

Advances in Research of Epidemic Lung Preventive Mixture

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Abstract This paper summarizes the Epidemic Lung Preventive Mixture from three aspects of research status, development trends and prospects, so as to deepen the understanding of Epidemic Lung Preventive Mixture and provide a more detailed theoretical basis for its further clinical research and development.

Key words Epidemic Lung Preventive Mixture, Preparation process, Quality standard, Cinnamomi Ramulus (Guizhi), Atractylodis Rhizoma (Cangzhu).

1 Introduction

Epidemic Lung Preventive Mixture is a compound preparation of traditional Chinese medicine and ethnic medicine developed according to the theory of traditional Chinese medicine (TCM). Through consulting modern literature, it is found that there is no relevant research on Epidemic Lung Preventive Mixture at present. This prescription is a traditional Chinese medicine prescription for the prevention of COVID-19 formulated by senior Chinese medicine experts from all over Guangxi organized by the Guangxi Administration of Traditional Chinese Medicine, on the basis of the basic principle of traditional Chinese medicine treatment of diseases "dialectical treatment", and with reference to the first-hand information provided by forefront experts in the prevention and treatment of new crown pneumonia in epidemic areas. Epidemic Lung Preventive Mixture is consisted of Cinnamomi Ramulus (Guizhi), Atractylodis Rhizoma (Cangzhu), Acori Tatarinowii Rhizoma (Shichangpu), Cablin Potchouli Herb (Huoxiang), Fructus Crataegi Cuneatae (Nanshanzha), Citri Reticulatae Pericarpium (Chenpi), Pinelliae Rhizoma Praeparatum (Fabanxia), Poria (Fuling), Puerariae Lobatae Radix (Gegen), Scutellariae Radix (Huangqin), Loniceræ Japonicæ Flos (Jinyinhua), Zingiberis Rhizoma Recens (Shengjiang), and Glycyrrhizae Radix Et Rhizoma Praeparata Cum Melle (Zhigancao). It has the functions of releasing the exterior to diffuse the lung, dissipating cold and dispelling dampness, and boosting the middle and promoting

the transport. The prescription improves the healthy qi in the human body, thereby realizing the prevention effect that the healthy qi is sufficient and the evil can not invade.

COVID-19 is an acute respiratory infectious disease caused by human infection with the novel coronavirus, with fever, dry cough, fatigue, myalgia as the main clinical manifestations, and acute respiratory syndrome, renal failure, and even death in severe cases^[1-2]. Since the first case of COVID-19 was detected in Wuhan in December 2019, it has spread in many countries, and has now become a major public health event endangering human health^[4-6]. With respiratory droplets and contact as the main transmission routes, the novel coronavirus has the characteristics of long incubation period, acute onset, strong contagiousness and general susceptibility of the population^[4,7-8], and patients with underlying diseases are easily transformed into severe patients after infection, seriously threatening the life safety of patients^[9].

The names of the disease in Chinese medicine are collectively called "epidemic disease" and "plague", and can be named "wet toxin epidemic" according to the nature of the disease and the characteristics of the pathogenesis^[10]. TCM has a long history of epidemic prevention and control, and has accumulated valuable experience in epidemic prevention. From the "Five Plagues" recorded in *Huangdi's Internal Classic* to the rise of the Epidemic Disease School in the Qing Dynasty, traditional Chinese medicine has played an important role in epidemic prevention and control and accumulated valuable experience in epidemic prevention^[11]. The plague has the clinical characteristics of "easy to infect" and "similar in pathology". In the treatment of plague, the general treatment method not only takes the meaning of special disease prescription, but also has the meaning of group emergency treatment for large-scale epidemic diseases, which is the characteristic of traditional Chinese medicine in the treatment of plague and is also the main means of treating plague^[12]. Pre-medication for epidemic prevention is also a commonly used prevention method in ancient times^[13], so that normal healthy people can take preventive Chinese medicine, which has the characteristics of precise curative effect, no toxic side effects, and simple operation, thus it is necessary to enhance the prevention ability to fight COVID-19.

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This paper mainly reviews the research status, development trend and prospects of Epidemic Lung Preventive Mixture.

2 Current situation of the research

During the epidemic of the COVID-19, when participating in the treatment of confirmed cases in Guangxi, the TCM expert team fully understood the characteristics of the new coronavirus through the "four examinations" inspection, listening and smelling, inquiry and palpation of TCM. Based on the historical experience of Chinese medicine in the prevention and treatment of epidemics, they prescribed drugs in a targeted manner. With the in-depth understanding of COVID-19 disease and the accumulation of experience in diagnosis and treatment, Guangxi organized by the Guangxi Administration of Traditional Chinese Medicine included the *COVID-19 TCM Treatment Plan of Guangxi Zhuang Autonomous Region (Trial)* (hereinafter referred to as the "Plan") when organizing relevant experts to revise the *COVID-19 TCM Treatment Plan of Guangxi Zhuang Autonomous Region (Trial)*, which was included in the second version of the trial implementation of the "Plan" for fatigue and fever during the COVID-19 medical observation period.

This recipe is made on the basis of Guizhi Decoction and Erchen Decoction and has the effects of releasing the exterior to diffuse the lung, dissipating cold and dispelling dampness, and boosting the middle and promoting the transport. Cinnamomi Ramulus promotes yang and transforms qi, and warmly unblocks the meridians, boosts the transportation and transformation of five phases, and communicates the upper and lower, internal and external. As stated in the *Elaboration of Drug Combination by Physician Lu*, Cinnamomi Ramulus is warm in nature and pungent in taste, has the ability to draw the yang out of the yin, unblocks the greater yang, unblocks the yin and yang path, and helps the five elements to move", so it is used as sovereign medicinal. Atractylodis Rhizoma, Citri Reticulatae Pericarpium, Pinelliae Rhizoma Praeparatum, Poria, Zingiberis Rhizoma Recens, and Glycyrrhizae Radix Et Rhizoma Praeparata Cum Melle are modified prescription of Erchen Decoction, can dry the spleen, rationalize the qi and dissolve phlegm and stop vomiting, so that the middle energizer spleen transports smoothly, and the power of engendering transformation is prosperous, and it can prevent the evil of cold and dampness from invading the middle energizer spleen and stomach, and further transform into the greater yin disease. In addition, Zingiberis Rhizoma Recens has the effects of releasing the exterior to diffuse the lung, dissipating cold and dispelling dampness, and can help Cinnamomi Ramulus to remove the exterior pathogen. Cablin Potchouli Herb can enliven the spleen and resolve dampness, and can eliminate foul turbidity from skin, combined with functions of Acori Tatarinowii Rhizoma eliminating foul turbidity by aroma and resolving dampness. Acori Tatarinowii Rhizoma can promote the meridians on the head and face where many kinds of yang are intersected. It can assist Cinnamomi Ramulus to open greater yang meridian, so that the cold and evil pathogens

have a way to disperse, these are minister medicinals. The evil of the epidemic virus first invades the human body, entering from the pores of the skin, often transforming the depression into heat, so the use of Puerariae Lobatae Radix, Scutellariae Radix, Lonicerae Japonicae Flos three medicines can clear heat, detoxify, and engender fluid, can alleviate the epidemic poison heat injury, entering the yang brightness, they are used as assistant medicinals. Fructus Crataegi Cuneatae tastes slightly bitter and sweet, dissolves fat accumulation, rationalizes the stomach and spleen stagnation, while the central pivot operates, and at the same time converges the qi of five viscera, so that the depression can be diffused, preventing the dissipation of qi too much, and hurting the yang, and they are used as assistant medicinals. Glycyrrhizae Radix et Rhizoma Praeparata Melle invigorates the spleen and strengthens the spleen, uses earth to kill fire, and can harmonize medicines, and they are used as courier medicinals.

3 Development trend

COVID-19 is a severe acute respiratory syndrome caused by coronavirus type 2 (SARS-CoV-2). As the rapid spread of this virus continues to endanger all human health and the world economy, there is an urgent need to develop strategies to contain its spread^[14]. At the beginning of 2020, when the COVID-19 epidemic swept across the country, senior TCM experts organized by Guangxi Administration of Traditional Chinese Medicine to formulate two TCM adult prescriptions and one children's prescription for the prevention of COVID-19, namely, "Prevention of Epidemic Lung No. 1", "Prevention of Epidemic Lung No. 2" and "Pediatric Lung Prevention Prescription for children". "Prevention of Epidemic Lung No. 1" is used for the prevention of general healthy people, improve the "healthy qi" of the human body, so that "healthy qi exists, evil pathogen cannot invade"; "Prevention of Epidemic Lung No. 2" is intended for people who have been exposed to COVID-19 or have cold and cold-like symptoms, and can warm and dissipate the cold dampness, and together clear depressed heat. With the deepening of the understanding of COVID-19 diseases and the accumulation of diagnosis and treatment experience, Guangxi Administration of Traditional Chinese Medicine incorporated the modified prescription of "Prevention of Epidemic Lung No. 1" into the second version of the Plan (Trial) for COVID-19 when organizing relevant experts to revise the Plan (Trial) for treating patients with fatigue and febrile symptoms during the period of medical observation^[15-16].

The Epidemic Lung Preventive Mixture comes from the second edition of the Plan (Trial), suitable for patients with fatigue and fever during the medical observation period. The decoction is large in volume, the taste is not good, and it is inconvenient to take and carry; if storing for a long time, it may be easy to mold and ferment. Most of the ordinary decoctions are temporarily formulated and applied according to the doctor's prescription, which is not suitable for mass production, and is not conducive to the timely treatment of patients. Therefore, in recent years, effective

dosage form reforms have been carried out for decoctions, such as traditional Chinese medicine mixture. Traditional Chinese medicine mixture is one of the leaching preparations, which has the comprehensive properties of each leaching component of medicinal materials, and is also conducive to the multi-effect of some medicinal ingredients. Secondly, traditional Chinese medicine mixtures are an improvement on the basis of decoctions, which reduces the trouble of traditional decoction of Chinese medicine, while retaining the characteristics of traditional Chinese medicine, the efficacy is also fast, and it is easy to take orally. In addition, Traditional Chinese medicine mixtures are made by applying the principle of preparation, combining the pharmacological and chemical properties of drugs, so it is easy to manage and control in terms of drug quality^[17]. Traditional Chinese medicine mixture is a concentrated preparation of commonly used decoctions, due to the concentrated volume of the liquid, high concentration, small dosage, easy to carry and store, and more flavor improving agent, easy for patients to accept. More suitable preservatives are added to the finished product, the quality is relatively stable, not easy to spoil, and suitable for industrial production.

4 Prospects

With the in-depth understanding of COVID-19 diseases and the accumulation of diagnosis and treatment experience, the relevant experts of the Guangxi Administration of Traditional Chinese Medicine have revised the Plan (Trial) and incorporated Epidemic Lung Preventive Mixture into the second edition of Plan (Trial). It is recommended for fatigue and fever, and is well received by medical staff and people from all walks of life in many hospitals. TCM emphasizes "prevention preceding treatment and preventive treatment of disease", and the intervention of TCM has a good effect on preventing COVID-19 in the early stage. The novel coronavirus still exists in the world, we should not take it lightly, and we should also give full play to the advantages of traditional Chinese medicine. The prescription was originally used in the form of decoction, and there were deficiencies in the patient's taking, carrying, and storage of the preparation. In order to change the current dosage form, extend the validity period of the preparation, and facilitate patients to take and carry, the prescription is made into a mixture, in order to solve the above problems, better give play to the advantages and characteristics of traditional Chinese medicine in the prevention and treatment of COVID-19, and serve the health of the people.

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