Medicine Insights

Review

Modern Research Progress on Traditional Chinese Medicine in Treating Pediatric Anorexia

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Abstract: Pediatric anorexia is one of the four major pediatric conditions today. With the continuous increase in the number of newborns in China, the number of children suffering from anorexia has also been rising steadily. Given this serious situation, it is essential to pay high attention and give priority to pediatric anorexia in both clinical practice and family environments. Traditional Chinese medicine (TCM) has accumulated valuable clinical experience in treating pediatric anorexia. This article aims to review and analyze the current status and breakthrough progress achieved by TCM in treating pediatric anorexia in recent years, providing a solid theoretical foundation and practical guidance for clinical application.

Keywords: pediatric anorexia; traditional Chinese medicine; research progress

1. Introduction

Traditional Chinese Medicine defines pediatric anorexia as a condition characterized by prolonged loss of appetite, significantly reduced food intake, and even aversion or resistance to eating, with food consumption being about one-third less than that of normal children [1]. The illness duration is typically over two weeks, with an incidence rate ranging from 12% to 34% [2]. Due to the unique physiological and pathological characteristics of children-especially their delicate internal organs and underdeveloped physical constitution-traditional Chinese medicine offers advantages such as simple application, non-invasiveness, painlessness, and minimal side effects, making it highly suitable for pediatric treatment. From January 2020 to July 2024, a search in the China National Knowledge Infrastructure (CNKI) database using the keyword "pediatric anorexia" yielded 317 relevant publications. Jing Ji and colleagues used CiteSpace software to analyze literature on traditional Chinese medicine treatments for pediatric anorexia spanning over 30 years from 1992 to 2022 [2]. Their study demonstrated that traditional Chinese medicine holds broad prospects in treating pediatric anorexia.

2. Etiology and Pathogenesis

In traditional Chinese medicine theory, children's internal organs are tender and their organ functions are not yet fully developed, often manifesting as weak spleen and stomach function. At the same time, children grow and develop rapidly, requiring balanced and sufficient nutritional intake to meet their bodily needs [3]." Since pediatric anor However, due to congenital insufficiency, improper postnatal feeding, emotional factors, damage to the spleen from other diseases, or dietary indiscretions, children may experience excessive nutrition, which further burdens the spleen and stomach, impairing their functions. As a result, food stagnates in the middle jiao, preventing normal transformation and ripening of food and drink. As stated in "Suwen: On Bi-syndrome", "When diet exceeds normal amounts, the intestines and stomach are injured [4]." Since pediatric anorexia primarily involves the spleen and stomach, various internal and external factors can lead to impaired spleen function and loss of gastric appetite, resulting

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in loss of appetite. Therefore, clinical treatment focuses on strengthening the spleen and nourishing the stomach to restore normal physiological functions, promote digestion and absorption of food, and fundamentally resolve the symptoms of childhood anorexia.

3. Traditional Chinese Medicine Treatment Methods

3.1. Internal Treatment Method

3.1.1. Traditional Formula Therapy

In extensive medical literature, numerous physicians have demonstrated remarkable expertise, skillfully applying classical and traditional prescriptions while making personalized adjustments based on individual patient conditions-such as Da Yuan Yin, San Ren Tang, and Gui Zhi Tang [5]. Lin Peiqin of the Qing dynasty stated in "Categorized Patterns with Clear-cut Treatments: On the Treatment of the Spleen and Stomach": "For stomach yin deficiency presenting with loss of appetite and poor intake, use a method of clearing and tonifying." He believed that children with spleen-stomach yin deficiency type anorexia should be treated primarily with clearing and nourishing methods rather than purely tonifying ones; clinically, Yang Wei Zeng Ye Tang can be flexibly modified to achieve therapeutic goals [6]. San Ren Tang, derived from the classic Chinese medical text "Differentiation of Febrile Diseases", is widely used in treating damp-heat disorders and represents a key formula for damp-resolving therapy. It functions to clear heat, eliminate dampness, and promote smooth flow of qi. Additionally, Qi Wei Bai Zhu San, originally known as Bai Zhu San and recorded by Qian Yi, the patriarch of pediatric medicine in his work "Key to Therapeutics of Children's Diseases", is referred to in "Comprehensive Records of Pediatrics" as the "sacred remedy for spleen-stomach diarrhea."[7]. This formula integrates spleen movement, strengthening, and awakening into one cohesive approach, combining nourishment and digestive regulation effectively, and exerts actions of aromatic awakening of the spleen, spleen strengthening, and promoting digestion [8].

3.1.2. Empirical Therapy

Professor Xiong Lei, through in-depth research on pediatric anorexia, clearly identified the core issue as a comprehensive dysfunction of the spleen and stomach [9]. When patients exhibit symptoms such as loss of appetite, significantly reduced food intake, bland taste perception, distension and discomfort in the epigastric region, and sticky, unsatisfactory stools, these are typically signs of impaired spleen function. In such cases, he commonly employs a clinically proven formula-Xiangling Kaigui San (Fragrant Poria Appetite-Opening Powder)-with modifications to treat the condition by aromatic awakening of the spleen and opening the orifices. Professor Wang Mengqing, on the other hand, believes that deficiency of gastric yin is the primary cause of pediatric anorexia [10]. Based on this perspective, he applies the therapeutic principle of "nourishing gastric yin and assisting spleen function," frequently using his self-formulated modified Yangwei Zengye Tang (Nourishing Stomach and Increasing Fluid Decoction) in clinical practice. He adjusts the formula according to individual symptoms and accompanying conditions, achieving remarkable therapeutic outcomes. Additionally, Profe ssor Zheng Qizhong, a nationally renowned senior TCM expert, based on years of clinical observation, concluded that although anorexia is often attributed to the spleen and stomach, its pathogenesis is closely related to the liver [11]. He innovatively proposed the concept of treating pediatric anorexia "from the perspective of the liver," identifying one of the main mechanisms as "liver stagnation affecting the spleen, leading to impaired gastric function." Based on this understanding, he established the treatment principle of "soothing liver qi, resolving depression, awakening the spleen, and opening the stomach," and developed a new formula called "Shugan Leshi Tang" (Liver-Soothing Appetite-Stimulating Decoction). Clinical trials have confirmed its significant efficacy.

3.2. External Treatment Methods

Due to children's difficulty in tolerating the bitterness of injections and medications, medication adherence is often low. When accompanied by loss of appetite, they frequently

develop resistance toward drugs. As a result, parents generally prefer non-pharmacological treatments to avoid further harm that potential adverse drug reactions might cause. In pediatrics, external Chinese medicine therapies have emerged as a unique and effective treatment approach, including techniques such as spinal (Gua Sha), moxibustion, acupuncture at the four fingers' seams, and herbal patch application on acupoints [12].

3.2.1. Acupuncture at the Four Fingers' Points

According to the ancient text "Marvelous Effective Prescriptions: Chapter of Acupuncture-Moxibustion", the Sisheng point is one of the extraordinary points outside the meridians. Dong Su of the Ming dynasty elaborated in detail: "The four Sisheng points are located at the inner middle joints of the four fingers on the hand. These points are treated with a three-edged needle to induce bleeding, effectively managing conditions such as children's 'monkey fatigue' (a type of pediatric syndrome)."[13]. He Senhui and colleagues used acupuncture at the Sisheng points to treat pediatric anorexia due to spleen deficiency and impaired digestive function, comparing it with oral administration of Bu Huan Jin Zhengqi Powder [14]. The results showed that the acupuncture group achieved highly significant therapeutic effects, with statistically significant differences. Xu Qiaowen and others combined acupuncture at the Sisheng points with oral administration of Yunpi Hegui Formula to treat anorexia caused by spleen dysfunction, comparing this approach with oral intake of Bifidobacterium Trilactis Live Bacterial Powder [15]. The study demonstrated that the integrated treatment of Yunpi Hegui Formula and Sisheng acupuncture was highly effective. It not only significantly improved children's appetite and increased food intake but also effectively shortened meal duration. Moreover, it successfully elevated serum levels of zinc, iron, vitamin A, and vitamin D in patients. This comprehensive efficacy highlights both the unique advantages of traditional Chinese medicine and the precision of acupuncture therapy, providing solid support for children's recovery. This finding enriches our understanding of the therapeutic role of the Sisheng point and offers valuable clinical references, warranting broad application and promotion. In summary, the Sisheng point is an empirically effective acupoint in clinical practice for treating pediatric anorexia and is widely applied in pediatrics for various diseases. Acupuncture at the Sisheng point can regulate the functions of the five zang and six fu organs, harmonize the qi movement of the triple energizer, strengthen the spleen and stomach, eliminate stagnation, and improve digestion, thereby alleviating pediatric anorexia. Meanwhile, modern medical research has clearly shown that acupuncture at the Sisheng point significantly modulates gastrointestinal function, effectively promoting blood circulation in the digestive tract, stimulating gastric juice secretion, and increasing levels of key digestive enzymes such as trypsin and amylase in the intestines. This accelerates gastrointestinal motility and enhances digestion and absorption in the body [16].

3.2.2. Chinese Herbal Acupoint Pasting

Acupoint patching with traditional Chinese medicine (TCM) is a sophisticated external therapeutic method based on TCM syndrome differentiation theory and meridian principles. This approach involves mixing TCM herbs or their extracts with suitable excipients to form an appropriate dosage form, which is then applied directly onto acupoints. Through skin absorption, it stimulates the physiological functions of local tissues and exerts systemic effects, thereby achieving significant therapeutic outcomes [17]. A study by Xiao Honggen etal. provides a vivid example: they selected 68 pediatric patients with spleen-stomach qi deficiency type anorexia, randomly dividing them into a control group and a treatment group of 34 each according to the order of visit [18]. The control group received Jianwei Xiaoshi oral liquid, while the treatment group additionally underwent acupoint patching with TCM herbs. The results demonstrated clear therapeutic efficacy. Mei Jiahua etal., through a literature review of clinical studies over the past decade on transdermal drug delivery in pediatric diseases, found that TCM transdermal patches have been widely applied and achieved remarkable results in

treating conditions such as pneumonia, asthma, abdominal pain, diarrhea and anorexia. These findings not only confirm the effectiveness of acupoint patching therapy but also offer valuable clues for further exploration of its potential benefits [19]. In summary, acupoint patching represents a unique integrative therapy and stands out as a highlight of TCM external treatments. It enables drugs to reach the affected areas directly, has minimal toxic side effects, and offers prolonged drug release-overcoming limitations associated with oral administration. Therefore, we have every reason to believe that TCM acupoint patching will play an increasingly important role in future medical practice, bringing relief and hope to more patients.

3.2.3. Spinal Therapy

The technique of spinal (spinal manipulation) was first documented in the "Handbook of Prescriptions for Emergency". This traditional Chinese medicine therapy involves specific manipulations-pinching, grasping, kneading, and pressing-along both sides of the spine on the back [20]. It stimulates the Du Meridian, known as the "Sea of Yang Meridians," and the Bladder Meridian of Foot-Taiyang, along with their acupoints, through coordinated effects on meridians, acupoints, and internal organs. The treatment aims to harmonize qi and blood, unblock meridians, strengthen the spleen and stomach, and maintain a balanced yin-yang state. As stated in "Lingshu · On the Organs": "Meridians are the pathways that transport qi and blood, nourish yin and yang, moisten tendons and bones, and benefit joints." Research by Yu Yonghui et al. revealed the unique advantages of combining spinal with acupuncture at the Sisheng acupoints in treating pediatric anorexia due to impaired spleen function [21]. Compared to the control group treated with oral zinc gluconate solution, this combined therapy significantly improved clinical symptoms, effectively promoted recovery of feeding function, and reduced the recurrence rate of the condition. Additionally, Cai Qianqian focused on the application of the "Warming Stomach and Strengthening Spleen" spinal method in treating pediatric anorexia [22]. She emphasized that prior to spinal manipulation, the Zhongwan and Shenque acupoints should be pressed to obtain a sensation of qi; then, the entire palm should gently rub the abdomen clockwise, accompanied by pressing and kneading the bilateral Zusanli points. During the spinal procedure, the child lies prone, and the practitioner begins about 2 cm above the Changqiang point, following the course of the Huatuo Jiaji points and the Du Meridian, performing pinching and lifting movements upward toward the Dazhui point. This process is repeated 3 to 5 times, with moderate pressure adjusted according to the child's tolerance. Furthermore, the Du Meridian should be tapped three times and the Bladder Meridian once, with tapping force also kept within the child's comfort range. The control group received conventional massage therapy. Results showed that the "Warming Stomach and Strengthening Spleen" spinal method demonstrated significantly superior clinical efficacy in treating pediatric anorexia, markedly shortening symptom relief time and effectively improving appetite.

3.2.4. Moxibustion

Moxibustion, an essential component of acupuncture and moxibustion therapy, has demonstrated unique therapeutic advantages in treating gastrointestinal disorders. Wu Yiding of the Qing dynasty summarized its effects in his work "Shen Jiu Jing Lun" as follows: "Moxibustion is applied to humans; fire is hot and acts swiftly, gentle yet powerful, capable of dispelling yin obstructions, moving freely without retention, penetrating deeply into internal organs... regulating qi and blood, curing myriad diseases with remarkable efficacy."[23-24]. Professor Jing Fujie often employs mild moxibustion on acupoints such as Zusanli (ST36) and Zhongwan (CV12) when treating children with anorexia. Ouyang Hongmei and colleagues conducted a study exploring the clinical application of moxibustion, selecting 200 pediatric patients with anorexia who were randomly divided into two groups [25]. The control group received oral zinc gluconate solution, while the observation group received combined treatment involving acupoint patching and moxibustion. The results clearly demonstrated the significant effectiveness of this integrated therapy in treating childhood anorexia. This combined approach not

only effectively strengthened the spleen and stomach functions but also significantly alleviated traditional Chinese medicine syndromes, providing substantial relief for the children. More notably, it stimulated appetite, thereby promoting steady weight gain. These positive changes are of considerable importance in ensuring normal growth and development in children. It is evident that moxibustion delivers gentle heat deep into meridians and acupoints, transmitting through the organ-meridian system to strengthen the spleen and stomach, tonify central qi, nourish vital energy, and harmonize qi and blood. With its distinctive gentle heat, moxibustion penetrates deeply into the meridians and acupoints, conducting therapeutic effects via the organ and meridian network. This process not only enhances digestive function but also replenishes central qi and balances qi and blood. Rooted in profound theoretical foundations and supported by outstanding clinical outcomes, moxibustion occupies a pivotal position within traditional Chinese medicine.

4. Conclusion

Although traditional Chinese medicine (TCM) external therapies have achieved significant success in treating pediatric anorexia, many areas still remain to be explored and researched. For instance, how can we develop more personalized treatment plans for children with anorexia of different ages and constitutions? How can modern medical technologies be integrated to further investigate the underlying mechanisms of TCM external therapies? Moreover, as people today increasingly pursue better health and quality of life, TCM external therapies are gradually demonstrating remarkable therapeutic effects in managing pediatric anorexia. Therefore, it is essential to strengthen interdisciplinary collaboration and communication, promote the application of TCM external therapies in pediatric clinical practice, and bring hope and relief to more children suffering from anorexia.

In summary, traditional Chinese medicine (TCM) demonstrates unique advantages and broad application prospects in treating pediatric anorexia. By employing a variety of TCM therapeutic approaches-including the combined use of formulas for spleen and stomach regulation, acupuncture at the Sisheng acupoints, herbal patching on acupoints, spinal therapy, and moxibustion-we can comprehensively and deeply regulate children's physiological functions, significantly alleviate TCM syndrome patterns, provide tangible relief, and promote healthy growth. In the future, we look forward to further research and exploration to continuously refine and optimize TCM strategies for treating pediatric anorexia, offering more scientific, effective, and safe treatment options for pediatric clinical practice.

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