

## Boosting India's Immunity through Ayurveda against Covid-19

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Indian medicinal system is one of the most promising systems among health sciences as it not only cures the ailment but is also important in preventing the disease or building the immunity in body that can itself act as a barrier against many diseases. Today, when the world is struggling with a pandemic called as Covid-19, various research labs and scientists are finding it difficult to come up with any treatment or vaccine that can stop this pandemic whose infection rate is much higher than its other genetic members like SARS CoV-1 and MERS. In such a situation, our Indian Herbal medicinal system i.e. Ayurveda gives a ray of hope in preventing against such infectious disease by boosting the immunity of persons of all age group specially the elderly who are more prone to it and the ones with other disorders related to hypertension and glycaemia. This article focuses on a polyherbal drug i.e. Dashmool which is a combination of roots of ten herbal plants and can act synergistically in fighting against a pandemic which is now turning to be a syndemic.

**Keywords:** Ayurveda; Covid-19; Dashmool; Immunity; Syndemic**Introduction**

A fundamental Ayurvedic philosophy is that “food is medicine and medicine is food”. According to an Ayurvedic proverb “When diet is wrong, medicine is of no use; when diet is correct, medicine is of no need”.

**What is Covid-19?**

The outbreak of coronavirus came to light on December 31, 2019 when China informed the World Health Organisation (WHO) of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province. Subsequently the disease spread to other Provinces in China, and then to the rest of the world. The WHO finally on March 11, 2020 declared it a pandemic. The virus has been named as SARS-CoV-2 and the disease is now called COVID-19 [1].

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several corona viruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) which came in 2012 in Middle East countries and Severe Acute Respiratory Syndrome (SARS) which came in 2002 in China. The most recently discovered coronavirus causes coronavirus disease COVID-19. Though the mortality rate of COVID-19 is much less as compared to other Coronaviruses like SARS CoV-1 and MERS, the rate of infection is much higher in the most recently discovered corona virus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019 [2].

COVID-19 affects different group/ages of people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization. It includes fever, dry cough

and tiredness. Less common symptoms include aches and pains, sore throat, diarrhoea, conjunctivitis, headache, loss of taste or smell, a rash on skin, or discolouration of fingers or toes. Serious symptoms include difficulty in breathing or shortness of breath, chest pain or pressure, loss of speech or movement, etc.

There have been constant efforts by scientists and researchers all over the world in studying this virus and developing vaccine for it. But, till date no such successful vaccine or even medication did develop yet. The only way of prevention left is to take precaution and boost our immunity so that our immune system can fight with the SARS CoV-2. Thankfully our India is rich in ayurvedic knowledge and is blessed with the art of healing through its diverse medicinal flora.

### **The Indian medicinal system**

Ayurveda also known as the "healing science" is an age old practice (around 5000 years old) for not only curing diseases but also reducing the occurrence of diseases by boosting immunity. Ayurveda identifies three basic types of energy known as functional principles that are present in everyone and everything. The original Sanskrit words for them are vata, pitta and kapha. These principles can be related to the basic biology of the body.

Energy is required in the body to create movement so that fluids and nutrients can be absorbed by the cells which enables the body to function. Energy is also required to metabolize the nutrients in the cells, and also to lubricate and maintain the structure of the cell. The energy of movement is Vata; the energy of digestion or metabolism is pitta and kapha is the energy of lubrication and structure. All people have the qualities of vata, pitta and kapha. The cause of disease in Ayurveda is viewed as a lack of proper cellular function due to an excess or deficiency of either vata or pitta or kapha. Disease can also be caused by the presence of toxins [3].

According to Ayurveda, body, mind and consciousness work together in maintaining balance. To learn how to balance the body, mind and consciousness requires an understanding of how vata, pitta and kapha work together. According to Ayurvedic philosophy the entire cosmos is interplay of the energies of the five great elements—Space, Air, Fire, Water and Earth. Vata, pitta and kapha are the none other but the various combinations and permutations of these five elements that manifest as patterns present in all cre-

ation. In the physical body, vata is the subtle energy of movement, pitta is the energy of digestion and metabolism, and kapha is the energy that forms the body's structure [3].

These are the energies that drive the human and can play a vital role in fighting with Covid-19 if we can maintain a balance between them. Though there are numerous medicinal flora found in India in the foothills of Himalayas, in the North-eastern rain forest, in the Sunderban deltas, in the Eastern and Western Ghats of peninsular India, etc. but there are few of the herbs which has lost its importance today which was once used by traditional folks and rural people.

### **World health organization and Covid-19**

The World Health Organization has announced that Covid-19 will likely never go away as experts have warned that there will be a second wave of infections. Meanwhile, some people have also raised the alarm about diseases like dengue and malaria emerging with the upcoming monsoon season in tropical South Asia. Therefore, going forward, could Covid-19 become even more problematic by becoming a syndemic, this really raises a concern! Syndemic is a situation when two or more epidemics interact synergistically to produce an increased burden of disease in a population, a situation first described by medical anthropologist Merrill Singer in the mid 1990s. Antibiotics resistance across the world is already a problem, especially if Covid-19 deepens as a syndemic in populations with antibiotic resistance [4].

To fight such a situation, Indian Ayurvedic system of healing can play a vital role. Also, against such a syndemic, there should be something that can act synergistically. For such a synergy, a combination of drugs can prove in a most effective manner that can not only help in fighting against such a syndemic but can also play an efficient role in boosting the immunity and acting as a line of defence against any such future epidemic.

### **The way forward**

Dashmool is one such polyherbal drug that is known to balance vata, pitta and cough. This is the reason why Dashmool is given to new born babies in the form of dashmoolarishtam that helps in building a strong immunity since birth.

Dashmool is Tridosha Nashak and balances Vata, Pitta, and Kapha. 'Das' means ten and 'Mool' means root. Thus, Dashmool

means the roots of ten plants including five small plants (herbs and shrubs) known as Laghupanchmool and five large trees known as Bruhatpanchmool. Laghupanchmool comprises roots of five plants that are small shrubs and herbs. They are *Solanum indicum* (Brihati), *Tribulus terrestris* (Gokshur), *Solanum xanthocarpum* (Kantakari), *Uraria picta* (Prushniparni) and *Desmodium gangeticum* (Shalparni). Bruhatpanchmool comprises roots of five large trees. They are *Premna integrifolia* (Agnimantha), *Aegle marmelos* (Bilva), *Gmelina arborea* (Gambhari), *Stereospermum suaveolens* (Patala) and *Oroxylum indicum* (Shyonak). These plants as a part of Dashmool formulation and individually are extensively used in treatment of innumerable disorders owing to their lot of medicinal properties.

All Laghupanchmool reduces inflammation [5], Brihati and Kantakari cures hiccups [5], Kantakari cures cough and controls chill [5]. Laghupanchmool is helpful in curing fever [6], detoxifying the effects of liquor [7], provides nourishment and strength [8], cures herpes [9] and anaemia [10], is beneficial to a person suffering with dysentery to start with his food, which also improves strength [11], effectively useful in oedema and body pain [12], piles [13], asthma [14], anuria [15], is highly aphrodisiac and rejuvenative [16], can be given to a child in the absence of mother's milk [17], helpful in curing vomiting [18], phantom tumour [19], chronic fever and headache [20,21].

The leaves and roots of Agnimantha are astringent, anti-inflammatory, have antibacterial properties and are used in cardiac disorder, cough, leprosy, skin disease, constipation, fever, diabetes, obesity, stomach-ache and tumour [22]. It has cardiotoxic [23], anti-hypoglycaemic properties [24], anticoagulant [25], anti-arthritis [26] and cardio protective effects [27,28].

The decoction of the root and the stem bark of Bilva are useful in intermittent fever. The decoction of the root is given with sugar and fired rice for checking diarrhoea and gastric irritability in children [29]. Root is one of the ingredients of dashmool which is a standard Ayurvedic remedy for loss of appetite and puerperal disease e.g. inflammation of uterus [30,31].

The roots of Gambhari are used as antihelminthic, stomachic, tonic, hyperdipsia, stomachalgia, leucorrhoea, colitis, trichogoneous, leprosy, anaemia, and strangury and skin disease [32].

Decoction of root is used as tonic. The root is stomachic, laxative, antihelminthic; improves the appetite; useful in hallucinations, thirst, piles, abdominal pains, burning sensations, fevers and is tridosha nashak. Root is an ingredient of the Dashamoola, used with liquorice, sugar and honey used as galactagogue [33]. Root used in fever, indigestion, anasarca and blood purifier [34]. Root bark is appetizing, digestive, brain tonic, laxative and vertigo, emaciation, abdominal colic, insanity, piles, burning, oedema and dyspepsia. Not only roots but the fruits are also rich in medicinal properties. They are diuretic, nutritive, used in tuberculosis; promote hair growth, menorrhagia and burning sensation. Flower used in burning pain; bleeding from internal organ, disease of impure blood [35] Bark paste is applied on bone fracture [36,37].

Roots of Patala are used in intermittent and puerperal fever, inflammatory chest afflictions, afflictions of brain and in rheumatism [38]. Besides this, the roots are helpful in inflammation, vomiting, asthma, fever and diseases of the blood [39]. The roots also show activity against Ranikhet disease, hypoglycaemic and anticancer activity [40].

The root bark of Shyonak plant is acrid, bitter, pungent, and astringent to the bowels, cooling, aphrodisiac, tonic, increases appetite, useful in vata, biliousness, fevers, bronchitis, intestinal worms, vomiting, dysentery, asthma, inflammation and anal troubles. It is used to treat diarrhoea, dysentery, diaphoretic, and rheumatism [41]. Seeds are used as a digestive. A seed paste is applied to treat boils and wounds. The root is used as astringent, anti-inflammatory, aphrodisiac, expectorant, antihelminthic and tonic. The bark is diuretic and stomachic and useful in diarrhoea and dysentery. Root bark and seeds are carminative, stomachic, tonic, diaphoretic and astringent. Root bark is also used to treat bile problems, cough, diarrhoea, and dysentery [42]. It is also used in a formulation used for nootropic activity [43,44].

## Discussion and Conclusion

Not only this, but there are many more unidentified medicinal properties Dashmool has. Though there has been no study conducted yet on any animal model that proves Dashmool to be effective against Covid-19 but the medicinal properties of Dashmool and its individual drug as discussed above and proven by earlier established studies indicates that it can be used against Covid-19 also. AYUSH ministry has also recommended for daily intake of

'Chyawanprash' which also contains Dashmool as one of its important ingredient.

Viruses constantly change their antigenicity as a strategy for evasion from immune-mediated elimination [45]. Thus, no single drug can ever be helpful in cure or elimination of viral diseases. The only way we are left today is to rely upon our traditional system of healing that can act as a major line of defence in keeping such antigens away from our body when there is no hope in near future towards the cure of Covid-19.

"We can't talk about our own health without understanding our place in our environment, because in order to fulfil our potential we have to live in the context of our surroundings.

We have to know our place in the ecosystem of which we are a part, and this means living 'consciously': being aware of nature and how it affects us and how we, in turn, affect nature". A quote from Sebastian Pole's 'Discovering the True You with Ayurveda: How to Nourish, Rejuvenate, and Transform Your Life', very well explains the importance of awareness, be it our surrounding, our body or our food. This article encourages future studies to be conducted on Dashmool against Covid-19 by underlining various medicinal benefits that not only acts as a preventative drug but also a drug for the cure. Thus, it's now time to return back to our traditional medicinal system and explore the undiscovered and unidentified potentials it has and give to this world some of the best answers to fight against such a deadly syndemic virus.

### Acknowledgement

The author is thankful to Institute of Forensic Science, Gujarat Forensic Sciences University and her mentor Dr. Astha Pandey for all support and resources.

### Conflict of Interest

The author declares no conflict of interest.

### Financial Support

Nil.

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