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Post COVID management : Pragmatic approach of Ayurveda and Yoga.

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Fresh novel coronavirus infections are declining, but the post-Covid-19 complications have become a major cause of worry for healthcare workers across the globe. A study was performed on the long term effects of the severe acute respiratory syndrome (SARS), the coronavirus that emerged in 2003. This study showed there was persistent and significant impairment of exercise capacity and health status in survivors of SARS over 24 months. Health workers who had SARS experienced even more marked adverse impact¹. Another study revealed that 40% of people recovering from SARS still had chronic fatigue symptoms 3.5 years after being diagnosed².

After acute COVID-19 illness, recovered patients may continue to report a wide variety of signs and symptoms including cough, low-grade fever, and fatigue, all of which may relapse and remit. Other reported symptoms include shortness of breath, chest pain, headache, neurocognitive difficulties, muscle pains and weakness, gastrointestinal upset, rashes, metabolic disruption (such as poor control of diabetes), thromboembolic conditions, and depression and other mental health conditions. Skin rashes can take many forms including vesicular, maculopapular, urticarial, or chilblain-like lesions on the extremities (so-called covid toe). There seems to be no need to refer or investigate these if the patient is otherwise well³.

These symptoms can be divided into two categories as common symptoms and less common symptoms. Common symptoms include fatigue, dyspnoea, joint pain, chest pain, cough, change in sense of smell or taste and

Less common symptoms includes insomnia, low-grade fevers, headaches, neurocognitive difficulties, myalgia and weakness, gastrointestinal symptoms, rash and depression.⁴

COVID-19 can result in prolonged illness and persistent symptoms, even in young adults and persons with no underlying medical conditions who were not hospitalized. As of now, there is limited evidence of post-COVID sequelae and further research is required and is being actively pursued. A holistic approach is required to follow up care and well-being of all post-COVID recovering patients.

According to Ayurveda concepts, there will be *Dhatu-Kshaya & Agnimandya Avastha* Post-COVID 19 infection. Hence, *Dhatuposhana* and administration of *Rasayana* drugs like *Draksha* (*Vitis vinifera* L.), *Amalaki*, *Gudhuchi*, *Vasa* (*Justicia adhatoda* L.) for at-least 45 days and to combat the residual effects of the virus on the body – *Vishaghna chikitsa* with *Shirisha* (*Albizia lebbek* (L.) Benth.) or *Haridra churna* (*Curcuma longa*) is suggested after clinical recovery. *Deepana Pachana* drugs like *Shadanga Paneeya* may be used in case of Diarrhoea, vomiting or loss of appetite.

Management

Ministry of Health & Family Welfare, Directorate General of Health Services (EMR Division) issued Post-COVID management protocol which includes Immunity promoting AYUSH medicine - *Ayush Kwath* (150 ml; 1 cup) daily, *Samshamani vati* twice a day 500

mg (1 gm per day) or Giloy powder 1 -3 grams with lukewarm water for 15 days, *Ashwagandha* 500 mg twice a day (1 gm per day) or *Ashwagandha* powder 1-3 grams twice daily for 15 days and *Amla* fruit one daily/*Amla* powder 1-3 grams once daily. *Mulethi* powder (in case of dry cough) 1- 3 gram with lukewarm water twice daily. Warm Milk with ½ teaspoonful *Haldi* (turmeric) in (morning/evening) Gargling with turmeric and salt. It is also suggested by the Ministry of AYUSH that the use of Chyawanprash is highly recommended (under the direction of Registered Ayurveda physician) as in the clinical practice It is believed to be effective in post-recovery period. Daily practice of Yogasana, Pranayama and Meditation, as much as health permits or as prescribed/ Breathing exercises as prescribed by treating physicians⁵.

Diet has a very important role in the management of Post COVID-19 and it should be *Shadrasatmaka* (with all six tastes) and may include ginger, turmeric, pepper, cinnamon, *Amla* (*Indian gooseberry*), mint in their diet to boost immunity.

Depending on the condition of Dhatu and Dosha, Shamana in the form of *Brimhana chikitsa* can be adopted to restore the function of *Tridosha* beside this *Satvavajaya Chikitsa* (ayurvedic psychotherapy) Sadvritta, and Achara *Rasayana* (behavioural therapy) can play an important role to manage post covid symptoms these are the non pharmacological approach aimed to maintain mental health. Regular practice of *yogasana* and *pranayama* with *achara rasayana* is useful for mental stability.

Various herbs and herbomineral drugs including *Rasayana* drugs which play a vital role in post COVID-19 and specially herbomineral drugs require in minimal dosage, accounting to the quicker action of drug, easy for administration, act as a *Rasayana* with high potency. The herbo-metallic formulations containing gold *Bhasma* plays a key role in overall efficacy, Research works had been proved that the herbo-metallic formulations containing gold *bhasma* helps to regulate antigen-specific immune response as nanoparticles of gold possess immunomodulatory, free radical scavenging, antistress, analgesic and antioxidant properties⁶.

Rasayana like *Chyawanprash*, should be given in respiratory tract illnesses like *Kasa* (~cough), *Shwasa* (~difficulty in breathing, bronchial asthma). It improves the retention power, intelligence, provides *Arogya* (~disease free state), longevity, and improves *Uro-Roga* (~diseases of chest region), *Hrid-Roga* (~diseases of heart) etc. *Pippali Rasayana* is said to be best for *Kasa*, *Gala-Roga* (~diseases of the throat), *Vishama-Jwara* (~fever with irregular nature, action, and time of onset). Since no clear pathophysiology of the coronavirus is known, this *Rasayana* might be beneficial. *Naimittika Rasayana* impact like *Shilajatu* correct the hyperglycaemic episodes and produce their effect by enhancing the *Agni* and *Ojas* status in the patients, thereby improving metabolic and immune status.⁷

Panchakarma:

The five purificatory procedures have to be adopted foremost to manage body systems and organs that can be affected.

Respiratory conditions - *Deepana* and *Ama Pachana*– This method is for correcting the metabolism and digestive system. *Abhyanga* and *swedana* (Oil Massage + Steam Bath) – Helps rejuvenation of the body and expulsion of toxic waste through skin. *Vamana* (Emesis)/ *Virechana* (Purgation) - Purification of the body by expelling the doshas through

Neurological conditions - *Agni Deepana* and *Ama Pachana* for correcting the metabolism and digestive system. *Udvardhana* (Powder massage) whole-body massage with medicated powder and *Basti* according to condition in the form of *Karma*, *Kala* and *Yoga Basti* in the combination of *Sneha Basti* and *Kashaya Basti* and *Shirodhara*, *Ksheera Dhara* or *Kashaya Dhara* etc

Musculoskeletal conditions - with above management in Neurological condition *Patra Pinda Swedana/ Shastika Shali pinda sweda/ Ksheeradharā*) to strengthen the body muscles and regaining the lost strength.

Psychological conditions - *Sneha Nasya* for mild insomnia, irritability, and conditions like depression with *Anu taila* or *Ksheerabala taila*. *Shirodhara* for pacifying vitiated *doshas* from the nervous system and enhancing

the efficiency of the nervous system. *Abhyanga* (Oil Massage) / *Pizhichil*.

Cardiac conditions - *Uro Basti*, *Shirodhara*, *Kashaya Dhara* or *Ksheera dhara*, *Abhyanga* (Oil Massage) or *Pizhichil*.

According to the Ministry of AYUSH, Physicians have to decide useful classical medicines based upon their clinical judgement, suitability, availability and regional preferences. Dose may be adjusted based upon the patient's age, weight, and condition of the disease. Ministry also listed *Ashwagandha*, *Chyawanprash* or *Rasayana Churna* for post-COVID-19 management in order to prevent lung complications like fibrosis, fatigue and mental health. Further, the ministry has listed Yoga Protocol for post-COVID-19 care (including care for COVID-19 patients) in order to improve pulmonary function and lung capacity, reduce stress and anxiety and improve muco-ciliary clearance. Yoga with *pranayama* could be a simple, useful, costless home-based practice for the prevention and post-recovery management of COVID-19 and helpful to create awareness so that the spread of this dreaded disease can be controlled to a great extent.

A holistic approach is required to follow up care and well-being of all post- COVID recovering patients. Need for proper management of postCOVID-19 can be not only in prolonged illness, but also young adults and children without underlying chronic medical conditions. An effective protocol is a need for managing postcovid threat.

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