



PERSPECTIVE ON TRADITIONAL CHINESE MEDICINE AS RESPONSE TO COVID-19: A REVIEW

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ABSTRACT:

The coronavirus has become so extensive that it has spread throughout the world. Pharmaceutical companies, scientists, and researchers have developed vaccines to combat and resist the virus. Moreover, traditional medicines have been investigated as supplemental and preventative treatments for COVID 19. Traditional Chinese medicines like acupuncture and herbal medicine contain components that have been demonstrated to be effective as a complementary therapy for COVID 19. The authors' opinion on the use of Chinese Traditional Medicine as prevention and complementary therapy against COVID-19 is expressed in this paper. This journal paper examines and evaluates the utilization of Chinese traditional medicine to treat COVID-19, specifically acupuncture and Chinese herbal medicine.

Introduction:

The first case of coronavirus disease, known as COVID-19, started in the Huanan Seafood Wholesale Wet Market in Wuhan City, Hubei Province, China, in December 2019 [1]. Coronaviruses acquire their name from the spike proteins that protrude from them, giving them a crown-like structure. Those spike proteins are crucial to the virus's biology. The spike protein is the portion of the virus that infects a human cell and allows it to multiply and spread to different cells [2]. Exposure to the virus will cause mild to severe symptoms like dry cough, difficulty breathing, diarrhea, fatigue, fever, headache, nausea, and sore throat. The virus can be transmitted from individuals through direct contact or droplets [1]. The disease has spread to other provinces in China and the rest of the world. In March 2020, the World Health Organization labeled it a pandemic [3]. Since then, several virus variants have been discovered. Scientists are trying to figure out how to detect, prevent, and cure the disease. However, people have turned to the "natural" way of treating COVID-19 due to the extensive manufacturing time caused by the high demand and the majority's doubts regarding the efficacy and safety of the vaccines [4].

One widely used alternative and complementary medicine system is Traditional Chinese Medicine (TCM) [5]. In TCM, the channel system, also called meridians, is deemed responsible for transporting life energy (qi) and body fluids. Diseases occur whenever this channel system gets unbalanced. Traditional Chinese Medicine uses several different types of practices: acupuncture, herbal medications, manipulative therapy, Qi Gong, and Tai Chi [6].

This journal review focuses on gathering and analyzing the use of Traditional Chinese Medicine (TCM), particularly herbal medicines and acupuncture, as a preventive and complementary treatment for coronavirus disease.

Methodology

The data relating to Covid-19 and Chinese Traditional Medicine were searched and gathered. The searches were carried out using a wide range of publicly available resources and databases, such as Google Scholar, Researchgate, and Pubmed. These databases contain an extensive collection of scientific journals and research output in medicine and health sciences, and a dynamic and flexible search engine for retrieving articles. The databases were searched using the search terms for titles, keywords, abstracts, and indexed keywords. Included are COVID-19, coronavirus, history, etiology,

signs, symptoms, and management for COVID-19, antiviral activities of herbs against influenza, SARS-CoV-1, SARS-CoV-2, and acupuncture and Traditional Chinese Medicine on point for COVID stress relief. The search was conducted in English, but there were no restrictions on the language or year of study. The selection of articles is focused on Traditional Chinese Medicine: Acupuncture and Chinese Herbal Medicine, in response to COVID-19. The authors then reviewed and interpreted the relevant articles. The viewpoint on the use of Traditional Chinese Medicines in response to COVID-19 is expressed in this perspective.

COVID-19: History, Etiology, and Signs and Symptoms

The new virus was initially identified as a novel coronavirus, and it was given the designation 2019-nCoV; it was later renamed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [7]. The first case of pneumonia with an unknown origin in 2019 was reported by Dr. Li Wenliang, an ophthalmologist in Wuhan, China [8]. Because wild-animal commerce happens in the vicinity, the Huanan seafood market in Wuhan was suspected of being linked to the early occurrences of COVID-19 afflicted people [9]. Initially, the bat, which was sold as food in the Wuhan market, was thought to represent the disease's intermediate host before it reached humans.

The virus was genetically distinct from SARSCoV, according to a phylogenetic study [10]. COVID-19 has progressed over four months since its initial appearance in China, spreading fast towards other states as a global danger [11]. Thailand reported the first 2019-nCoV infection outside of China on January 13, 2020 [12]. Cases of the 2019-nCoV infection have been recorded since then in Japan [13], Korea [14], Singapore [15], and the United States [16].

In Wuhan, most of the early pneumonia patients were first noticed by people who were part of or visited a seafood market selling live animals. The primary transmission mode was through person-to-person contact, which has caused the epidemic disease to expand. Symptomatic COVID-19 infections are transmitted through large droplets formed by symptomatic patients while coughing and sneezing, but they can also occur in asymptomatic people before they develop symptoms [17]. Infected individuals will experience various symptoms, from mild to severe. The common symptoms described by 31%, 82%, and 83% of patients are fever, cough, and difficulty breathing [18]. Infected droplets can travel up to 12 meters and land on surfaces. Droplets rarely extend beyond 2 meters and do not cling to the air. The virus can survive on surfaces for days in ideal conditions, but standard disinfectants like sodium hypochlorite and hydrogen peroxide kill it in less than a minute [19]. SARS-CoV-2 is transmitted through the nose, mouth, and eyes after inhaling the droplets or contacting a surface polluted by them. COVID-19 can be contagious for as long as the symptoms persist and even after they have improved clinically.

Additionally, some cases may act as super-spreaders. According to a joint WHO-China statement, among tens of thousands of close contacts of verified cases in China, the rate of secondary COVID-19 illness attacks ranged from 1 to 5% [20]. In the United States, 0.45 percent of 445 close contacts of 10 confirmed patients experienced a symptomatic subsequent episode [21]. In sputum, blood, and stool samples, SARS-CoV-2 RNA has been discovered. However, neither fecal-oral nor materno-fetal vertical transmission has been recognized as a significant factor in infectivity propagation [22].

Traditional Chinese Medicine

Traditional Chinese medicine (TCM) has been practiced for thousands of years and is widely acknowledged as a viable option for treating infectious disorders. [23-25] Over 2500 years ago, TCM was initially documented as a treatment for infectious disorders in Huangdi Neijing ("The Yellow Emperor's Classic of Medicine"), an ancient book on health and disease [26-27 cited in 23].

The primary premise of TCM is that a vital life energy known as Qi flows through the body. Any Qi imbalance might result in disease and illness. An adjustment in the opposite and complementary forces that make up the Qi is regarded to be the most typical cause of this imbalance; it is referred to as yin and yang. [28-32]

Early TCM intervention has been found to effectively prevent disease progression into a severe and critical stage in patients with mild and moderate disease. Moreover, it has helped patients stabilize for a longer treatment window in extreme situations. According to growing evidence, early treatment of TCM in COVID-19 patients improves cure rates, shortens illness courses, delays disease progression, and lowers mortality rates [23, 25, 32-33].

Acupuncture Treatment

One special technique of Traditional Chinese Medicine is acupuncture. Acupuncture is an alternative medicine in which practitioners use tiny needles to stimulate particular body parts [34-35]. It has been used as a supplementary medicine (ASM) in China, Korea, Japan, and other East Asian countries for hundreds of years [37]. As a traditional alternative medical treatment, acupuncture has significant clinical efficacy in treating neurological diseases, especially those caused by neurodegenerative diseases [37, 38].

During the pandemic, acupuncture has been used as a complementary treatment for coronavirus disease 2019 (COVID-19) in China. In 2017, a research study suggested that acupuncture treatment of COVID-19 is associated with suppressing inflammatory stress, improving immunity, and regulating nervous system function. It may also benefit COVID-19 patients with cancer, cardiovascular disease, and obesity. Hence, acupuncture has the potential to play an active role in the treatment of COVID-19 and deserves more attention and application [38].

According to an article in 2021, acupuncture has been commonly utilized since the outbreak of COVID-19. This has made the research community generate rapid and well-founded data to prove its efficacy. The team vigorously and gradually unraveled information dating back from January 1, 2020, to July 31, 2021. Moreover, the data was taken from reliable academic sources such as PubMed, Embase, Cochrane Library, CNKI, Wanfang, and VIP [39].

Various studies and articles show that acupuncture has a good effect in treating COVID-19 patients by alleviating respiratory disease and shortening their hospital stay. However, high-quality, evidence-based support is still lacking despite these positive findings. Then, they were followed by difficulties that acupuncturists got into during the treatment process—the recommendation for acupuncture as management for COVID-19 faces many obstacles.

Table 1. Kinds of Acupuncture and their Therapeutic Evidences

Authors	Kind of Acupuncture	Therapeutic Evidence
Freedman, M., & Bierwirth, P. A. (2018).	(Chinese Acupuncture) Auricular acupuncture	Auricular acupuncture is clinically effective for neurological diseases, particularly neurodegenerative diseases. It only takes a few minutes to perform auricular acupuncture. It responds exceptionally well to pain conditions seen in general neurology practice. [37]
Shin, H. K., Lee, S. W., & Choi, B. T. (2017).	(Chinese Acupuncture) Peripheral nerve stimulation using acupuncture	Acupuncture may provide an alternative treatment that promotes adult neurogenesis by increasing the expression of NTFs in the brain. Synergistic effects can also be observed when combined with pharmacological interventions. [38]
Zhenzhen Han <i>et al.</i> 2021	(Chinese Acupuncture) Electroacupuncture	According to the study, acupuncture may also have additional benefits for COVID-19 patients with cancer, cardiovascular disease, and obesity. [54]
Chen, C., Zhan, J., Wen, H., Wei, X., Ding, L., Tao, C., Li, C., Zhang, P., Tang, Y., Zeng, J., & Lu, L. (2021).	(Chinese Acupuncture) Auricular acupuncture	Acupuncture can relieve patients' symptoms and shorten their hospital stays, and it is beneficial for elderly people and children infected with COVID-19. [39]

Traditional Chinese Decoction or Herbal Medicines

Another modality of traditional Chinese medicine, herbal medicinal formulas such as decoctions, has been highly recommended for the prevention of COVID-19 even during a time when cases were less than 100,000 [40]. As data regarding COVID-19 changes, the procedures to combat it also adjust. The guidelines from the Chinese government started to include TCM as a treatment for COVID-19, which had four formulas and four syndromes, as stated in the Diagnosis and Treatment Guideline of Novel Coronavirus Pneumonia Trial Version 3 [40, 41, 42]. In the next version, Trial Version 4, five Chinese patent medicines were added to their recommended treatment. The formulas were then improved, protocols were supplemented with more devised stages, and most importantly, an array of effective TCM for COVID-19 called “The Three Chinese Patent Medicines and three TCM Prescriptions” was made [40, 42]. The following subsequent versions augment existing formulas considering the clinical treatment stage and the removal of some Chinese patent medicine. The Chinese patented medicines are Xuebijing Injection, LianhuaQingwen Capsule, and Jinhua Qinggan Granule. The three TCM prescriptions are QingfeiPaidu Decoction, Huashi Baidu Decoction, and Xuan Fei Baidu Decoction [40, 43].

The QingfeiPaidu Decoction, in particular, was a promising candidate as a general prescription for the treatment of COVID-19 [33, 40-48] along with other decoctions, consisting ZingiberisRhizomaRecens, EphedraeHerba, DioscoreaeRhizoma, and many more, as found in the seventh trial version of the treatment guideline for COVID-19 [49]. It can be noted that many of the studies mentioned above have proposed that COVID-19 can be treated, not just prevented, with integrated Chinese medicine alongside Western medicine. Nevertheless, the issue with the studies from early 2020 is that there were no robust research methodologies that accompanied them. As stated by Zhangin 2020, treatment of the patients was of the highest priority, which creates ethical issues when involving them in large-scale research [33].

Table 2. Traditional Chinese Medicinal Decoctions and their ingredients

TCM Decoction	Ingredients	References
QingfeiPaidu Decoction	Mahuang - <i>EphedraeHerba/Ephedra sinicaStapf</i> ZhiGancao - <i>ProcessedGlycyrrhizae Radix et Rhizoma /Glycyrrhiza glabra L</i> Xingren - <i>Armeniaca Semen/Prunus armeniaca L</i> Sheng Shigao- <i>GypsumFibrosus</i> Guizhi - <i>CinnamomiRamulus/Cinnamomum cassia Presl</i> Zexie - <i>AlismatisRhizoma/Alismaplantago-aquatica Linn</i> Zhu Ling - <i>Polyporus</i> Baizhu - <i>AtractylodisMacrocephalaeRhizoma/AtractylodesmacrocephalaKoidz</i> Poria - <i>Poria/Poriacocos (Schw.) Wolf</i> Chaihu - <i>Bupleuri Radix/BupleurumabchasicumManden</i> Huangqin - <i>Scutellariae Radix/Scutellaria albida L</i> Jiang Ban Xia - <i>PinelliaeRhizomaPraeparatum Cum Zingibere et Alumine/PinelliaTernata</i> Shengjiang - <i>ZingiberisRhizomaRecens/Zingiber officinale Roscoe</i> Ziwan - <i>Asteris Radix/Aster tataricus L. f.</i> Donghua - <i>FarfaraeFlos/Tussilagofarfara L</i> Shegan - <i>BelamcandaeRhizoma/Belamcanda chinensis (L.) DC</i> Xixin - <i>Asari Radix et Rhizoma/AsarumsieboldiiMiq</i> Shanyao - <i>DioscoreaeRhizoma/Dioscoreaoppositifolia L.</i> Zhishi - <i>Aurantii Fructus Immaturus/Citrus aurantium L</i> Chenpi - <i>CitrireticulataePericarpium/Citrus reticulata Blanco</i> Huoxiang- <i>PogostemonisHerba/Agastache rugosa (Fisch.&C.A.Mey.) Kuntze/PogostemonCablin (Blanco) Benth</i>	40, 41, 44
Huashi Baidu Decoction	Sheng Mahuang - <i>EphedraeHerba/Ephedra sinicaStapf</i> Huoxiang - <i>PogostemonisHerba/Agastache rugosa (Fisch.&C.A.Mey.) Kuntze</i>	40, 44

	<p>Sheng Shigao - <i>Gypsum Fibrosum</i> Xingren - <i>Armeniaca Semen/Prunus armeniaca L</i> Fa Banxia - <i>PinellinaeRhizomaPraeparatum</i> Houpo - <i>Magnoliae officinalis Cortex/Magnolia officinalis Rehder&E.H.Wilson</i> Cangzhu - <i>AtractylodisRhizoma/Atractylodeslancea (Thunb.) DC,</i> Caoguo - <i>Tsaoko Fructus/Amomum tsaokoCrevast et Lemarie</i> Fuling - <i>Poria/Poriacocos(Schw.)Wolf</i> Sheng Huangqi - <i>Astragali Radix/Astragalus mongholicus Bunge</i> Chishao - <i>Paeoniae Radix Rubra/Radix Paeoniae Rubra</i> Tinglizi - <i>Lepidii/Descurainiae Semen/Eruca sativa Mill</i> Sheng Dahuang - <i>Rhei Radix et Rhizoma/Rheum officinale Bail</i> Gancao - <i>Glycyrrhizae Radix/Glycyrrhiza glabra L</i></p>	
Xuan Fei Baidu Decoction	<p>Sheng Mahuang - <i>EphedraeHerba/Ephedra sinicaStapf/</i> <i>Ephedra intermedia Schrenk&C.A.Mey./Ephedra equisetina Bunge</i> Kixingren/Xingren - <i>Armeniaca Semen Amarum/Prunus sibirica L., Prunus armeniaca L./Prunus mandshurica(Maxim.) Koehne</i> Yiyiren - <i>Coicis Semen/Coixlacryma-jobi L.var.ma-yuen (Roman.) Stapf</i> Huzang - <i>PolygoniCuspidatiRhizoma et Radix/Polygonum cuspidatum Siebold &Zucc., Gypsum Fibrosum</i> Cangzhu - <i>AtractylodisRhizoma/Atractylodeslancea (Thunb.) DC.</i> GuangHuo Xiang/Huoxiang - <i>PogostemonisHerba/Pogostemoncablin (Blanco) Benth.</i> Qinghao - <i>Artemisia Annua Herba/Artemisia annua L.</i> Mabiancao - <i>VerbenaeHerba/Verbena officinalis L.</i> Lugen - <i>PhragmitisRhizoma/Phragmites australis subsp. Australis</i> Tinglizi - <i>Descurainiae Semen Lepidii Semen/Descurainiasophia (L.) Webb. ex Prantl./Lepidium apetalumWilld.</i> Huajuhong - <i>Citri Grandis Exocarpium/Citrus maxima (Burm.) Merr.</i> Gancao - <i>Glycyrrhizae Radix et Rhizoma/Glycyrrhiza uralensis Fisch. ex DC.Glycyrrhiza inflata Batalin., Glycyrrhiza glabra L.</i> Sheng Shigao - <i>Gypsum Fibrosum.</i></p>	50 , 51 , 52

The need for more evidence to support the clinical use of TCM decoctions was evident. A retrospective single-center cohort study in 2020 shows that the use of TCM with Western medicine lessens the length of hospital stay and severity of infection while improving recovery and patient conditions. Furthermore, QingfeiPaidu Decoction was reported to be more beneficial for minor cases of COVID-19 [53].

CONCLUSION:

As COVID-19 led to a dramatic loss and caused unprecedented challenges to public health, professionals conducted various research rapidly to find a safe, efficient, and effective cure, treatment, and prevention for society's advantage in battling COVID-19, one of which was Traditional Chinese Medicine. After a thorough understanding of the unraveled data, the collected information from reliable sources was synthesized by a critical process of comparing and contrasting.

In the case of Traditional Chinese Medicine (TCM), this medical practice has been commonly utilized as an alternative therapy for many types of diseases, and it's widely used by many countries, including the developed ones, Australia, and the United States. According to studies, TCM effectively alleviates early COVID-19. Despite countless reliable studies showing that TCM can be of use to ease COVID-19 patients' experiences. Western scientists tend to criticize and reject this medical practice. Consequently, the Traditional Chinese Decoction or Herbal Medicines, which is the other modality for treating COVID-19, the gathered data exhibits that the common Traditional Chinese Decoction method utilized for treating this respiratory virus was QingfeiPaidu Decoction. According to many studies, this type of decoction has the potential to exert auspicious effects in treating COVID-19. Further studies conclude that QingfeiPaidu Decoction shows only minor COVID-19 cases with beneficial effects. Despite these statements, TCM decoction does not have enough well-grounded information regarding it being used for clinical purposes, thus making it an irresolute solution to the problem. Based on the studies mentioned above, the data shows that this alternative treatment for COVID-19 has practical effects for patients suffering the negative consequences of the respiratory virus.

However, despite its potential, it still lacks high-quality, evidence-based support. The common ground in this matter is that Traditional Chinese Medicine (TCM) has the potential to treat minor cases, specifically mild to moderate convalescent COVID-19. Thus, it must be critically examined before recommending it to the patient. However, further high-quality, scientific, and evidence-based clinical studies must be conducted to prove the safety and efficacy of this medical therapy as prevention and cure for COVID-19 to ensure that the patient's medical care has the maximum therapeutic effect.

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