

Research Progress on Traditional Chinese Medicine Treatment of Fatigue Symptoms in Insomnia Patients

Zhao Zhang¹, Cui Wang^{2,*}

¹Shaanxi University of Chinese Medicine, Xianyang 712046, Shaanxi, China

²Department of Neurological Diseases, Shaanxi Provincial Hospital of Chinese Medicine, Xi'an 710003, Shaanxi, China

*Correspondence Author

Abstract: *Insomnia, as a common sleep disorder, has become one of the diseases that seriously affect human health and quality of life worldwide. The accompanying symptoms often include low mood or irritability, dry and bitter mouth, symptoms of the spleen and stomach, general weakness, and easy fatigue, etc. Among them, insomnia accompanied by fatigue symptoms is particularly common in clinical practice [1]. Traditional Chinese medicine has a long theoretical foundation and rich practical experience in treating insomnia and its accompanying symptoms. In recent years, with the introduction of modern medical research methods and the continuous deepening of clinical practice, significant progress has been made in clinical research on the treatment of insomnia and fatigue symptoms with traditional Chinese medicine. This article aims to review the current clinical research status of traditional Chinese medicine in the treatment of insomnia and fatigue symptoms in combination with relevant literature, analyze the current clinical research on the etiology and pathogenesis of insomnia, the efficacy of unique therapeutic drugs on insomnia and fatigue symptoms, the theoretical analysis of insomnia by ancient physicians, and the expansion of insomnia treatment.*

Keywords: Insomnia Fatigue, Acupuncture Chinese Massage Therapy, Five Elements Music Therapy.

1. Introduction

Insomnia and fatigue are common health issues in modern society, especially against the backdrop of increasing modern social pressures, where symptoms of insomnia and fatigue have become increasingly prevalent. Chronic Fatigue Syndrome (CFS) is a group of symptoms characterized by persistent or recurrent fatigue [2], accompanied by various mental and neurological symptoms, but without organic or psychiatric disorders. Its main clinical features include fever, sore throat, extreme fatigue, sleep disorders, among which insomnia is a common symptom. The pathogenic factors are complex, prone to developing into multisystem diseases, seriously affecting patients' physical and mental health. Therefore, insomnia and fatigue often appear together, seriously impacting human physical and mental well-being, and choosing the correct treatment method is the key measure to control disease progression. While Western medicine has shown significant effects in treating such conditions, with the increasing variety of medications in recent years, there has been an increase in irrational drug use, patient drug resistance, and Western medicine's therapeutic effects have been less than ideal. Traditional Chinese Medicine (TCM) believes that insomnia accompanied by fatigue is due to the disharmony of the mind and spirit, and the spleen's deficiency in generating qi and blood. TCM has rich experience in treating insomnia accompanied by fatigue, and its treatment plans have minimal side effects and strong therapeutic safety, demonstrating certain advantages.

2. The Traditional Chinese Medicine's Understanding of the Etiology and Pathogenesis of Insomnia and Fatigue

Traditional Chinese Medicine (TCM) believes that insomnia and fatigue are mostly related to factors such as emotions, diet,

work-rest balance, and chronic illness [3]. The etiology and pathogenesis of insomnia mainly include imbalance of yin and yang, disharmony of qi and blood, and dysfunction of internal organs. In TCM, insomnia is called "bu mei," while fatigue is related to conditions such as "qi deficiency," "blood deficiency," and "deficiency of both heart and spleen."

3. Traditional Chinese Medicine (TCM) Treatments for Insomnia and Fatigue

3.1 Traditional Chinese Medicine (TCM) Treatment

Traditional Chinese Medicine (TCM) treatment for insomnia and fatigue is characterized by syndrome differentiation and treatment, where different formulas are selected based on the patient's specific syndrome pattern. Research has shown that Chinese herbal compound formulas have regulatory effects on sleep-related neurotransmitters [4]. For example, Suanzaoren Decoction, originating from the "Synopsis of the Golden Chamber", is composed of Suanzaoren, Zhimu, Fuling, Chuanxiong, and Gancào. As a classic TCM formula for treating insomnia, it has the efficacy of nourishing blood, regulating the liver, clearing heat, relieving irritability, and calming the mind. Studies have found that Suanzaoren Decoction, mediated by GABAA receptors, dose-dependently increases non-rapid eye movement sleep in rats without affecting rapid eye movement sleep [5]. Additionally, based on syndrome differentiation and formula selection, patients' accompanying symptoms of insomnia have achieved good therapeutic effects. In a randomized, double-blind, double-dummy, placebo-controlled trial, it was concluded that both the Chinese medicine group and the Western medicine combined with Chinese medicine group showed more significant improvement in sleep quality and more obvious relief of accompanying symptoms compared to the Western medicine group alone.

3.2 Acupuncture and Moxibustion Treatment

Acupuncture treatment for insomnia and fatigue is characterized by simple operation and significant therapeutic effects. Acupuncture achieves its therapeutic purposes by regulating meridians [16], harmonizing qi and blood, and balancing yin and yang. According to Professor Zhou Dean's "Acupuncture for Mind Regulation" theory, acupuncture treatment is applied additionally. In a clinical controlled trial combining acupuncture and medication for treating insomnia accompanied by fatigue symptoms, the conclusion was drawn that the combination therapy is effective for CFS insomnia with deficiency of both heart and spleen syndrome [3], can significantly improve patients' sleep quality, alleviate fatigue symptoms, and particularly excels in enhancing sleep quality [11]. Wu Wenzhong et al. selected 70 CI patients who visited the Acupuncture and Rehabilitation Clinic of the Affiliated Hospital of Nanjing University of Chinese Medicine from January 2018 to December 2019. They were randomly divided into an electro-acupuncture group and a sham electro-acupuncture group using the envelope method, with 35 cases in each group. The results showed that the electro-acupuncture group could effectively improve CI sleep quality and daytime fatigue. Long-term insomnia can lead to daytime fatigue, suggesting that it may alleviate fatigue symptoms by regulating the HPA axis and reducing CORT concentration [13]. Fu Yuna et al. selected 77 patients with chronic fatigue syndrome insomnia treated at a local hospital outpatient clinic, and randomly divided them into two groups: 39 in the acupuncture and massage group and 38 in the medication group. The acupuncture and massage group received back massage combined with acupuncture therapy, while the medication group took Anshen Bunao Liquid orally. After statistical analysis, the conclusion was drawn that back massage combined with acupuncture can effectively treat chronic fatigue syndrome insomnia. This method is simple, safe, and has no side effects, worthy of clinical promotion. Long Jingfeng et al. selected 76 patients with chronic fatigue syndrome insomnia admitted to Foshan Chancheng District People's Hospital from July 2018 to March 2020 as research subjects. Thirty-nine patients who received acupuncture therapy and bladder meridian massage were assigned to the observation group, while 37 patients who received bladder meridian massage alone were used as the control group. After statistical analysis, the conclusion was drawn that acupuncture therapy combined with bladder meridian massage can improve the therapeutic effect on chronic fatigue syndrome insomnia and enhance patients' sleep quality [16]. The combined treatment of acupuncture and massage can improve insomnia treatment outcomes, reduce PSQI scores, decrease patients' insomnia duration, alleviate clinical symptoms, and facilitate patient recovery.

3.2 Other Therapeutic Methods: Traditional Chinese Medicine Fitness Practices

For instance, Baduanjin can improve the fatigue level of patients with chronic insomnia and cause abnormal neuronal activity in brain functional areas [6], while MRI can provide evidence for efficacy evaluation and judgment in insomnia patients. By selecting appropriate meridians and acupoints, the Fire Dragon Pot therapy has shown definite efficacy in improving post-stroke insomnia, promoting the relief or

disappearance of clinical symptoms of spleen-kidney deficiency syndrome, and reducing patients' fatigue state. Based on the Five Elements theory [7], the Huangdi Neijing combines five tones, five internal organs, and five emotions, proposing the music therapy theory of "all diseases arise from qi and are cured by sound". Bai Dingxi et al conducted a controlled trial by randomly dividing 84 elderly patients with liver-kidney yin deficiency insomnia into experimental and control groups, using the Pittsburgh Sleep Quality Index (PSQI) and Flinders Fatigue Scale (FFS) to evaluate sleep quality and daytime fatigue levels of both groups. The conclusion demonstrates that the five-tone and five-color music therapy can improve sleep quality and daytime fatigue symptoms in elderly patients with liver-kidney yin deficiency insomnia, showing better efficacy than conventional five-element music therapy, with increasing effectiveness over time. Meanwhile, physical therapy has higher safety and fewer adverse reactions [11]. In a clinical efficacy observation study by Wu Wenzhong et al, all patients showed no abnormal changes in skin appearance at contact sites after high-voltage potential treatment, and no abnormal changes were observed in blood and urine routines, ALT, AST, blood creatinine, blood urea nitrogen, or electrocardiogram before and after treatment. Xue Jun et al selected 30 patients with insomnia and 30 patients with chronic fatigue who visited the Rehabilitation Clinic of Zhongshan Hospital affiliated to Fudan University from April to June 2013. In this study, both groups showed significantly reduced symptom grades after high-voltage potential treatment, with statistically significant differences; although no patients were cured, the total effective rates were high, 89.28% and 93.11% for the insomnia group and chronic fatigue group, respectively [12]. The study results suggest that high-voltage potential treatment has significant efficacy and high safety in treating insomnia and chronic fatigue, warranting clinical promotion [14]. Ji Yuanyuan observed the clinical efficacy of abdominal vibration and circular massage on daytime fatigue symptoms in chronic insomnia patients. She selected 72 patients with heart-spleen deficiency type insomnia as the main complaint from the Massage Clinic of the Affiliated Hospital of Changchun University of Chinese Medicine between January 2022 and April 2023. Chronic insomnia patients were randomly divided into massage group (N=36) and medication group (N=36), and all patients completed treatment and outcome measurements. The observation data of 72 patients were included in statistical analysis, leading to the conclusion: PRNP levels in plasma of insomnia patients are lower than those of healthy people, with disrupted sleep architecture. After massage treatment, PRNP levels in plasma of insomnia patients increased, and REM sleep period increased, suggesting that massage can alleviate daytime functional impairment caused by insomnia by influencing PRNP expression and adjusting sleep architecture disorders.

4. Integrated Traditional Chinese and Western Medicine

integrated traditional Chinese and Western medicine treatment for insomnia and fatigue demonstrates complementary advantages [11]. Western medicine produces quick results but has significant side effects, while traditional Chinese medicine has fewer side effects but takes longer to show efficacy. The combination of both approaches can

leverage their strengths and improve therapeutic outcomes. Research Progress and Challenges In recent years, research on traditional Chinese medicine treatment for insomnia and fatigue has advanced, including in-depth discussions on etiology and pathogenesis, refinement of syndrome differentiation and treatment, and optimization of herbal formulas. However, current limitations include small clinical study samples, inconsistent efficacy evaluation standards, and insufficient mechanistic research. Eight, Conclusion Traditional Chinese medicine holds unique advantages and promising prospects in treating insomnia and fatigue [9]. Luo Yanhong et al. used convenience sampling to select 131 insomnia disorder patients from Beijing Huilongguan Hospital's sleep clinic between February and August 2022. The patients were divided into three groups, and the study concluded that there were significant differences in disease duration among patients with varying degrees of insomnia, suggesting that in the diagnosis and treatment of insomnia disorders, attention should be paid not only to insomnia symptoms but also to...The results show that fatigue plays a mediating role between insomnia and social function [16]. There is a positive correlation between the severity of insomnia and fatigue, and insomnia can positively predict social function through fatigue. Fatigue is a core symptom of insomnia disorder, caused by excessive sympathetic nerve activity and frequent nocturnal physiological awakenings, leading to increased metabolic rate and excessive physical consumption. For most individuals, both mental and physical fatigue can be relieved after adequate sleep.

5. Conclusion

In the future, research integrating traditional Chinese and Western medicine should be strengthened to promote the modernization and internationalization of TCM treatment for insomnia and fatigue.

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