

## REVIEW ARTICLE

# AYUSH Preparations as Immunity Boosters in the Management of SARS-CoV-2: A Review

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**Abstract:** In the 21<sup>st</sup> century, humans are in the battle against a deadly contagious disease COVID 19, first reported in Wuhan, China. Coronavirus disease, designated as COVID 19, is caused by SARS COV 2 virus from the beta coronavirus family. Although there are no specific anti-viral drugs and vaccines against this pandemic disease, however, many medicines are being repurposed for COVID 19 management but have shown limited success. Traditional medicine systems, since ancient times, were used for their immense efficacy with minimal adverse effects compared to allopathic medicines. Thus, for COVID 19 management, researchers are focusing on traditional medicines from Ayurveda, Chinese medicine, Unani, Siddha, and Homeopathy as adjuvant therapy as per anecdotal data regarding their use in the treatment of infectious disease. In India, all the traditional medicine systems are under AYUSH ministry and government has been highlighting AY-SUH medicines for improving immune system against COVID 19. In this review, the authors emphasize on the historical background of AYUSH medicines in the prevention and treatment of infectious diseases and the medicines recommended by the AYUSH ministry for combating COVID 19 as immunity boosters.

**Keywords:** COVID 19, AYUSH, traditional medicine, SARS COV 2, ayurveda, homeopathy, siddha, unani.

## 1. INTRODUCTION

Beginning with origin of life on earth, several microbial outbreaks have emerged and challenged humanity from time to time, causing loss of life *e.g.* Spanish flue, White plague, *etc.* However, humans had won the battle of each incident by adopting modern and ancient medicinal systems. Once again, the 21<sup>st</sup> century is challenging humans with an outbreak of novel coronavirus infection, also termed as COVID-19. This emerging viral disease was first reported in Wuhan, China, as a group of acute respiratory illnesses and later on, the International Committee on Taxonomy of Viruses designated it as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1-4]. After its first appearance in China, now it has spread over 215 countries and infected 4.5 million populations with 2 million deaths all around the world till 09<sup>th</sup> May, 2020 [5]. Presently, there is no appropriate targeted therapeutic available for COVID-19 and various scientific institutions and companies are engaged in the development of vaccines and medicines. At present, interventions are given on the basis of clinical experience of treating SARS, MERS, previous influenza viruses and symptoms to provide some level of relief to the infected person. Although

some of the antiviral drugs like remdesivir, favipiravir, *etc.* have shown promising effects in the treatment of COVID-19, however, due to the non-specificity, the risk associated with adverse effects of these drugs should not be ignored and needs proper monitoring [6]. Alternatively, the search for complementary and alternative therapeutics having efficacy and minimal adverse effects is accelerating throughout the globe.

Complementary and alternative medicine (CAM) offers a wide variety of herbal formulations, which served as potential antiviral and immunomodulatory remedies for treating various viral epidemics in the past. According to the World Health Organization (WHO) report, 80% of the population in developing countries depends upon traditional medicines for their health requirements [7, 8]. A number of herbal formulations have been used from time immemorial in the management of infectious diseases before the advent of modern medicine. Natural plant-derived compounds (also known as phytoconstituents), extracts of specific plant parts (roots, stem, bark, flowers, fruits and seeds), dietary supplements and nutraceuticals have found their wide application in treating ailments ranging from common to rare infectious and non-infectious diseases [9]. Many compounds like quinine, curcumin *etc.*, have turned into potential anti-infective drugs derived from herbal origin. Quinine was derived from the Cinchona bark with a long history of use as a potential anti-malarial drug. At present, chloroquine, hydroxychloroquine

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