

Application of Traditional Chinese Medicine Comprehensive Treatment in Children with Tourette Syndrome

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Abstract: Tourette syndrome is a neurological and psychiatric disorder that begins in childhood and adolescence and is characterized by motor and vocal tics. Its clinical manifestations mainly include chronic, fluctuating, and multiple motor muscle tics, which are often believed to be related to genetic, disease, environmental, and other factors. At present, there is no specific drug developed to treat Tourette syndrome. In clinical practice, in addition to orally taking haloperidol to improve clinical symptoms, the comprehensive treatment of Tourette syndrome in children with traditional Chinese medicine has also been increasingly favored by families of patients and clinical physicians in recent years. This article mainly introduces the clinical application of traditional Chinese medicine comprehensive treatment, such as oral Chinese medicine for internal treatment, acupuncture and moxibustion and massage for external treatment, and modern non drug therapy, including psychological and emotional management, exercise and behavior intervention.

Keywords: Traditional Chinese Medicine Comprehensive Treatment; Children; Tourette Syndrome

1. Introduction

Children's tic syndrome is a chronic neuropsychiatric disorder that starts in childhood. It is common in children aged 4 to 12 years old, and the incidence rate of boys is higher than that of girls. It is characterized by involuntary, repeated, rapid motor muscle twitch or involuntary vocal twitch in one or more parts of the body ^[1]. The general course of the disease is longer, often worsening during mental stress and disappearing after falling asleep. The condition can self alleviate or worsen, and intelligence is generally not affected ^[2]. Children are in a special stage of growth and development, with immature organs, minds, and other aspects. They are prone to experiencing or worsening tic symptoms due to emotional and environmental factors. So if the child does not receive timely and effective treatment, it can lead to learning difficulties, lack of concentration, emotional disorders, etc., making the child prone to psychological problems and seriously affecting their physical and mental development ^[3]. With the continuous deepening and expansion of clinical research on Tourette disease in children, although the etiology and pathogenesis of this disease have been further understood, its pathogenesis has not been fully elucidated. Clinical studies in traditional Chinese medicine have shown that the causes of Tourette syndrome in children are multifaceted, related to insufficient innate endowments, susceptibility to external pathogens, disease effects, as well as emotional disorders, fatigue, and other factors. It is the result of the interaction of multiple causes in the development process of children ^[4]. At present, clinical Western medicine often uses haloperidol to improve clinical symptoms and is also a first-line medication for treating Tourette syndrome in children. It has certain effects, but long-term use of this medication can cause various adverse reactions in children, and the condition is prone to relapse after discontinuation ^[5]. As children's tic is a chronic disease with fluctuating characteristics, it can be treated with drugs, acupuncture and moxibustion, massage, psychotherapy and other non drug means. Traditional Chinese medicine comprehensive treatment has better effects and fewer side effects, and is more easily accepted by parents and children. This article provides a review of traditional Chinese medicine comprehensive treatment methods for Tourette syndrome in children.

2. Traditional Chinese Medicine Treatment

The diagnosis of Tourette syndrome in traditional Chinese medicine is mainly based on the patient's symptoms, such as eyelid twitching, facial twitching, limb tremors, etc., and combined with auxiliary examinations such as tongue and pulse for comprehensive analysis. In terms of diagnosis, traditional Chinese medicine places more emphasis on the overall condition of patients, as well as the coordination of their qi and blood status and organ functions. It focuses on overall regulation, fundamental treatment of diseases, and adjustment of physical and mental states, which is different from the diagnostic methods of Western medicine. Regarding the pathogenesis of Tourette disease in children, the general opinions of all doctors are basically the same. The liver is prone to convulsions due to the main pathological organs being in the liver, which is caused by the combination of the heart, lungs, spleen, and kidney; "All kinds of wind induced dizziness belong to the liver." "When the wind is strong, it moves." "Those who are injured by the wind will receive it first." "Wind" is the main pathogenic factor; It is believed that it is caused by the internal movement of liver wind and the accumulation of phlegm, so the overall principle of traditional Chinese medicine treatment is to calm the liver, extinguish wind, and eliminate phlegm [6]. The treatment principles of traditional Chinese medicine for Tourette syndrome mainly include adjusting liver qi, calming the liver and suppressing yang, clearing heat and dispelling wind, and calming the mind. Through the treatment of traditional Chinese medicine, it can calm the liver and wind, clear heat and calm the heart, and nourish yin and reduce fire, thereby achieving the goal of reducing tic symptoms and adjusting nervous system function. Traditional Chinese medicine has accumulated rich experience in the clinical application of treating Tourette syndrome and achieved good therapeutic effects. In terms of efficacy evaluation, long-term follow-up observation has found that traditional Chinese medicine treatment can not only alleviate symptoms in children with Tourette syndrome, but also has almost no obvious adverse reactions and side effects during the treatment process. In contrast, Western medicine treatment often accompanies significant adverse reactions such as sedation, nausea, and drowsiness. Therefore, traditional Chinese medicine treatment has high safety in children with Tourette syndrome, greatly reducing the psychological burden on children and parents.

Due to the different physiological characteristics of weak and vulnerable spleen compared to adults, children have insufficient innate endowments and incomplete spleen and stomach function, making them susceptible to external pathogens and dietary damage. Therefore, in the selection of medication for children with Tourette's syndrome, drugs that enter the liver and spleen meridians are mainly used, such as traditional Chinese herbs such as Uncaria, Rhizoma Gastrodiae, White Peony, Poria Cocos, and Atractylodes Macrocephala, in order to achieve the effects of harmonizing the organs, calming the wind, calming the liver, and tonifying the spleen and qi [7,8]. These traditional Chinese medicines mainly exert therapeutic effects on children with Tourette syndrome by regulating the liver and kidneys, dispersing wind heat, clearing heat and detoxifying, nourishing qi and blood, and other mechanisms, thereby achieving the therapeutic effect of improving symptoms and adjusting physical and mental states. The comprehensive application of these drugs, based on the specific symptoms and characteristics of the patient, can target the etiology and pathogenesis, adjust the constitution, and fundamentally achieve the goal of treatment and regulation. Meanwhile, these drugs have mild properties, definite therapeutic effects, and high safety during the medication process, making them particularly suitable for pediatric patients. They are beneficial in reducing side effects and adverse reactions during the treatment process and meet the special needs of pediatric treatment. Traditional Chinese medicine has a significant effect on improving symptoms in pediatric patients with minimal side effects and unique advantages. However, personalized diagnosis and treatment must still be based on the specific circumstances of the patient and the nature of disease classification [9]. With the continuous development and improvement of traditional Chinese medicine, it is believed that the position of traditional Chinese medicine treatment in children with Tourette's syndrome will be further recognized, bringing new hope and choices for the treatment of children with Tourette's syndrome, and bringing new hope and choices for the treatment of neurological and psychiatric disorders in children.

3. Acupuncture and moxibustion treatment

The basic principle of acupuncture and moxibustion treatment of tic syndrome is to regulate the balance of qi and blood, yin and yang in the human body, so as to relax muscles and activate collaterals, dredge the meridians, and improve the symptoms of tic syndrome. Acupuncture and moxibustion is also an important means of managing children's autism. Compared with drug therapy, it has higher safety, not only can effectively alleviate symptoms, but also has the advantages of safety and fewer adverse reactions [10]. Acupuncture and moxibustion can promote the regulation of the nervous system, relieve patients'

tension, relieve symptoms, and have a certain effect on the treatment of tic. The common acupuncture treatment, which is well-known to the public, has been widely proven to be effective in clinical practice. However, in practical application, it is widely accepted by children and parents and has significant limitations. Nevertheless, acupuncture and moxibustion treatment in TCM still has many means to effectively treat children's autism, such as lifting needles, ear acupuncture, etc., all of which have the advantages of weak pain, good long-term effect, and high acceptance by patients.

The pressing needle therapy originates from the concept of "staying still for a long time" mentioned in "Su Wen · Li He Zhen Xie Lun". It can unclog meridians and regulate organs. It is a method of using specially designed small needles to puncture acupoints and fix them for a longer period of stimulation. It has the characteristics of simple and fast operation, and long-lasting effect. Due to its acupuncture only reaching the subcutaneous area and not penetrating deep into the organs, the patient's pain is minimal, and it can also reduce the likelihood of fainting, effectively improving patient compliance, especially suitable for children in the school stage^[11,12]. The ear is the gathering place of the lineage. The six Yang meridians of the human body all ascend to the ear, while the six Yin meridians combine with the Yang meridians through the meridians or meridians, indirectly reaching the ear. The five organs and six organs also pass through the ear, so the ear is closely related to the functions of the five organs and six organs as well as the meridians. There are reaction points on the corresponding parts of the ear for dysfunction of the organs and meridians. Using cowherb seeds ear acupoint to stimulate the reaction points can achieve the effect of restoring organ function and balancing yin and yang^[13]. Modern research has shown that a large number of lymphocytes infiltrate the skin at the point of ear acupoint pressing beans, which is a stimulus induced immune protection in the body to achieve the therapeutic effect of diseases^[11-14]. To sum up, the combination of acupuncture and moxibustion and other traditional Chinese medicine therapies has become a trend in the treatment of children's tic. However, due to inadequate publicity, many children's families still refuse to accept the clinical application of acupuncture and moxibustion, so efforts should be made to complete the unique acupuncture treatment of children's tic as soon as possible^[15].

4. Massage treatment

Massage treatment, as a traditional Chinese medicine therapy, is based on the principle of adjusting the body's qi and blood circulation through manual massage, finger pressure, and massage, in order to achieve the goal of balancing yin and yang and harmonizing qi and blood. Massage treatment stimulates specific acupoints and meridians, adjusts the balance of yin and yang in the body, promotes smooth blood circulation and qi, and thus achieves the function of regulating the nervous system. The "Suwen · Pibu Lun Pian" states: "The skin is the part of the meridian. When the pathogenic guest is on the skin, the striae will open, and when it opens, the pathogenic guest will enter the meridian; when the meridian is full, it will be injected into the meridian, and when the meridian is full, it will be placed in the viscera." Modern research also shows that the response of receptors in the skin or subcutaneous tissue to stimulation is the beginning of the effectiveness of massage therapy^[16]. According to the physiological and pathological characteristics of children, using appropriate massage techniques to stimulate the skin can effectively alleviate tic symptoms. Massage treatment has the characteristics of wide applicability and no side effects, and has a unique soothing effect in traditional Chinese medicine external treatment. When used in combination with other traditional Chinese medicine treatment techniques, it avoids the shortcomings of a single therapy in treatment. It not only strengthens the effects of promoting yin and yang, regulating qi and blood, and dredging meridians, but also has a regulatory effect on overall function. Therefore, it is gradually favored by families of patients and clinical physicians^[17]. In addition, massage therapy can also allow parents to assist and meet the parent-child interaction needs of children and parents, further improving their compliance. Therefore, it is worth promoting clinically^[18]. In the future, with the gradual attention to traditional Chinese medicine therapy, massage therapy as a traditional therapy will have broader application prospects. With the continuous advancement of medical technology, massage therapy may combine modern scientific theories to develop more effective treatment methods for children with Tourette syndrome, safeguarding their health. At the same time, further clinical research and practical experience summary of massage treatment will help promote its wider application in the treatment of Tourette syndrome in children.

5. Psychological and emotional management

Modern medical research has shown that the occurrence of Tourette disease in children is caused by

genetic, disease, psychological, and other factors, but recurrent episodes are closely related to psychological and emotional fluctuations^[19]. Children with Tourette syndrome have some psychological and emotional characteristics. Firstly, they often face a loss of self-esteem and feelings of inferiority. As symptoms can attract the attention of others, the affected child may feel isolated and excluded, leading to negative emotions. Secondly, children with Tourette syndrome often experience anxiety, tension, and other emotions, making them feel uneasy in social and public places. In addition, fear and distress towards tic symptoms can also cause significant emotional fluctuations in children, exhibiting emotional characteristics such as being easily agitated and anxious.

Traditional Chinese medicine also believes that Tourette syndrome in children can be classified as a "mental illness". However, due to the lack of sufficient essence, weak mental state, and uncertain consciousness, children's mental state cannot effectively regulate their spleen and kidney senses, making them extremely susceptible to external influences^[20]. As a result, they may exhibit temporary and fixed behaviors. If timely and appropriate intervention and correction are not given, it can lead to tics or aggravated tics over time^[21]. Therefore, in the management of Tourette syndrome in children, special attention should be paid to the psychological and emotional management of the affected child, including their family members. Family and society have a crucial impact on children with Tourette syndrome. The family is an important environment for children's growth, and the appearance of tic symptoms can bring many troubles to the family. Parents may face negative emotions such as depression, helplessness, and anxiety. The attitude and support of family members towards the child are crucial for their recovery and mental health. The influence of family environment on the occurrence and development of Tourette syndrome in children is crucial. Narrowing the parent-child distance between parents and children with Tourette syndrome, creating a peaceful, warm, and optimistic family environment, is beneficial for children to establish confidence in overcoming the disease, reduce psychological pressure, and improve clinical symptoms of Tourette syndrome^[22]. Similarly, society's tolerance and understanding of children with Tourette syndrome are particularly important, and a supportive social environment plays a crucial role in children's mental health and rehabilitation.

In clinical diagnosis and treatment, it is necessary to help children understand their own condition, guide them to adjust their psychological emotions in a multidimensional manner, avoid excessive excitement, excitement, tension, and fatigue, minimize the psychological pressure and burden of children with Tourette syndrome, actively encourage children to actively interact with others, and enhance their confidence^[23]. For emotional management of children with Tourette syndrome, some strategies can be adopted to help them better control their emotions. For example, through emotion recognition training, children can learn to recognize their own emotions and learn to express and control them in appropriate ways. Psychological support is an indispensable part of the treatment and rehabilitation process for children with Tourette syndrome. The psychological intervention methods for children with Tourette syndrome include cognitive-behavioral therapy, psychological education, and family intervention. Through cognitive-behavioral therapy, children can learn how to regulate their emotions and control symptoms to reduce the interference of symptoms on their lives. Psychological education can enable children and their parents to fully understand the causes and treatment methods of Tourette syndrome, reducing unnecessary anxiety and fear. In addition, family intervention can help family members better understand a child's condition, provide support and tolerance.

6. Exercise and behavioral intervention

Exercise, as a non pharmacological intervention, has a promoting effect on the treatment of neurological developmental disorders in children and adolescents, such as Tourette syndrome, autism spectrum disorder, and attention deficit hyperactivity disorder^[4]. The exercise intervention methods for Tourette syndrome mainly include physical therapy, exercise training, and comfortable exercise. Physical therapy includes methods such as massage, traction, and hot compress, which can effectively alleviate muscle tension in children and help reduce the onset of tic symptoms. In addition, professional exercise training can also help children alleviate or control tic symptoms through specific motor movements for different types of tics. For example, for the symptoms of eyelid twitching, eye movement training can be used to alleviate the symptoms and improve the child's ability to control eye movements. Firstly, through exercise therapy, children with Tourette syndrome can learn and master a series of techniques that are beneficial for controlling muscle movements, improving the problem of uncoordinated movements; Secondly, exercise therapy can help children improve their self-awareness and control of their behavior, which can help alleviate anxiety and stress caused by tic symptoms; Finally, exercise therapy can also cultivate children's self-discipline and self-regulation abilities, which have a positive effect on promoting the improvement of their social skills and academic performance. Children with Tourette syndrome are

suitable for large muscle exercises, such as running, playing basketball, swimming, etc. These types of exercises can increase the physical fitness and muscle strength of the child, and the strengthening of muscle strength also has a great supporting effect on the child's confidence [24]. In addition, group sports such as football and volleyball have a positive impact on social disorders in children with Tourette syndrome during adolescence, and their communication and social skills have significantly improved. At the same time, parents are guided to adopt correct daily behavior management and lifestyle care methods for children with Tourette's syndrome, avoiding harsh criticism and physical abuse, so that the child can maintain a good psychological and behavioral stability [23].

The behavioral intervention strategies for Tourette syndrome mainly focus on cognitive behavioral therapy and psychotherapy. Through cognitive-behavioral therapy, children can recognize their tic symptoms and learn to reduce the onset of symptoms by controlling attention and emotions. This treatment method typically combines behavioral skill training to help children manage tic disorder by educating them to learn new adaptive behavioral responses. Its goal is to help children understand and control their behavior, and establish healthier thinking patterns.

The combined application of exercise and behavioral intervention is considered a more comprehensive and effective treatment method for children with Tourette syndrome. By combining exercise intervention and behavioral intervention, the frequency and intensity of tic symptoms can be better reduced. Exercise intervention can help children reduce muscle tension by regulating the neuromuscular system, thereby reducing the occurrence of tic symptoms. Meanwhile, behavioral intervention can help children learn to effectively cope with anxiety and emotions, thereby reducing the impact of symptoms on their life and learning. The combined application of these two intervention methods can combat Tourette syndrome in children in multiple aspects and improve intervention effectiveness. Overall, motor and behavioral interventions for children with Tourette syndrome are a complex and multidimensional process that requires joint efforts from doctors, parents, teachers, and society. With the continuous deepening of research and increasing social attention, it is believed that there will be more effective intervention methods and support systems in the future, bringing better treatment effects and quality of life to children.

7. Conclusion

Traditional Chinese medicine comprehensive treatment of children's tic syndrome mainly involves oral administration of traditional Chinese medicine, acupuncture and moxibustion therapy, massage therapy, psychological and emotional management, exercise and behavior intervention and other methods, which play an important role in clinical practice. Due to the difficulty in achieving satisfactory therapeutic effects with simple drug therapy for Tourette syndrome in children, and the long and easy recurrence of treatment cycles. However, traditional Chinese medicine comprehensive treatment not only achieves good therapeutic effects, but also has almost no side effects, and the recurrence rate is low after good treatment. In summary, the application of traditional Chinese medicine comprehensive treatment in children with Tourette syndrome can improve their condition, facilitate their integration into society, regulate family atmosphere, and improve the quality of life of children and their families, which is worth promoting [25]. With the in-depth research of traditional Chinese medicine theory and the continuous summary of clinical practice, it is believed that the comprehensive treatment of Tourette syndrome in children with traditional Chinese medicine will usher in better development.

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