

## Preliminary survey of some herbal medicinal plants for boosting Immunity against COVID-19 and physical fitness to health benefit

ANIL A. KSHIRSAGAR

UG and PG Department of Botany, Research Centre, Shivaji Arts, commerce and science college kannad District Aurangabad. (MS)

E-mail: [anilkshirsagar123@gmail.com](mailto:anilkshirsagar123@gmail.com)

**Abstract:** The novel coronavirus disease 2019 (COVID-19) is pandemic and has caused due to SARS-CoV-2 illness with SARS, MERS, COVID-19 has spread more rapidly due to adoption of virus in every environment. As the virus spread globally, COVID-19 cases will significantly reduce by the use of some decoction of medicinal plants like *Tinospora* (Gulvel), *Withania* (Ashwagandha), *Zingiber* (Ginger/Adrak) *Curcuma* (Haldi), *Ocimum* (Tulsi) etc. can boost the immune system. It also needs to do physical exercise like Yoga, Pranayama daily which can helps to health benefits and fitness. To verifying symptoms, structure of virus among COVID-19, SARS, MERS and common flu and its immune response, recent diagnosis for coronavirus have been discussed in this paper. Further suggest some traditional Indian medicinal plants against COVID-19. The pathways to boost immune system by some kadhas or herbal tea and exercise daily for health benefits.

**Keywords:** Medicinal plants, Kadhas, Coronavirus, protective measures and physical exercise etc.

**I. Introduction:** From an ancient time an Indianherbal medicinal plants have been utilized on treatment for several diseases including respiratory viral infections. The merits of using these medicinal plants in viral respiratory infections to build and manage immune stimulating system. Many workers studies on coronavirus using medicinal plants like *Indigofera tinctoria*, *Vitex trifolia*, *Gymnema sylvestris*, *Abitulon indicum*, *Lucas aspera*, *Cassia alata*, *Spheranthus indicum* etc. [1]. The plants *Glycyrrhiza glabra* [2] and *Allium sativum* [3] have been known to target the viral replication of SARS-CoV. A pathway that has been implicated in respiratory distress in SARS-CoV [4],[5] One of the tropical species in the family Acanthaceae

*Andrographis paniculata* in south Asia has strongly treating capacity of viral respiratory infections in Ayurveda and other medicinal system. [6],[7], [8] . Many of the plants having promising drugs for coronavirus they includes *Acacia nilotica* [9] , *Eugenia jambolana* [10] some plants like *Ocimum sanctum*, *Tinospora cordifolia*, *Withania sominifera* etc are used for boosting immune system. [11].

Novel coronavirus (COVID-19) the unexpected pandemic has caused severe panic among people world widely since from December 2019. [12]. This disease spread over to 197 countries as per the WHO. The disease can be transmitted from human to human, till today there is no vaccine discovered by any nation or country.so herbal medicinal plants can boosting immunity. The larger studies provide information on the management of respiratory infections outbreaks with higher risk of human to human transmission. [13]. Center for disease control and prevention [23].Therefore the WHO recommended the usage of medical mask ,eye protector hand gloves can be considered as appropriate personal equipment for prevention of coronavirus as per current guidelines. WHO assessed COVID-19 as pandemic [23].The common symptoms of COVID-19 includes fever, cough and shortness of breath. In some of the severe cases pneumonia may occurs and ultimately leads to the organ failure and death occurs [23] The investigation are very curious about best protective measures to peoples before vaccine can be made available [14]. Some Indian medicinal plants are used on treatment of various illness [15]. Some of the Ayurveda siddha practices originates in India and still widely utilized by the Indian population. Hence by repurposing the Indian medicinal plants more innovative treatment option can be penned down for their role defeating this viral transmission. So it's time for all the peoples to join hands together to fight against corona virus by practicing self-hygiene and social distancing [14] most of the people may be infected with one more of these virus at some points in their life time [16]. The SARS-CoV and MERS-CoV are two major causes of severe pneumonia in humans [17]. The ongoing clinical trials recent diagnosis and potential use of certain Indian medicinal plants herbs for the effective treatment of COVID-19 has been discussed though this is preliminary review to suggest some medicinal plants may beneficial for combat of COVID-19. The lungs found to be most risk from viral due to low immune system [18].

**II. Materials and methods:** The herbal medicinal plants like Gulvel, Ashwagandha, Tulsi, Adrak, Haldi etc. are used to prepare decoction against coronavirus. Ayurveda utilizes concept of

‘Dincharya’ and ‘Ritucharya’ to maintain healthy life that utilizes nature’s herbal medicinal plants.

**III.Observations: a) Medicinal plants and their possible effects on COVID-19:** Many of the herbal medicinal plants are utilized for preparation of kadhas and utilized against to various diseases. Therefore it is important to explore the effect of traditional medicinal plants against COVID -19, some of the following herbal medicinal plant extract treating against coronavirus.(Table no.1)

Sr. No.	Medicinal plants	Practice	Extract type	Dose duration	Effective against
1	<i>Andrograpis paniculata</i>	Siddha	Aqueous	Twice in a day for 14 days	Fever & cold
2	<i>Tinospora cordifolia</i>	Ayurveda	Aqueous	Twice in a day for 15 days	Chronic fever & boost immunity
3	<i>Zizipus jujube</i>	Ayurveda	Aqueous	Twice in a day for 15 days	Antiinflenza activity
4	<i>Withania sominifera</i>	Ayurveda	Aqueous	Twice in a day for 15 days	Boost immunity
5	<i>Atropa baladona</i>	Homeopathy	Tablet powder	One tablet daily	Asthama and chronic lung disease
6	<i>Eupatorium perfoliatum</i>	Homeopathy	Tablet powder	One tablet daily	Respiratory symptoms
7	<i>Curcuma longa</i>	Ayurveda	Powder	Two teaspoon full daily in boiled water	Boost immunity
8	<i>Zingiber officinale</i>	Ayurveda	Powder	Two teaspoon full daily in boiled water	Boost immunity
9	<i>Cinnamon verum</i>	Ayurveda	Powder	Two teaspoon full daily in boiled water	Boost immunity
10	<i>Ocimum sanctum</i>	Ayurveda	Leaf juice	One teaspoon full extract	Boost immunity

b) An overview of coronavirus:

Coronavirus belongs to family coronaviridae, order Nidovirales sub-order coronavirineae [19] There are near about 39 species of coronavirus. All the SARS-CoV under the species severe acute respiratory syndrome. The symptomatic comparison of COVID-19, SARS, MERS and common flu virus given in the following Table no2.

<b>Sr. No.</b>	<b>Viral disease</b>	<b>Complection</b>	<b>Symptoms</b>	<b>Incubation period</b>	<b>Transmissi on of virus</b>	<b>Treatment</b>
1	Novel coronavirus (COVID-19)	Acute pneumonia respiratory failure	Fever cough, shortness of breath fatigue	2-14 days after exposure	Human to human	No vaccines only symptoms treated
2	Severe Acute Respiratory Syndrome (SARS)	Heart, Liver respiratory failure	Fever dry cough, headache, difficulty in breathing loss of appetite Diarrhea	2-7 days after exposure	Human to human	Breathing ventilator, antiviral medicines, steroids to reduce lungs swellings
3	Middle East Respiratory Syndrome (MERS)	Acute pneumonia kidney failure	Fever chills diarrhea nausea vomiting sneezing sore throat	5-6 days after exposure	Human to human	Treatment only for symptoms such as fluid replacement oxygen therapy
4	Common flu	Exactly rare or none	Runny or stuffy nose sneezing sore throat mild headache low grade fever	2-9 days after exposure	Human to human	Symptoms can be treated by medication.

**c)Physical exercise needs to achieve health benefits:** The prolonged sitting itself can dangerous for risk of illness and death. So for that purpose to avoid such a risk we must have to need daily exercise. As 300 minutes exercise per week is important to maintain health, definitely exercise may have hundred percent solution for improve health and its benefits. Not only can this due to daily exercise maintain our strong immune system to fight against any diseases or viruses. To need daily high practice exercises for e.g. Yoga, Pranayama, energetic strolling, swimming, energetic activities, running, and vigorous moving actions that enhances health.[20].

**IV. Discussion:** The different part may be root, stem, leaves, flower and seeds of herbal medicinal plants utilized for making decoction in the form of liquid, powder or tablet. AYUSH has advised utilizing kadhas of composition of basil, cinnamon, black piper dry ginger and haldi powder to boost immunity.[22] . Boosting of immunity involves some herbal medicinal plants can cure diseases [21].

**V. Conclusion:**It has concluded that the utilization of herbal medicinal plants boosting immune system and physical exercise to strengthen health. The national institute of health (NIH) has mentioned that coronavirus could survive for up to 3 hours to maximum of three days on surfaces. As the researchers to develop vaccine against COVID-19 till time for all citizens to fight against coronavirus by practicing herbal kadhas, self-hygiene, and social distancing etc.

#### **VI. References:**

1. Vimalnathan S. Lgnacimuthu S. Hudson J. *Medicinal plants of Tamilnadu (Southern India) are rich source of antiviral activities* .Pharm.Biol.47: 422-429,2009.
2. Nourazarian A. *Effect of root extract of medicinal herbs Glycyrrhiza glabra on HSP90 gene expression and apoptosis in HT-29 colon cancer cell line.* AssianPac.J.cancer prev.1-16,2011.
3. Keyaerts E. Vijgen L.,Pannecouque C., Van Damme,E. Peumans W., Egberink H., Balzanini J. Van Raust, M , *Plant lectins are protect inhibitors of coronavirus by interfering with two targets in viral replication cycle* . Antivir.Res. 75: 179-187, 2007.
4. Alam G., Wahyuono S., Ganjar I.G., Hakim L., Timmerman H., Verpoorte.R, *Tracheoplasmolytic activity of viterosin –A & Vitexicarpin isolated from Vitex trifolia.*Planta Med. 68: 1047-1049, 2002.
5. Srivastava R.A.K, Misty,S., Sharma S., *Anovel anti-inflammatory natural products from Spheranthusindicus inhibits expression of VCAMI & ICAMI*

- and shows atherosclerosis progression independent of lipid changes*  
Nutri.Metab.12, 2015.
6. Yarnell E., *Herbs for viral respiratory infections*  
Altern.complement.Ther.24,35-43 ,2018.
  7. Arora R. Cawala R., Marwah R., Arora P., Sharma R., Kaushik V.,  
Goel R., Kaur A., Silambarsan M. Tripathi R., *Potential of complementary  
and alternative medicine in preventive management of Novel H1N1 swine  
flu pandemic ,thwarting potential disasters in bud.Evid.Based complement*  
Altermat.Med. 1-16.2011.
  8. Coon J.T., Ernst E., *Andrographis paniculata in the treatment of upper  
respiratory tract infections: A systematic review of safety and efficacy.*Planta  
Med.,70:293-298,2004.
  9. Shanti B.M., *Perspective of potential plants for medicine from  
Rajasthan.India.*Int.J.Pharma.res.7(1),1-6,2016.
  10. Otake T., Mon H., Morimoto M., Ueba N., Sutardijio S., Kusmato I.T. , Hatton  
M., Namba T, *Screening of Indonesia plant extract for anti-human immune  
deficiency virus type.*Phytother.Res.,9, 6-10, 1995.
  11. Rege A, Chaudhary A.S., *Evaluation of Ocimum sanctum and Tinospora  
cordifolia as probable HIV protease inhibitors.* Int. J.Pharma.Sci. Res.  
25,315-318, 2014.
  12. *Centre for Disease control and prevention(CDC), Coronavirus  
disease,2019,situation summary,2020.*
  13. Bounesenso D., Pianno A, Raffaelli F, Bonaida N, DE.Gaetano, donti K.,  
Franceschi F, *Point of care lungs ultrasound findings in novel coronavirus  
disease-19 a case report and potential applications during COVID-19  
outbreak.*Eur.Rev.Med. Pharm.Scie. 20: 2776-2780, 2020.

14. Balchandar V., Mahalaxmi L., Kaya J., Vivek G., Ajitkumar S., Arul N., Singaravelu G., Nachimuthu S.K., Mohana Devi S., *COVID-19 emerging protective measures* Enr.Rev.Med. Pharmaco. 24, 2020.
15. Gomathi m., Padmapriya S., Balchandar V., *Drugs studies on rett syndrome: from bench to beside* .J.Austin.Dev.Discord.,2020.
16. Killerby M.E., Biggs H.M, Haynes A., Dahl R.M., Mustaqim D., Gerber S.J., Watson T.J. *Human coronavirus circulation in USJ*. Clin Virol.,101,52-56,2018.
17. Song Z., Xu.Y.Bao.L.Zhang L, Yu.P.,Zhu H. Zhao Qinc. *From SARS to MERS thirsting coronavirus into spotlight virus* ,11-59 , 2019.
18. Optiz,B.,VanLak V. Eitel.J. Suttorp N., *Innate immune recognition in infection and non infectious diseases of lung* Ame. J. Repai.Crit. Care. Med. 181(12): 1294-1309, 2010.
19. Gorbalenya A.E., *Severe acute respiratory syndrome related coronavirus, the species and its statements study group*.,2020.
20. Laskowaski E.R., (*Expert opinion*) Mayo-clinic, Rochester, Min.2016.
21. *NBI (VS) Genes and disease National centre for biotechnology information US* , 1998.
22. *Ministry of AYUSH Ayurvedas immunity boosting measures for self care during COVID-19 crisis* ,2020.
23. *World health Organization (WHO) Director General opening remarks at the media briefing on COVID-19*,11 March2020.