



Chyavanprash: Choice of Drug for immunity boosting and health supplements during COVID -19 pandemic

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ABSTRACT

Chyavanprash a known Ayurvedic formulation formulated by sage Chyavan to impart youth, charm, strength & prolonged life. It is very much valued for possessing numerous health benefits with respect to the preventive, curative and promotive aspects of health. Chyavanprash can be consumed throughout the year. Several scientific evidences support its wholesome and safe healthy tonic status that is favorable for all age groups and genders alike. In modern days, it has gained mammoth popularity throughout the world. CP is prepared with *Amalaki* (*Emblia officinalis*) as a prime drug with other nutrient rich herbs help to preserve stamina, strength and vitality. Various pre clinical (in vivo & in vitro), Experimental, Analytical and clinical studies conducted on CP and its individual components revealed its various pharmacological activities most of which are suggestive of immunity enhancer and health supplements. Hence an attempt is made in the present paper to find out and explore the scientific evidences based on therapeutic potential of CP with respect to immunity and health supplements and make evidences available to the common people to combat the COVID-19 menace effectively.

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INTRODUCTION

Coronavirus disease

Epidemics are familiar to people all over the world. A person whose immunity is better survived and those with low immunity become the victims. COVID-19 outbreak is the latest in this series. It was for the first time detected in Wuhan city of China in 2019, December and then spread across the globe, causing lakhs of lives. As no drug is effective to control the coronavirus, microbiologist and researchers

across the globe are engaged in searching for the latest and effective antiviral drug for its complete cure (Rathi and Rathi, 2020b; Goothy et al., 2020). The symptoms are fever, body ache, dry cough, dyspnea, fatigue, the common cold. Some individuals also develop diarrhoea or sore throat, nasal congestion, loss of smell and it further leads to Pneumonia, cyanosis with a severe respiratory syndrome, kidney failure, organ dysfunction and death (Rathi and Rathi, 2020a). There are shreds of evidence that traditional herbal remedies have the potential to alleviate the symptoms of COVID-19 (Covid, 2019).

The magnitude of *Chyavanprash* (CP) in Ayurvedic Compendia

Medicinal plants are the primary source as a medicine for the majority of the population throughout the globe. Increase in population, cost of allopathic treatment for general ailments, side effects of modern drugs and development of resistance have led to increasing emphasis on the use of herbs as a source of medicines and health supplements (Rathi et al., 2020).

In Ayurveda compendia, *Chyavanprash* (CP) is considered as *Rasayana*, which aims at preserving physique, vigour, vitality, and to delay the elderly process. CP is acclaimed as one of the anti-ageing Ayurvedic energizers since Samhita period. CP is named after the sage Chyavan, who is the pioneer to discover this formulation to build up youth, charm, strength & prolonged life (Kaur et al., 2018). It is very much valued for possessing numerous health benefits for the preventive, curative and promotive aspects of health. In modern days, it has gained mammoth popularity throughout the world.

CP is a wide-ranging semisolid medicated herbal tonic, which serves as a nutrient for healthy individuals constitutes about 46 herbal drugs (Chavhan and Rathi, 2019) *Chyavanprash* can be consumed throughout the year, as its components are withstood to all weather conditions and withdrawn the unpleasant effects due to intense ecological and climatic conditions. CP is prepared with *Amalaki* fruits, the prime ingredient of CP and the instrumental in providing vitamin C. During the preparation of CP, Vitamin C present in *Amala* doesn't get deteriorated on heating (Rathi et al., 2018). In CP, honey which works as a catalyst (*Yogavahi*) accelerates the absorption process. Honey and Sugar both are rejuvenating and imparts sweet taste due to which people around the globe desire for CP for its anti-stress and anti-ageing properties. It is widely recognized now as an immunity booster and a comprehensive general health tonic for all age groups. It is incredibly useful in preventing stomachache, common cold

and coughs which are supposed to be the symptoms seen in COVID-19. On regular consumption, CP improves overall health problems (Parle and Bansal, 2006).

According to various analytical reports, CP is rich with, proteins, vitamins, carbohydrates, dietary fibre, energy contents and trace elements. CP also endows with some essential phytoconstituents like flavonoids, saponins, alkaloids, piperine, antioxidants etc. With this rich nutritive composition and biomolecules, CP exhibits bodybuilding, health restoration and immuno-modulation activity (Agte et al., 2003). The phenolic compounds such as gallic acid, syringic acid, ferulic acid, catechin, caffeic acid, chlorogenic acid, are identified in HPTLC analysis are accountable for performing various therapeutic activities (Govindarajan et al., 2007).

CP is specifically indicated for patients with cough, bronchospasm, allergic cough, common cold, tuberculosis due to presence of herbs such as *Inula racemosa*, *Adhatoda vasica*, *Pistacia integerrima*, *Tinospora cordifolia*, *Mesua ferrea* and *Cinnamomum Tamala*. *Piper longum* and *Elettaria cardamomum* are very useful in common cold, asthmatic breathing and even bronchitis. Piperine present in *Piper longum* enhances the bioavailability. Thus this formulation helps in strengthening and the smooth functioning of the respiratory system (Ojha et al., 1975). CP also play a key role in augmenting the bioactivity and preventing the side effects if administered with antitubercular drugs as an adjunct (Debnath et al., 2012).

A possible role of *Chyawanprash* in management of Covid-19

Several systematic pieces of evidence are available that hold up the notion of immunity booster and rejuvenator of CP. Multiple pre-clinical (in vivo & in vitro), experimental, analytical and clinical studies conducted on CP and its components revealed its various pharmacological activities most of which are suggestive of immunity enhancer and health supplements (Kumar et al., 2012). In pre-clinical trials, CP possesses promising antimicrobial potential (Khan et al., 2016). CP proved as antioxidant, pro-cholinergic and anti-amnesic due to the presence of ascorbic acid and may be effectively used in the management of Alzheimer's disease. CP exhibits the immune-protective role at a cellular level via immune-stimulation in macrophages, dendritic cells and NK cells which are supposed to be key immune cells (Madaan et al., 2015). The immune-modulatory effects of *Suvarna-Rajat* CP and CP Plus; formulations containing CP have been evaluated. Both the formulations showed

a significant increase in the macrophage activity and declined the chances of infection. Besides that, both the formulations proficiently protected Cyclosporine A-induced immune suppression signifying the immune protective role of CP (Sur et al., 2004).

Recent researches have revealed the presence of gallic acid, epicatechin, catechin, the polyphenols in CP which is known to hold antioxidant, cytoprotective and neuroprotective properties (Kumar et al., 2006; Kasar et al., 2006). CP reinforces immunity, supports the healing process and fights infections (Bhattacharya et al., 2002). Another study conducted on the ethyl acetate extract of different brands demonstrated potent free radical scavenging and antioxidant activity as close to the standard ascorbic acid thus it prevents or slowing the development of ageing and age-related degenerative diseases (Anil and Suresh, 2011). In a two-arm, randomized prospective clinical study conducted in children between 5–12 years age, significant improvement was observed in immunity, physical strength and energy level (Gupta et al., 2017). In another Clinical study, CP was taken in prescribed doses, and disease symptoms arise due to seasonal influences are reduced, altered the IgE and immunity markers C3 and C4 levels, enhanced the pulmonary functions and improved the quality of life (Sastry et al., 2014).

The studies conducted on individual herbs like *Emblica officinalis*, *Tinospora cordifolia*, *Phyllanthus niruri* and *Boerhavia diffusa* proved CP a potent liver tonic. It is revealed in the studies that CP enhances the purification of blood, eliminates the toxins and improves the functions liver (Jose and Kuttan, 2000). *Tinospora cordifolia*, *Withania somnifera*, *Phyllanthus Emblica*, *Mesua ferrea*, *Cyperus rotundus*, *Nymphaea nuchal*, *Pueraria tuberosa*, *Aqualaria agallocha*, *Desmodium gangeticum* present in CP improve CNS functions as these drugs possess potent antioxidant and anti-inflammatory properties. This is supported by RCT conducted on 128 school going students, and CP appreciably improved cognitive functions to concentration, attention and alertness (Sailesh et al., 2014). Ingredients of CP such as *Phyllanthus Emblica*, *Boerhavia diffusa*, *Inula racemosa*, *Curcuma zedoaria*, *Sida cordifolia*, *Solanum virginianum* and *Tribulus Terrestris* are well-known to revitalize and reinstate the functions of the cardiovascular system. *Amlaki*, the prime drug of CP, exhibits hypolipidemic, anticoagulant, antiatherogenic, antiplatelet, antihypertensive and vasodilatory effects (Hashem-Dabaghian et al., 2018).

CP facilitates absorption of protein and calcium synthesis, strengthens the teeth and bones as well as improves the muscle tone. CP also helps to promote growth in infantile and weight gain. It also demonstrated strong *Rasayana* effect due to the presence of potent herbs like *Phyllanthus Emblica*, *Tinospora cordifolia* and *Withania somnifera* which help for the stability of the body's normal processes and regulate the neuroendocrine-immune actions (Sharma et al., 2018). The herbs of CP, such as *Mesua ferrea*, *Cinnamomum Tamala*, *Elettaria cardamomum*, *Cinnamomum verum*, *Premna integrifolia*, *Aegle marmelos*, *Vitis vinifera*, *Terminalia chebula*, honey, *Phyllanthus niruri* help to improve digestion and metabolism.

CONCLUSION

Among Natural health products, CP is regarded as immensely valuable. The present review emphasizes the glut of conventional therapeutic claims associated with scientific evidence. Chyawanprash is accounted to possess rich vitamins, proteins, carbohydrates, dietary fibres, minerals, energy contents, Phytoconstitutes, phenolic compounds responsible for immune-modulation, bodybuilding and health reinstatement. Thus CP is proved as an Ayurvedic extraordinary health supplement that strengthens the immune system and rejuvenates the psychosomatic system. Several scientific pieces of evidence support its wholesome and safe healthy tonic status that is favourable for all age groups and genders alike during the COVID -19 pandemic.

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Conflict Of Interest

The authors declare that they have no conflict of interest.

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