

# *The inspiration of the theory of "Three factors and Measures" for COVID-19 prevention and treatment*

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**Keywords:** Three factors, COVID-19, prevention and treatment, traditional Chinese medicine

**Abstract:** Since December 2019, the novel coronavirus pneumonia (COVID-19, Chinese abbreviated as COVID-19) has been spreading around the world and has a great impact. It is extremely contagious and generally susceptible to the population, which still affects many regions today. Traditional Chinese medicine belongs to the category of "epidemic". This article discusses the impact of different seasons, disease stages, age, physique, geographical location and social environment on the diagnosis and treatment of diseases from three aspects: time, people and place, and further analyzes the inspiration of the "three factors" theory of traditional Chinese medicine on the prevention and treatment of COVID-19.

## 1. Introduction

In the past two years, COVID-19, a major public health event, has spread across the world from time to time and space, through spring, summer, autumn and winter. In 2020, the World Health Organization named it "corona virus disease 2019 (covid-19)", and the National Health Commission has included it into the category B infectious diseases stipulated in the law of the people's Republic of China on the prevention and control of infectious diseases, and has taken measures to prevent and control category A infectious diseases<sup>[1]</sup>. It was also named "covid-19 pneumonia", referred to as "COVID-19", and English name "novel coronavirus pneumonia", referred to as "NCP"<sup>[2]</sup>. In the trial version of the "novel coronavirus infected pneumonia diagnosis and treatment plan" released in the same year, NCP was proposed to belong to the category of "epidemic disease" in traditional Chinese medicine, which originated from feeling the "pestilence"<sup>[3]</sup>, and a specific guidance plan for the treatment of traditional Chinese medicine was formulated. Good results have been achieved in the prevention and treatment of COVID-19, but up to now, the epidemic still affects the lives of hundreds of millions of people. As of January 19, 2022, a total of 136375 people have been diagnosed and 5700 people have died<sup>[4]</sup>. At that time, serious epidemics occurred in Shaanxi, Henan, Tianjin and other places. This paper discusses the application of "adjusting measures to time, place and person" in the prevention and treatment of COVID-19 proposed by academician zhangboli.

## 2. The theory of three factors of traditional Chinese Medicine.

The theory of "three factors" is derived from the Huangdi Neijing, which advocates the diagnosis and treatment of diseases in combination with different times, regions and individuals. This treatment principle not only reflects the holistic view of the unity of heaven and man, but also emphasizes the individualized diagnosis and treatment idea of dialectical treatment. <sup>[5]</sup>

## 3. Discuss the prevention and treatment of COVID-19 based on the theory of three factors.

### 3.1. Adjusting measures to time

Qi Bo in Su Wen Jue Lun said, "in spring and summer, there is more yang and less Yin, and in autumn and winter, there is more yin and Yang decline"<sup>[6]</sup>, which explains the characteristics of the filling degree of yin and Yang in different seasons of the human body; "Su Wen ·Liuyuan Zhengji Da Lun" clearly puts forward different medication principles in different seasons, such as using cold far from cold, using heat far from heat<sup>[6]</sup>; The "nourishing yang in spring and summer and nourishing Yin in autumn and winter" put forward in Su Wen · the grand theory of four Qi regulating spirit is a principled formulation of the ancients to comply with the laws of the four seasons to adjust the bias of individual Yin and yang to a harmonious state<sup>[7]</sup>. It is regarded as a health preservation principle and treatment principle of treating according to time and preventing according to time<sup>[8]</sup>. On this principle, Ma Shi proposed that "nourishing with Qi" should follow the natural laws of spring, summer, autumn harvest and winter storage<sup>[9]</sup>, and nourish Yang in spring and summer, To nourish yin in autumn and winter; "Su Wen ·on the eight positive gods" pointed out: "four seasons, so the Qi of spring, autumn, winter and summer is divided into seasons." <sup>[10]</sup> Many theories believe that at different times, the filling degree of yin and Yang in the viscera, Qi and blood is different, the disease and syndrome are different, and the treatment are different.

#### 3.1.1. Different seasons

It has been more than two years since the emergence of COVID-19, running through the four seasons of spring, summer, autumn and winter, which makes us see the impact of seasonal climate characteristics on the disease more comprehensively. Covid-19 (covid-19) started in late 2019. At that time, it was rainy and cold and humid in Wuhan. Therefore, the epidemic was of "cold and humid" nature. Academician Tong Xiaolin, through the field investigation of Wuhan cases, classified the epidemic as "cold and humid epidemic" <sup>[11]</sup>, and the disease was mainly located in the lung. Therefore, ephedra and agastache were mainly used to remove dampness, detoxify, and diffuse pathogenic factors in the lungs; In the summer of 2021, there was a confirmed case of covid-19 in Hunan. Hunan is located in the south. The epidemic occurred in the summer when the local temperature is high and there is much rain. The climate is humid and hot, and the evil of damp heat invades the lungs and spleen, causing damp heat epidemic. Therefore, honeysuckle, Forsythia suspensa and agastache are mainly used to clear the heat and remove dampness <sup>[12]</sup>. In different seasons, the etiology and pathogenesis, disease location and syndrome are different, so the treatment and medication are also different. There are dampness pathogens in winter and summer, so they all melt dampness. In winter, cold pathogens are the most important, so it is mainly to disperse cold and melt dampness, and cold agents cannot be used more; In summer, heat evil is the most important, so it is mainly to clear away heat and remove dampness. Do not use warm agents more, and treat according to the syndrome differentiation of patients.

### 3.1.2. Different stages

In April 2021, the National Health Commission and the Bureau of traditional Chinese medicine jointly issued the diagnosis and treatment plan for novel coronavirus pneumonia (Trial revision of the Eighth Edition). Before that, the National Health Commission and the provinces issued multiple versions of the diagnosis and treatment plan. After more than a year of exploration and practice, phased treatment has been relatively mature. In the latest plan, suspected cases and confirmed cases are classified into medical observation period and clinical treatment period respectively, and the confirmed patients are divided into five types according to their condition: light type, ordinary type, heavy type, critical type and recovery period. According to the clinical symptoms, each type is divided into detailed stages and the corresponding prescription 3 is given <sup>[13]</sup>, which is not detailed here.

### 3.2. Adjusting measures to local conditions

Xu Lingtai, a doctor in the Qing Dynasty, put forward in "on the origin of medicine": "people are born with the Qi of heaven and earth to live, so their Qi is different everywhere." Taking the different treatments of people in the northwest and Southeast after suffering from wind and cold as an example, this view is explained <sup>[14]</sup>. "Su Wen Shu Wu Guo Lun" said: "anyone who has not diagnosed a disease must ask how expensive it is to taste it. Although he is not evil, the disease is endogenous, and it is called breaking camp. After tasting rich, he becomes poor, and it is called losing essence <sup>[10]</sup>". It shows that different social environments have a great impact on people, and if they get sick, the treatment is also different.

#### 3.2.1. Since the onset of COVID-19 in different geographical locations

It has affected many countries and regions around the world. As far as China is concerned, the region is vast, the terrain is complex, and the climate varies greatly. In terms of diagnosis and treatment, China has achieved good results by using the method of combining traditional Chinese and Western medicine. The National Health Commission has issued multiple versions of diagnosis and treatment plans, but the characteristics of each region are different, so the provinces have also issued multiple versions of diagnosis and treatment plans according to the specific local conditions. The treatment of traditional Chinese medicine in the plan fully reflects the local conditions. Take Xi'an and Guangdong Province, where the epidemic occurred at the end of 2021, as an example. Xi'an is located in the Guanzhong Basin in the middle of the Yellow River Basin. It is dominated by a warm temperate semi humid continental monsoon climate. The winter climate is cold. The cold evil is combined with the dampness evil of covid-19-covid-19 (covid-19) pneumonia, and most of them are cold and wet diseases. The treatment is mainly to dissipate cold and melt dampness; Guangdong Province is located in the southernmost part of the Chinese Mainland, with a subtropical monsoon climate, the climate is humid and warm in winter, so it is often damp heat epidemic, and the treatment is mainly to clear away heat and remove dampness.

#### 3.2.2. Different social environment

Social factors have a certain impact on the occurrence and development of the disease. In modern society, the pace of life is fast, work and study pressure is high, diet and rest are irregular, and self immunity is relatively reduced<sup>[15]</sup>, which creates conditions for the occurrence of COVID-19. Therefore, in the process of prevention and treatment, it is also important to strengthen psychological intervention to relieve pressure, regulate mood, exercise, regulate work and rest, eat

reasonably, and improve self immunity.

### 3.3. Adjusting measures to personal conditions

Qi Bo said in the Yellow Emperor's Internal Classic: "those who do not infect each other, healthy qi exists in the body, and evil can't be done"<sup>[16]</sup>. Healthy qi is immunity, and strong self immunity is not suitable for infection with epidemic diseases; "Lingshu · all diseases begin to emerge" mentioned that: the evil Qi of wind, rain, cold and heat will not cause disease, but if the evil and deficiency meet, they will cause disease, that is, when the human body is lack of healthy qi and the ability to defend against external evil decreases, the evil Qi invading the human body is easy to cause disease<sup>[17]</sup>. In "pestilence theory · Zhiyi": "to the extent that miscellaneous Qi is a disease, Qi itself becomes a disease, and each disease changes according to people. Generally speaking, its change is indescribable, and the doctor can pass its change, then it is perfect"<sup>[10]</sup>. It can be seen that physique is closely related to the manifestation of disease and whether it changes or not.

#### 3.3.1. Different ages

Different ages are generally susceptible to covid-19. The epidemic in Xi'an at the end of 2021 ranged from 4-day-old newborns to 94. There are confirmed cases in all ages of the elderly. Traditional Chinese medicine believes that the rise and fall of the blood in the viscera of the human body is closely related to age. In the process of growth, development, prosperity, aging and death, the blood in the viscera gradually declines, which affects the physiological function of the human body from beginning to end<sup>[18]</sup>. Therefore, the treatment for patients of different ages is not the same. Children have mild disease, but their viscera are delicate, their body Qi is not filled, and their lungs and spleen are often insufficient. Therefore, after children are infected with novel coronavirus, they should pay attention to the treatment of both lungs and spleen<sup>[19]</sup>. In addition, in terms of drug dosage and oral administration Taste and other aspects should also be specifically adjusted according to the age of the child: young and middle-aged people are full of healthy qi, and the blood in the viscera is sufficient. Their clinical symptoms are heavier in the process of fighting against disease pathogens, but the prognosis is better. Therefore, after infection with novel coronavirus, they can use Xinliang heavy agents, and cannot use tonics too much: the middle-aged and elderly people have a loss of healthy qi, and many basic diseases, are prone to infection with novel coronavirus, and their symptoms are heavier after infection, and the prognosis is poor, so they should pay attention to protecting healthy qi after infection, we should pay attention to tonic while attacking evil.

#### 3.3.2. Different constitutions

According to traditional Chinese medicine constitution, constitution determines disease susceptibility, pathological process and prognosis<sup>[20]</sup>, and it is divided into 9 kinds of constitution (peaceful quality, special quality, qi depression quality, Yang deficiency quality, yin deficiency quality, phlegm dampness quality, damp heat quality, Qi deficiency quality and blood stasis quality)<sup>[21]</sup>. There is a significant correlation between the syndrome type of COVID-19 and the constitution type, among which the people with Yang deficiency quality, phlegm dampness quality and Qi deficiency quality are the most susceptible to infection<sup>[10]</sup>. And patients with different physical types will have different syndrome manifestations after being infected with novel coronavirus. Therefore, different treatments should be given to different constitutions, such as Yang deficiency, and attention should be paid to warming yang; Phlegm dampness quality, pay attention to resolving phlegm and removing dampness; Qi deficiency, then pay attention to Tonifying Qi. On the one hand, it reflects adjusting measures to individual conditions, on the other hand, it also reflects the

principle of treating diseases.

#### 4. Summary

As the quintessence of Chinese medicine, traditional Chinese medicine has a long history and rich experience in combating epidemics<sup>[22]</sup>. In the prevention and treatment of the COVID-19, traditional Chinese medicine has played an important role through early intervention and deep participation in the whole process<sup>[23-24]</sup>. COVID-19 belongs to the "epidemic disease" of traditional Chinese medicine. The pathogenic factors of covid-19 pneumonia have the characteristics of "one Qi, one disease, and similar symptoms", so the general scheme can play an important role in its prevention and treatment. However, with the continuous development and change of the epidemic, the clinical manifestations of different times, different regions, and different individuals will be different. Therefore, the guiding value of the "three factors and adaptation" theory is gradually highlighted<sup>[25]</sup>. It is difficult to achieve "one person, one party", but under the theoretical guidance of "three factors and conditions", dialectical treatment is carried out, and relatively clear and targeted treatment is given to different times, different regions and different populations. The cure rate of covid-19 will be higher and higher, and the victory over novel coronavirus is just around the corner.

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