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## AYURVEDA A PROMISING TOOL FOR THE ERADICATION OF COVID-19

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**ABSTRACT:** The COVID-19 pandemic has created a global health crisis posing an unprecedented public health emergency. The number of deaths and people being infected is increasing daily throughout the globe. This situation is much more severe due to possible devastating situations because of several social and economic factors. Effective management to address this infection is still evolving, and attempts are being made to integrate traditional interventions along with standard of care. Ayurveda and yoga can be proved excellent results in cure of Covid-19. It has also been accepted by ICMR in its latest guidelines; they have showcase importance of Ayurveda and yoga in treatment of covid-19. In view of this, an attempt is made to conglomerate a few important herbs whose chemical constituents must be tested for their anti-viral potential against Covid-19 infection. Many of the ayurvedic herbal preparation proved its worth as an immune booster in treatment of Covid-19.

**INTRODUCTION:** The year 2020 had been impacted by the emergence of the dreadful disease known as COVID-19, which is started to spread in the world since 30<sup>th</sup> January 2020. It had found its origin in Wuhan city of China. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the causative agent for the COVID-19.<sup>1</sup> In India, its route starts with the first migrant come from Wuhan city of China was a medical student who was first identified patient of COVID-19. The government of India introduces to lockdown in the country from 17<sup>th</sup> March 2020. After that rapid increase in COVID-19 patients had been observed. Ministry of information and Broadcasting in July 2020 had declared that the mortality rate in India due to COVID-19 is lowest as compared to the rest of the world at 2.41%. ICMR apex body in India controlling medical research and related activities

had suggested some ayurvedic practices and medicines which can be helpful in controlling the COVID-19 situation in India. India has near about 30 vaccines in the various stages of development and is expected in the first quarter of the year 2021.<sup>2,3</sup>

The emergence of COVID-19 had created a greater impact on the economy of every country, which marked negative growth first in decades. The government of India had taken various measures to rebound economic growth with ease in lockdown. The motto of atmanirbhar Bharat Abhiyan had a tremendous boost to Indian industries especially those of in the pharmaceutical sectors and health-related industries. It has been observed as a marked increase in production of hospital beds, ventilators and PPE kits. India is the second major producer of PPE kits in world. The self-sufficiency objectives had created this impact on industrial growth opens the doors of new opportunities for everyone<sup>4-9</sup>.

In India, the spread of the corona virus had been observed through peoples who had travel history to the affected countries in March. Then some peoples had also been attended the various functions that

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also leads to the rapid transmission of COVID-19 in India. The festive season and unlock in India may again create second wave of COVID-19.

Ayurveda, an ancient medical practice in India, had shown promising results in control of the COVID-19. The principles of Ayurveda and yoga mainly work on boosting immunity. Immunity boosting is

the only way to combat COVID-19 infection as it is most effective way for the treatment of COVID-19. As there is non-availability of any vaccines for the treatment of COVID-19. India has a strong history of Ayurveda which more effective than any other practice of medicines used for the treatment of various life-threatening diseases and disorders<sup>10-15</sup>.



FIG. 1: DIFFERENT PLANTS AND HERBS THAT CAN HELP IN THE FIGHT AGAINST COVID-19. (A) ELDERBERRY, *SAMBUCUS NIGRA* (B) GARLIC, *ALLIUM SATIVUM* (C) GINGER, *ZINGIBER OFFICINALIS* (D) GILOY, *TINOSPORA CORDIFOLIA* (E) TULSI, *OCIMUM SANCTUM* (F) BETALVIVE, *PIPER BETAL* (G) MARGOSA, *AZADIRACHTIN INDICA* (H) TURMERIC, *CURUMA DOMESTICA* (I) CLOVE, *SYZGIUM AROMATICUM* (J) BLACK PEPPER, *PIPER NIGRUM* (K) GINSENG, *PLANAX QUINQUEFOLIUS* (L) BLACK CUMIN, *BLACK CUMIN L.* (M) LICORICE, *ASTRAGALUS, ASTRAGALUS GLYCYPHYLLUS* (N) ASHWAGANDHA, *WITHANIA SOMNIFERA* (O) CINCHONA (*CINCHONA OFFICINALIS*).<sup>31</sup>

### Herbs used in Treatment of Covid-19:

**1. *Allium fistulosum*:** *Allium fistulosum* had a long proven history of a remedy for colds, coughs and measles which are reported in some of the ancient literatures of Chinese medicines. With reference to this literature in China, some of the patients of COVID-19 had been treated successfully with *Allium fistulosum*. Recovery in patients had been observed within eleven days of treatment with *Allium fistulosum*.<sup>16-19</sup>

**2. *Artemisia annua*:**<sup>20</sup> Artemisinin obtained from *Artemisia annua* had proven as an effective agent to treat malaria. It also has its effectiveness against flaviviruses. The symptomatic relief can be obtained with the administration of Artemisinin to

COVID-19 patients. Several literatures also signify the effectiveness of Artemisinin in various ailments.

**3. *Pyrrosia lingua*:**<sup>21</sup> The epiphytic fern *Pyrrosia lingua* belonging to the family *Polypodiaceae* It found to be cultivated in China, Southeast Asia, and Japan, and Taiwan. It also proves its effectiveness in the treatment of viral infections.

**4. *Glycyrrhiza glabra*:**<sup>22</sup> *Glycyrrhiza glabra* a known plant of Indian traditional medicine which has been known for its effectiveness in a wide variety of therapeutic applications. It has been used from the era of Charka in the treatment of various ailments.



**5. *Lindera aggregate*:**<sup>23</sup> *Lindera aggregate* has been known for its cytoprotective activity. It also has its effectiveness against gastric injury. Researchers thought that the plant extracts can also be proved effective against COVID-19.

**6. *Rosa nutkana*:**<sup>24</sup> The flowering plant *Rosa nutkana* has its effectiveness in the treatment of various ailments. Besides this, it can also be used as an ingredient in the preparation of edible jams and jellies.

**7. *Isatis indigotica*:**<sup>25</sup> Chemical constituents Emodin, sinigrin, and hesperetin extracted from *Isatis indigotica* have shown promising effect in the treatment of viral infection, tumor, inflammations, etc. Researchers found its effectiveness in COVID-19 treatment also.

**8. *Lycoris radiate*:**<sup>26</sup> *Lycoris radiate* also found its effectiveness against various viral infections. In the view of this researcher are also seen the potential of the plant in the treatment of SARS-CoV

**9. *Boenninghausenia sessilicarpa*:**<sup>27</sup> The chemical constituents isolated from *Boenninghausenia sessilicarpa* (*Rutaceae*) like 9'-methoxyl rutarensin, rutamarin, leptodactylone had shown a promising anti-viral effect.

**10. *Lonicera japonica*:**<sup>28</sup> The effectiveness of plant *Lonicera japonica* Thunb. against SGIV-Gx infection had been evaluated and found effective as an anti-viral agent can be explored as a drug candidate in the future.

**11. *Panax ginseng*:**<sup>29</sup> The immune booster is known from long time *Panax ginseng* has shown wide applications and also possesses various pharmacological activities. Which can be proved effective in the treatment of COVID-19?

**12. *Houttuynia cordata*:**<sup>30</sup> The aqueous extract of the plant *Houttuynia cordata* had shown promising anti-viral activity against SARS-CoV. As it possesses inhibitory effect on 3C-like protease (3CLpro) and RNA-dependent RNA polymerase (RdRp) of the virus.

**CONCLUSION:** Ayurvedic treatment is a promising alternative to allopathic treatment of various deadly diseases and disorders. But in the case of Covid-19 treatment, due to the

unavailability of an approved allopathic drug candidate, it relies on herbal drugs to reduce virulence in covid-19 infected patients. The plethora of research must be directed towards the development of new chemical entities for the treatment of Covid-19; till then, one must rely on Ayurveda as a ray of hope for a cure of covid-19.

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