

Evidence Based Ayurveda and Yoga in the Prevention and Management of Covid-19

Aashish S. Phadke

Author Affiliation: Ayurveda & Yoga Consultant, Dr.Aashish Phadke's AYURVISION – Centre for Ayurveda & Panchakarma Therapy, Vashi, Navi Mumbai 400703, Maharashtra, India.

Corresponding Author: Aashish S. Phadke, Ayurveda & Yoga Consultant, Dr.Aashish Phadke's AYURVISION – Centre for Ayurveda & Panchakarma Therapy, Vashi, Navi Mumbai 400703, Maharashtra, India.

E-mail: ayurinstitute@yahoo.com

Abstract

Role of Ayush system of medicines in the prevention and control of Covid -19 is discussed at several platforms. Ministry of AYUSH has published advisory / guidelines on how Ayurveda and Yoga can be of help in Covid -19. There are lot of discussion on 'Ayush Kadha' or 'Rasayana Kalpa' Immunomodulator formulations or drugs like Chyavanaprash or Guduchi, Ashwagandha , Haridra or Yashtimadhu in the management of Covid-19. Similar way there is an increasing awareness and interest about Yogic practices, its role in increasing immunity , about 'Jalaneti' and 'Pranayama' in prevention of Covid-19. In this paper author is trying cover some of these aspects with possible evidences as observed in the relevant research publications. Also deals with myths and facts about the role of Ayurveda in Yoga in the prevention and management of Covid -19

Keywords: Ayurveda, Yoga, Ayush Kadha, Jalaneti, Pranayama, Rasayana, Guduchi, Ashwagandha, Haridra, Yashtimadhu , Kalmegh, Covid 19

Key Messages: This paper gives a brief review on how Ayurveda and Yoga may be of use in the prevention and management of Covid -19. Author is trying to give evidences from scientific papers published in peer reviewed journals. Also discuss about myths and facts about role of Ayush system of medicine in Covid19.

How to cite this article:

Aashish S. Phadke/Evidence Based Ayurveda and Yoga in the Prevention and Management of Covid-19. Indian J Ancien Med Yog. 2021;14(1): 23–27

Introduction

Though we are now phasing through Post Covid-19 pandemic lockdown, we should be still careful in terms of prevention of Covid -19. Moreover when there are news coming that new strains of Covid-19 has been found in South Africa and U.K., it will be more specific that we should pay more attention of our life style management. How we can enhance our immunity so that we will not get infected by various diseases. Ayurveda and Yoga can be looked up as a good option in this regards.

AYUSH and Covid - 19

Ayurveda is the most ancient system of medicine of India, having its origin in Vedic literature.

Ayurveda is considered to be Part and parcel of Atharvaveda. (Upangam Atharvavedasya). It is one of the important components of AYUSH ministry. AYUSH stands for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Sowa rigpa (earlier known to be Tibetan Medicine) and Homeopathy. AYUSH is now in picture because of Covid-19 pandemics. Many tips are being circulated in the media platform such as on what's app groups, Face book , Instagram etc and also from AYUSH site , giving references on how Ayurveda, Yoga, Unani ,Homeopathy medicines can be of use to treat Covid-19 cases . The question is whether all these steps are having any rationale?

One should use the wisdom of Ayurveda backed up with the current available evidence base. In this



paper we are going to observe some of the myths and facts about usage of some of the Ayurveda based formulations, procedures or suggestion to tackle this Covid-19 pandemic.

Reference of Communicable Diseases in Ayurveda

It will be worthwhile to know whether Ayurveda knows about this kind of pandemics in those days. In Charak Samhita, there is a detailed description about 'Janapadodhwansa'. Here Janapada means Cities and Vidhwansa means Devastation or destruction. Thus destruction of these cities due to epidemic was termed as 'Janapadodhwansa'. We can understand Covid-19 as one of the type of Janapadodhwansa. , , Since we are aware about its mode of transmission, about its symptomatology at large, that it is having more involvement in respiratory system in lungs, also involving vascular system, coagulopathies and so on. Ayurvedic community has started suggesting few tips on Do's and Don'ts. Sushruta Samhita in Nidana sthan discuss about 'Aupasargik Roga' which may be compared with the 'Communicable diseases'. While mentioning about the probable causes, it has been mentioned that by touching others, sleeping together on the same bed or using other's fomites / clothing, using each other's cosmetics etc. may spread the disease. We may get surprise to see the advice given by Acharya Sushrut at those time is also holds true in this Covid-19 pandemic.

Now a day, we see that there is a common understanding everywhere, that if we can increase our immunity, then we will not fall sick. We will not succumb to the infection of bacteria or virus; in nutshell we can prevent ourselves from Covid-19 by improving our immunity by taking some combinations from Ayurvedic herbal compendia. Now let us examine this statement.

Ayurveda and Immunity

If we have better immune system then we can fight against external pathogens entering our body, may it be bacteria or virus. But we are forgetting at the same time that by merely taking Ayurvedic medicines alone for a day or two, we will not be able to achieve that increased state of immunity. For that we need to take them in a systematic way for longer duration in a continuous way, uninterrupted way. Not just that but we also need to follow certain other things in life. We need to change our life style in a greater way. We should eat balanced food. We should avoid eating only raw, uncooked food. We

must sleep at least seven hours a day. There are certain research papers mentioning that if we sleep less or more than seven to eight hours, in either case it can hamper our immune levels. Third but very important aspect is daily exercise. Exercise can also be working as stress buster and also helps in increasing our immunity. Ayurveda has mentioned importance of Aahara (Diet), Vihara (Exercise - Vyayama and Yoga) and Nidra (sleep). Inclusion of Yoga has already been found out to be really useful in increasing immune status. There are number of research papers already being published on different Asanas (Psychophysical postures), Pranayama (Breathing practices) and Dhyana (Meditation) helping to increase immune status⁸.

Now a days there is usage of AYUSH Kadha (Decoction) for prevention of Covid-19⁹, should one use it? I think if we see the content of that decoction, it is a combination of many medicinal plants or their parts such as Tulsi (Holy basil) (Ocimum sanctum)^{10,11} Black pepper seeds (Piper nigrum), Ginger rhizome (Zingiber officinalis), Clove (Syzgium aromaticum), Cardomom (Elateria cardamom), Dalchini -Cinnamon (Cinnamon zylanicum) and many more with little deviation or modification based on Ayurvedic physician's advice of adding either Haldi /Haridra-Termeric (Curcuma longa)¹²⁻¹⁵, or Dhanyaka - Corriender seeds (Corriender sativum)¹⁶, Yashtimadhu (Glycerrhiza glabra) and so on. It has been found out that Ayush Kwath due to its immune-modulatory, antiviral, anti-oxidant, anti-inflammatory, anti-platelet, anti-atherosclerotic, hepato-protective, reno-protective properties; seems to be effective in immuno-regulation for controlling viral infections like Covid-19. Further pre-clinical and clinical trials need to be done for the evaluation of safety and efficacy of this polyherbal formulation¹⁷.

If we see most of these drugs which are very commonly used in our day to day food or as spice and condiments. Many of these drugs have been proven for having their activity against Covid-19 virus. Many of them fall under an Ayurvedic properties known as Rasayana Drugs. Here the term Rasayana means not a 'chemical'. Rasayana is commonly understood in most of the Indian local languages as chemicals. Here the very specific technical meaning of Rasayana means the one which keeps the ageing process and diseases away. " Rasayanam tu yad Jneyam, yad Jara Vyadhi Nashanam I"¹⁹ as described in 'Sharandhara Samhita'. Here 'Jara' means 'Aging' and 'Vyadhi' denotes 'diseases'. Thus it is that important class of medicament which

keeps diseases and aging process away. One of the most famous formulations in this class of Rasayana is 'Chyavanaprasha Avaleha.' Which necessarily contains Amla fruits. (Indian gooseberry) .We are aware that Amla - Amalaki (*Phyllanthus emblicus*) fruit do contain good amount of 'Vitamin C'. One of the reference it has been mentioned that one Amla fruit will equate with fifteen oranges in terms of its vitamin C content. Again many take objection that while making Chyavanaprash, we have to boil these Amla fruits in a water. After heating it loses its 'Vitamin C' content. But one of the Nutritional scientist have cited in his work that the Vitamin C in the Amla is of special kind and even by heat it does not get degraded to that extent. All of us we are aware that Vitamic C is an excellent Anti Oxidant, very useful in increasing Immunity²⁰.

AYUSH Kadha is getting day by day popular. Everyone is making AYUSH Kadha and consume it on everyday basis. It has been propagated by media and government agencies to use this Kadha as a preventive measure. It exhibits 'Anti inflammatory', 'Anti oxidant', 'Immunomodulatory' properties. So if someone consumes it in a right dose for a longer period, it will help to enhance one's immunity.

Only problem which was observed in current situation, people they do not follow the recommended dose of the components. They drink this decoction three or four times a day . If a person who is consuming it in a larger quantum if falling under Pitta predominant Prakruti (Body type) then it may harm that individual . Some have reported to have acidity or bleeding piles after consumption of this decoction, but only after consuming Kadha in a larger doses.

Other criticism we have heard from my modern biomedicine practitioners, that what is the point in increasing immunity in case of Covid 19 patients ? Since there will be going to be a cytokine storm in these cases. Immunity will be already on hyper level. Yes they are correct. But we must understand that number of ingredients from AYUSH decoction are of Immunomodulatory nature. Their function is not just increasing the immunity but modulating the immune response selectively.

Ginger (*Zingiber officinalis*)^{22,23} apart from its anti inflammatory activity, it selectively help in inhibiting pro inflammatory cytokines, it helps to reduce IL6. Yashtimadhu (*Glycyrrhiza glabra*)²⁴ helps to prevent the entry of 'Corona virus' at the level of alveoli of the lungs. Guduchi (*Tinospora cordifolia*)^{25,26} is known to be Immunomodulator. Even Kalamegh²⁷ (*Andrographis paniculata*) has

been studied extensively for its anti Covid-19 activity. Ashwagandha (*Withania somnifera*)²⁸ a known immunomodulator - a Rasayana drug of Ayurveda is screened for getting prevention from Covid -19. There are number of studies published on Ayurvedic medicinal plant drugs in modern scientific peer reviewed journals based on in vitro, in vivo and in silico studies. Now a days computerized docking studies (in- silico) have showed that many Ayurvedic drugs are found out to be useful against Covid-19. If we google with these Ayurvedic medicinal plant's name and Covid19, you will surprise to see the phenomenal work which has already been undertaken at many places, not only in India but globally. Also lot of work is still going on in this regards.

Importance of Pratimarsha Nasya (applying as simple as sesame oil or medicinal oils like Anu Tail in both nostril has been suggested in the AYUSH advisory. Logically if we roll on Sesame oil drop inside nostril in a very little quantity, it will prevent entry of any external agent getting inside nose to some extent. Here we must remember that at home people are not advised to pour oil with dropper but just apply little quantity very gently and carefully. Sesame oil base is used in most of Ayurvedic medicated oils. Sesame seeds (*Til*) is also known to possess an anti - oxidant activity²⁹.

Eating Chyavanaprasha Avaleha in ten grams dose is a general instruction. But one needs to consult his or her Ayurvedic physician before taking it. If it is not possible to take Ayurvedic consultation due to some reason , then at least they must follow one thing, that they should pay attention towards their appetite. If they have good appetite (Pradeepta Jatharagni - better Digestive Fire or better Metabolic State) then and then only they should consume Chyavanaprasha Avaleha and same is applicable for the consumption of Ashwagandha (*Withania somnifera*).

One should always learn and do practice of Yoga. Yoga has been found out to be really useful in Covid-19 in various ways³⁰⁻³³. There is a role of Dhyana (Meditation) in the management of Covid-19³⁴. Regular practice of Jananeti was found out to be useful for preventing Covid-19 by doctors and other paramedical staff of 'Dinananth Mangeshkar Hospital' at Pune, as reported by Pune Mirror, newspaper³⁵.

Last but not least, because someone is consuming AYUSH Kadha (Decoction) or Giloya Vati (Guduchi) (*Tinospora cordifolia*) one should not break rules to be followed in this pandemic of Covid -19. One

should not be in so called fearless state or should not become over confidence, that after consuming Ayurvedic or Homeopathic drugs , now nothing will happen to me . All must follow a golden rule of S.M.S. Where S stands for social distancing, M stands for wearing correct way of masks and last S stands for proper sanitization to keep oneself safe from Covid -19.

Conclusion

Thus we can conclude that by following Ayurveda and Yoga regimen, one can take care of themselves in the current situation. Appropriate intake of Amla, Sunthi ,Haridra, Guduchi or Ayush Kadha and doing Yogic practices like Pranayama , Jalaneti will help all of us in a long way.

Acknowledgement: Author is really thankful to all authors and editors of the various journals and texts for borrowing the references of this paper.

Conflict of Interest: Nil

References

- Ranade Subhash , Paranjape G.R., Ayurved Itihas (Marathi), Anamol Preakashan , Pune
- <https://main.ayush.gov.in/about-the-systems>
- <https://www.ayush.gov.in/docs/123.pdf>
- Thackre, Seema , Himmatrao, Jumade Prashil P. , Janapadodhwamsa in Ayurved and its comparison with recent Covid 19 pandemic, Internat.J.of Res.in Pharmaceutical Sciences,(2020);Vol.11,No.11,Sp1.1:297-303,<https://pharmascope.org/ijrps/article/view/2716/5681>
- Samat, Janmejy, Fundamental tenets of Epidemiology in Ayurveda and their contemporary relevance, Ind.J.of Health Sciences and Biomedical Res.-KLU,(2016);Vol.9,No.1:20-26
- Charak Acharya, Janapadodhwa msaniyam Vimana: 3rd Chapter - Epidemic Diseases, <https://www.easyayurveda.com/2016/06/29/charaka-janapadoddhvamsaniyam-vimana-3rd-chapter/>
- Dubey Sushil Kumar et al., Preventive Measures for Communicable Diseases in Ayurveda and Ancient Indian Culture. Annals of Ayurvedic Medicine,2020;Vol-9 Issue-2, Apr.-Jun.,
- Gopal Arvind, Mondal Sunita, Gandhi Asha, Arora Sarika and Bhattacharjee Jayashree, Effect of integrated yoga practices on immune responses in examination stress – A preliminary study, Int J Yoga.2011; Jan-Jun; 4(1):26–32.
- Gautam Shankar, Gautam Arun, Chettri Sahanshila and Bhattari Urza, Immunity against Covid -19 : Potential role of Ayush Kwatha, Journal of Ayurveda and Integr. Med.,(2020);August,8,3
- Shree Priya, Mishra Priyanka, Selvaraj,C., Singh S.K., Chaube Radha, Garg Neha, and Tripathi Yamini Bhushan, Targeting COVID-19 (SARS-CoV-2) main protease through active phytochemicals of ayurvedic medicinal plants - Withania somnifera (Ashwagandha), Tinospora cordifolia (Giloy) and Ocimum sanctum (Tulsi) – a molecular docking study, J Biomol Struct Dyn. 2020 : 1–14.
- Arun Kumar,Molecular docking of natural compounds from Tulsi (Ocimu sanctum) and Neem (Azadirachta indica) against SARS – COV -2 – protein targets. , Research square, <https://www.researchsquare.com/article/rs-27151/v1>
- Gupta,H., Gupta M., Bhargav, S. ,Potential use of turmeric in Covid 19, Viewpoints in Dermatology, 1st July 2020, <https://onlinelibrary.wiley.com/doi/10.1111/ced.14357>
- Manoharan ,Yamuna, Haridas Vikram et al. , Curcumin a wonder drug, as a preventive measure for Covid 19 management, Indian J Clin Biochem.2020 Jul;35(3):373–375.
- Shanmugarajan, Dhivya, Prabitha,P.,Prashanth Kumar, B.R. and Suresh,B. , Curcumin to inhibit binding of spike glycoprotein to ACE2 receptors: computational modelling, simulations, and ADMET studies to explore curcuminoids against novel SARS-CoV-2 targets, J.Royal Soc. Of Chem.2020, <https://pubs.rsc.org/en/Content/ArticleLanding/2020/RA/D0RA03167D#!divAbstract>
- ROBERTS, Nathan et al. Molecular Mechanisms of Curcumin in COVID-19 Treatment and Prevention: A Global Health Perspective. Medical Research Archives, [S.I.], Nov. 2020; Vol.8,No.10
- Bhat, S., Kaushal, P., Kaur, M., Sharma, H.K. , Coriander (Coriandrum sativum L.): Processing, nutritional and functional aspects, African J. of Plant Sci., Jan.(2014), Vol.8,No.1
- Gautam Shankar, Gautam Arun, Chettri Sahanshila and Bhattari Urza, Immunity against Covid -19 : Potential role of Ayush Kwatha, Journal of Ayurveda and Integr.Med., August (2020);8,3
- Balasubramani ,S.P., Venkatsubramaniyan Padma, Kukkupuni ,S.K. and Patwardhan Bhushan , Plant based Rasayan Drugs from Ayurved, Chin.J.Integr. Med., Feb., 2011;17,(2):88-94.
- Sharandharacharya, Sharanghdhar Samhita

- Purvakhanda, 4/14, Haridas Sanskrit Granthamala, Chaukhamba Sanskrit Series Office, Vidyavilas Press, Benaras, pp. 44
20. Narayan, D.B.A., Durg, Sharanabasapa, P.Rammanohar, Chyawanprash: A review of therapeutic benefits as in authoritative texts and documented clinical literature, *Journal of Ethnopharmacology*, August 2016;197
 21. <https://www.ayush.gov.in/docs/123.pdf>
 22. Thirumalaisamy Rathinavel Murugan Palanisamy et al., Phytochemical, 6-Gingerol -A promising drug of choice for Covid 19, *International Journal of Advanced Science and Engineering*, May 2020;06,(04)
 23. Obeta, M.U., Anti-COVID-19 Properties of Ginger (*Zingiber officinale*) assisted Enugu Nigerian People During the Pandemic, *Journal of Bacteriology and Infectious Diseases*, (2020); Volume 4, Issue 3
 24. Baily Christian, Vergoten Gerard, Glycyrrhizin: An alternative drug for the treatment of COVID-19 infection and the associated respiratory syndrome?, *Pharmacol Ther.* Oct 2020; 214: 107618.
 25. <https://clinicaltrials.gov/ct2/show/NCT04480398>
 26. Shree Priya, Mishra Priyanka, Selvaraj, C., Singh S.K., Chaube Radha, Garg Neha, and Tripathi Yamini Bhushan, Targeting COVID-19 (SARS-CoV-2) main protease through active phytochemicals of ayurvedic medicinal plants - *Withania somnifera* (Ashwagandha), *Tinospora cordifolia* (Giloy) and *Ocimum sanctum* (Tulsi) - a molecular docking study, *J Biomol Struct Dyn.* 2020:1-14.
 27. E.Sukanth Kumar, Raja Kavitha, Sebastine, I. and Joseph, J., Andrographolide as a potential inhibitor of SARS-CoV-2 main protease: an in silico approach, *J Biomol Struct Dyn.* 2020 :1-7.
 28. Acharya Balkrishna, Pokhrel Subarna et al. Withanone from *Withania somnifera* may inhibit novel corona virus (Covid 19) entry by disrupting interactions between Viral -S protein receptor binding domain and host ACE 2 receptor. <https://www.researchsquare.com/article/rs-17806/v1>
 29. Budowski Pierre, Sesame oil. III. Antioxidant properties of sesamol, *Journal of the American Oil Chemists Society* (1950); volume 27, pages 264-267
 30. <https://www.artofliving.org/in-en/coronavirus/yoga-sequence-to-boost-immunity-during-coronavirus>
 31. Ransingh Ramdas, Yoga for Covid 19 and natural disaster relate mental health issues: Challenges and perspective, *Asian J Psychiatr.* Oct 2020;53:102386.
 32. Health Ricerca e Sviluppo S.R.L., Yoga Pranayama Adjuvant to Treat Burden COVID-19 (YOCO), <https://clinicaltrials.gov/ct2/show/NCT04413747>
 33. Tillu, Girish, Chaturvedi, Sarika and Patwardhan, Bhushan, Public Health Approach of Ayurveda and Yoga for COVID-19 Prophylaxis, *The Journal of Alternative and Complementary Medicine* 2020; Vol.26, No.5
 34. Mc-Ewan, Sarah, Meditation and Yoga Practices as Adjunctive Therapies for COVID-19, Pacific Neuroscience Institute, Blog, <https://www.pacificneuroscienceinstitute.org/blog/infectious-disease/meditation-and-yoga-practices-as-adjunctive-therapies-for-covid-19/>
 35. Kulkarni Prachi, Doctors at Pune's Deenanath Hospital claim traditional jalneti is helping them steer clear of Covid 19, July 2nd 2020, <https://punemirror.indiatimes.com/pune/cover-story/deenanath-docs-claim-jalneti-is-helping-them-steer-clear-of-covid-19/articleshow/76737827.cms>

