

A Review of Traditional Chinese Medicine Treatments for Pediatric Respiratory Tract Infections

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Abstract. The treatment of pediatric respiratory tract infections by traditional Chinese medicine (TCM) methods can comprehensively consider the child's condition and physical status, and use a variety of methods to comprehensively regulate the child's condition and achieve better therapeutic effects. The methods used are mainly in acupuncture, herbal medicine, massage, food therapy and emotional conditioning, etc. These methods can be used individually or in combination, and the appropriate treatment plan can be selected according to the specific conditions of the child. In the course of treatment, attention should also be paid to the adjustment of the child's diet and lifestyle habits to improve the therapeutic effect.

Keywords: pediatric respiratory tract infections; Chinese medicine treatment.

1. Introduction

Chinese medicine theory system takes Yin and Yang, five elements, organs and meridians as the core, and focuses on the overall concept and evidence-based treatment. In the view of traditional Chinese medicine, children's organs are delicate, and the form of Qi is not yet full, vulnerable to external aggression, so the treatment of pediatric respiratory infections should follow the principle of supporting the positive energy to eliminate evil energy and regulate the internal organs. [1] Respiratory tract infection is a common disease in children, including upper respiratory tract infection and lower respiratory tract infection. TCM treatment has certain efficacy and advantages in the treatment of respiratory tract infections. Modern medicine has different views on the evaluation of Chinese medicine treatment of respiratory tract infections. Some scholars believe that TCM treatment of respiratory tract infections has better efficacy and advantages, which can alleviate the symptoms, reduce the occurrence of complications, and at the same time has lower side effects. However, other scholars argue that the efficacy of Chinese medicine in treating respiratory tract infections is not exact and lacks sufficient scientific evidence to support it. Therefore, when choosing TCM treatment, comprehensive consideration should be made according to the specific condition and the physical condition of the child. In this paper, we will review the TCM treatments for pediatric respiratory tract infections to provide clinicians with richer treatment options.

2. Clinical Features of Pediatric Respiratory Tract Infections

Respiratory tract infections can be categorized into upper respiratory tract infections and lower respiratory tract infections. Upper respiratory tract infections mainly include colds, laryngitis, rhinitis and so on, while lower respiratory tract infections mainly include bronchitis, pneumonia and so on. [2] Chinese medicine diagnosis of respiratory tract infections is mainly based on symptoms, signs and tongue and pulse signs for identification. Pediatric respiratory tract infections are characterized by a variety of clinical features, including rapidly worsening symptoms, cough and dyspnea, high fever and hypothermia, sore throat and congestion, lymphocytosis, thickening of lung texture, and pneumonia and other complications. These symptoms may vary from person to person and may be characterized by coughing up phlegm, shortness of breath, headache, muscle aches, fatigue, edema of the throat, itching of the throat, sensation of obstruction in the throat, poor blood flow, anemia, interference with the anti-infective action of the white blood cells, inflammation of the lungs, thickening of the shadows around the bronchial tubes and blood vessels, hypoxemia, hypercapnia and acidosis. In the event of these symptoms, prompt medical attention should be sought and appropriate



therapeutic measures taken to avoid deterioration of the condition and to safeguard the health of the child. The clinical features of pediatric respiratory tract infections are described in detail in the following seven aspects. [3]

2.1 Rapidly Worsening Symptoms

Symptoms of pediatric respiratory infections usually worsen rapidly over a short period of time and can include high fever, cough, and difficulty breathing within a few hours. These symptoms may vary from person to person and are characterized by coughing up sputum and shortness of breath. In severe cases, respiratory distress syndrome may develop.

2.2 Cough and Dyspnea

Cough and dyspnea are common symptoms of pediatric respiratory infections. Cough is usually accompanied by dyspnea, especially in lower respiratory tract infections. These symptoms can affect the child's quality of sleep, appetite and emotional state.

2.3 High Fever and Hypothermia

Both high fever and hypothermia are common symptoms of pediatric respiratory infections. High fever is usually accompanied by systemic symptoms such as headache, muscle aches, and fatigue. In severe cases, convulsions may occur. Also, pediatric respiratory infections may trigger hypothermia, which is usually a symptom of a serious illness. [4]

2.4 Sore Throat and Congestion

Sore and congested throats are also common symptoms of respiratory infections in children. A sore throat is usually accompanied by an itchy throat and a feeling of throat obstruction. In severe cases, laryngitis and vocal cord infection may occur. These symptoms may vary from person to person and are characterized by edema of the throat, increased sputum, etc.

2.5 Lymphocytosis

Lymphocytosis is one of the common symptoms of pediatric respiratory infections. It is the result of activation of lymphocytes due to a viral infection. The dangers of lymphocytosis include, but are not limited to, poor blood flow, which can lead to anemia, or interfering with the infection-fighting effects of white blood cells, which can make the condition worse.

2.6 Thickening of the Lung Texture

Thickening of the lung texture is another common symptom of respiratory infections in children. This is a thickening of the shadows around the bronchial tubes and blood vessels due to inflammation in the lungs. Thickened lung texture may interfere with the exchange of oxygen and carbon dioxide, leading to decreased respiratory function. The dangers include, but are not limited to, hypoxemia, hypercapnia, and acidosis. In severe cases, pulmonary edema and respiratory distress syndrome may develop.

2.7 Pneumonia and Other Complications

Pediatric respiratory infections may lead to pneumonia if not treated promptly. Pneumonia is a serious respiratory condition that may lead to a number of complications. These complications may include, but are not limited to, lung abscess, pulmonary atelectasis, pulmonary embolism, and hypotension. In severe cases, shock and multifunctional organ disorder syndrome may occur. These complications can increase the difficulty of treatment and duration of illness, and can have a serious impact on the health of the child.

3. Advantages of Pediatric Respiratory Tract Infections Treatment Using Chinese Medicine Approach

3.1 Holistic Regulation, Dialectical Implementation

Chinese medicine treatment not only addresses the symptoms, but also focuses on overall regulation, improving the body function of the child, regulating the body's immune function and strengthening the defense ability, thus effectively reducing the number of recurrent respiratory infections. At the same time, Chinese medicine treatment is individualized according to the child's symptoms, signs and other specific conditions, and can be targeted to formulate a treatment plan to better meet the needs of the child's condition. [5]

3.2 Improvement of Subclinical Malnutrition

In the process of TCM treatment of pediatric respiratory tract infections, some traditional Chinese medicines are rich in trace elements such as calcium, iron and zinc, which can help improve the subclinical malnutrition of children. In addition, the use of traditional Chinese medicine methods of treatment can also alleviate the discomfort symptoms, and Chinese medicine treatment can effectively alleviate the respiratory tract infections of children with excessive sweating, anorexia, loose stools and other discomfort symptoms, to improve the living quality of the children.

3.3 External Therapeutic Method

Chinese medicine treatment of respiratory tract infections in a variety of ways, including pediatric chiropractic, massage, paste, Chinese medicine acupuncture point injection, etc., these methods are not only effective, but also for the children less painful, easier to accept. For children with deficiency of both Qi and Yin, Chinese medicine can be used to clear the lungs and stomach or pass through the bowels and diarrhea to regulate the heat, such as the use of Yinqiao Powder or Diaphragm-cooling Powder plus subtraction treatment, and can also use children's heat conduction pills, Wangshi Baochiwan and other Chinese patent medicines to assist in the treatment. [6]

4. Review of Chinese Medical Treatments for Pediatric Respiratory Tract Infections

4.1 Herbal Treatments and Formulas

Chinese herbal treatment for respiratory tract infections is based on clearing away heat and removing toxins, promoting the lungs and relieving cough, and resolving phlegm and calming asthma. Its herbal treatment is guided by the theory of Chinese medicine, and natural plants with the effects of clearing heat and removing toxins, nourishing Yin and moisturizing dryness are selected for treatment. In the treatment of pediatric respiratory tract infections, commonly used herbs include mulberry leaves, chrysanthemum, almonds, platycodon, peucedani, scutellaria, etc. These herbs have anti-inflammatory, antioxidant and anti-allergic effects, which can improve the immune function of the child and relieve symptoms. Corresponding prescriptions can be used for different types of illnesses, such as Jingfang Antipyretic Powder for wind-cold colds and Yinqiao Powder for wind-heat colds. [7]

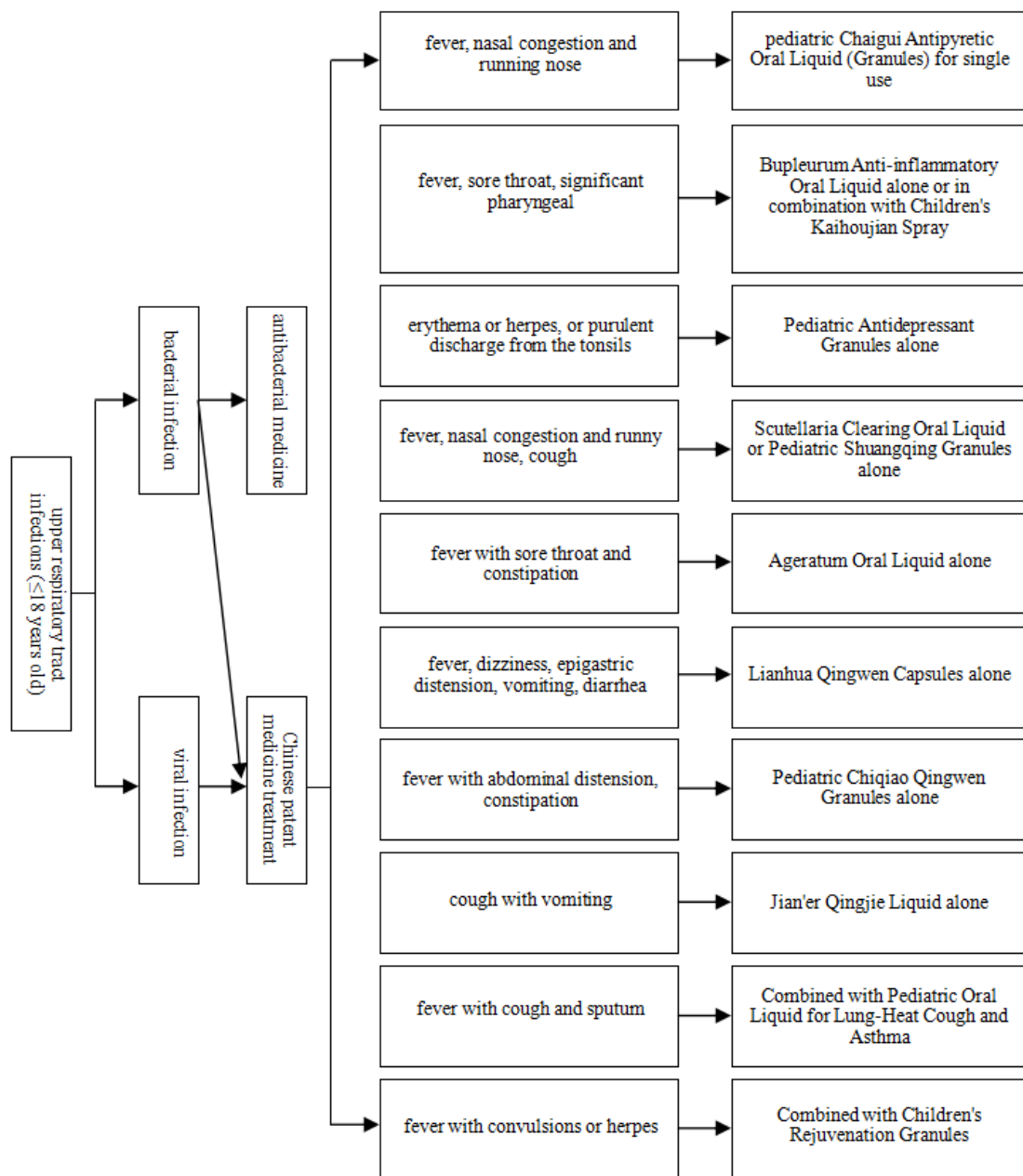


Figure 1. Flowchart for selection of Chinese patent medicine for treatment of pediatric acute respiratory tract infections

Clinical case: child, male, 4 years old, diagnosed as acute bronchitis, evidence of wind-cold binding lung. Treatment adopts the Jingfang Antipyretic Powder plus subtraction. Drug composition: tenuifolia, divaricate saposniovia root, incised notopterygium, padix angelicae pubescentis, szechuan lovage, Chinese thorowax root, peucedani radix, Platycodonis radix, fructus aurantii, poria, licorice. Water decoction, 1 dose per day, divided into 3 times. After 5 days of treatment, the child's symptoms such as coughing and coughing up phlegm were significantly reduced and cured after 10 days.

4.2 Acupuncture and Massage Therapy

Acupuncture and massage are very effective in treating respiratory infections. Acupuncture therapy is used to regulate the body's Qi, blood and immunity by stimulating acupuncture points. In the treatment of pediatric respiratory tract infections, acupuncture therapy can reduce symptoms such as cough, fever, sore throat, and improve appetite and sleep quality, mainly by stimulating acupoints to achieve the effect of regulating Qi and blood, supporting the positive and dispelling the evil energy,

and commonly used acupoints include the Dazhui, Fengmen, Feiyu, and Hegu. Massage therapy is a kind of therapeutic method to regulate the function of internal organs and enhance the immunity of the body through manipulation of meridians and acupoints. In the treatment of pediatric respiratory infections, massage therapy can assist medication, relieve symptoms such as cough and sore throat, and improve the quality of sleep of children. Commonly used acupressure techniques include kneading, pinching, pushing, rubbing and so on.

Clinical case: child, female, 6 years old, was diagnosed with acute laryngitis, characterized by hoarseness, cough and fever. Firstly, acupuncture was used to stimulate the points of Dazhui, Fengmen and Feiyu, and the needles were left in place for 20 minutes each time, once a day. At the same time, acupressure was applied to Shanzhong, Feiyu, Shenzhu and other acupoints for 20 minutes each time, twice a day. After 3 days of treatment, the hoarseness of the child's voice was relieved and cured after 7 days of treatment.

4.3 Physical Therapy and Cupping

Physical therapy and cupping also play a role in the treatment of respiratory infections. Physical therapy includes acupoints, moxibustion, massage, etc., which can play the role of relaxing meridians and collaterals, expelling phlegm and relieving cough. Physiotherapy should first pay attention to rest and warmth. For respiratory tract infections in children, rest is very important, to keep the room quiet, to provide a comfortable rest environment for children. At the same time, we should pay attention to keep warm, especially when the change of seasons, to avoid the children get cold and aggravate the disease. At the same time, it is also necessary to maintain a certain degree of indoor humidity, which is conducive to the repair of the mucous membrane of the respiratory tract of the child, you can use a humidifier or place a basin of water in the room to increase indoor humidity. Cupping can promote local blood circulation and enhance metabolism through negative pressure, thus reducing symptoms. During cupping therapy, some medications can be used to enhance the therapeutic effect. For example, drugs with anti-inflammatory, swelling and anti-viral effects can be used to assist the treatment. In addition, in cupping therapy, the location of cupping should be precisely determined, and generally choose to cupping in the back of the bladder meridian, Feiyu and other points. When cupping, it is important to make sure that the diseased area and its surrounding acupoints are covered to achieve a better therapeutic effect. [8]

4.4 Dietary Therapy

Dietary therapy is to assist in the treatment of pediatric respiratory infections through dietary modification. The principle of pediatric respiratory tract infection diet therapy is to take plain and easy to digest food as the main focus, and it is advisable to eat more fruits and vegetables and high-quality protein food. At the same time, the intake of greasy, spicy, cold and other stimulating foods should be avoided. There are also different dietary treatments for different types of respiratory infections. For example, for cough caused by cold, you can use pear juice, radish juice and other foods that have the effect of moistening the lungs and relieving cough; for cough caused by pneumonia, you can use lily porridge, almond porridge and other foods that have the effect of moistening the lungs and resolving phlegm. At the same time, reasonable arrangement of diet time is an important measure to ensure the recovery of pediatric respiratory tract infection. Chinese medicine suggests that children should be fed at regular intervals to develop good eating habits. Parents can reasonably arrange the frequency of meals and dietary time according to the child's age and timetable, and avoid changing or disrupting the dietary pattern. In addition, attention should be paid to keep the child in a happy mood, avoiding strenuous exercise or emotional fluctuations before or after meals, so as not to affect digestion and absorption. [9]

4.5 Emotional Conditioning

Emotional conditioning is a psychological therapy to relieve the child's emotions and reduce symptoms. In the treatment of pediatric respiratory infections, emotional conditioning can reduce the

anxiety and fear of the child, and improve the child's self-confidence and adaptability. Commonly used emotional conditioning methods include psychological counseling, music therapy and so on. It should be noted that emotional conditioning is only an adjunctive treatment and cannot replace the overall treatment. If your baby develops symptoms such as shortness of breath, shortness of air, severe coughing, persistent high fever, etc., you should seek immediate medical attention and follow the doctor's instructions. [10]

5. Conclusion

This paper reviews the Chinese medicine treatments for pediatric respiratory tract infections, including herbal treatment, acupuncture and massage treatment, physiotherapy and cupping. Through the collection and organization of related literature, it is found that TCM treatment of respiratory tract infections has certain efficacy and advantages, which can alleviate the symptoms and reduce the occurrence of complications, and at the same time has lower side effects. However, there are also some shortcomings and issues that need to be further explored, such as the lack of evidence from large-sample, multi-center clinical studies to support the efficacy of TCM treatment. Therefore, when choosing TCM treatment, comprehensive consideration should be made based on the specific condition and the physical constitution of the child.

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