

Thoughts on COVID-19 based on JingFang Medicine

Classical Chinese Formula Solutions for COVID-19

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JingFang, or classical Chinese herbal formulas, have been in use for thousands of years. Ancient doctors accumulated a great deal of clinical experience treating febrile diseases that were similar to Coronavirus Disease 2019 (COVID-19). Written by Professor Huang Huang, Dean of the International JingFang Institute, Nanjing University of Chinese Medicine, the present article “Thoughts on COVID-19 based on JingFang Medicine” puts forth JingFang solutions for the pandemic according to the principles of Fang-Zheng Correlation (方证相应, the correlation between formula and syndrome), and suggests that with regard to specific treatment methods, we should tonify when it is appropriate to tonify, and attack when it is appropriate to attack.

1. A vague theoretical understanding does not hinder precise treatment

How do we, as JingFang practitioners, understand COVID-19? Terms such as cold, heat, dampness and dryness represent theoretical concepts in Traditional Chinese Medicine, which have been used to explain the nature and status of diseases, and their meanings have been quite vague throughout the long history of Traditional Chinese Medicine. However, the vagueness of these explanations does not hinder the precise prescription of herbs in JingFang Medicine, because the key to JingFang Medicine is the treatment, and its clinical guiding principle is known as FangZheng (formula syndrome) – that is, “With this Zheng, prescribe this Fang.” Fang refers to the formula, and Zheng describes how the disease manifests in the body (i.e. the syndrome or presentation – a collection of symptoms, signs, and nowadays even the physical and chemical abnormalities that can be found through modern medical examinations). FangZheng are precise, with very little ambiguity.

The pathogens behind many diseases are constantly changing – influenza viruses and coronaviruses are all results of virus mutation – and ancient Chinese doctors also discovered this characteristic. Therefore, instead of focusing on identifying the ever-changing pathogens, they focused on the human body, matching the manifestations of disease with specific medicines, thereby establishing a vast number of FangZheng. This is how ancient doctors dealt with complex diseases; this model of dealing with disease is known as Fang-Zheng Correlation. By following the principles of Fang-Zheng Correlation, we can precisely grasp the pathological status of many diseases such as COVID-19, and at the same time prescribe the formula and herbs that correspond to the Zheng to give the maximum assistance and support to the whole body, which is the real advantage and specialty of Traditional Chinese Medicine.

2. Ancient formulas can treat modern diseases

Although named by modern medicine, COVID-19 should be classified as a febrile disease in Traditional Chinese Medicine according to its pathogenesis, as it is epidemic and infectious. Ancient Chinese doctors accumulated rich experience in the treatment of this type of disease. It is feasible to differentiate and treat COVID-19 by following the treatment principles for febrile diseases in Traditional Chinese Medicine, especially if we apply the principles of Fang-Zheng Correlation.

First of all, Xiao Chaihu Tang (XCHT, Minor Bupleurum Decoction) serves as the base formula. XCHT is composed of Chaihu, Huangqin, Banxia, Renshen, Shengjiang, Gancao and Dazao. According to the original text of the *Shang Han Lun*, the formula presentation of XCHT includes: alternating chills and fever, fullness in the chest and hypochondriac area, vexation with or without nausea, possible thirst, possible abdominal pain, possible obstruction and rigidity in the hypochondriac area, possible pulsations in the upper abdomen, possible inhibited urination, possible mild generalized heat, and possible cough. Statistics show that among 1099 COVID-19 cases confirmed in 552 first-class hospitals in 31 provinces and cities in China, the most common symptoms are fever (87.9%) and cough (67.7%), while diarrhea (3.7%) and vomiting (5.0%) are rare. According to information from the Internet, the fever that some COVID-19 patients present with tends to recur continually in waves, which is consistent with the “alternating chills and fever” of XCHT Zheng; and the chest stuffiness and cough are consistent with the “fullness in the chest and hypochondriac area” and “cough.” XCHT and its modifications are especially suitable for COVID-19 patients with symptoms such as low mood and loss of appetite.

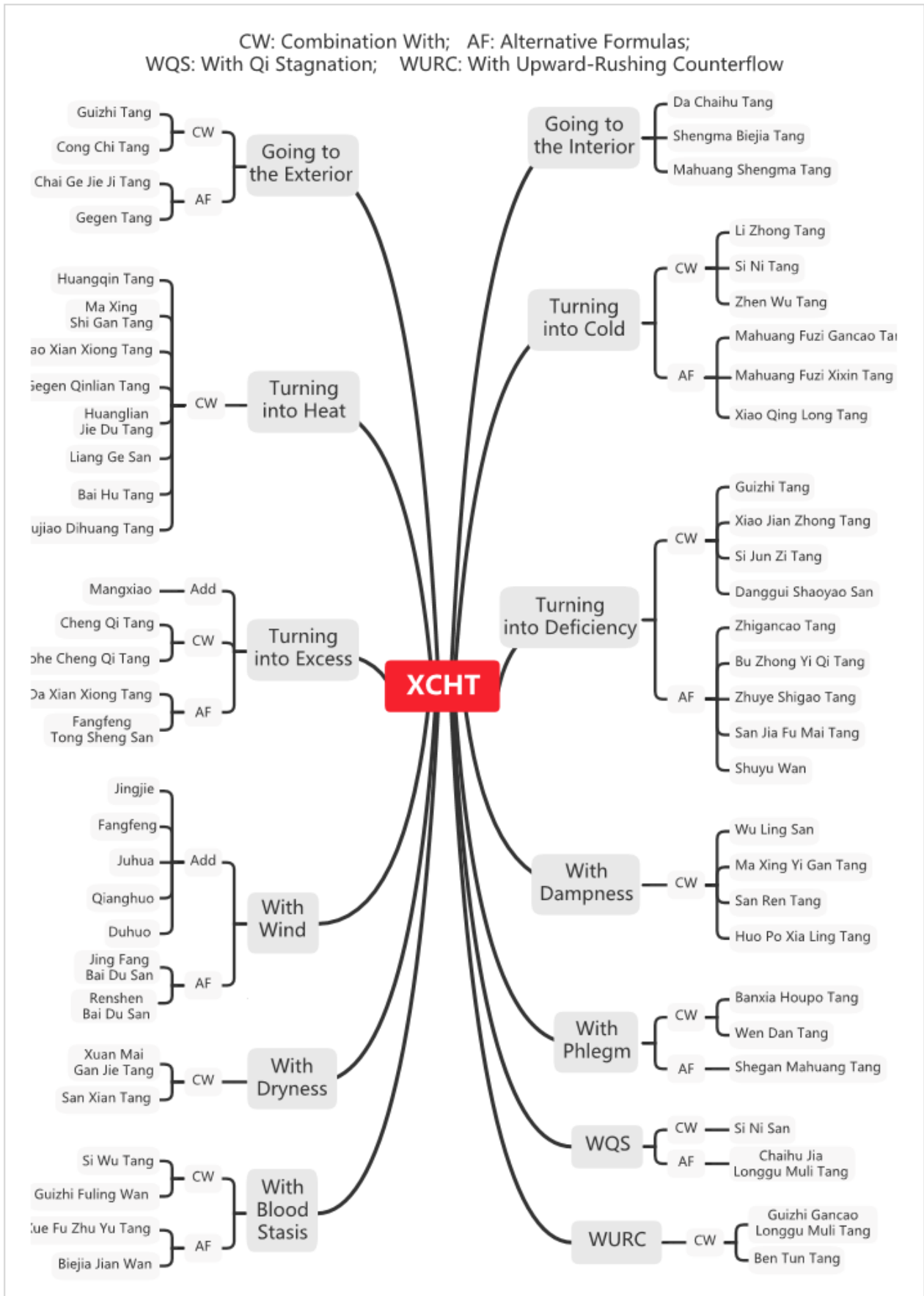
XCHT and its modifications are often used to treat febrile diseases. To name a few modifications: Chaihu Guizhi Ganjiang Tang (Chaihu, Guizhi, Ganjiang, Huangqin, Gancao, Muli, Gualougen) is used in the treatment of malaria and fever of unknown cause; Chaihu Guizhi Tang (Chaihu, Huangqin, Banxia, Renshen, Shengjiang, Gancao, Dazao, Guizhi, Baishao) is for febrile diseases and infectious diseases with neuromuscular pain; Da Chaihu Tang (Chaihu, Huangqin, Banxia, Zhishi, Shaoyao, Shengjiang, Dazao) is for febrile diseases characterised by alternating chills and fever, and sweating that does not bring resolution of the fever; Chai Ling Tang, the combination of XCHT and Wu Ling San (Guizhi, Fuling, Zhuling, Baizhu, Zexie), is for febrile diseases, dysentery, malaria, measles and smallpox in children, etc.; Chai Po Tang, the combination of XCHT and Banxia Houpo Tang (Banxia, Houpo, Fuling, Zisuye, Shengjiang), is for fever with cough and white sputum; Chai Xian Tang, the combination of XCHT and Xiao Xian Xiong Tang (Huanglian, Banxia, Gualou), is for fever, cough, chest pain and yellow sputum; Chai Ping Tang, the combination of XCHT and Ping Wei San (Cangzhu, Houpo, Chenpi, Gancao) is for fever with a heavy sensation in the whole body and a thick greasy tongue coating; Chaihu Si Wu Tang, the combination of XCHT and Si Wu Tang (Danggui, Chuanxiong, Shaoyao, Dihuang), is for irregular menstruation, cough or chest pain with underlying blood stasis after an onset of fever or prolonged illness; Chai Gui Tang, the combination of XCHT and Danggui Shaoyao San (Danggui, Shaoyao, Chuanxiong, Baizhu, Fuling, Zexie), is for scant menstrual flow, skin itchiness, aversion to cold and edema; Chaihu Jiegeng Tang (XCHT plus Jiegeng) is for cough and sore throat; the combination of XCHT and Yin Qiao San (Jinyinhua, Lianqiao, Jiegeng, Gancao, Bohe, Zhuye, Jingjie, Niubangzi, Dandouchi) is for fever, cough, dry throat, and sweating that does not bring resolution of the fever; Chaihu Jia Mangxiao Tang (XCHT plus Mangxiao) is for fever, nausea and vomiting, constipation and a thick tongue coating; the combination of XCHT and Bai Hu Tang (Zhimu, Shengshigao, Gancao, Jingmi) is for fever, excessive sweating, and a rapid, slippery pulse.

According to my own experience, a large dose of Chaihu has a better antipyretic effect; when combined with Gancao, Huangqin and Lianqiao, it is especially effective for fevers associated with viral diseases. My experiential formula Tui Re Fang (Antipyretic Formula) is composed of Chaihu 40g, Huangqin 15g, Shenggancao 10g and Lianqiao 50g – bring the herbs to a gentle boil with 1100ml of water, simmer until 500ml of fluid is left, divide into 100-150ml per dose, and take every 2-3 hours; halve the dosage for children. Tui Re Fang is pungent and cool and aims to induce sweating to relieve fever; it is suitable for viral colds with persistent fever, unsmooth sweating, and red face with excessive body heat, possibly with sore throat, cough or headache. Stop taking Tui Re Fang once the fever is relieved. If there is not enough sweating to reduce the fever after three doses of Tui Re Fang, the formula should be changed. The Chaihu-based formulas mentioned above can be considered for the treatment of mild, typical or early-stage cases of COVID-19.

FangZheng can be understood as how the body's reaction to the disease is reflected in the formula throughout the course of the disease development. In other words, although we are discussing FangZheng, we are actually analysing the state of the disease. Changes in FangZheng reflect the progression and development of the disease in a specific individual. Therefore, it is very important to be familiar with each FangZheng and its relationships to other associated FangZheng. It is even necessary for every doctor to have a FangZheng map in their mind, so they can understand the origin and outcome of the disease and intervene in a timely manner. The following is a FangZheng map of Chaihu-based formulas, with XCHT at the center, using the concepts of exterior and interior, cold and heat, deficiency and excess.

Going to the exterior: XCHT can be combined with Guizhi Tang or Cong Chi Tang; alternative formulas include Chai Ge Jie Ji Tang and Gegen Tang. Going to the interior: The disease will become complicated with many possible changes; prescribe according to the Zheng, e.g. Da Chaihu Tang, Shengma Biejia Tang, Mahuang Shengma Tang, etc. Turning into heat: XCHT can be combined with Huangqin Tang, Ma Xing Shi Gan Tang, Xiao Xian Xiong Tang, Gegen Qin Lian Tang, Huanglian Jie Du Tang, Liang Ge San, Bai Hu Tang, Niujiao Dihuang Tang, etc. Turning into cold: XCHT can be combined with Li Zhong Tang, Si Ni Tang, Zhen Wu Tang, etc.; alternative formulas include Mahuang Fuzi Gancao Tang, Mahuang Fuzi Xixin Tang, Xiao Qing Long Tang, etc. Turning into excess: Add Mangxiao to XCHT, or combine with Cheng Qi Tang or Taohe Cheng Qi Tang; alternative formulas include Da Xian Xiong Tang, Fangfeng Tong Sheng San, etc. Turning into deficiency: XCHT can be combined with Guizhi Tang, Xiao Jian Zhong Tang, Si Jun Zi Tang, Danggui Shaoyao San, etc.; alternative formulas include Zhigancao Tang, Bu Zhong Yi Qi Tang, Zhuye Shigao Tang, San Jia Fu Mai Tang, Shuyu Wan, etc. Combining with wind: Add Jingjie, Fangfeng, Juhua, Qianghuo, Duhuo, etc. to XCHT; alternative formulas include Jing Fang Bai Du San, Renshen Bai Du San, etc. Combining with dampness: XCHT can be combined with Wu Ling San, Ma Xing Yi Gan Tang, San Ren Tang, Huo Po Xia Ling Tang, etc. Combining with dryness: XCHT can

be combined with Xuan Mai Gan Jie Tang, San Xian Tang, etc. Combining with phlegm: XCHT can be combined with Banxia Houpo Tang or Wen Dan Tang; alternative formulas include Shegan Mahuang Tang. Combining with blood stasis: XCHT can be combined with Si Wu Tang or Guizhi Fuling Wan; alternative formulas include Xue Fu Zhu Yu Tang, Biejia Jian Wan, etc. Combining with Qi stagnation or depression: XCHT can be combined with Si Ni San; alternative formulas include Chaihu Jia Longgu Muli Tang. Combining with upward-rushing counterflow: XCHT can be combined with Guizhi Gancao Longgu Muli Tang, Ben Tun Tang, etc.



Secondly, individualised treatment is very important. Because of differences in constitution and the different body parts affected by the disease, many patients may not exhibit the FangZheng of XCHT or its associated formulas; in these cases, we should prescribe according to the specific Zheng. The organs that have been affected the most in COVID-19 patients are the lungs. Most patients have cough, chest stuffiness and dyspnea, and patients in severe cases may even have Acute Respiratory Distress Syndrome (ARDS) and so on. JingFang that relieve cough and wheezing may be considered, such as Mahuang Tang, Ma Xing Shi Gan Tang, Shegan Mahuang Tang, Xiao Qing Long Tang and Zeqi Tang. Banxia Houpo Tang, Fuling Xingren Gancao Tang, San Ren Tang, Xuan Bi Tang, etc. can help to transform phlegm and regulate Qi. For patients with diarrhea and other gastrointestinal symptoms, Gegen Qinlian Tang, Gancao Xie Xin Tang, Huangqin Tang, Wu Ling San, etc. can stop diarrhea and harmonise the Spleen and Stomach. For patients with severe fatigue, prescribe Mahuang Fuzi Xixin Tang, Fuzi Li Zhong Tang, Zhen Wu Tang, etc. to warm the meridians and dispel cold. For patients with kidney damage and proteinuria, consider Huangqin Tang, Huanglian Jie Du Tang, Chai Ling Tang, etc. Because many patients with mild cases will also experience extreme fear, anxiety and depression, consider intervening with Wen Dan Tang, Chaihu Guizhi Ganjiang Tang, Chaihu Jia Longgu Muli Tang, Banxia Houpo Tang, Banxia Xie Xin Tang, etc. In a nutshell, we must follow the principle “With this Zheng, prescribe this Fang” to choose the appropriate formula.

3. Individualised prescriptions versus generalised prescriptions

While we emphasise the importance of precise treatment with individualised prescriptions, we do not reject the use of generalised prescriptions for group treatment. If the disease characteristics are identical among all patients, using a generalised prescription for groups is also in accordance with Fang-Zheng Correlation. In Chinese history, there are numerous examples of using generalised prescriptions during epidemics. To name a few well-known formulas that have been used in group treatments: Fangfeng Tong Sheng San, Jing Fang Bai Du San, Gan Lu Xiao Du Dan, Shi Shen Tang, Feng Yin Tang and Ren Shen Bai Du San. The National Health Commission of the People’s Republic of China together with the National Administration of Traditional Chinese Medicine recommended “Qing Fei Pai Du Tang” for the treatment of COVID-19. Qing Fei Pai Du Tang consists of a combination of XCHT, Ma Xing Shi Gan Tang, Wu Ling San, Shegan Mahuang Tang and Ju Zhi Jiang Tang, all of which are JingFang that have been used for thousands of years and whose use has been supported both by classical texts and by the clinical experience of later physicians. At present, there is a great need for formulas like this. Of course, this one formula is not enough; besides using formulas for group treatment, we still need to follow the principle “With this Zheng, prescribe this Fang” in dealing with more complex cases.

Currently, the international situation regarding the COVID-19 pandemic appears grim, with the number of newly confirmed cases increasing daily, and consequently one of our most urgent tasks is to find suitable formulas for group treatment. According to the ancient literature and my own clinical experience, and giving consideration to recently reported COVID-19 cases, I recommend two formulas for group prevention treatment: Jing Fang Bai Du San and Shi Shen Tang.

Jing Fang Bai Du San (Jingjie, Fangfeng, Qianghuo, Duhuo, Chaihu, Qianhu, Jiegeng, Zhike, Fuling, Gancao, Chuanxiong) treats epidemic diseases with headache, aversion to cold, fever, nasal congestion, cough, red eyes, mouth ulcers, itching skin diseases, etc. The famous doctor Zhang Gongrang has commented that Jing Fang Bai Du San is a very effective antipyretic formula – better than Chaihu Guizhi Tang for treating epidemic febrile disease – and that it is also very effective in treating dermatitis, acne, etc.

Shi Shen Tang (Gegen, Shengma, Chenpi, Gancao, Chuanxiong, Zisuye, Baizhi, Mahuang, Chishao, Xiangfu, Shengjiang, Congbai; mix and grind all the herbs except for Shengjiang into powder, and cook 10g of the powder with 5 slices of Shengjiang for each dose) treats all types of epidemic disease, and can prevent disease changes and progression.

Jing Fang Bai Du San emphasises clearing heat and dispersing wind, while Shi Shen Tang emphasises dispersing cold and eliminating dampness. If these two formulas could be processed into powders or herbal tea bags and distributed to households in areas with outbreaks, it would facilitate the observation and verification of results, not to mention that this format would also be low in cost, and easy to cook and take.

4. Tonify when it is appropriate to tonify, and attack when it is appropriate to attack

In terms of preventing COVID-19 as well as supporting patients in the recovery phase, based on the statement in the *Huangdi Neijing* that “wherever pathogenic factors gather, the Qi must be deficient,” some doctors advocate using

tonic herbs and formulas such as Yu Ping Feng San, Sheng Mai San and so on. This might work for some patients, but not for all. Assisting the Zheng (Upright) Qi and using tonic formulas are two entirely different concepts. Dr. Xia Yijun commented: “When pathogenic factors gather in a place of deficiency, the disease must be excessive,” and emphasised that tonic herbs should not be used indiscriminately. Once the disease is formed, the keys are to remove the etiology and to eliminate the pathological state, which means that we still need to follow the principle “With this Zheng, prescribe this Fang.”

What makes the formulas of the *Shang Han Lun* effective? The essence lies not in tonification, but in regulation. Regulation means to adjust and regulate the body according to the Zheng and the development of the disease. For example, the *Shang Han Lun* advocates “urgent purgation” in six places; three of these are in the Yangming chapter, and the other three are in the Shaoyin chapter. When there is “heat knotting in Yangming,” it is easy to understand the use of Da Cheng Qi Tang to drain downward; but what about when there is Shaoyin syndrome with depleted Yin fluids, and dryness in the mouth and throat? The patient in this situation exhibits Da Cheng Qi Tang FangZheng: “abdominal distention and lack of bowel movements,” “abdominal fullness and pain,” etc. The purpose of using Da Cheng Qi Tang in Shaoyin syndrome is to purge in order to preserve the Yin. Thus we can see the importance of the principle “With this Zheng, prescribe this Fang” in the *Shang Han Lun*.

Huangqi (*Astragalus propinquus* Schischkin) is an important Qi tonic, widely used in ancient times for treating XueBi (Blood Impediment) syndrome, excessive sweating, edema, sores, etc. Astragalus Polysaccharides (APS) can enhance immune function, promote proliferation of lymphocytes and promote secretion of interferon gamma (IFN- γ). However, based on TCM clinical experience, Huangqi formulas are rarely used in febrile diseases. There are no Huangqi formulas recorded in the *Shang Han Lun* – all of Zhang Zhongjing’s Huangqi formulas are recorded in the *Jin Gui Yao Lue*. Therefore, it is not appropriate to use Huangqi for COVID-19 patients, especially in cases presenting with fever, cough and asthma. Misuse of Huangqi may aggravate the condition, especially symptoms such as chest stuffiness, abdominal distention, etc. As for Yu Ping Feng San, which could be used for prevention, we must be cautious – it should not be used much except in people with thick adipose tissue, loose flesh and a Qi-deficient constitution. When taken by individuals who are muscular and lean, Huangqi can cause fullness in the chest.

In summary, although we still don't have a complete understanding of COVID-19, the manifestation of the pathogen in the body is consistent with febrile diseases, which are described in the *Shang Han Lun* and *Jin Gui Yao Lue*. At this critical point in time, rereading classical texts such as the *Shang Han Lun*, *Wen Yi Lun* and *Wen Re Jing Wei* can provide us with ideas and inspiration. JingFang is a treasure that has been passed down for thousands of years. Fang-Zheng Correlation is the main principle for using JingFang, as well as an original mode of thinking created by the Chinese, which must be preserved and refined, especially when facing complex and constantly changing diseases such as COVID-19. TCM practitioners are encouraged to make the most of our strengths in order to contribute the treatment of COVID-19.