

A CRITICAL REVIEW TO ENHANCE BOOSTING IMMUNITY TO RESIST COVID-19: IN SPICE AND AYURVEDA PERSPECTIVE

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ABSTRACT-

Coronavirus disease-2019 (abbreviated “Covid-19”) has spread across the globe within a short span of time, it was first detected in Wuhan, China, in December,2019. It is named as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-COV-2). The medicine for the treatment of covid-19 remains an unsolved matter. As the civilization advances the nature of disease changes the medicinal science has also adopted, men’s struggle achieved a new transformation against disease, history of medicine has a feasibility. Ayurveda is the oldest and most popular system of medicine that gradually developed in India with a sagacity and it wisely inherited from remote antiquity to modern era. Medicine is as old as systematic life itself since inception. The origin of Ayurveda was attributed to Atharva Veda. The Susruta Samhita is an important Sanskrit text on medicine, considered to be one of the earliest major works related to detailed study of medicine and surgery written by Sushruta and it is one of the foundational texts of Ayurveda. It is generally believed that Sushruta lived sometime around 600 B.C. Ancient Ayurvedic texts prescribe spices for curative and therapeutic purposes. Ayurvedic scripts dating back to 3000 years, list the preventive and curative properties of various spices. The chemical constituents present in the context of ayurveda medicine or plant and spices are a part of the physiological functions of living flora possesses strong antioxidant activity.

Key Words : Ayurveda, Spice, antioxidant, Covid-19.

OBJECTIVE OF THE STUDY:-

- To assess the antioxidant properties of different plants and allowed Ancient Ayurveda Therapeutic measures in the Management of COVID-19.
- To increase boosting immunity among the people in Ayurveda approach, due to no system of medicine has any evidence base treatment for COVID-19 as yet detected.
- Spices have contributed different traditional form of ancient medicine like Ayurvedic. On this background traditional uses of spice preparation should be extended with plausible mechanisms of action to treat COVID-19.

INTRODUCTION:-

The coronavirus strictly confined to the mucosal cells of respiratory tract SARS-COV causes in alveolar space resulting in hypoxia. As a consequence unfortunate fatalities are increasing world-wide. Ayurveda may demonstrated a unique treatment protocol with a wide variety of medicines for the coronavirus epidemic 'Rasayna Chikitsa' is a specialized section of Ayurveda, that deals with the preservation and promotion of health by revitalizing the metabolism and enhancing immunity to provide scientific efficacy as immunomodulators and adaptogens⁽¹⁾. The western Ghat area in the western region of India was declared an ecological hotspot in 1988 by Government of India. Some plants found here such as Aloe vera (L.) Burm. f., Allium sativum L., Casia fitula L. Zingiber officinale Rosc. Piper nigrum L., Cinnamomum verum persl; are well known in Ayurveda to possess subjected to phytochemical analysis in order to identify the probable inhibitory phytoconstituents⁽²⁾. Ayurveda is an officially recognized system of medicine in India, which can be used to understand, diagnose and strategies treatments of newer disease like COVID-19, Ayurveda contains strong theoretical base and extensive pharmacopocia with innumerable drugs ⁽³⁻⁴⁾. Excavations in the Indus Valley reveal that herbs and spices had been used even before about 1000BC, simultaneously the sacred Ayurvedic text or formula of the Brahmanical system of religious rituals were accepted. Several spices such as cardamom, ginger, black pepper, cumin were listed in the ancient susruta *mushkakadigana*. They were recommended to remove fat and to cure urinary problems, piles and jaundice ⁽⁵⁾.

DATA AND MATERIALS:-

The study is exclusively based on secondary data and descriptive one. The secondary data for the study have been collected from the annual reports of spices Board, various journals, research books, article reports, review of theoretical literature, periodicals reports published by the Spices Board, newspaper, internet and books. In addition to above, elaborate discussions with ayurvedic doctors of Central and State Government, Medical Colleges and Research Centre have been held in relation to perspective on the medicinal potential of spices.

Some important plants and spices : Ayurvedic perspective of COVID-19.***Glycyrrhizaglabra*-**

***Glycyrrhizaglabra* Linn.** (family: Fabaceae, Ayurvedic name: 'Yashtimadhu') is commonly known as licorice. It was used to allay thirst, feverishness, pain, cough and distress of breathing. Glycyrrhiza plays an important part in Hindu medicine and is one of the principal drugs of sushruta, seven constituents with antioxidant capacity were isolated respectively isoflavans hispaglabridin A, hispaglabridin B, glabridin, and 4-O-methylglabridin, the two chalcones, isoprenylchalcone derivative and isoliquiritigenin and the isoflavone, formononetin⁽⁶⁾.

Picrohizakurroa-

Picrorhizakurroa Royale ex Benth (Family: Scrophularsaceae, Ayurvedic name : ‘Kutki’) is well known herb in Ayurveda system of medicine and it has been used in the treatment of liver disorders and upper respiratory tract, reduce fever and treat dyspepsia and chronic disorders ⁽⁷⁾ .

Semecarpus anacardium-

Semecarpus anacardium Linn.f. (Family:Anacardiaceae, Ayurvedic name: Bhalatak) is commonly known as markingnut. It is used in many neurotic, cardiac troubles; the heartbeat is also usually increased and it is also useful in cases of pneumonia⁽⁸⁾.

Aloevera-

Aloevera Linn. (Family: Aloaceae, Ayurvedic name: ‘Kumari’) is commonly known as aloe. The Ayurvedic drug known as ‘kumariasava’ is useful in general debility, cough, asthma, epilepsy, glucopyranosyl-z-[z-hydroxy]-propyl-7-methoxy-5-methylchromone, a potent antioxidative compound has been isolated from a methanolic extract of Aloe ⁽⁹⁾ .

Bacopa monnieri-

Bacopa monnieri (Linn) Penn (Family :Scrophulariaceae. Ayurvedic name : Brahmi).The poultice made of the boiled plant is placed on the chest in acute bronchitis and other coughs of children. It significantly increased the antioxidant enzymes such as CAT, SOD, GSH-px and the levels of GSH, inhibited lipid peroxidation⁽¹⁰⁾.

Phyllanthus emblica-

Phyllanthus emblica L. (Family : Euphorbiaceae, Ayurvedic name : ‘Amalaki’).It’s seeds are used in the treatment of asthma, bronchitis and biliousness, *Chyvanaprash* a popular preparation containing *Emblica officinalis* is very effective in asthma, inflammations of the lungs. Fresh juice of Emblica fruits (50 and 100mg/kg body weight) given orally twice daily for 14 days increased the activities of cardiac SOD, CAT, and GSH-px⁽¹¹⁾.

Trigonella foenum-graecum-

Trigonella foenum graecum L. (Family : Leguminosae Ayurvedic name methi). In traditional medicine it is used as an aphrodisiac, astringent, carminative, emollient, expectorant, lactagogue and used for treating sinus and lung congestion, reduce inflammation and fight infection⁽¹²⁾.

Tinospora cordifolia:-

The herb ‘Gulancha’ (*Tinospora cordifolia*) belongs to the family Menispermaceae. It is widely used in Indian Ayurvedic medicine for treating various diseases. Gulancha is a medicinal plant, the stem is used in dyspepsia,

fever and urinary diseases. It is reported that gulancha has immune stimulatory and potentially can be used as an immune prophylactic agent⁽¹³⁾.

***Withania somnifera*:-**

***Withania somnifera* Dunal** (Family : Solanaceae Ayurvedic name: 'Ashwagandha'). In Ayurveda it is used as nerve tonic, sedative antirheumatism, the combination of extracts of *withania somnifera* and *Aloevera* are more effective in reducing oxidative damage in brain region⁽¹⁴⁾.

CIOVES:-

Cloves (*Syzygium aromaticum*(L.) or *Eugenia Caryophyllata*) is one of the most ancient and valuable spices of the orient. India's traditional Ayurveda healers have used Clove since early age for the treatment of respiratory and digestive ailments and eating cloves is said to be aphrodisiac. Clove kills intestinal parasites and exhibits broad antimicrobial properties, clove essential oil has the highest antioxidant capability and it showed antimicrobial activity against some human pathogenic bacteria resistant to certain antibiotics⁽¹⁵⁾.

CINNAMON:-

Cinnamon (*Cinnamomum Zeylanicum* and *Cinnamon Cassia*) is one of the most important spices used daily by people all over the world. Cinnamon has been used in Indian system of traditional medicine rheumatism, nausea, vomiting, tuberculosis and enteric fever. Cinnamon is used as an ingredient in many 'Ayurvedic' and 'Unani' medicinal preparations. It is useful in the treatment of *vata*, biliousness, bronchitis, heart disease. Oxidative processes generally play a key role in inflammatory and immune processes. One study found that there is very high concentration of antioxidants (i.e., >75 mmol/100g) in the medicinal herb *Cinnamomum cortex*⁽¹⁶⁾.

GINGER:

Ginger (*Zingiber officinale Roscoe*) is one of the important plant, used in ayurvedic and other native systems of medicine. Ginger is recommended to enhance the digestion of food according to Indian Ayurvedic medicinal system. It can be used for treating upper respiratory tract infections, cough and bronchitis. Ginger has proven anti-inflammatory, antioxidant and antiulcer principles. Ginger can be regarded as the store house of antioxidants. It contains reactive oxygen species (ROS), free radicals, peroxides and other damaging oxidants. The active ingredients like gingerols, shogaols, Zingene, present in ginger antioxidant activity⁽¹⁷⁾.

NUTMEG:

Nutmeg (*Myristica fragrans*) has been used in traditional medicines as a carminative, many diseases, such as rheumatism, muscle spasm, stimulant narcotic and abortifacient, gradually it has become both food and medicine especially in India and China. Nutmeg contains fibre that helps digestion, decrease blood lipids and blood clot formations, lowering a chance of a heart attack or a stroke. The antioxidant activity of the

essential oil and petroleum ether extract of aril has been detected. Eugenol an ingredient of nutmeg inhibits the accumulation of lipid peroxidation products in red blood cells and maintains the activities of the antioxidant enzymes⁽¹⁸⁾.

DISCUSSION:

Ayurveda the oldest medical system in the world and understanding of health and disease, it is very different in respect of Modern Medicine. So Ayurveda is legitimize to apply both for prevention and treatment of COVID-19. In China, Traditional Chinese Medicine (TCM) was officially included on diagnosis and treatment of COVID-19, specific TCM wards were set up and they are in use various of Chinese medicine of syndrome differentiation in combination with treatment western medicine and the disease is almost controlled in China. In coherence with the success of TCM in managing an out break of pandemic the COVID-19, the validity of Ayurveda can help in addressing the COVID-19 challenge⁽¹⁹⁾. Researchers have found a positive linear correlation between phenolic compounds, primarily Phenolic acids and flavonoids and the antioxidant capacity of spices .

CONCLUSION-

Ayurveda is an officially approved system of medicine for management of clinical condition (cough, fever, respiratory distress) associated with COVID-19. Spices are very much associated as a part of an everyday life style rather than as pharmaceuticals. It is found there is possibility for spice-derived nutraceuticals to exhibit multiple effects in human subjects. Therefore present information confirms that it can put together an excellent treatment protocol for the coronavirus epidemic and further studies needed to isolate active principles from these plants and spices and their pharmacological validation in light of modern medicinal context, the situation emphasizes improving immunity in Ayurveda approach reference to spices for COVID-19.

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