further deterioration of the disease

#### DECLARATIONS

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##### Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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