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### Prospect of Ayurveda System of Medicine in recent COVID-19 Pandemic in India.

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#### ABSTRACT

The drug of choice for the treatment of COVID-19 remains an unsolved issue. Major scientific bodies are engaging in the discovery of preventive solutions and curative medicines for COVID-19. Ayurveda is the oldest and most popular system of medicine currently practiced in India. There is a need for scientific studies on Ayurveda and its premises to find out the potential and the possibilities the system of medicine might carry for COVID-19 care. In regards to the aforementioned suggestion the implementation of large scale molecular and public health studies on the application of Ayurveda for the management of COVID-19 seems to be a reasonable path forward. As such the Ministry of AYUSH's self-care advice can be disseminated to other parts of the globe. This article discusses the necessity and research oriented possibilities on utilization of Ayurvedic medicine for COVID-19 management in India.

**Keywords:** Ayurveda; COVID-19; Operational research; Scope.

#### INTRODUCTION

Coronavirus disease-2019 (abbreviated "COVID- 19") has spread like a wildfire across the globe within a short span of time.<sup>1</sup> Almost 209 countries and territories are affected regardless of economic, cultural, social & religious diversity. If proper interventions are not implemented on time, it may create a massive humanitarian crisis. This crisis is not only confined regarding medical aspects but also on economic, social and financial conditions of the affected country. It is one of the biggest threats or challenges for human society after the establishment of the World Health Organization. This type of pandemic was last witnessed during 1920 as Spanish flu.<sup>2</sup>

COVID-19 was first detected in December 2019 in Wuhan, China. All other counties never thought that this

disease would spread throughout the World within a few months. The World Health Organization declared COVID 19 as "public health emergency of international concern" on January 30, 2020 and called for collaborative efforts of all countries to prevent the rapid spread of COVID-19.<sup>3</sup> Universal guidelines have been published by the World health Organization for all UN listed countries.

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It contains eight main components regarding operations, surveillance, logistics, manpower, risk communication, community engagement, case investigation, laboratory investigation, infection prevention, infection control and case management etc.<sup>4</sup> After getting successful example of lockdown in Wuhan, China province, a large number of countries are in lockdown for several days as it is the best way to prevent further increase of COVID-19 patients as well as buying time to prepare the health care structure to cope the massive COVID-19 outbreak situation in future.

There is no institutionally approved vaccine against COVID-19 till now. That will require another 1.5-2 years to establish a vaccine against COVID-19 in proper scientific steps. Some experts want to remove the in-vitro testing phase to reduce the time gap for preparation of COVID-19 vaccine. But this may create harm in future (like Thalidomide tragedy) and increase the risk element. The vaccine should have three important elements – safety, efficacy and cost effectiveness. The high cost vaccine won't be affordable to middle or low socio-economic groups of people.

There is no special drug for treatment of COVID-19 patients. As per recommendation, many countries are using Hydroxychloroquine(HCQ) and Azithromycin (AZD) as a treatment of COVID-19. The protocol for the treatment was approved by the French National Agency for Drug Safety on March 5th 2020 and further it was approved by the French Ethic Committee on March 6th 2020. This study (Goutret et al) found that Hydroxychloroquine is significantly associated with viral load reduction/disappearance in patients with COVID-19 and its effect is reinforced by Azithromycin.<sup>5</sup> After this publication several questions arise on the methodology, sampling procedure and analysis. Till now, the trial of Gautret and colleagues, does not provide sufficient evidence to support wide-scale rollout of HCQ monotherapy for the treatment of COVID-19; and for same larger randomized studies should be considered. However, these data do suggest that further studies of HCQ-AZ combination therapy should be prioritized as early as possible.<sup>6</sup> In India, HCQ is further being used in prevention protocol for COVID-19. It is also proved that there are several side effects of HCQ on the heart, eye and gastro-intestinal tract. Without proper scientific evidence

and alternative choice, the whole world is using this protocol. Some experts are advising to use reserved HIV treatment drugs – Lopinavir 200mg and Ritonavir 50mg in second option which are highly toxic as compared to HCQ and AZD.<sup>7</sup> Another research group found Ivermectin as an inhibitor of the COVID-19 causative virus (SARS-CoV-2) in vitro.<sup>8</sup> Ivermectin, HCQ & AZ are WHO listed medicines and used widely throughout the world for different purposes. But the whole world is looking for a medicine which is highly effective, well acceptable, easily available, time tested and less toxic. Further researches are required to establish the treatment guidelines.

Along with modern medicines, China has used ancient Chinese medicine (TCM) to manage the epidemic of COVID-19. The China government has given permission to utilize the TCM for treatment of COVID-19 patients. Near about, 60,107 patients were treated by 3100 medical staff of TCM in Hubei province.<sup>9</sup> One study among the 701 confirmed COVID-19 cases treated by *Qingfei Paidu* decoction (QPD) showed that 130 cases were cured and discharged, clinical symptoms of 51 cases disappeared, 268 cases showed improvement in symptoms, and 212 cases had stable symptoms without aggravation. The effective cure rate of QPD against COVID-19 is over 90%.<sup>9</sup> It showed a new hope for the prevention and control of COVID-19 which is less toxic, highly effective and socially acceptable. Several TCM related articles on COVID-19 are on the pipeline for publication.

Indian traditional medical science, Ayurveda have several single herbs and compound medicines which cure fever and respiratory diseases for many centuries in many countries in the World, especially in the South East Asia region. Ayurveda can manage many diseases by its preventive, curative, promotive, personalized medicines. There is a huge possibility to utilize Ayurveda medical system for prevention and treatment of COVID-19. However, a major drawback is lack of an adequate modern scientific basis. The Government of India is already utilizing the Ayurveda manpower and health care structure for treatment of COVID-19 cases under WHO guidelines. Also the immunity boosting measures for self-care during COVID-19 was published by the Ministry of AYUSH (Government of India).<sup>10</sup> These

guidelines contain few preventive homemade medicines/decoctions, Yoga & advice of healthy daily routine. This guideline can be replicated in other parts of the world for self-care as major ingredients of it are easily available, acceptable by the society, time tested and free of side-effects (in normal dose). The major ingredients of immunity boosting measures are scientifically validated in many peer-reviewed journals.<sup>11</sup>

Only a few states are treating COVID-19 patients by modern medicine along with Ayurveda medicines. The state governments' use of guidelines also varies according to the state's choice. Additionally, there is a lack of mutual understanding among policymakers to implement Ayurveda medicines and principles for common people as an option of treatment or co-treatment for COVID-19 due to lack of sufficient scientific evidence. On other side, Ayurveda scholars are on the arguments that if there is no scope for implementing pilot study on application of Ayurveda medicines for COVID-19 treatment then there will always be lack of evidence of effectiveness of Ayurveda medications on COVID-19 care and management.

It is documented that, during outbreak of Dengue Fever, Government of Tamilnadu (2012) approved Nilavembu Kudineer (Siddha Medicine) as prophylactic measures.<sup>12</sup> This initiative was found very effective to control dengue fever, and the government received appreciation from the society. Such public health initiatives are supported under WHO Guidelines for Managing Ethical Issues in Infectious Diseases, which allows for "monitored emergency use of unregistered and experimental interventions" (MEURI).<sup>13</sup> According to this guideline the recommendation should be "recommended by an appropriately qualified scientific advisory committee especially established for the purpose". From an ethical point of view, this recommendation opens the scope for research on implementing alternative medical sciences on any infectious disease outbreak where there is no established medication.

It is the right time to implement translational and operational research on Ayurveda medicines on COVID-19 regarding preventive and curative aspects on a large scale. There are huge possibilities to implement Ayurveda medicine in the welfare of society which is

easily available, easily acceptable, time tested and less toxic than other medications in India. Other countries may accept and promote the immunity boosting measures for self-care for COVID-19 published by the Ministry of AYUSH (Government of India) in their own country. Different health research organizations are required to involve the Ministry of AYUSH (Government of India) regarding research and development on application of Ayurveda on COVID-19 prevention and management.

Researchers can apply the concept of *Prakriti* to correlate and explore the differences of sign and symptoms of COVID-19 cases and COVID-19 induced complications in different COVID-19 patients. This personalized way of diagnosis and management may improve the treatment outcome by identifying the high risk *Prakriti* person in advance. Regarding clinical Ayurveda drug trials; various single herbs and compound medicines can be tested with reference to classical Ayurveda text, expert opinion and updated scientific evidence. Research focus may be on the medications related to increasing *Oja* (~immunity), normalize *Agni* (~metabolism power), *Jwara Chikitsa* specially *Bhutadi Sanga Jwara Chikitsa* (~management of fever), *Swasa Chikitsa* (management related to respiratory tract diseases) and anti-microbial activities of Ayurveda medications etc. Double blind randomization control trials are needed to ascertain the efficacy and safety of medicine.

Recently, Central Council for Research in Ayurveda Sciences- Ministry of AYUSH has taken initiatives by "AYUSH Sanjivani" app to collect evidence regarding acceptance and usage of AYUSH advocacies and measures among the population and its impact on prevention of COVID-19. Three clinical studies have been launched by the Ministry of AYUSH regarding this on 7<sup>th</sup> May, 2020. Various state governments are disseminating their Ayurveda intervening study observation on media platforms. But they need some more scientific outlook and proper academic scientific dissemination by research paper. Hope these initiatives will bring evidence for the Ayurveda system as one of the better treatment options for COVID-19 care in future.

## CONCLUSIONS

Ayurveda medicines have sufficient potentialities to apply in the battle of COVID-19 in preventive and curative aspects. But there is a need to develop modern scientific evidence on potentiality of Ayurveda on COVID-19 management. Such public health initiatives are supported under WHO Guidance for Managing Ethical Issues in Infectious Disease, which allows for “monitored emergency use of unregistered and experimental interventions” (MEURI). The Ayurveda fraternity needs to develop universal guidelines of Ayurveda management on COVID-19 after generating proper scientific evidence.

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