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A review article on home remedies during COVID-19 pandemic lockdown

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ABSTRACT

Coronaviruses are the group of new viruses that have been endangered in animals and humans in the year November 2019. There are 6 types of coronaviruses which has been known to infect human and form a host factor. Out of 6 types of coronaviruses 229E, NL63, OC43, HKU, are responsible for causing symptoms from mild to moderate whereas MERS-CoV & SARS-CoV is of zoonotic which cause the symptoms from moderate to severe, where it affects the human respiratory system which causes difficulty in breathing. The specific treatment is yet to come but to get relief from the symptom of the disease. One has to improve own immune system so as to fight the viral fever, dry cough, and other symptoms by practising the use of some herbal home ingredients and home remedies so as to boost up the immunity. This review article mostly focused on the covid-19 pandemic, drastic information about coronavirus and the preventive measures to boost up the immunity by home-made herbal ingredients so as to prevent COVID-19 spread. The main aim of the article is to inform about the ingredients which are present at home and can be used in order to make herbal remedies for boosting up the immunity power. The immune system plays an important role in fighting the virus by creating antibodies against the viral infection. This article is based on the homemade immune boosters.



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INTRODUCTION

A germ is an infective medium can generate in the cells of the host. When they are infected, they put

on a host cell to rapidly-produce thousands of similar copies of the virus. In most living things, viruses do not possess cell division; new viruses assemble in the infected host cell. The worldwide outbreak of coronavirus infection was seen in 2002-2003 by severe acute respiratory syndrome whereas in the year 2011 outbreak of Middle East Respiratory Syndrome, in both the outbreaks the causative agents are different wherein coronavirus newly identified is a genus with a zoonotic origin.

The covid-19 is the group of new viruses which cause diseases to human and birds. Coronavirus is constituted of Corona viridae and subfamily of Orthocoronaviridae. Coronavirus is a family of RNA which mainly causes the upper respiratory infection. In human COVID-19 cause symptoms related to a respiratory system which cause respiratory ill-

ness. This virus is previously known as 2019 novel coronavirus, on 11 Feb 2020 this was called severe acute respiratory syndrome.

Coronavirus-19 (SARS-CoV-2) it was named because of the similar genetic virus responsible for SARS in 2003. According to WHO using SARS term creating unintended fear among the population in Asia, which was affected by SARS outbreak 2003. COVID-19 was responsible for about 93,637 mortality rate Worldwide. According to WHO the disease has been considered worldwide emergency (Parwe *et al.*, 2020).

Aims and Objectives

Aim

To evaluate the homemade remedies to boost up the immune system, in the prevention of COVID-19.

Objectives

1. Study of COVID-19 virus and pandemic.
2. Study of herbal ingredients as an immune booster.
3. Study of home-made herbal remedies in boosting of immunity.

Coronaviruses Microbiology

1. In Positive sense, it is a one-stranded covered RNA virus which is under the family of Coronaviridae.
2. The virus name is obtained from the Latin word corona, mean crown. The Viral covering is under microscopy, which materialized crown thanks to small bulbar estimates that are formed by the spike (S) peplomers.
3. Coronavirus also infects birds and mammals which cause gastroenteritis and respiratory infections.
4. SARS-CoV-2 has been a zoonotic infection which has adopted by humans.
5. Origin is unknown although bats connected. The Hereditary survey shows a maximum appearance to bat SARS-like coronavirus (*genus Betacoronavirus, subgenus Sarbecovirus*) (China CCDC, 2020)

Mode of Transmission of Virus

The virus, when transmitted from species of animals to humans or humans to animals, is known as a zoonotic disease. The spread of covid-19 is a

droplet transmission, airborne spread and Feco-oral transmission of Covid-19 is not yet been reported. The spread of Covid-19 virus infection can be by the direct contact of nasal discharge by sneezing, or mouth secretion by talking, coughing droplets. People may also get infected by the contact with the infected surface as the virus can stay near about 72 hours on the surface and then their face (Nisargandha and Parwe, 2020).

The disease can be contagious and possible appear symptoms in the first 3 days after the contact, which further progress with the symptoms in a later stage of the illness.

COVID-19 breakout was seen in the year 2019-20 In Wuhan, China in December 2019 and was discovered a matter of concern on 30 January 2020, this was rapidly spread throughout globally by 11 March 2020 and became disease with highest mortality rate worldwide. The risk factors for virus transmission are those above 66 year. Children's under 2 years, individual with an underlying health condition such as lung disease, heart disease, diabetes and those with the weak immune system and also those with HIV, asthma, pregnant women.

Sites of Infection

1. Pulmonary
2. GI – during onset, some patients complaints of nausea, vomiting, or diarrhea.
3. The virus has been retrieved from a stool but isn't significant.

Common Sign and Symptoms of Virus Infection and Treatment

1. Runny nose
2. Sore throat
3. Cough
4. Congestion
5. Body ache and headache
6. Sneezing
7. Low-grade fever
8. Malaise

The following ayurvedic formulations may be employed in the above-mentioned symptoms. Like Sitopaladi churna, Talisadi churna, Abhrak bhasma,

Table 1: Different Viruses with its Incubation Period

Virus	Incubation Period (Typical Sufferer)
Novel coronavirus (covid-19)	2-14 or 0-24 days
SARS	2-7 days / long as 10 days
MERS	5 days / ranges 2-14
Swine flu	1-4 days / long as 7 days
Seasonal flu	2 days / 1-4 range

Table 2: The mortality rate due to COVID-19 in the present situation

Previous Conditions	Mortality Rate
Cardiovascular disease	10.5 %
Diabetes mellitus	7.3 %
Chronic Respiratory disease	6.3 %
Hypertension	6.0%
Cancer	5.6 %

Table 3: Fatality Rate in Persons with Pre-existing Conditions with COVID-19

Age	Death Rate
80 + YR	14.8 %
70-79 YR	8.0 %
60-69 YR	3.6 %
50-59 YR	1.3 %
40-49 YR	0.4 %
30-39 YR	0.2 %
20-29 YR	0.2 %
10-19 YR	0.2 %
0-9 YR	No fatalities

Table 4: Fatality Rate in Gender

Sex	Death Rate
Male	2.8 %
Female	1.7 %

Mahasudarshan churna, Guduchyadi kwath, Kasa-swasa Chintamani rasa, Karpooradi churna etc. The dosage vary consistent with people.

Types of Coronavirus

1. 229E
2. NL63
3. OC43
4. HKU1
5. MERS-CoV (middle east respiratory syndrome)
6. SARS-CoV (Severe acute respiratory syndrome)
7. SARS-CoV2 / Novel corona / COVID-19

Comparison of COVID-19 with other Viruses

The incubation period differs with respect to different types of virus in which the typical cases are found. (Table 1)

COVID-19 Sign and Symptoms

The majority of COVID-19 cases are asymptomatic or with mild symptoms based on moderate to severe. The mortality rate of COVID-19 outbreak is minimum than that of SARS and MERS, but has the same clinical presentation.

In COVID-19 the symptoms may appear in 2-14 days of contact with virus infection and seems to show the symptoms like, (China CCDC, 2020; Deshpande and Parwe, 2020).

1. Fever (44%–98%)
2. Cough (46–82%, dry)
3. Shortness of breath at the start (31%)
4. Myodynia or fatigue (11–44%)
5. Anorexia or Anosmia
6. Prospective sign in prior infection, but not especially to COVID-19 as may be seen with other viral infections.

Less common symptoms

1. Sore throat
2. Headache
3. Productive cough
4. GI symptoms
5. It has been explained as the introducing symptom, are possible of having a more severe illness.
6. Hemoptysis

Laboratory Studies of COVID-19 Patient

1. Real-time-reverse transcriptase polymerase reaction (RT-PCR) test is performed for COVID-19 nucleic acid by using nasopharyngeal swabs. The test shows positive for COVID within 1 day.
2. The symptomatic patient shows multifocal ground-glass opacities in chest CT scan, and also had sub-segmental areas of consolidation and fibrosis.
3. The patient with covid-19 had increased C - reactive protein levels.
4. Reduced lymphocyte counts.
5. X-ray images show signs of pneumonia and also some difference between left and right lung, liver tissue shows a moderate scale of microvesicular steatosis and also mild lobular activity.

In COVID-19 pneumonia

1. Leukopenia in ~70% of hospitalized patients.
2. LDH may be modestly elevated.
3. LFTs elevated more commonly than in typical Community-Acquired Pneumonia cases.

4. Chest-CT scan shows ground-glass opacities that may evolve into consolidation or Acute Respiratory Distress Syndrome. The finding appears to the peak at 10d of illness, and resolution begins after day 14. CT scan may also show lung findings (such as ground-glass opacities) before the development of symptoms.

Present Status of COVID-19

The COVID-19 coronavirus pandemic up to 10 April 2020, coronavirus cases are about 1,614,858, Mortality rate about 96,791. And about 1,155,530 cases are currently infected and are inactive phase out of which 1,106,407 are in mild condition and 49,123 cases in a severe state of coronavirus. The mortality rate due to COVID-19 in present situation varies according to the person's pre-existing conditions seen as shown in (Table 2).

According to the report of the WHO-China joint mission published on Feb 28 by WHO (WHO, 2020), which is based on 55,924 labs confirmed cases. A paper by the Chinese CCDC released on Feb 17 which was based on 72,314 confirmed, suspected and asymptomatic cases of COVID-19 as of Feb 11 and was published in Chinese journal of epidemiology 'the epidemiological characteristics of an outbreak of 2019 novel coronavirus disease covid-19-china CCDC Feb 11 2020, By analysing both the study the COVID-19 fatality rate by age group (Table 3) (WHO, 2020) and also depending on the gender as shown in (Table 4).

Preventive Measures Recommended among Community

By accepting the precautionary measure, one can avoid the spread as well as getting infected from the infection. (Ministry of Ayush , 2020)

1. Stay away from other sick individuals.
2. Washing hands with cleanser and water for 20 seconds before having a meal, after cough/sneezing or bathroom visits.
3. Keep distance include keeping spacing about >6 feet(1 meter) from other people.
4. Use of Masks when in the present between public.
5. Do not touch the face, eyes, nose, etc.
6. If ill, stay at home.
7. Cover your nose while sneezing or coughing.
8. Disinfect frequently when touched household objects.

Ayurvedic Perspective on Prevention of COVID-19

In Charak Samhita, vimansthan, Adhyaya no.3 Janapada Dwamsa Vyadhi, told about the preventive measures like, stay home, follow Dincharya, Ritucharya, wake up early morning, drinking warm water. Dincharya is followed to strengthened the Agni, as it has been stated as *Rogāhāsaravepimandegnam Sutarambhuterānitu*. Means as long as the Agni is a strong disease will not manifest, and once the Agni becomes imbalance, the disease can manifest.

Pranayama is mentioned under the Dincharya, and there are a major group of 7 Pranayam ([Bargale et al., 2016](#)) which to be followed,

1. Bhastrika
2. Kapalbhathi
3. Anuloma Viloma
4. Ujjayi
5. Udgeeth
6. Sheetali
7. Sheetkari.

Pranayama boosts the immune system strengthen pranavaha strotas (respiratory system), rasavaha strotas (lymphatic system), boost the energy which helps in maintaining the Ojas, Teja, Prana ([Bargale et al., 2016](#)). In dincharya, mentioned about yoga practice, like

1. Ustrasana (*Camel Pose*)
2. Bhujangasana (*Cobra Pose*)
3. Paripurna Navasana (*Boat Pose*)
4. Setu Bandha Sarvangasana (*Bridge Pose*)
5. Padmasana (*Lotus Pose*)
6. Salabhasana (*Locust Pose*)
7. Simhasana (*Lion Pose*)
8. Suryanamaskar (min-7 for 7 dhatus) (max-12 for important 12 figure of Surya) + pranayama + meditation in lotus pose with inhale with 'so' and exhale with 'hum', which results to inner joy and beauty and Sat-Chit-Anand which means Awareness.

In Charak Samhita, janapada dwamsa vyadhu Adhyayan, means they during pandemics they performed *Doom Doommasvanadyay*, i.e. like clapping, while clapping the marma of hands (heart, kidney, lungs) strengthened pass impulse to inner organ ([Tripathi, 2009](#))

The concept of Rasayan in Ayurveda has been hugely described. Rasayana is one of eight major specialties of Ayurveda. The concept of immunity has been thoroughly explained in Ayurveda, in the form of rasayan which helps in boosting the ojas, bala, and thus called vyadhikshamatva, the one who do the disease-fighting process. The measured in Ayurveda for immunization ([Satish et al., 2013](#)).

1. Rasayan
2. Lehana

Taking rasayan is beneficial to increase the immunity of an individual to prevent one from the endangered disease. The action rasayan can be related to modern aspects like nutritive function, immunomodulatory action ([Bafna and Mishra, 2005](#))

Home Remedy for Prevention of COVID-19

The following drugs can be used in the preventive measure of COVID-19 in person with an underlying illness like Cardio-vascular disease, Asthma, Cancer, Diabetes, hypertension ([Pandey 2015](#))

1. Oregano Oil (Ajwain leaves) (*Origanum vulgare*) - Reduce activity of Murine norovirus which is a contagious and primary cause of stomach flu, prevent cough & improve airflow, anti-inflammatory effects, and lower blood pressure.
2. Sage (Tejpatta) (*Cinnamomum Tamala*) - Fight against human immunodeficiency virus, treat asthma, manage blood sugar level, and loosen stiff muscles.
3. Basil (Tulsi) (*Ocimum basilicum*) - Increase immunity, relives fever; promote a healthy heart.
4. Fennel Seeds (Saufa) (*Foeniculum vulgare*) - Boost the immune system and reduce inflammation which help in combat viral infections, regulate blood pressure, reduce asthma symptoms, protection against cancer.
5. Garlic (Lasuna) (*Allium sativum*) - Antiviral against influenza, viral pneumonia which can in the symptom of severe COVID-19, lower risk of heart disease, reduce blood pressure, combat the common cold.

6. Ginger (Adrak) (*Zingiber officinale*) - Reduce the risk of diabetes, prevent heart disease, lower risk of cancer.
7. Vitamin C (*kiwi, capsicum, sprouts, citrus fruit, tomato, broccoli*) - maintain blood pressure, lower risk of heart disease boost immunity.
8. Amla (*Phyllanthus emblica*)- Increase immune, managing diabetes & asthma
9. Neem (*Azadirachta indicum*) - Increase immune, reduce diabetes, liver problems & disease of CVD and blood vessels.
10. Nasya – 2 drops of tila taila (*Sesame oil*) in both nostril – strengthen mucus membrane to prevent foreign bodies.
9. Steam inhalation with fresh pudina leaves with ajwain can be practised once a day.
10. Small piece of adrak fried in goghru, taken twice or thrice a day.
11. Gargling with warm water mixed with Haridra powder 2-3 times a day, relieves sore throat.
12. Powder of marich with honey, reduce the attack of cough.
13. Tulsi swaras with marich powder, relieves fever-like symptoms.
14. 1tablespoon dhaniya powder with a pinch of sunthi in a glass of warm water kept overnight, and drink at morning helps in lowering the body temperature.

House Clensing

Bacterial infected places should be cleaned with a water solution, which can be prepared by using naturally available herbal plants.

1. Neem leaves + karpura dhupana + water
2. Elaichi + tulsi + lavang + goghru dhupana + water

Homemade Remedies for Prevention

There are many herbal things and herbal plants at home, which helps to boost up vyadhikshamatva in a natural way. There have been many ingredients which are useful in strengthening the healthy individual's immune system to fight against foreign infections ([Ministry of Ayush , 2020](#)).

1. Tulsi 5-leaves + 4 marich+ 3 lavan + 3 lavang + 1teaspoon adrak swaras with madhu.
2. Tea with 10-15 tulsi + 5-7 marich + dalchini + adrak swaras helps to relive cough.
3. Decoction of tulsi + marich + haridra + adrak.
4. Juice of Amla or aloe vera or nimbu.
5. Milk + Haridra, boost the immune system, give strength and boost up energy.
6. Boil water with 1teaspoon sunthi + 4 teaspoons dhaniya seeds + tulsi leaves juice.
7. Lemon juice is packed of vitamin C, but instead of sugar, honey should be used, in Diabetes patient use dalchini.
8. 1teaspoon Haridra + hingu churna +saufa with curry leaves to 500ml buttermilk for 5min, taken twice or thrice a day.

15. Use of spices like Haridra, jeerak, dhaniya, and lasuna in cooking.
16. Intake of 1 tablespoon chyavanprash for boosting the immunity.
17. Intake of herbal tea made up with the use of tusi, maricha, dalchini, sunthi, and manukka once or twice a day.

COVID-19 In Asthma Patient

As both disease possess the same symptoms like shortness of breath, difficulty in breathing these herbal things help in relives the symptoms.

1. Pippali powder with honey helps to relieve shortness of breath and asthma attack.
2. Powder of sunthi, maricha and pippali along with honey twice a day.
3. Drink of Haridra powder with warm water, twice a day.
4. Drink of hot water with garlic.

MATERIALS AND METHODS

The relevant information about the covid-19 pandemic was collect to explore the home-made remedies to increase the immunity power, a search was carried out on various web pages, sites such as google scholars, world meter, health line database, and other relevant information was taken from Ayurveda literature taken from various Ayurveda textbooks, and various research paper, articles were investigated.

DISCUSSION

Covid-19 is a well-known newly generated virus which affects the respiratory system of the host factor. It is compared but can be relatable with the pandemic disease discussed in the Ayurveda with respect to preventive measures. Here it is discussed about the manifestation, risk factors, types, clinical features, and the preventive measures and use of herbal ingredient to boost up the immune power.

Ayurveda does not strive to treat the coronavirus infection but strives to motivate the vyadhikshamatva boosting mechanism with herbal use and lifestyle modification.

The sum of some herbal ingredients have been discussed which is considerate to boost the immune system. Every drug has the property to increase the power of the energy of an individual in any age group, reduce the symptoms of cough, fever etc.

The benefits of drugs are highly exaggerated in Ayurveda classical literatures, dravyaguna books and rasa-Shastra books for the conditions like fever, breathlessness, cough, sore throat, which help in boosting vyadhikshamatva, and by making the expectoration, all the ingredients are compound of immunomodulatory, anti-viral, antipyretics and bronchodilators which strengthen the respiratory system and improving the immunity.

Healthy lifestyle, exercise like yoga, pranayama, meditation. And herbal drinks help in boosting up the energy and immunity.

CONCLUSION

Hence, we can understand that the outbreak of COVID-19 is an emergency health crises threatening worldwide. The virus is arise in bats which later carried to humans through an unknown animal in Wuhan, China on December 2019. There has been a wide increase in cases (1,614,858), the mortality rate due to virus (96,791) and active infected cases (1,155,530). The disease can be passed on by direct connection with an ill person, places, the maturation period 2-14 after contact, symptoms appear after 3 days of contact, which progress rapidly in the severe stage. The diseases cause severe respiratory problems, which increases the fatality rate. The infected persons have been observed and treated under septic precaution in hospitals but for the care of healthy individual Quarantine is beneficial to preserve oneself from the disease. The person under older age group, and underlying illness like hypertension, diabetes, cardiovascular disease, asthma, are in major risk factors due to which it is important to boost

up the immunity of every individual to prevent such infections. Some home remedies have been discussed above to boost up immunity in the persons of active phase and are in quarantine, to those who are in risk factors to defeat against the virus, and strengthened the immunity of healthy individuals.

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Conflict of Interest

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