

Research Progress on Yu Syndrome in "Huangdi Neijing"

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Abstract: Depression, as a common mood disorder, has been on the rise with the acceleration of social pace, posing a serious threat to human physical and mental health. This paper explores the pathogenesis and treatment strategies of depression from the perspective of traditional Chinese medicine. The theories of spirit, yang qi, and fat in the Huangdi Neijing provide a theoretical basis for the study of depression. Research has found that the dysfunction of the five organ spirits, weak yang qi, and abnormal fat metabolism are closely related to the onset of depression. Domestic research is mainly concentrated on herbal medicine treatment, and it has been found that many single herbs and compound herbs have anti-depressive effects. Meanwhile, non-pharmacological treatments such as psychological counseling, dietary therapy, and music therapy also play a role in the treatment of depression. Foreign research focuses on the extraction of effective components of Chinese medicine and the combination of traditional Chinese medicine and Western medicine. Despite some progress, the limitations of the current research include a small sample size, a single research method, and insufficient in-depth study of the theories of the Huangdi Neijing. Future research can explore in-depth from the perspectives of interdisciplinary studies, individualized treatment, non-pharmacological therapies, and prevention of depression, with the aim of providing more effective clinical treatment solutions for depression.

1. Introduction

Depression is a common affective disorder that severely endangers human physical and mental health [1]. Its typical clinical symptoms include sluggish thinking, decreased appetite and libido, low mood, sleep disturbances, low self-esteem, and even suicidal and self-harming behaviors [2]. With the acceleration of social and life pace, the incidence of depression has been on the rise, seriously affecting people's normal lives and becoming a public health issue that needs to be addressed urgently. Although the term "depression" is not found in ancient Chinese medical texts, its records on "Yu Syndrome," "Plum Pit Qi," "Zang Zao," and "Dian Syndrome" bear many similarities to modern depression. It is worth mentioning that the Huangdi Neijing, as a classic work of Chinese medical theory, its discussions on spirit, yin-yang, and viscera have laid a valuable theoretical foundation for

the study of modern depression [3].

1.1 Spirit Theory and Depression:

The Neijing regards "Shen" (spirit) as an important component of human life activities and closely related to health conditions. In the pathogenesis of depression, the role of "Shen" is particularly important. Patients with depression often exhibit abnormalities in spirit, consciousness, thinking, and emotional activities, all of which can be attributed to the disorder of "Shen"[4]. The "Shen" mentioned in the Neijing covers the narrow sense of spiritual activities, that is, the spirits stored in the five viscera, and the activities of these spirits are the direct embodiment of physiological functions and pathological changes of the human body [5].

The Neijing believes that the five viscera are the place where spirits are stored, and the health status of the five viscera directly affects the state of "Shen". The spirits of the five viscera are based on the nutrients stored in the five viscera and use the five-qi transformed by the five viscera as the driving force to give birth to seven emotions and five desires [6]. This theoretical system provides a unique perspective for understanding the pathogenesis of depression in traditional Chinese medicine. The deficiency or excess of the spirits of the five viscera can lead to clinical symptoms of depression. For example, a deficiency of the spirit of the heart may lead to low mood and loss of interest[7]; liver qi stagnation may cause emotional fluctuations and irritability[8]; a disorder of the spirit of the spleen may affect appetite and digestive function[9]; a deficiency of the spirit of the lungs may be related to fatigue and weakness; a deficiency of the spirit of the kidneys may be related to symptoms such as decreased sexual desire and memory decline[10].

The Neijing mentions that the disorder of the spirits of the five viscera can manifest as various clinical symptoms. Somatic symptoms such as disordered appetite and sleep disturbances, and mental symptoms such as hallucinations, anxiety, and self-reproach, can all be seen as external manifestations of the disorder of "Shen"[11]. These symptoms are highly consistent with the modern medical description of depression, indicating that the "Shen" theory in the Neijing is of great value for understanding and treating modern depression.

In the treatment of depression in traditional Chinese medicine, the concept of "Shen" plays a central role. The goal of treatment is to restore the balance of the spirits of the five viscera, and to achieve the effect of treating depression by harmonizing yin and yang, replenishing qi and blood, and dredging meridians. In the treatment with traditional Chinese medicine, commonly used drugs such as Bupleurum, Gardenia, and Ziziphus spinosa all have the effect of regulating "Shen". Acupuncture treatment restores the normal function of consciousness by stimulating specific acupoints to adjust the flow of qi and blood. In addition, traditional Chinese medicine also emphasizes psychological counseling and lifestyle adjustments to promote the recovery of "Shen".

The "Shen" theory in the Neijing provides a theoretical basis for the treatment of depression in traditional Chinese medicine. By regulating the five viscera and restoring the balance of "Shen", depression can be effectively treated. Modern methods of treating depression in traditional Chinese medicine, such as traditional Chinese medicine, acupuncture, and psychological counseling, can all be carried out under the guidance of the "Shen" theory [12]. Future research should further explore the application of the "Shen" theory in the treatment of depression in the Neijing, to provide more comprehensive and effective treatment plans for patients with depression. At the same time, it is also necessary to combine traditional Chinese medicine theory with modern medical research to explore the specific connection between "Shen" and the pathogenesis of depression, providing more scientific basis for the comprehensive treatment of depression.

Professor Ding Yuanqing summarizes the typical clinical manifestations of patients with depression as laziness (lethargy and reluctance to speak), dullness (sluggish thinking), change

(change in temperament), worry (worry and disappointment), and anxiety (sensitivity and suspicion), and believes that the pathological state of "Shen" decline and will decline is all in yang qi disease [13]. Professor Ding Yuanqing's clinical treatment of depression and other mental diseases based on the pathogenesis of "yang qi decline, Shen decline and will decline" is outstanding [14]. It can be seen that symptoms such as low mood, poor spirit, pessimistic attitude towards life, and sluggish action are all related to the deficiency of yang qi in the diseased body. In summary, Shen and yang qi are interconnected, and to protect Shen, one must consolidate yang qi.

1.2 Yang Qi Deficiency and Depression:

Based on the spirit theory of the Huangdi Neijing and the ancient medical theory of "yang is the leader and yin is the follower", it is known that yang qi deficiency is one of the pathogenic mechanisms of depression [15]. Today, where depression is highly prevalent, clinical diagnosis and treatment can be approached from the perspective of "nourishing yang to nourish Shen, and nourishing Shen to relieve depression"[16]. The pathogenesis of depression mainly focuses on the heart (brain), liver, spleen (stomach), and kidneys, and the correlation of these viscera with Shen has all discussed the pathogenesis of depression.

The "Suwen · Shengqi Tiantong Lun" mentions: "Yang qi is like the sky and the sun, if it loses its place, it will shorten life and not be obvious." Yang qi is compared to the sun in nature, as the original driving force of human life activities, and if all things lose the warmth of yang, life will end [17]. For the human body, if the heart lacks yang, then the spirit has no master; if the liver lacks yang, then qi and blood have no master; if the kidneys lack yang, then the sealing and storing have no master; if the spleen lacks yang, then the granary has no master; if yang is insufficient or not vigorous, it will affect human health, reduce body functions to diseases, and even affect life expectancy.

The promotion and stimulation of yang qi can promote the generation, operation, and metabolism and distribution of body fluids. If the driving effect of yang qi is weakened, phlegm, dampness, and blood stasis will breed, thereby blocking the flow of qi and blood in the human body, manifesting as low-energy states such as physical fatigue, slow thinking, and loss of interest, all of which are caused by the weakened kinetic energy of the body's "engine" [18].

1.3 Abnormal Fat and Depression:

The Huangdi Neijing states that fat is born from the diet of grains and is of the same source as essence, blood, and semen. Depression is also related to excessive fat, which leads to poor qi movement, phlegm and blood stasis, and visceral dysfunction [19]. The "Medical Orthodox" says: "The fluid is thick and sticky, becoming phlegm and drink, and after a long accumulation, it seeps into the blood vessels, making the blood turbid." This "turbidity" refers to an excess of turbid substances in the body fluids, including an excess of fat, which lingers in the blood vessels and turns into phlegm and turbidity, leading to disease [20].

The emergence of phlegm and turbidity exacerbates the state of poor blood circulation in the body, affecting the normal metabolism of body fluids, with the essence of water and grains not being properly transformed, gathering to form dampness, and dampness gathering to form phlegm [21]. Phlegm can be found everywhere, following the inside and outside of the whole body, and the five viscera and six bowels, disturbing the body in all directions. When phlegm and qi coagulate in the throat, it forms the symptom of "plum pit qi" with a tendency to sigh deeply, which is like the manifestations of depression [22].

Abnormal fat, often manifested as excess or deficiency, is originally a subtle substance required for human life activities, which can be the brain, marrow, essence, and blood, complementing each other. However, when it exceeds the body's carrying capacity or is insufficient in transformation, it

can lead to visceral dysfunction and ultimately lead to the occurrence of depression. Modern research has confirmed the relationship between abnormal blood lipids and depression [23], and the treatment of depression based on the theory of invigorating the spleen, resolving dampness, reducing fat, and resolving turbidity in traditional Chinese medicine has also shown significant effects.

2. International Research Status

2.1 Research Status in China

Since the Huangdi Neijing, the study of traditional Chinese medicine in the treatment of depression in China has gone through thousands of years of development. Ancient Chinese medical experts have continuously inherited and improved, forming a variety of effective prescriptions and methods for the treatment of depression. Modern traditional Chinese medicine and Chinese herbal medicine treatment of depression has become one of the main means of clinical depression treatment.

At present, domestic scholars have conducted many related studies in the field of traditional Chinese medicine, achieving gratifying progress. Among single Chinese medicinal herbs, there are many herbs with antidepressant effects, and some herbs have been developed into antidepressants. For example, the effects of *Morinda officinalis*, *Hypericum perforatum*, *Acorus tatarinowii*, and *Centella asiatica* in mice experiments are comparable to existing Western antidepressants [24]. In addition, dozens of Chinese medicinal herbs such as *Areca catechu*, *Bupleurum*, and *Astragalus* have also been proven to have antidepressant effects [25].

Chinese herbal compound prescriptions also have great potential in the treatment of depression. Classic prescriptions such as Ganmai Dazao Tang, Zhizi Houpo Tang, Chai Hu Jia Longgu Mu Li Tang, Xiao Buxin Tang, and Baihe Di Huang Tang have all shown antidepressant activity [26]. These prescriptions regulate the balance of yin and yang and the function of the viscera to achieve the goal of treating depression.

In addition to drug treatment, traditional Chinese medicine also focuses on non-drug treatment methods such as psychological counseling, dietary therapy, and music therapy. Psychological counseling improves the psychological state of patients, enhances their understanding of the disease, and thereby improves the symptoms of depression. Dietary therapy regulates the diet to improve the nutritional status of patients and alleviates the symptoms of depression. Music therapy uses the soothing effect of music to help patients relax and improve depressive mood.

2.2 Research Status in Other Countries

In recent years, the study of traditional Chinese medicine antidepressants by scholars from other countries has also increased. They use modern scientific and technological means to extract and separate the effective components of traditional Chinese medicine to further clarify its antidepressant mechanism. For example, through animal experiments and clinical trials, it has been confirmed that some traditional Chinese medicines have antidepressant effects and their mechanisms of action have been explored [27].

In addition, foreign scholars also pay attention to the combination of traditional Chinese and Western medicine in the treatment of depression. By comparing the advantages and disadvantages of traditional Chinese and Western medicine in the treatment of depression, they have proposed a combination treatment plan [28]. This plan not only gives play to the advantages of the holistic concept and individualized treatment of traditional Chinese medicine but also combines the characteristics of precise diagnosis and drug treatment of Western medicine, improving the therapeutic effect of depression.

3. Summary

The Huangdi Neijing's research on depression from multiple perspectives such as spirit, yang qi, and fat has formed a systematic theoretical system. The spirit theory believes that the disorder of the five viscera spirits is an important cause of the occurrence of depression; the yang qi deficiency theory emphasizes the leading role of yang qi in the pathogenesis of depression; the abnormal fat theory reveals the correlation between abnormal fat metabolism and the occurrence of depression. These theories provide a rich range of ideas and methods for the modern clinical treatment of depression.

3.1 Current Insufficiencies

Despite significant progress in research on depression in the Huangdi Neijing at home and abroad, there are still some shortcomings. The most notable is the small sample size. Due to the secrecy of patients with depression and insufficient experimental motivation, the research sample size is limited, making it difficult to draw more accurate and precise research conclusions. To obtain more reliable research conclusions, it is necessary to expand the sample size and conduct large-sample studies. Secondly, the research method is single. Previous studies have mainly focused on drug treatment, with relatively little research on non-drug treatment methods. To comprehensively evaluate the research progress on depression in the Huangdi Neijing, a variety of research methods need to be adopted, including drug treatment, psychological counseling, dietary therapy, music therapy, etc., for a comprehensive assessment. Finally, the research needs deeper exploration. Current research mainly focuses on the antidepressant effects and mechanisms of Chinese medicine, with relatively little in-depth study of the theories of spirit, yang qi, fat, etc., in the Huangdi Neijing. To deeply reveal the theoretical basis of depression in the Huangdi Neijing, it is necessary to strengthen in-depth research and discussion of these theories.

3.2 New Research Perspectives

To promote the research progress on depression in the Huangdi Neijing, the following new research perspectives can be considered:

3.2.1 Interdisciplinary Research

The complexity of depression necessitates an approach that transcends the boundaries of a single discipline. Interdisciplinary research, which integrates insights from traditional Chinese medicine, psychology, Western medicine, and other fields, is crucial for a comprehensive understanding of the pathogenesis and treatment of depression. By leveraging the unique perspectives of each discipline, researchers can uncover new dimensions of the disease, from the biochemical imbalances addressed by Western medicine to the holistic view of health and wellness emphasized by traditional Chinese medicine. Psychological contributions can provide insights into the role of stress, coping mechanisms, and mental processes in depression, while comparative research can identify the most effective treatment strategies from various cultural and medical traditions. This collaborative approach not only enhances the understanding of depression but also paves the way for more effective, personalized clinical treatment plans that consider the biological, psychological, and social aspects of the condition.

3.2.2 Individualized Treatment Research

The recognition of depression as a heterogeneous disorder, with diverse manifestations and responses to treatment, underscores the importance of individualized care. Traditional Chinese medicine's emphasis on tailoring treatments to the unique constitution and condition of each patient

aligns well with the modern movement towards personalized medicine. Future research in this area should explore how genetic, environmental, and lifestyle factors influence treatment outcomes and how they can be integrated into a personalized treatment plan. This may involve the development of precision medicine strategies, such as pharmacogenomics, which can predict an individual's response to specific medications. Additionally, research should investigate the role of non-pharmacological interventions, such as acupuncture and mindfulness-based therapies, in enhancing the effectiveness of treatment and improving patient outcomes. The ultimate goal is to optimize treatment plans that not only address the symptoms of depression but also support the overall well-being and quality of life of patients.

3.2.3 Non-drug Treatment Method Research

While pharmacological interventions remain a cornerstone of depression treatment, there is a growing interest in non-pharmacological approaches, particularly in light of the side effects and long-term health implications associated with medication. Traditional Chinese medicine offers a wealth of non-drug treatment methods, including psychological counseling, dietary therapy, and music therapy, which can be particularly beneficial for patients who cannot tolerate medication or prefer alternative treatments. Future research should delve into the efficacy of these methods as standalone treatments or as adjuncts to pharmacotherapy. For instance, dietary therapy could involve the study of how specific nutrients impact mood and cognitive function, while music therapy could explore the neurobiological mechanisms through which music influences emotional processing. By understanding the mechanisms of action and the optimal application of these non-pharmacological treatments, researchers can provide clinicians with a broader range of options for treating depression.

3.2.4 Depression Prevention Research

Despite the significant focus on treating depression, there is a relative dearth of research on prevention, which is a critical component in reducing the global burden of this mental health disorder. Prevention research aims to identify and address the risk factors that contribute to the onset of depression, thereby reducing its incidence and recurrence rate. This can be achieved through interventions that promote healthy lifestyles, such as regular physical activity, balanced nutrition, and stress management techniques. Additionally, research should explore the role of psychological interventions in building resilience and coping skills to prevent the development of depressive symptoms. Community-based programs that foster social support and connectedness can also be a focus of prevention research, as social isolation and lack of community engagement are known risk factors for depression. By implementing and evaluating these preventive measures, future research can contribute to a significant reduction in the prevalence of depression and improve public health outcomes.

In conclusion, the expansion of research into these areas—interdisciplinary approaches, individualized treatment, non-pharmacological methods, and prevention strategies—will not only enhance our understanding of depression but also lead to more effective and targeted interventions. These efforts will be instrumental in transforming the way we approach mental health care, with a focus on proactive measures that prioritize both the treatment and prevention of depression.

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