



The Role of “Preventive Treatment of Disease” from Traditional Chinese Medicine in Public Health Emergencies

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Objective: To explore the role of "Preventive Treatment of Disease" from Traditional Chinese Medicine in public health emergencies. To narrow the differences between Chinese and Western medicine's prevention and treatment strategies in public health emergencies and to better integrate Chinese medicine's prevention and treatment strategies into the current international healthcare system.

Methods: As a narrative review, adopting the research method of literature search and comprehensive analysis, we searched the relevant literature from 2014 to 2024 according to the corresponding key words. The relevant literature was read and useful information was extracted.

Results: The role of "Preventive Treatment of Disease" from Traditional Chinese Medicine in public health emergencies is threefold: first, it provides more diversified preventive measures of Chinese medicine for the early prevention and treatment of public health emergencies; second, there are

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similarities between Chinese and Western medicines in the diagnosis and treatment of public health emergencies, with both attaching great importance to symptomatic treatment and personalized medication; and third, the advantages of TCM's prevention and treatment strategies are reflected in the fact that they focus on constitution identification, dietary adjustments, and emotional regulation.

Conclusion: The idea of "Preventive Treatment of Disease" from Traditional Chinese Medicine can indeed play an appropriate role in public health emergencies, and how to incorporate Chinese medicine into the public health framework requires further study and, at the same time, the concerted efforts of policy makers and practitioners of Chinese medicine, and Western medicine.

Keywords: Traditional chinese medicine; preventive treatment of disease; public health emergencies; prevention and control strategies; COVID-19; epidemiological prevention.

1. INTRODUCTION

Since the beginning of the 21st century, human beings have experienced many epidemics of infectious diseases, such as Atypical Pneumonia (SARS) in Guangdong in 2003, Avian Flu in many places in 2005, and Middle East Respiratory Syndrome (MERS) in the Middle East in 2012, and the global epidemic of Novel Coronavirus Pneumonia (COVID-19) at the end of 2019. The prevalence of these large-scale infectious diseases, also known as public health emergencies, brings great challenges to the prevention and control of diseases in all countries. In this context, the expansion of management strategies for public health emergencies is also receiving more and more attention. As traditional Chinese medicine has been inherited for more than 2000 years, and TCM has played a significant role in the prevention and treatment of COVID-19 in 2019, it is of great significance and necessary to explore the role of "Preventive Treatment of Disease" in public health emergencies. During the Ming and Qing dynasties, infectious diseases broke out for many years, and the warm disease school of Chinese medicine played an important role in the treatment and prevention process. Nowadays, there are large-scale epidemics and infectious diseases occurring frequently in the world, and the level of medical treatment varies from country to country, so some inexpensive and easy-to-operate prevention and treatment methods of Chinese medicine can be more useful. The idea of "Preventive Treatment of Disease" is an important embodiment of TCM preventive medicine and an important measure to prevent and treat all kinds of infectious diseases in ancient times. This paper mainly discusses the application of the idea of "Preventive Treatment of Disease" in public health emergencies and its enlightenment to similar events in the future. The

research methods mainly used in this paper are literature retrieval and comprehensive analysis. The specific retrieval methods are as follows: retrieval websites: CNKI, Pubmed; retrieval range: from 2014 to 2024; retrieval keywords: "traditional Chinese medicine" or "preventive treatment of disease" or "novel coronavirus pneumonia" or "COVID-19" or "public health emergency".

2. OVERVIEW OF TCM EPIDEMIC DISEASES AND PUBLIC HEALTH EMERGENCIES

疫 (yi), the Chinese character for epidemic disease, was first recorded in books in Pre-Qin period [1], such as "Fang Xiangshi was ordered to drive out the plague" in classic book *The Rites of Zhou*, but its connotation was not detailed enough until Zhang Zhongjing mentioned that many of his clan died due to the epidemic. Since then, the characteristics of the epidemic, such as wide infectivity and high fatality rate, had been specified gradually. Based on the observation of ancient doctors, TCM epidemics [2] can be defined as a class of diseases with the characteristics of infectivity, epidemic, clear pathogenic factors and high lethality, which is similar to the connotation of public health emergencies that major events that occur suddenly, cause or may cause serious damage to public health in The Regulations on Emergency Response to Public Health Emergencies [3]. Therefore, it is of far-reaching significance to explore the role of TCM "Preventive Treatment of Disease" in public health emergencies in today's society by combining the TCM idea of "Preventive Treatment of Disease" with the TCM prevention and treatment practice of COVID-19.

3. OVERVIEW OF THE IDEA OF “PREVENTIVE TREATMENT OF DISEASE” IN TCM

The idea of “Preventive Treatment of Disease” in TCM was initiated at the beginning of human resistance to disease, such as wrapping animal skins to keep out the cold. Later, it became more and more mature when *The Inner Canon of Huangdi* was completed in the Qin and Han Dynasties. For example, the idea of “Preventive Treatment of Disease” was mentioned in “The sage prevent the disease instead of curing it, prevent the disorder before it happens” in Major Discussion of Regulation of Spirit According to the Changes of Four Seasons in Plain Question of *The Inner Canon of Huangdi* [4]; and it was developed and discussed from the perspective of five viscera transmission in *Difficult Scriptures* [5], such as “When the disease of the liver is diagnosed, it should be transmitted to the spleen. Therefore, the Qi of the spleen should be strengthened first to be free from the pathogen of liver. By this way, related diseases can be prevented beforehand.” in its 77th difficulty, and then influenced the understanding of “Preventive Treatment of Disease” of Zhang Zhongjing in the *Synopsis of Golden Chamber*. It suggests that the treatment of diseases in TCM gradually pays attention to the pre-onset of diseases, so that diseases can be killed in the bud as early as possible. With the development of the times, the thought of “Preventive Treatment of Disease” can be summarized into three stages, namely, pre-disease prevention, in-disease prevention from transformation and after-disease prevention [6]. And based on clinical practice, 2 aspects “preventing diseases before its germination and treating disease early after diagnosed” are added to the theory, which is similar to the “early detection, early diagnosis, early quarantine and early treatment” advocated by the response strategy of public health emergencies [7].

4. THE ROLE OF TCM “PREVENTIVE TREATMENT OF DISEASE” IN PUBLIC HEALTH EMERGENCIES

4.1 Pre-disease Prevention

Pre-disease prevention means to do a variety of preventive work to avoid the occurrence of disease from all aspect of TCM [8], such as internal treatment, external treatment and mental preservation. Public health emergencies are most likely to cause panic in the crowd, and at

the same time, anxiety, depression and other emotions are also prone to appear in quarantine, as it is said in Miscellaneous Disease Chapter of *Complete Works of Zhang Jingyue* “worry and anger are the most harmful to the heart...Emotional depression is always from the heart” [9], therefore, combined with the prevention and treatment of the novel coronavirus pneumonia, attention should be paid to mental preservation [7]. Of course, that TCM emotional therapy can regulate the panic and anxiety of infected people is also suggested by some scholars [10].

In internal treatment, it is commonly applied to orally take anti-epidemic Chinese herbs and dietary therapeutic diets, such as herbs, like honeysuckle, licorice, patchouli, tangerine peel, fresh reed root and perilla [11], can be used to support healthy energy by anti-oxidation and regulating immune function and remove pathogenic factors by inhibiting viral activity. As one of the external treatment methods, aromatherapy can also be used to prevent and control public health emergencies. For example, in the Ming and Qing dynasties, there were already a variety of fragrant medicines for epidemic prevention and control [12]. Public health emergencies tend to be in the presence of diseases, combined with the experience of prevention and treatment of novel coronavirus pneumonia [13], it's recommend to take Huoxiang Zhengqi preparation for patients with weakness and gastrointestinal discomfort, take Jinhua Qinggan Formula or Lianhua Qingwen preparation for patients with weakness and fever. As a highly susceptible population, some scholars have proposed that medical workers can take preventive prescriptions such as dried ginger and licorice soup [14] to prevent infection of COVID-19.

When not sick, it is common for public emergencies to transmit through mouth and nose, therefore, the Miasma aura should be avoided initiatively. As it is written in *Moist and Warm Epidemic Diseases Treatment* [15] “When epidemic is prevalent, ... It is appropriate to wear a Taiea Scourge-Repelling Elixir ...”, it is suggested to wear sachet with Chinese medical herb to avoid the epidemic pathogenic factors. And some research findings showed that for asymptomatic COVID-19 infected people, the method of preventive acupuncture [16] should be considered to cut off the torsion and promote healthy Qi.

The concept of early treatment should be established regardless of the disease syndrome, and it is no exception for public health emergencies. For example, the current research on epidemic observation recommends the use of Shufeng Jiedu capsule, which can enhance the immunity of infected persons and reduce the viral load in lung tissue [17].

4.2 In-disease Prevention from Transformation

In-disease prevention from transformation, as the core connotation of "Preventive Treatment of Disease", is the the most ideally active measure [8] and the key to the treatment of public health emergencies, including 2 aspects: preventing the transmission and change of the disease, and strengthening the healthy energy and removing pathogenic factors. For example, in the treatment of COVID-19, Jinhua Qinggan granules, Lianhua Qingwen capsules, Shufeng Jiedu capsules [13] and other Chinese patent medicines can be selected. In addition, some external treatment methods of traditional Chinese medicine can also be used to prevent and treat public health emergencies, such as acupoint application, massage therapy, guidance techniques, etc. Some scholars proposed [18] that different adhesive treatment schemes could be given according to the classification of cold and heat to assist the treatment of mild and common COVID-19 patients. Massage can be used to improve lung function for it may be affected by some public health emergencies. For example, instrument vibration massage intervention [19] can improve patients' clinical symptoms, daily living ability and exercise endurance. To improve lung function, some fitness exercises can also be used, such as the traditional Chinese Five Animals Exercises, Eight Brocade and Taichi [20], which can not only actively mobilize the body's healthy Qi, prevent diseases, but also achieve mental preservation, relieve tension. During the treatment, patients should also moderate diet. For example, based on the concept of *Synopsis of the Golden Chamber* [21], during the disease, patients should be careful about diet, that is, refuse to eat game and dead animals to reduce the spread of the disease. In addition, attention should also be paid to the treatment of severe patients. As literature has shown that Xuebijing injection [22] can be used to improve the inflammatory markers and clinical prognosis of patients with severe COVID-19, which is of great reference for the treatment of severe patients in public health emergencies.

4.3 After-disease Prevention

After-disease prevention refers to take measures to prevent the disease from recurrence during the convalescence period. There are many ways to prevent the recurrence of disease, both external and internal treatment of traditional Chinese medicine can be used. In the recovery period of general public health emergencies, patients often have deficiency of lung and spleen and depletion of Qi and Yin. For example, in the recovery period of novel coronavirus pneumonia [23], Navel Moxibustion with Medicated Barrier can be used to solve the symptoms of low fever and fatigue caused by prosperous pathogen with asthenia healthy Qi in the human body. And practising Six Character Formula "ha, hu, chui, xi, xu, si" [24] can have certain effect on the recovery of COVID-19 as well. Some patients in public health emergencies may suffer sequelae. For example, Qi deficiency syndrome is more commonly seen in the rehabilitation period of COVID-19 and Shengmai Powder can be used to improve Qi deficiency and prevent sequelae [25]. And also, Chinese medicine, such as mugwort leaves, atracylodes and ginger, can be boiled to bathe the feet [26], in order to tonify the vitality and warm the Yuan energy. Meanwhile, appropriate massage, ear point pressure, and moxibustion [27] of the corresponding health points and meridians can improve the immune function of patients.

A variety of measures should be adopted in after-disease prevention to not only reduce the odds of failing to recover, but also to avoid the occurrence of syndrome due to the disease.

5. CONCLUSION

With the continuous development of society and the occurrence of various problems, such as food safety, environmental pollution, and Marine nuclear sewage discharge, public health emergencies will become more and more common in future life. Combined with the existing experience in the prevention and treatment of novel coronavirus pneumonia, under the guidance of the idea of "Preventive Treatment of Disease" of traditional Chinese medicine, this paper discussed the idea of TCM "Preventive Treatment of Disease" in public health emergencies from aspects of pre-disease prevention, in-disease prevention from transformation and after-disease prevention by integrating various internal and external treatment methods of traditional Chinese

medicine, in order to better prevent and treat public health emergencies, and be a supplement and expansion to it as well.

In addition to discussing the role of TCM "Preventive Treatment of Disease", some new prevention and treatment models of public health emergencies during the COVID-19 epidemic are also worth learning from. For example, the "Wuchang model" [28] connects doctors, patients, diagnosis and treatment models, and countries together to respond to public health emergencies, and provide a feasible template for the future. It's also suggested to adopt TCM "Preventive Treatment of Disease" to make pre-disease, in-disease and after-disease prevention [29] to deal with global public health emergencies. Combined with the experience in the prevention and treatment of COVID-19, traditional Chinese medicine plays a role in the governance framework of public health emergencies from a holistic perspective [30] at subjective, strategic and environmental level.

Based on literature retrieval and comprehensive analysis, the study found that the role of Chinese medicine in public health emergencies can be summarized into three aspects: first, it provides more preventive measures for the early prevention and treatment of public health emergencies and avoiding large-scale infection, such as wearing sachets, orally taking epidemic prevention Chinese herbs, and preserving mental tranquility; second, from the perspective of holistic concept, for the diagnosis and treatment of public health emergencies, there are both specific exercise methods for restoring lung function, such as the Six Character Recipe; and depending on the patient's symptoms, such as cold symptoms, prescriptions for dispersing cold can be used; third, to prevent the recurrence of public health emergencies after the disease and improve the sequelae from the perspective of constitution, diet and emotion is a supplement to the current prevention and control measures of public health emergencies, for example, it focuses on the identification of body type; during the recovery period, it pays attention to a light diet and avoids spicy and stimulating, oily and sweet foods.

It cannot be overlooked that there are also certain potential limitations or challenges to the integration of Chinese medicine into the modern public health system. The main reason for this is that most international healthcare systems do not have TCM-related education; at the same time,

the integration into the modern public health system requires the coordination of the tripartite forces of policy makers, TCM practitioners, and Western medicine practitioners in order to have an optimized approach.

At present, as part of the "Healthy China" strategy, the idea of TCM "Preventive Treatment of Disease" plays an important role in public health emergencies, which not only ensures people's life, health and safety, but also helps to evolve reasonable public health decision-making, and makes contributions to the development of public health and traditional Chinese medicine.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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