

Clinical Research Progress on the Combination of Acupuncture and Medicine in the Treatment of Depression

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Abstract: Depression, as an emotional disorder, has the characteristics of high incidence, low cure rate, and easy recurrence. In Western medicine, a single drug therapy has limitations such as drug dependence, large side effects, and slow onset. Clinical research on the combination of acupuncture and medicine in the treatment of depression has been conducted for many years, and it has certain advantages in improving clinical comprehensive efficacy. At present, the commonly used methods for treating depression in clinical practice include "acupuncture combined with traditional Chinese medicine", "acupuncture combined with Western medicine", "acupoint injection", and "acupoint application". The combination of acupuncture and medicine therapy is an organic combination of acupuncture therapy and drug therapy, leveraging the strengths of each family to improve efficacy, shorten disease course, and reduce adverse drug reactions. It has good clinical application prospects. This article reviews the clinical research on the combination of acupuncture and medicine in the treatment of depression in recent years, in order to provide reference for the clinical treatment of depression.

Keywords: Combination of acupuncture and medicine; depression; clinical research progress

1. Introduction

Major depression disorder (MDD) is a common mental disorder characterized by persistent depression for at least 2 weeks and a lack of interest or pleasure in daily activities. It can also be accompanied by cognitive behavior (lack of concentration, low/excessive self-evaluation, recurrent suicidal thoughts) or symptoms of the autonomic nervous system (sleep disorders, significant changes in appetite, increased or delayed psychomotor activity, decreased energy) [1]. This disease has the characteristics of high incidence, low cure rate, and high recurrence [2]. Research has shown that the global prevalence of depression has reached 5% [1], and it is expected to become the disease with the highest disability rate globally by 2030. In addition, the incidence rate of depression in China has reached 3.6%, and the lifetime prevalence has reached 6.8% [3], which has seriously affected the quality of life of individuals and at the same time brought heavy burdens to families and society, as shown in Figure 1 and Figure 2. At present, the treatment methods for depression are limited. Western medicine mainly includes drug therapy, psychotherapy, and physical therapy, with monoamine antidepressants as the main drugs. However, these drugs have strong drug dependence, slow onset, obvious side effects, and long medication cycles, which can even cause drug-induced diseases. Data shows that about 30-40% of patients are not sensitive to drugs and develop refractory depression [4]. In recent years, with the development of medicine, the use of acupuncture combined with medicine to treat depression has been widely recognized. It mainly utilizes unique advantages such as shortening the course of disease, reducing adverse drug reactions, and improving the body's state through internal and external coordination. This article reviews the literature on the combination of acupuncture and medicine in the treatment of depression in recent years.

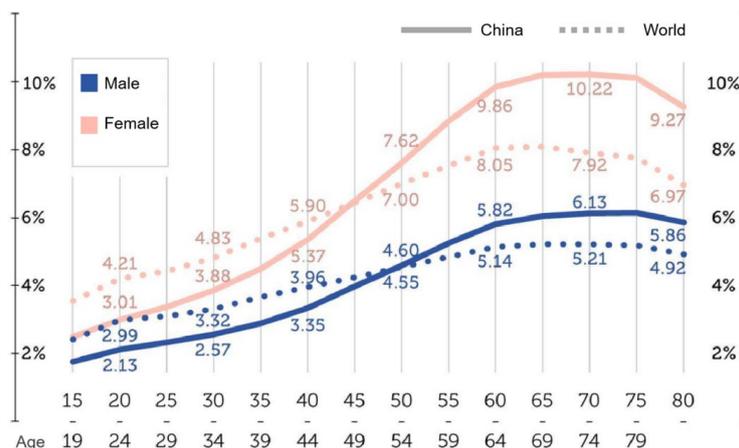


Figure 1: Incidence rate of depression

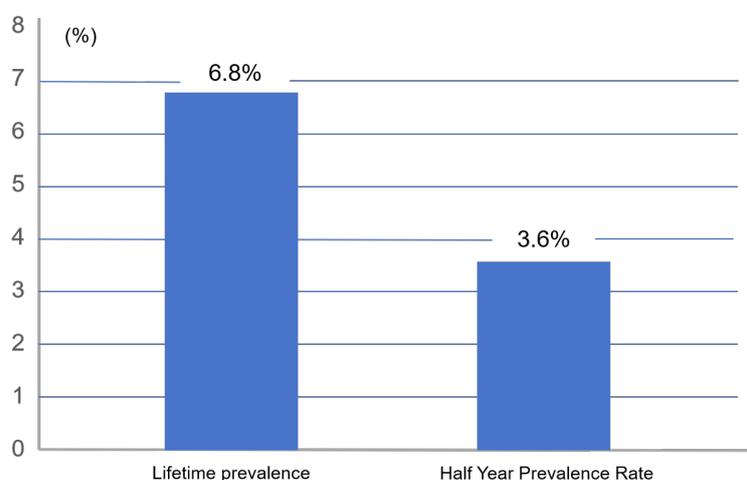


Figure 2: The lifetime prevalence of depression

2. Etiology and pathogenesis

In traditional Chinese medicine, depression is mainly emotional disease, which belongs to the category of "depression syndrome", similar to the clinical manifestations of "epilepsy", "lily disease" and other diseases [5]. During the spring and Autumn period and the Warring States period, although The Yellow Emperor's Internal Classic did not explicitly mention "depression syndrome", the concept of "depression" has been introduced. For example, it is recorded in Su Wen · Six Yuan Century that "Wood depression reaches, fire depression occurs, earth depression is seized, gold depression is discharged, and water depression is broken." In addition, there are a large number of records on the theory of emotional pathogenesis in The Yellow Emperor's Internal Classic. For example, in the simple question on pain lifting, it is mentioned that "I know that all diseases are born in Qi, anger is born in Qi, joy is born in Qi, sorrow is born in Qi, fear is born in Qi, fear is born in Qi, panic is born in Qi disorder, and thinking is born in Qi." Synopsis of the Golden Chamber, the Eastern Han Dynasty, Zhang Zhongjing made a detailed discussion on Lily disease, visceral irritability, and plum core Qi. In Lily disease, it is recorded that "If you want to eat, you can't speak again, you can't be silent, you can't lie down, you can't do anything... All kinds of medicine can't be cured, and if you get medicine, you will spit out interest. If there is a spirit, you will have the same body shape. "The Combined treatment of women's miscellaneous diseases and pulse syndrome records that "A woman is irritable, sad and ready to cry, as if it were made by a God, and the number is not extended, which is dominated by Ganmai Dazao decoction." During the Jin and Yuan Dynasties, Zhu Danxi proposed the "six depression theory" of Qi, blood, fire, food, dampness and phlegm. Until the Ming Dynasty, Yu Tuan first put forward the name of "depression syndrome" in The Orthodox Tradition of Medicine. Zhang Jingyue put forward "disease caused by depression", "depression caused by disease" and "depression always depends on the

heart" in *Jing Yue Quan Shu* · depression syndrome, and discussed in detail the three depressions of anger depression, thinking depression and depression. The Qing Dynasty mainly focused on the etiology and pathogenesis of depression syndrome from the clinical point of view. Ye Tianshi recorded a large number of emotional depression related medical records in *The Clinical Guide Medical Records*, and believed that "depression syndrome is all about the patient's Empathy", fully recognizing the importance of psychotherapy. In short, the understanding of depression in traditional Chinese medicine is constantly developing on the basis of the theory of emotional pathogenesis in *The Yellow Emperor's Internal Classic*, and gradually forming a complete understanding.

In traditional Chinese medicine, depression syndrome is often caused by depression, anger, anxiety, or fear. Anger and incomprehension lead to liver dysfunction, qi stagnation and stagnation of liver qi. Worrying about qi stagnation will hurt the spleen, restrict the spleen and stomach, cause abnormal reception and transportation, gather phlegm and damp, and make phlegm and qi stagnation. Too much emotion and will easily disturb the mind and spirit, which will lead to a loss of effort, loss of support for the heart and loss of possession for the mind. The deficiency of Qi and blood in the heart, together with the spleen's failure to function, and the lack of biochemical sources of Qi and blood, lead to the deficiency of both the heart and spleen. Liver depression turns into fire, fire depression injures Yin, kidney Yin is depleted, and mind and spirit are out of nourishment, followed by the syndrome of heart and kidney yin deficiency. In addition, the occurrence of depression syndrome is also related to the stagnation of visceral Qi. *The Origin of Miscellaneous Diseases*, *Rhinoceros Candle*, and *The Origin of Various Depressions* says that "All kinds of depression are also visceral Qi diseases. It originates from deep thinking, and the visceral Qi is weak, so the disease of six kinds of depression arises. The six kinds of depression are also Qi, blood, dampness, heat, food and phlegm. "Qi stagnation and visceral dysfunction lead to this disease. The location of the disease is mainly in the liver, heart, spleen and kidney. At the beginning, it is mainly qi stagnation, which causes changes in pathogenesis such as fire, blood stasis, phlegm, food stagnation, and dampness stagnation. At this time, it is mostly empirical, and over time, it will hurt the heart, spleen, kidney and other organs, from excess to deficiency. To sum up, many causes can lead to depression syndrome, mainly qi depression, which is also closely related to the weakness of the Zang Fu organs. The weakness of the five zang organs and the imbalance of Qi and blood lead to depression [6].

3. Combination of acupuncture and medicine

The combination of acupuncture and medicine is a comprehensive treatment method based on the basic theory of traditional Chinese medicine and the application of acupuncture and medicine at the same time to prevent and treat diseases and improve curative effect [7]. The concept of combination of acupuncture and medicine can be traced back to the spring and Autumn period and the Warring States period. *The Yellow Emperor's Internal Classic* records that "The combination of acupuncture and medicine is suitable for each other, which lays the theoretical foundation for the combination of acupuncture and medicine". *Su Wen* · Chapter on Shifting Essence and Changing Qi said: "poison cures the inside, and needle and stone cures the outside", emphasizing the respective advantages of acupuncture and medicine in treatment. In *Treatise on febrile diseases*, Zhang Zhongjing mentioned that "for Taiyang disease, when taking Guizhi Decoction for the first time, those who are confused first stab Fengchi and Fengfu, but then heal with Guizhi Decoction." That is, acupuncture and medicine are combined on the basis of distinguishing the pathogenesis, and the two complement each other. Sun Simiao, a famous doctor, took the mastery of acupuncture and medicine as the standard for judging good doctors in *Prepare Urgent Thousand Gold Prescription*. Acupuncture without moxibustion, moxibustion without acupuncture, is not a good doctor; acupuncture without medicine, medicine without acupuncture, especially not a good doctor... Knowing acupuncture and medicine is a good doctor. It can be seen that the combination of acupuncture and medicine has been valued by doctors of all ages since ancient times.

Drugs and acupuncture and moxibustion have their own characteristics in the process of treating diseases: drugs are taken orally, transported and absorbed by the spleen and stomach, and directly act on the five zang organs and six fu organs to regulate the rise and fall of yin, yang, qi and blood in the zang organs, which belongs to internal treatment. Acupuncture and moxibustion is a kind of external therapy that uses "acupuncture" or "moxibustion" to act on the body surface acupoints to dredge the meridians and smooth the flow of qi and blood [8]. Both have their own strengths in the process of treating diseases, and cannot be confined to one method. Wu Kun mentioned in *Six Episodes of Acupuncture and Prescriptions*: "The strength of the needle is also greater than that of the excess solid evil ear; As for the deficiency of visceral qi, it is also necessary to drink sweet medicine and wait for

the time. "Acupuncture and Moxibustion Fengyuan said: "Lifting the soup fluid by the wing needle path, and the clear needling method by the soup medicine." For diseases with complex etiology and pathogenesis or serious illness, deficiency and excess mixed or mainly deficiency, long-term acupuncture can cause "acupoint fatigue" [9]. Furthermore, the effectiveness of acupuncture treatment can be reduced. If combined with medication, acupuncture and medicine can achieve therapeutic effects in multiple ways and levels. In addition, some scholars [10] proposed that the meridian system is an effective pathway for the combined application of drugs and acupuncture and moxibustion therapy. The meridian system connects the internal organs, external collateral limbs, internal and external communication, and runs qi and blood. By organically combining acupuncture and medicine, the advantages of acupuncture and medicine can be fully utilized, achieving internal and external harmony, treating both symptoms and symptoms, and treating the organs and meridians simultaneously, thereby achieving the goal of increasing efficacy and reducing toxicity, reducing adverse reactions to drugs, and improving the body's state.

4. Clinical application of acupuncture combined with medicine in the treatment of MDD

4.1. Acupuncture combined with traditional Chinese medicine

Acupuncture combined with traditional Chinese medicine is mainly used to soothe the liver and regulate qi, while regulating and tonifying the liver, spleen and heart to regulate qi and blood. Yang Nating [11] analyzed the clinical acupoint selection and medication rules of acupuncture combined with medicine in the treatment of depression through data mining. In the treatment, traditional Chinese medicine mainly consists of tonifying deficiency drugs, regulating qi drugs, tranquilizing drugs and relieving exterior drugs, such as Radix Bupleuri, Radix Paeoniae Alba, licorice, Cyperus rotundus, tangerine peel and angelica, and the compound is represented by Chaihu Shugan powder and Xiaoyao Powder. Acupuncture points are mainly selected from the Du meridian, liver meridian, heart meridian and spleen meridian, such as Baihui, Taichong, Neiguan, Yintang, Shenmen and Sanyinjiao. Wan Haopeng [12] randomly divided 85 patients with depression after cerebral infarction into two groups. The control group was treated with sertraline hydrochloride tablets, and the treatment group was treated with Baihui acupuncture combined with Zhuyu Xiaoyao decoction. After four courses of treatment, the Hamilton Depression Scale (HAMD) was used to measure, suggesting that the curative effect of the treatment group was better than that of the control group. Ji Xiaona [13] observed the clinical efficacy of patients with depression by acupuncture combined with Jiawei Chaihu Decoction. The Chinese medicine group took Jiawei Chaihu Decoction orally, while the combined group needled Baihui, Taichong, Siguan, Sishencong and Shenmen acupoints with Twirling reinforcing method on the basis of the Chinese medicine group. After 8 weeks of treatment, the total effective rate of the combined group (95.83%) was significantly higher than that of the Chinese medicine group (81.25%). In addition, by measuring the levels of neurotrophic factors (brain-derived neurotrophic factor, nerve growth factor) and 5-hydroxyindoleacetic acid before and after treatment. It showed that both groups were significantly improved after treatment, but the combined group was higher than the traditional Chinese medicine group. The incidence of adverse reactions in the combination group and the traditional Chinese medicine group were 6.25% and 4.17%. Therefore, acupuncture combined with Jiawei Chaihu Decoction has significant curative effect and high safety, and can significantly improve the level of related neurotrophic factors in patients.

4.2. Acupuncture combined with Western medicine

Modern medicine for the treatment of depression is mainly 5-hydroxytryptamine (5-HT) reuptake inhibitors (SSRIs), as shown in Figure 3. The commonly used drugs are fluoxetine, paroxetine, citalopram, escitalopram and so on. The purpose is to maintain the level of 5-hydroxytryptamine neurotransmitter and effectively relieve the symptoms of patients. However, many patients have adverse reactions such as nausea, vomiting and tremor in varying degrees during the course of taking medicine, and even "serotonin syndrome", which is usually manifested as the triple syndrome of cognitive function/behavior changes, neuromuscular abnormalities and autonomic nerve instability [14]. Ma Yuanye et al [15] randomly divided 128 patients with depression and pain symptoms into observation group (duloxetine) and control group (duloxetine+acupuncture). After 8 weeks of continuous treatment, the clinical efficacy and adverse reactions of the two groups were observed. The study showed that acupuncture combined with duloxetine was significantly better than duloxetine alone, and it could improve the adverse reactions such as nausea, vomiting, anorexia and constipation caused

by duloxetine. The analysis may be related to the normal differentiation of intestinal motor function and bile secretion function promoted by acupuncture therapy. Cui Youxiang^[16] and others observed the clinical efficacy and safety of fluoxetine combined with acupuncture in the treatment of post-stroke depression. The study showed that the incidence of adverse reactions in the study group was significantly lower than that in the control group after acupuncture intervention.

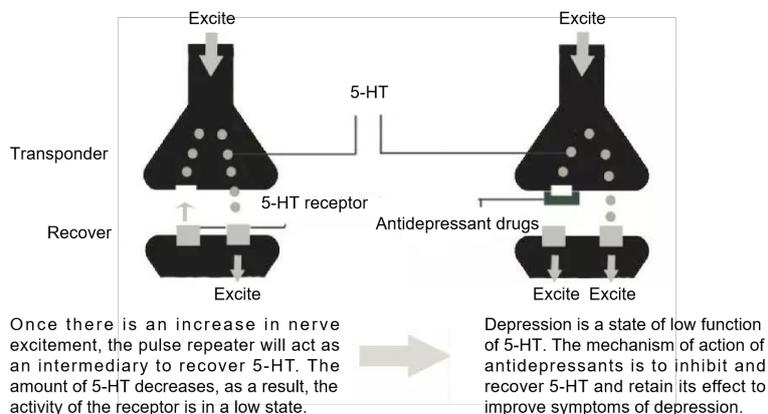


Figure 3: 5-HT and depression

4.3. Acupoint injection

Acupoint injection, also known as "water acupuncture". Takes the basic theory of traditional Chinese medicine as the guidance, selects the corresponding acupoints and drugs according to different diseases, and injects drugs into the acupoints to combine the stimulation of acupuncture with the performance of drugs and the penetration of acupoints, so as to play its comprehensive effect and improve the curative effect. Vitamin preparations and Chinese herbal medicine preparations are mostly used for acupoint injection^[17]. It has the advantages of simple operation, less dosage, wide indications, rapid effect, high curative effect, safety and reliability. Liu Pengfei^[18] in order to explore the clinical efficacy of acupoint injection in the adjuvant treatment of depression, the control group was given paroxetine, and the treatment group was given acupoint injection of Astragalus Injection (injection sites: heart acupoints, spleen acupoints, Zusanli acupoints) on the basis of the drug treatment of the control group. After three courses of treatment, the effective rate of the treatment group was higher than that of the control group, which was statistically significant. Acupoint injection in the adjuvant treatment of depression had a good effect. Shen Yu^[19] observed the clinical efficacy of acupoint injection of gastrodin injection in patients with depression. All patients were treated with basic treatment. The control group was treated with acupuncture at the same time as the basic treatment. The observation group was treated with acupoint injection of Gastrodin Injection on the basis of the basic treatment (injection sites: Baihui, Fengchi, Sishencong, zulinqi). After one month of treatment, the total effective rate of the observation group (94%) was significantly higher than that of the control group (80%), which ensured the curative effect and reduced the degree of depression. Modern research^[20] shows that as one of the main active ingredients of *Gastrodia elata*, apocynin has strong antioxidant and anti-inflammatory effects, and can play an antidepressant role through antioxidant, anti-inflammatory and regulating monoamine neurotransmitters in the central nervous system and hypothalamus pituitary adrenal axis^[21]. By stimulating the corresponding acupoints combined with the drug efficacy of gastrodin itself, the central nervous symptoms of patients can be improved.

4.4. Acupoint application

The acupoint application therapy is based on the meridian theory of traditional Chinese medicine, combining the traditional acupuncture and moxibustion therapy with drug therapy, and using the interaction between acupoints and drugs to achieve the purpose of treating diseases. Wang Xuxin^[22] randomly divided 108 patients with postpartum depression into a treatment group and an observation group, with 54 patients in each group. The treatment group received acupoint application combined with paroxetine treatment, while the control group received paroxetine treatment. By comparing the HAMD depression scale scores of the two groups before and after treatment, the results showed that after 8 weeks of treatment, acupoint application combined with paroxetine had a significant therapeutic

effect on postpartum depression and had fewer adverse reactions. Zhou Yun ^[23] studied the efficacy of moxibustion combined with acupoint application in the treatment of elderly depression. 200 elderly depression patients were randomly divided into a control group and an observation group. Both groups were treated with conventional Western medicine. The observation group used moxibustion combined with acupoint application on the basis of the control group. The results showed that the treatment efficiency of the observation group (97%) was significantly higher than that of the control group (78%), and the 5-HT level in the observation group was significantly higher than that of the control group after treatment. It is fully demonstrated that moxibustion combined with acupoint application can effectively alleviate depressive symptoms and promote the remission of the condition.

5. Summary

The etiology of depression is relatively clear, but the pathogenesis is more complex. Although the existing drug therapy in clinic has a clear target, it will be accompanied by different degrees of side effects, which also reflects the limitations of drugs in regulating the stability of the internal and external environment of the body. Acupuncture therapy can directly improve the symptoms of patients by regulating the whole body. The combination of acupuncture and medicine organically combines the two, giving full play to their respective advantages while making up for the shortcomings of drug therapy. Studies have shown that ^[24] acupuncture and moxibustion can improve depression and related accompanying symptoms. At the same time, the combination of acupuncture and medicine in the treatment of depression has the characteristics of shortening the delayed effect of drugs, improving the effective rate and reducing the side effects of drugs. Therefore, the combination of acupuncture and medicine shows a good clinical application prospect in the treatment of depression.

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