



## Ayurveda's Holistic Lifestyle Approach for the Management of Coronavirus disease (COVID-19): Possible Role of Tulsi

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### ABSTRACT

Coronavirus disease COVID-19 is caused by the recently discovered corona virus that can spread between animals and humans. The outbreak of the corona virus was begun in Wuhan, China, in December 2019. The most common symptoms are fever, tiredness, and dry cough. Some individuals also develop aches and pains, nasal congestion, runny nose, sore throat, or diarrhea. It was reported that traditional remedies may alleviate the symptoms of COVID-19. Ayurveda is the world's oldest medical system that can manage any disease without side effects. Ayurveda is equipped with varieties of treatment modalities to handle with any type of deadly diseases. However, a major drawback is a lack of adequate scientific basis. Tulsi has multi-modal therapeutic effects, we hypothesize that tulsi may be effective in the prevention and management of COVID-19. Though the existing literature supports the management of symptoms of COVID-19 using tulsi, a lack of standard formulation limits its use. This is the need of time to start with translational research to provide scientific evidence for the efficacy and to establish the standard formulation of tulsi in the management of COVID-19.

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### CORONAVIRUS DISEASE

Coronavirus disease COVID-19 is caused by the recently discovered corona virus that can spread between animals and humans. The outbreak of the corona virus was begun in Wuhan, China in December 2019. The most common symptoms are fever,

tiredness, and dry cough. Some individuals also develop aches and pains, nasal congestion, runny nose, sore throat or diarrhea. It was reported that traditional remedies may alleviate the symptoms of COVID-19 ([Covid, 2019](#)).

### IMPORTANCE OF TULSI IN INDIAN TRADITION

Ayurveda is the world's oldest medical system that can manage any disease without side effects. Ayurveda is equipped with varieties of treatment modalities to handle with any type of deadly diseases. However, a major drawback is a lack of an adequate scientific basis. To overcome this problem, AYUSH has started encouraging research in several areas to improve the system effectively. One such valuable plant in Ayurveda and Siddha systems is tulsi. In Indian tradition, tulsi has a sacred role as it is considered as an avatar of Shri Mahalakshmi. The Sanskrit meaning of Tulsi is "the incomparable

one."<sup>[2]</sup> Of course, this is acceptable in reality, as tulsi has multiple beneficial effects on the human body. It can balance various mechanisms and increases the life span, according to Charaka Samhita (Claus, 2003). Offering prayer to Tulsi is the first act to traditional Indian women and men. In fact, Tulsi plant was present in almost every home even today and the leaves of Tulsi is mandatory included in any prayer of Hinduism (Simoons, 1998).

### POSSIBLE ROLE OF TULSI IN MANAGEMENT OF COVID-19

The leaves of tulsi are consumable and is being used to normalize the kapha and vata. (Singh et al., 2010) Tulsi is being used in the management of pain, diarrhea, cough and fever which are the common symptoms of COVID-19. (Mohan et al., 2011; Pattanayak et al., 2010) Tulsi have been used in the management of fever ranging from normal fever to malaria fever. (Mondal et al., 2011) The leaves of tulsi, in addition with cow ghee, were described as the best medicine for pneumonia. There exists a strong scientific evidence for the antiviral effects of Tulsi. (Singh et al., 2010; Mohan et al., 2011; Pattanayak et al., 2010; Mondal et al., 2009) Tulsi has been proven to be effective in inhibiting several deadly virus like Newcastle Disease virus, Vaccinia virus and Infectious Bursal Disease virus. (Prakash and Gupta, 2005) Clinical trials conducted earlier in India, where the extract of tulsi leaves was administered for patients with viral hepatitis and encephalitis. Interestingly there was an increase in the survival and symptomatic improvement in the tulsi group when compared with controls. (Rajalakshmi et al., 1986; Das et al., 1983) Another study proved improvement in respiratory parameters and relief from symptoms of asthma with three days of consumption of tulsi. (Sharma, 1983) The striking feature in using Tulsi is that it not only restore physiological functions but also restores the psychological functions. Phenolic compounds and antioxidant properties of Tulsi were reported to contribute its therapeutic effects. Tulsi consumption increases the anti-oxidant molecules and enzymes in the body and protects the cells and its membrane from being damaged by the toxic substances. (Shivananjappa and Joshi, 2012) Tulsi boosts the immunity of the body and helps to defense the threatening virus and bacteria. (Mondal et al., 2009) Improvement in humoral and cellular immunity was observed in animal studies after treatment with tulsi oil. (Vaghasiya et al., 2010) The possible mechanism for improving immunity is a modulation of the GABA pathway. Due to its multi-modal therapeutic effects, we hypothe-

size that tulsi may be effective in the prevention and management of COVID-19. Though the existing literature supports the management of symptoms of COVID-19 using tulsi, a lack of standard formulation limits its use. This is the need of time to start with translational research to provide scientific evidence for the efficacy and to establish the standard formulation of tulsi in the management of COVID-19.

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