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An Overview of the Treatment of Adolescent Depressive Disorders from the Viewpoint of Traditional Chinese Medicine Body Constitutions

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Abstract

This study seeks to investigate the correlation between Traditional Chinese Medicine (TCM) constitutional theory and the early diagnosis and individualized treatment of adolescent depression, highlighting how constitutionbased identification can enhance the clinical management of depression. A literature review methodology was utilized, integrating contemporary medical and Traditional Chinese Medicine theories to examine the etiology of adolescent depression and its association with TCM constitutions. The research examines the correlation between qi stagnation, yang deficiency, and phlegmdampness constitutions and depression, outlining treatment methods for various constitutions derived from clinical practice. The findings demonstrate that 1) Traditional Chinese Medicine (TCM) constitutions characterized by qi stagnation, yang deficiency, and phlegm-dampness are significantly associated with the onset of adolescent depression; 2) Patients with adolescent depression exhibit varying clinical presentations contingent upon their constitution, with qi stagnation more frequently observed in males and yang deficiency in females; 3) Integrated TCM interventions, including Chaihu Shugan Decoction and Gui Fu Di Huang Wan, effectively mitigate depressive symptoms in adolescents. This study indicates that TCM constitutional theory offers an innovative method for the individualized treatment of adolescent depression. Integrating traditional Chinese medicine with contemporary medical practices can substantially improve therapy success, providing both theoretical and clinical direction for future therapies in teenage depression.

Keywords

Adolescent Depression, Constitutional Theory, TCM Treatment Protocols

1. Introduction

Depressive illness, a common clinical mental condition, is characterized by significant and enduring sorrow or agitation, diminished interest, and impaired cognitive functions. The primary symptoms consist of a markedly low mood and diminished interest, with more severe cases potentially exhibiting suicidal ideation and behaviors [1]. Adolescent depression has become a significant global public health concern. Adolescent depressive disorders have risen from ninth to fourth place in the burden of disease among teenagers from 1990 to 2019 [2]. A meta-analysis indicated that 19.85% of children and adolescents exhibited depressive symptoms [3]. The 2022 China Youth Mental Health Status Survey Report [4] indicates that 14.8% of participants exhibited depressive symptoms, while 4% were at risk for severe depression. Furthermore, it delineates the discrepancies based on gender, area, and the decision to remain or depart. Adolescent mental health concerns have become increasingly significant, especially in the rapidly evolving social and economic environment, with depressed symptoms directly associated with suicide and selfharming behaviors [5]. Consequently, a critical issue necessitating societal attention is the appropriate diagnosis, treatment, and intervention for adolescent depression.

The etiology of depression remains incompletely elucidated. Most of the research that has been done so far has focused on ideas about brain excitability, neuroplasticity, and abnormal sphingolipid metabolism, especially changes in ceramide levels. Ceramide C18:0 and C20:0 are strongly linked to depression [6] [7]. Western drugs, especially selective serotonin reuptake inhibitors (SSRIs) like fluoxetine and sertraline, are mostly used to treat depressive disorders in teens. These drugs are often used along with cognitive behavioral therapy and other types of psychotherapy [8] [9]. We implement this to prevent the recurrence of the illnesses. Pharmaceuticals may provide temporary relief from depressive symptoms; however, their side effects and elevated relapse rates, including bodily symptoms, insomnia, and irritability, persist as considerable concerns [10]-[12]. The integration of Chinese and Western medicine as a therapeutic approach has gradually gained popularity. The concept is that various therapy modalities will more effectively address individual requirements while minimizing negative effects. This is due to the difficulty of identifying a universal treatment strategy that is effective for all individuals.

This review aims to examine the relationship between TCM somatic theory and adolescent depression, emphasizing how it may influence early diagnosis and tailored therapy for depressive disorders. Traditional Chinese medicine (TCM) has demonstrated unique advantages in the diagnosis and treatment of depressive illnesses through evidence-based approaches and holistic concepts. The somatic hypothesis, a core principle of Chinese medicine, emphasizes the influence of individual physiological and psychological differences on diseases. This is a novel perspective on the management of adolescent depression. It is essential to enhance the consistency of diagnosing and treating TCM emotional disorders by integrating

concepts from modern medicine with traditional Chinese medicine. This will enhance the efficacy of treatment for depressive illnesses in adolescents.

2. The Relationship between Constitutional Doctrine and the Theoretical Association of Chinese Medicine with Depression

2.1. Traceability of Traditional Chinese Medicinal Concepts

Chinese medical philosophy categorizes depressive disorders as "depression" and "dirty mania", with their origin and pathophysiology detailed in the Yellow Emperor's Classic of Internal Medicine (HUNDI NEIJING). According to the "Su Wen-Lifting Pain Theory", all diseases originate from qi, highlighting that the principal etiology of depression is qi malfunction caused by excessive emotions and sentiments. The notions of "thinking as qi knotting" and "sadness as qi elimination", intricately linked to "emotional stress", serve as examples of this. Teenagers often experience emotional stagnation as a result of academic pressure (Suwen, Warring States). Zhang Zhongjing established the basis for the prescription and medical treatment of mood disorders by elucidating the symptoms of "Lily Disease" and "Women's Dirty Agitation" in "The Essentials of the Golden Chamber", and he introduced the "Ganmai Dazao Tang" technique to tranquilize the mind and nourish the heart. This facilitated the advancement of pharmaceuticals and prescriptions for the treatment of affective-compulsive disorders. Medical practitioners during the Ming and Qing dynasties showed a propensity to systematize their comprehension of depression. Zhang Jingyue made a distinction between "illnesses caused by depression" and "illnesses arising from depression". Zhu Danxi, on the other hand, came up with the "Six Depression Doctrine", which says that "when qi and blood are in balance, no diseases appear; however, when fear and depression happen, all diseases appear". Zhang Jingyue underscores that individuals with compromised constitutions are particularly susceptible to illnesses triggered by emotional disturbances or external adversities. "Internal emotional and affective injury—qi stagnation—disruption of internal organ harmony" was defined by these theories as a disease. We still use this pathology to treat depressive illnesses today.

2.2. The Essential Significance of Constitutional Theory and Its Connection to Depression

Wang Qi was the first person to study the TCM body. He came up with the nine-point physique classification, which has nine main categories such as calmness, qi insufficiency, qi stagnation, and yang deficiency [13]. Wang Qi created the TCM physique doctrine, which says that "the body can be segmented, the body is connected with disease, and the body is modifiable". This doctrine was based on the ideas of ancient doctors about the body. For example, Wang Xiaoming [14] and colleagues have created a framework for assessing the physical characteristics of pediatric Chinese medicine for children aged 1 to 6 years. It is believed that

children aged 1 to 6 should possess two forms of physical attributes: pinghe quality and biased quality. Biased quality encompasses Yangsheng quality, phlegmdampness, qi deficit, yin deficiency, and yang deficiency. Children's physical conditions can be categorized into five classifications, as per Lin Xiangping [15]: normal quality, internal heat quality, phlegm-damp quality, spleen-qi deficiency quality, and spleen-vin deficiency quality. Studies have shown a strong link between phlegm-dampness, yang deficiency, and qi deficiency and depressive disorders [16] [17]. "Yang qi resembles the sky and the sun; if it is lost, it becomes unrecognizable", as stated in Suwen-Anger and Tongtian. Conversely, the "Jingyue Quanshu-Zhongxing Lecture" posits that "qi embodies yang, and yang governs the divine". "Human spiritual activities rely on the warmth, stimulation, and inspiration derived from visible human yang qi, which serves as the essential impetus for human life". According to the "Su Wen-Ling Lan secret canon theory", "the liver line of the general's office, from which planning and contemplation emerge", is made up of lots of yang qi that is full of life. The effect of insufficient or obstructed yang qi is significant. It's hard to find water in the kidneys when liver qi stops flowing, qi stops moving altogether, the spleen is blocked in clear yang, internal phlegm dampness builds up, or the kidneys don't have enough yang. We can use the liver's yang and hair to address the stagnation associated with depression. The primary objectives of clinical treatment for depression are to warm yang and regulate qi [18]. Adolescents with qi-depressed quality are 3.6 times more susceptible to the disease compared to those with tranquil quality [19]. This is due to diminished liver detachment and deficient qi, rendering individuals more prone to sentimentality and melancholy. The deterioration If the health and transport of the spleen get worse, along with irregular water and fluid metabolism, phlegm may build up. Accumulation of moisture obstructs the clear passages and frequently presents with symptoms including forgetfulness, weight gain, and lethargy. The molecular mechanism behind the co-morbidities of obesity in depression aligns with this. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), indicates that exhaustion is a prevalent indicator of diminished motivation in individuals with depression. Individuals with Yang deficiency exhibit a greenish-yellow complexion and experience pervasive fatigue and lethargy.

3. The Analysis of the Bodily Expressions of Adolescent Sadness in Traditional Chinese Medicine

3.1. Distribution Patterns of Depression among Teenagers

According to current studies in Chinese medicine based on extensive epidemiological surveys, the predominant constitutional types in patients with teenage depressive disorders are qi-depressed, yang-deficient, and phlegm-dampness, collectively accounting for almost 70% of cases [20]. The quality of qi depression was found to be the most common in 13 studies, with 10 relevant studies involving 11,437 people and a combined odds ratio of 3.12 (95% CI: 1.80 = 5.40, $I^{\{2\}} = 94\%$)

using the random-effects model. I felt sad, my chest swelled and felt full, and my taiyin was strong. These symptoms were very similar to what happens in the body when liver detachment loss happens and qi stops flowing. The second most common clinical feature was yang deficiency, which was found in 11 studies with a total of 12,053 participants and an odds ratio of 2.15 (95% CI: 1.54 - 3.01, $I^{(2)} = 89\%$). This illness was marked by tiredness, lack of focus, and recurring colds. These symptoms pointed to a lack of qi and blood biochemical resources, which could be because the spleen and stomach became weak over time or were born without enough of them. Notably, 9.93% of adolescents with depression had phlegm-dampness, often accompanied by obesity, lethargy, and a thick, oily tongue coating. Further analysis revealed that the distribution of constitution differed by gender: qi depression was more prevalent in males (59.5%), whereas yin deficiency was more prevalent in females (45.5%). Females' heightened emotional sensitivity and impairments in liver and blood functions may be the cause of this [21].

3.2. Advancements in the Examination of Biological Processes Related to Body Composition

With the help of metabolomics, neuroimaging, and other methods, modern research has slowly found a biochemical link between the ingredients in Traditional Chinese Medicine and mental illnesses. A different group of studies found a link between BDNF (brain-derived neurotrophic factor) and the onset of depressive disorders [22]. This may relate to the functioning of the kidneys, such as bone marrow production, in those who are already experiencing depression. Adolescents with a depressed constitution had deficiencies in the tryptophan metabolic pathway, resulting in diminished production of 5-HT. Conversely, elevated HPA axis activity resulted in increased cortisol levels. Blood metabolomics showed that people with Yang deficiency had lower amounts of LDL, fatty acids, and lactic acid than people with Pinghe quality. This indicated that their energy metabolism was deficient and ineffective. Another study looked at the microbiology of the intestines and found that people who didn't have enough Yang had a lot more brilliant Streptomyces spp. Researchers found a link between Rothia species (Leuconostoc) and the energy metabolism of the host that was not positive [23] [24]. fMRI showed that these people had issues connecting the prefrontal and limbic systems, which means there were problems in the network that controls emotions [25]. In line with the idea that "spleen deficiency and weakened qi, essence, and microfibers are inadequately distributed", teens who were depressed and had phlegmdampness showed different biochemical signs. Some genes that are involved in fat metabolism, like PPAR3, showed lower expression, while inflammatory markers like IL-6 and TNF- α were much higher in the blood [26]. The notion of "deficient spleen and qi, absence of essence distribution", corresponds effectively with our findings. The aforementioned studies not only corroborated the notion that a constitution is scientifically valid, but they also pinpointed a molecular target for regulating constitution bias.

4. Treatment Modalities Based on the Notion of Physical Constitution

4.1. Principles of Treatment

The somatic hypothesis for addressing adolescent depression prioritizes a "combination of physical evidence" and "staged treatment." In the acute phase, the primary objectives are to soothe the liver, alleviate depression, and maintain qi equilibrium. During the remission phase, the primary objective is to regulate the constitution's predisposition to enhance therapeutic efficacy. Examine the "body-disease-evidence" concept for various body types [27]. During the acute period of qi stagnation, Chaihu Hepatopathic Dispensary is employed to detoxify the liver and restore qi equilibrium. In the relieving phase, Si-reverse Dispensary is used to balance the liver and spleen and get rid of dampness. In the acute phase, it is important to get rid of phlegm and open the orifices. Also, because the constitution changes over time, the level of intervention should change depending on the stage of development of puberty. For example, psychological counseling should be given more importance during early puberty, and drugs should be used more during middle puberty (15 - 17 years old) [21].

4.2. Treatment Utilizing Traditional Chinese Medicine

First, there is the Qi-depression syndrome. The main formula is based on a Chaihu recipe that stresses using Citrus aurantium and Chaihu to help qi flow and clear out liver stagnation. Prof. Li Man [28] integrated the Chaihu-like formula with various seasonal or meridian formulas, drawing upon his extensive clinical experience. For first-stage patients with only one somatic symptom, Xiao Chaihu Tang is recommended. Dai Chaihu Tang is recommended for manic and overtly manic patients. Chaihu and Gui Zhi Tang are used to relieve somatic pain, and Chaihu and Long Bone Oyster Tang are used to relieve a mix of anxiety and depression symptoms. Gui Spleen Tang is a remedy that addresses Qi deficiency. To rejuvenate the middle jiao, use 30 g of astragalus with oysters and dragon bones to calm the spirit and clarify the intellect. This combination exhibits an overall effectiveness of 60%. Three. Tong Jianming [29] suggested the tasty Gui Spleen Tang as a way to treat people with Yang Deficiency. Gui Su Di Huang Wan is the main formula for treating this condition. It contains Cinnamon, Pseudostellariae, Radix Rehmanniae Praeparata, Cornu Cervi Pantotrichum, Mudan Pi, Chinese yam, Poria, and Ze Xie. Gui Fu Di Huang Wan has demonstrated efficacy in reducing the Yang deficiency constitution score and alleviating cold intolerance, fatigue, and exhaustion while elevating plasma 5-HT, serum cortisol, and plasma adrenocorticotropic hormone levels and diminishing norepinephrine levels [30]. It also elevates the concentrations of alanine, glutamine, a-glucose, isoleucine, betaine, and propylene glycol in individuals deficient in Yang. It also addresses problems with energy metabolism and improves the body's energy production [31].

4.3. Non-Pharmacological Treatments

Acupuncture and Moxibustion: The Qi depressive quality period involves points

such as Taichong, Yanglingquan, Zhigou, Neiguan, and foot Sanli to facilitate liver detoxification. For conditions of qi depressive fire, include Zhigou and Riyue; for qi deficiency, incorporate Spleen Yu, Heart Yu, Shenmen, and Sanyinjiao three times weekly, as indicated by a study [32]. Adolescents with qi-depressive characteristics had a greater reduction in their HAMD-24 scores compared to those receiving western medicine treatment. The acupuncture group's efficacy rate was 87.10%, surpassing that of the western medicine group at 51.61%, and their 24 score decreased more significantly than that of the western medicine group. Five elements of music: Certain research [33] indicates that listening to music with an angular tone, associated with the liver and wood, for eight weeks may enhance liver function, regulate qi, and alleviate depression. For instance, play tracks such as "Four Harmony Ruyi" and "Cloud Celebration". Following 8 weeks of treatment, the treatment group's efficacy rate was 65.3%, surpassing the control group's efficacy rate of 49.3%, and their HAMD scores exhibited a significant reduction in comparison to the control group (P < 0.05).

4.4. Prevention and Physical Conditioning

The "body-food co-adjustment" method tells us what foods to eat. For example, people with phlegm-damp conditions should avoid sweetness and greasiness and eat Coix lacryma, red beans, and other foods that make you damp. People with qi deficiency should eat rose tea and Chenpi porridge [34]. The workout regimen emphasizes a "combination of static and dynamic". Individuals with phlegm-dampness select taijiquan "cloud hand" exercises to fortify the spleen and qi, whereas individuals with sadness perform Eight-Section Brocade's "Drawing the Bow to Shoot the Eagle" movement to alleviate liver qi stagnation, parents should learn to read their children's bodies. When children show signs of stress from schoolwork (indicating liver qi stagnation), parents ought to ease academic pressure; conversely, they should avoid harsh discipline for those exhibiting fatigue or poor appetite (signs of spleen qi deficiency).

5. Conclusion

This study relates Traditional Chinese Medicine (TCM) constitutional theory to adolescent depression. It finds that imbalances like qi stagnation, yang deficiency, and phlegm-dampness make symptoms like tiredness and emotional sensitivity worse. These results correspond with earlier research conducted by Wang *et al.* (2020) and Li *et al.* (2019). The study emphasizes gender disparities and the efficacy of Traditional Chinese Medicine treatments such as Chaihu Shugan Decoction. It indicates that TCM may provide a safer, individualized alternative to conventional antidepressants. Nonetheless, constraints encompass a limited sample size and an absence of longitudinal data. Subsequent investigations ought to concentrate on more extensive samples and prolonged impacts.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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