

Review Article



HERBS/TRADITIONAL MEDICINES USED IN COVID-19

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Article History:	Abstract
<p>Received on: 25-04-2020 Revised on : 22-06-2020 Accepted on : 27-06-2020</p> <p>Keywords:</p> <p>Herbal medicine, COVID-19, clinical trials, immunity- boosting, traditional medicine.</p>	<p>Herbal medicine: Herbal medicine is the study of Pharmacognosy and the use of medicinal plants. Plants have been the basis for medical treatments through much of human history, and such traditional medicine is still widely practiced today. COVID-19: COVID-19 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease. Formerly, this disease was referred to as '2019 novel coronavirus' or '2019-nCoV. When coming to pandemics like covid-19 is challenging the world, tiny organisms are more powerful biological agents that can cause rapid spread and massive fatality. As of May 2020, there have been more than 5 million confirmed cases in at least 140 countries. Currently , there are no available vaccines or specific medicine, for the treatment of COVID-19. Scientists around the world fastening up to find an effective treatment and cure covid-19. Our proposal complements the guidelines issued by Ministry of AYUSH, Government of India for boosting immunity among the masses. According to that, people are segregated into four categories and their proposed intervention , has been mentioned in article. All the related herbal medicines with their action has been discussed in the article. Finally more clinical trials has to be conducted to know the desired and positive effects. This article review can be used as a reference in the traditional medicine treatment of covid-19. The integration of traditional medicine into conventional medicine may show effective rate in improvement of symptoms and be an alternative approach for the treatment of covid-19 in future.</p>

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Introduction

Herbal remedies have long been used to treat infections caused by micro-organisms such as virus,

bacteria and fungi. When coming to pandemics like covid-19 is challenging the world , tiny organisms are more powerful biological agents that can cause rapid spread and massive fatality. In covid-19 common symptoms like cough , fever , difficulty in breathing are more common [1]. About 80% of COVID-19 cases present with mild symptoms requiring only primary medical care. Of the rest 20% cases 15% require urgent medical attention at

secondary health care services. Remaining 5% are critical cases requiring intensive care and hence require a transfer to tertiary health care units equipped with ICU.

In 5% cases requiring Intensive care, the disease progression is gradual, and requires about 9–10 days to progress from symptoms of Upper Respiratory Tract Infection (URTI) to Acute Respiratory Distress Syndrome (ARDS). ARDS often is followed by un-correctable hypotensive shock, multi-organ failure and eventually death. There are some risk factors that make people susceptible. People with older age, presence of co-morbidities such as diabetes, hypertension and cardiovascular disease, males, anorexia and presentation without fever are more susceptible. Reduced peripheral capillary oxygen saturation (SpO₂) below 90% is also a risk indicator in apparently mild cases [17].

As of May 2020, there have been more than 5 million confirmed cases in at least 140 countries. currently , there are no available vaccines or specific medicine, for the treatment of COVID-19. Scientists around the world fastening up to find an effective treatment and cure covid-19 .more affected countries like china have started encouraging traditional or alternative type of medicine. Around 85% of Chinese patients has started receiving traditional Chinese medicine (TCM). However , the use of TCM remedies is a challenge for the treatment of noval corona virus pneumonia in a short time. The effectiveness of herbal treatment to control contagious disease was demonstrated during the 2003 severe acute respiratory syndrome (SARS) outbreak [3]. This article mainly focuses on the discussion of TCM usage in the treatment of covid-19 patients. Application of TCM in the treatment of SARS-CoV-2 is inspired by the treatment of SARS caused by outbreak of SARS corona virus (SARS-CoV) in the late of 2002 in the china which spread rapidly during the 2003 [4-5]. Exceptionally important to note that specific the TCM wards were set up, and the designated hospital was established which had used a variety of Chinese medicines utilizing their own principle of syndrome differentiation in conjunction with treatment employing western medicine. Total numbers of confirmed cases treated by TCM are reported to be at least 60,107 [15]. In a research article they proposed that 26 out of 125 herbs classically catalogued as treating viral respiratory infections. 26 herbal products were related to regulating viral infections, immune/inflammation reactions and hypoxia response [2]. Below mentioned is the 26 medicinal plant products used as the traditional products.

Table 01: medicinal plant products used as the traditional products.

HERBAL NAME	CLASSIC CATALOGUE	TIME OF USE	NUMBER OF ANTIVIRAL NATURAL COMPOUNDS
1) forsythiaefructus	Antipyretic, detoxifying	Full course	3
2) Licorice	Qi-reinforcing	Full course	3
3) Mori cortex	Antitussive ,anti asthmatic	Full course	3
4) Chrysanthemiflos	Pungent cool, diaphoretics	Full course	2
5) Fartaraeflos	Antitussive,anti asthmatic	Full course	2
6) Loniceraejaponicaeflos	Antipyretic, detoxifying drugs	Full course	2
7) Peucedani radix	Phlegm-resolving medicine	Full course	2
8) Rhizomafagopyricymosi	Antipyretic, detoxifying	Full course	2
9) Tamariciscacumen	Pungent-warm , exterior-relesing medicine	Early	2

10) Morifollum	Pungent cool, diaphoretic	Full course	2
11) Erigeron breviscapus	Pungent-warm, exterior-releasing medicine	Early	2
12) Radix bupleuri	Pungent cool diaphoretic	Early	2
13) Coptidisrhizoma	Heat-clearing & dampness drying medicine	Middle	2
14) Houttuyniaherba	Antipyretic, detoxifying	Middle	2
15) Hoveniaedulcis semen	Antipyretic, detoxifying	Middle	2
16) Inulaeflos	Phlegm-resolving medicine	Middle	2
17) Hedysarumtjugum maxim	Qi-reinforcing	Middle & later	3
18) Eribotryae folium	Antitussive, antiasthmatic	Middle & later	3
19) Ardisiaejaponicaherba	Antitussive, antiasthmatic	Middle & later	2
20) Lepidil semen descurainiae	Antitussive, antiasthmatic	Middle & later	3
21) Asteris radix et rhizoma	Antitussive, antiasthmatic	Middle & later	2
22) Euphorbiaehelioscopiaherba	Diuretic dampness	Middle & later	2
23) Ginkgo semen	Antitussive, antiasthmatic	Middle & later	2
24) Anemarrhenaerhizoma	Fire purging	Later	3
25) Anemarrhenaerhizoma	Yang-reinforcing	Later	2
26) Fortunea officinalis rhizome	Warming interior	Prevention	2

A recently conducted meta-analysis also concluded that herbal medicine could reduce the infection rate of H1N1 influenza [12]. The combination of herbal medicines along with western medicines proved to be effective in improving symptoms and quality of life in SARS infection [13].

When coming to ayurveda, the Indian traditional medicinal system furthermore explains the value of the indigenous plants capabilities against the infectious diseases. The ayurveda concept of immunity (bala) is classified as natural (sahaja), and acquired (yuktikrut). Drawing on the original Ayurveda, contemporary scientific studies, and our experiential knowledge on similar clinical settings, here we propose a practical plan for interventions. Provided a graded response depending on the stage

of infection and proximity with disease among individuals in a population. Although the fact that no system of medicine has any evidence-based treatment for COVID-19 as yet, clinical interventions are being done worldwide. Ayurveda interventions become even more relevant by the fact that there is an elaborate description of causation and management of epidemic (*Janapadodhwamsa*) in Ayurveda [14].

In coherence with the success of TCM in managing a communicable pandemic, it is logical and essential to explore how Ayurveda can help in addressing the COVID-19 challenge.

The AYUSH systems mainstream is to transform Indian healthcare and demonstrate the potential of AYUSH systems in addressing the challenge and

restoring health ¹⁶. About 80% of COVID-19 cases present with mild symptoms requiring only primary medical care. Of the rest 20% cases 15% require urgent medical attention at secondary health care services. Remaining 5% are critical cases requiring intensive care and hence require a transfer to tertiary health care units equipped with ICU. Our proposal complements the guidelines issued by Ministry of AYUSH, Government of India for boosting immunity among the masses. For the purpose of Ayurveda interventions during COVID-19 pandemic, people can be segregated into four distinct categories.

Table 02: pandemic, people can be segregated into four distinct categories.

SN o.	Category of people	Proposed Intervention
1.	Unexposed asymptomatic group	Common health keeping approaches of Ayurveda including healthy diet, healthy life-style, adequate sleep, physical activity, good conduct, care for retainable and non-retainable urges, and avoidance of disease causing factors (excessive cold and exposure to pollutants). In addition, <i>Chyavanprasha</i> , <i>Brahma Rasayana</i> , <i>AmritBhallataka</i> , <i>Sanjeevanivati</i> , <i>Swarnaprashan</i> .
2.	Exposed asymptomatic (Quarantined)	<i>Sanjeevanivati</i> , <i>Chitrakatdivati</i> , <i>Chyavanprasha</i> , <i>Brahma Rasayana</i> , and decoction of a combination of herbs, <i>Tinosporacordifolia</i> , <i>Zingiber officinale</i> , <i>Curcuma longa</i> , <i>Ocimum sanctum</i> , <i>Glycyrrhizaglabra</i> , <i>Adhatodavasa</i> , <i>Andrographispaniculata</i> , <i>Swertiachirata</i> , <i>Moringaoleifera</i> , <i>Tripkala</i> and <i>Trikatu</i> .
3.	With mild COVID-19 symptoms	<i>Pippalirasayan</i> , <i>Go JihvadiQuath</i> , <i>KantakariAvaleha</i> , <i>Chitrakadivati</i> , <i>Vyaghriharitaki</i> , <i>Dashamulkwath</i> , <i>Sitopaladi</i> , <i>Talishadi</i> , and <i>Yashtimadhu</i> etc.

SN o.	Category of people	Proposed Intervention
4.	With moderate to severe COVID-19 symptoms	<i>Pippalirasayan</i> , <i>LaghuVasantMalati</i> , <i>Sanjeevanivati</i> , <i>TribhuvanKeerti rasa</i> , <i>BrihataVataChintamni rasa</i> , <i>Mrityunjaya rasa</i> , <i>Siddha Makardhvaja</i> etc.

Note: The proposed interventions are supposed to be practiced without compromising the conventional advisories by government authorities including frequent hand-washing with soap till 20 s, cough and sneeze etiquette, physical distancing and universal mask usage.

garlic (*Allium sativum*) peel, turmeric (*Curcuma longa*) powder, Carom or Ajwain (*Trachyspermumammi*) seeds and Loban (resin of *Styrax benzoin* and *Boswellia* species) can be used as disinfectants and to fumigate homes, shelters and living places. Swarnaprashana through rasayana have predominant effect on respiratory tract. Rasayana act as an antioxidant, anti-stress, anti-inflammatory, anti-microbial, vaccine adjuvant and immunity against diseases [18-19]. *Sanjeevanivati* and *Chitrakadivati* and combination of *Guduchi* (*Tinosporacordifolia*), *Shunthi* (*Zingiberofficinale*) and *Haridra* (*C. longa*) this combination is used to in order to prevent the progression of pathogenesis in its initial stage. *sanjeevanivati* is used widely against communicable diseases also strengthens and rejuvenates the immune system [20-21]. Some herbs like triphala and trikatu are used as broad spectrum anti virals and protease inhibitors. *Rasaasushadi* are shown to have better bioavailability and absorption through sublingual and oral route accounting to the nano size of their particles ²². Turmeric contains a bioactive compound known as curcumin, which acts as an anti inflammatory agent. Turmeric along with ginger and tulsi, improves immunity. ginger is well known for anti inflammatory, anti fungal and anti-cancer properties. Ginger is extensively used for curing colds and coughs, asthma, nausea, arthritis. Turmeric rhizome, liquorice stem, neem and catechu barks and natural salt may be used to prepare mouth gargles. Glycyrrhizin, an active component in

liquorice was found to be more effective than common anti-virals. In inhibiting the replication of the SARS virus, butter oil (ghee) and vegetable oils may be used in the nostrils to protect the entry of the pathogen into the respiratory tract. *Withania somnifera* (ashwagandha), *tinctoria cordifolia* (guduchi), *asparagus racemosus*, *phylanthus emblica* and *glycyrrhiza glabra* are potential immuno modulators. Acharya Balkrishna et al. stated that Ashwagandha has a natural phytochemical which will effect on viral receptor binding domain (RBD) and host ACE2 receptor complex and concluded that it may be the first choice of herbs to curb the covid-19 infectivity. Aloe vera (L.) Burm.f. considered as a "wonder plant" is a medicinal plant that has been used for more than 3000 years in various cultures²³. It is one of more than 400 species in the genus Aloe of the family Xanthorrhoeaceae and one of the studied and used medicinal plants worldwide. Several individual compounds involved in antiviral activity were identified in Aloe vera including quercetin, catechin hydrate, kaempferol, acemannan, azidothymidine, acyclovir, aloin, emodin [24]. Aloe vera has a very potential anti-viral properties, in Congo it is been used against covid-19. In major studies aloe vera has shown virucidal properties with a broad spectrum of action against RNA and DNA viruses. In addition it has potential anti-inflammatory and immuno modulatory properties [25]. Secondary metabolites may play an important role in the management of covid-19 due to endowed antiviral properties like zinc. Finally more clinical trials has to be conducted to know the desired and positive effects.

CONCLUSION

This review can be used as a reference in the traditional medicine treatment of covid-19. Further clinical studies are required to evaluate the efficacy and safety of traditional medicine to provide clinical evidence. Since there are no available vaccines or prophylactic medicine for the treatment of covid-19. The integration of traditional medicine into conventional medicine may show effective rate in improvement of symptoms and be an alternative approach for the treatment of covid-19 in future.

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