

Analysis on the Effect of Chinese Herbs Decoction Combined with Warm Acupuncture and Auricular Point Sticking Therapy on Insomnia Caused by Deficiency of Both Qi and Yin

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ABSTRACT Objective: This study investigates the therapeutic effect of Chinese herb decoction combined with warm acupuncture and auricular point sticking therapy on insomnia caused by deficiency of both Qi and Yin. Methods: A total of 104 patients with Qi-Yin deficiency-type insomnia admitted to the hospital from November 2023 to November 2024 are selected and randomly divided into Group A and Group B, with 52 cases in each group, using the random number table method. Group B receives routine Western medical treatment, while Group A receives Chinese herb decoction combined with warm acupuncture and auricular point sticking therapy after a controlled washout period for sedative-hypnotic medications. Results: There are no statistically significant differences between the two groups in gender ratio, average age, disease course, body mass index, marital status, education level, and residential area. The therapeutic effect of Group A is significantly higher than that of Group B ($P < 0.05$). Group A also shows significantly improved PSQI scores, traditional Chinese medicine symptom scores, HAMD scores, HAMA scores, and SF-36 scores after treatment. Conclusion : The integrated therapy effectively improves sleep quality, emotional state, and quality of life in patients with Qi-Yin deficiency-type insomnia.

INDEX TERMS chinese herb decoction, warm acupuncture, auricular point sticking, qi-yin deficiency, insomnia

I. INTRODUCTION

CHINESE medicine holds that Qi and blood are important carriers in human body, which both serve the function of nourishing the body to ensure normal and coordinated development; however, as the pace of life accelerates, the factors such as irregular work and rest, unhealthy diet and long-term drinking, smoking as well as emotional lability can easily lead to the deficiency of both Qi and Yin [1,2]. The rigorous operational demands and high-precision tasks inherent in manufacturing frequently induce a deficiency of both Qi and Yin, manifesting as insomnia through the impairment of the heart and spleen caused by chronic overstrain and restlessness. Most patients suffering from this disease present with difficulty falling asleep, light and restless sleep as well as dreaminess, and meanwhile they are also accompanied by a series of neuropsychological symptoms such as night sweat, fatigue, etc. Long-term insomnia will induce or aggravate negative emotions of patients, which seriously affects normal life [3-5]. Although

sedatives have been widely used in the treatment of insomnia, long-term use can lead to drug dependence in patients; Some patients may experience recurrent symptoms after discontinuing medication, and the results may not be ideal. There are various treatment methods for insomnia in traditional Chinese medicine such as acupuncture, traditional Chinese drugs, auricular point, Tuina, etc., in which traditional Chinese drugs such as *Ophiopogon japonicus* and *Schisandra chinensis* can tonify Qi and Yin and activate blood circulation, acupuncture can reduce the excitability of cerebral cortex, regulate neurotransmitters and promote sleep by stimulating patients' acupoints and auricular point sticking therapy can inhibit the levels of neurotransmitters in patients to improve sleep quality [6-8]. At present, there is relatively little research on the diagnosis and treatment of insomnia with qi and yin deficiency. Therefore, this project intends to start from the theory of traditional Chinese medicine and combine methods such as warming, needling, pasting, and pasting to study the role of traditional Chinese

medicine in the diagnosis and treatment of insomnia with qi and yin deficiency.

II. MATERIALS AND METHODS

A. GENERAL INFORMATION

This study aims to select 104 patients with Qi Yin deficiency type insomnia admitted to our hospital from November 2023 to November 2024, and divide them into Group A (52 cases) and Group B (52 cases) using a random number table method.

B. INCLUSION CRITERIA

- 1 Patients met the diagnostic criteria for insomnia caused by deficiency of both Qi and Yin.
- 2 Patients required the aid of sedative hypnotics prior to enrollment. To ensure the purity of the therapeutic evaluation for Group A, a 1-week drug washout period was implemented for these patients prior to the start of TCM treatment. For patients with a high dependence on sedative-hypnotics, a gradual tapering protocol (reducing the dosage by 25%–50% every three days) was executed under medical supervision until complete discontinuation was achieved before T1 baseline measurements. Patients in Group A who were unable to successfully discontinue sedative-hypnotics during this washout period were moved to the exclusion criteria to avoid pharmacological confounding.
- 3 Patients had not received relevant treatment recently.
- 4 This study was approved by the Ethics Committee of Hebei North University, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form.

C. EXCLUSION CRITERIA

- 1 Patients suffered from insomnia caused by organic lesions in the brain.
- 2 Patients had mental diseases.
- 3 Patients had severe cardiovascular and renal diseases.
- 4 Patients were in gestation or lactation period.

D. METHODS

The patients in Group B received routine Western medical treatment consisting of the oral administration of Estazolam tablets (Approval number of the National Medical Products Administration: H44021098; Manufacturer: Taiwan city of Guangdong Pharmaceutical Co., Ltd.). To ensure clinical safety and adherence to standard hypnotic protocols, the dosage was set at 1–2 mg (1 tablet) taken once daily, specifically 30 minutes before bedtime. This nocturnal administration aims to improve sleep induction while minimizing daytime sedation and potential adverse effects associated with high-frequency dosing [9–10].

Group A: Treatment with traditional Chinese medicine decoctions combined with warm acupuncture and auricular point sticking. Throughout the 4-week treatment period, patients in Group A were strictly prohibited from using any

Western sedative-hypnotic medications (including Estazolam or other benzodiazepines). Compliance was monitored via weekly patient diaries and clinical interviews to ensure that the improvements in PSQI and TCM symptom scores were solely attributable to the integrated TCM intervention.

(1) Chinese herbs decoction. 15 g each for *Pseudostellaria heterophylla*, *poria* and *poria* with hostwood, 10 g each for *Schisandra chinensis*, *Ophiopogon japonicus*, *polygala tenuifolia* wild and *Anemarrhena asphodeloides bunge* and 30 g each for spina date seed and *Fossilia Osis Mastodi* (Longgu) (decocted first) were all decocted, one dose daily, with one dose decocted twice and 200 ml each in the morning and evening.

(2) Warm acupuncture. Acupuncture was implemented by locating acupoints in the same main and collateral channels at specific time points. To perform the “warm” component of the therapy, after the insertion of the needles, a 2-cm moxa stick was attached to the handle of the needles at the Qihai and Sanyinjiao points and ignited. This allows heat to be conducted through the needle body into the acupoints to warm the meridians and dispel cold. Dadu acupoint (the mother acupoint) was acupunctured under the principle of “nourishing the mother for deficiency in the child” to infuse the spleen channels with Qi during the peak period of 11:00–13:00 daily. Simultaneously, routine acupuncture was performed on the Shenmen, Baihui, and “insomnia” acupoints. The needles were retained for 30 minutes per session, with the moxa being replaced once midway to maintain a consistent warming sensation.

(3) Auricular point sticking therapy. Shenmen acupoint, Jiaogan acupoint and subcortex acupoint were main acupoints, and spleen and small intestines were auxiliary acupoints. After the Semen Vaccariae (Wang Buliuxing) was stuck on the middle of a 0.6 cm × 0.6 cm adhesive tape, the back of both ears was disinfected by ethanol cotton ball, and the most sensitive auricular point was covered with the adhesive tape. After that, the patients should be informed that the feeling of tingling and swelling pain was normal after being pressed for 4–5 min each time. In addition, if the patient experiences any discomfort, such as redness, swelling, or severe pain, they should immediately report it to medical attention. Both groups of patients received 4 weeks of continuous treatment.

E. EVALUATION INDEXES

The sleep quality of the patients in the two groups was evaluated by the PSQI Score [11,12], with the total score of 21 points, and higher scores indicated lower sleep quality. The time points of before treatment, 1 week after treatment, 2 weeks after treatment and 4 weeks after treatment were set as T1, T2, T3 and T4, respectively.

The sleep of the patients in both groups after treatment was evaluated by the Evaluation Form of Traditional Chinese Medicine Symptom Scores of Insomnia with Deficiency of Both Qi and Yin [13], which included light and restless sleep, difficulty falling asleep, palpitation and

dreaminess, with each item scoring 5 points, and higher scores indicated worse sleep.

The anxiety and depression levels of the patients in both groups before and after treatment were evaluated by the HAMA Score [14] and HAMD Score [15]. In the HAMA Score, with a total of 14 items and the total score of 56 points, the score (< 7 points) represented normal condition, the score (7-13 points) represented potential anxiety, the score (≥ 14 points) represented anxiety, the score (≥ 21 points) represented obvious anxiety and the score (≥ 29 points) represented severe anxiety. In the HAMD Score, with a total of 17 items and the total score of 68 points, the score (< 8 points) represented normal condition, the score (8-20 points) represented potential depression, the score (21-35 points) represented depression and the score (> 35 points) represented severe depression.

The life quality of the patients in both groups before and after treatment was evaluated by the SF-36 Score [16], with the total score of 100 points, and higher scores indicated better life quality.

The incidence of adverse reactions in both groups was strictly monitored and recorded throughout the 4-week treatment period. Particular attention was paid to Group B to observe for common side effects of Estazolam, such as daytime drowsiness, dizziness, or morning 'hangover' effects, ensuring the comparative safety of the pharmacological intervention against the TCM protocol.

F. STATISTICAL TREATMENT

The experimental results were statistically processed using SPSS21.0 software, and the data images were plotted using GraphPad Prism 7 (GraphPad software, San Diego, USA). Measurement data is expressed in ($\bar{x} \pm s$) and is verified using t-test. The count data is expressed as [n (%)] and χ^2 test is used. $P < 0.05$ is considered a significant difference.

III. RESULTS

A. COMPARISON OF THE CLINICAL DATA OF THE PATIENTS BETWEEN THE TWO GROUPS

From Table 1, it can be seen that there was no statistically significant difference in the gender ratio, average age, average body mass index of diseases, marital status, education level, residential area, etc. between the two groups of patients ($P > 0.05$).

B. COMPARATIVE STUDY ON THE THERAPEUTIC EFFECTS OF TWO GROUPS

From Table 2, it can be seen that the treatment group has a significantly better therapeutic effect compared to Group B ($P < 0.05$).

C. COMPARISON OF THE PSQI SCORES AT DIFFERENT TIME POINTS BETWEEN THE TWO GROUPS

There was no statistically significant difference in PSQI scores between the experimental group and the control group

at T1 ($P > 0.05$), while the PSQI of group A was significantly lower than that of group B at T2, T3, and T4 ($P < 0.05$). The comparative study of PSQI between two groups of patients at different time points is shown in Figure 1:

D. COMPARISON OF TCM SYMPTOM SCORES BETWEEN GROUP A AND GROUP B

From Table 3, it can be seen that patients in Group A showed significant improvements in sleep quality, with lower scores in light and restless sleep, difficulty falling asleep, palpitations, and dreaminess compared to Group B, with all differences being statistically significant ($P < 0.05$).

E. COMPARATIVE STUDY OF HAMD AND HAMA SCORES BETWEEN TWO GROUPS OF PATIENTS

Before treatment, there was no statistically significant difference in HAMD and HAMA scores between group A and group B ($P > 0.05$). However, compared with group B, both HAMD and Hamilton A scores were significantly reduced ($P < 0.05$), as shown in Table 4.

F. COMPARISON OF SF-36 SCORES BEFORE AND AFTER TREATMENT IN TWO GROUPS OF PATIENTS

From Table 2, it can be seen that there is a significant difference ($P < 0.05$) in the total SF-36 score after treatment compared to before treatment. The comparison of SF-36 scores between two groups of patients before and after treatment is shown in Figure 2:

The SF-36 scores in group A before and after treatment were (56.23 ± 6.54) and (82.46 ± 5.47), while the SF-36 scores in group B before and after treatment were (56.46 ± 6.41) and (73.86 ± 5.41).

G. COMPARATIVE STUDY OF THERAPEUTIC EFFECTS BETWEEN TWO GROUPS

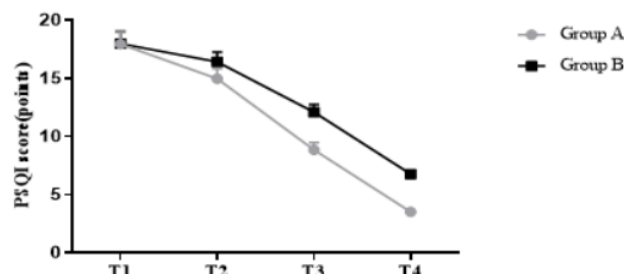
From Table 5, it can be seen that there is a significant difference ($P < 0.05$) between Group A and Group B.

TABLE 1. Comparative analysis of clinical data between two groups of patients

Types	Group A (n=52)	Group B (n=52)	χ^2/t	P
Gender			0.040	0.841
Male	32 (61.54%)	31 (59.62%)		
Female	20 (38.46%)	21 (40.38%)		
Average age (years old)	43.55±3.26	43.57±3.29	0.031	0.975
average course of disease (months)	3.25±0.42	3.27±0.45	0.234	0.815
Average BMI value (kg/m ²)	22.43±0.58	22.45±0.57	0.177	0.860
Marital status				
Unmarried	3 (5.77%)	4 (7.69%)	0.153	0.696
Married	44 (84.62%)	42 (80.77%)	0.269	0.604
Divorced	5 (9.62%)	6 (11.54%)	0.102	0.750
Education level				
College education	16 (30.77%)	19 (36.54%)	0.388	0.534
Secondary education	28 (53.85%)	22 (42.31%)	1.387	0.239
Primary education	8 (15.38%)	11 (21.15%)	0.580	0.446
Place of residence			0.346	0.556
Rural area	24 (46.15%)	27 (51.92%)		
Urban area	28 (53.85%)	25 (48.08%)		

TABLE 2. Comparative study on the therapeutic effects of two groups [n (%)]

Group	n	Recovery	Markedly effective	Effective	Ineffective	Overall response rate
Group A	52	14 (26.92)	12 (23.08)	23 (44.23)	3 (5.77)	94.23 (49/52)
Group B	52	8 (15.38)	13 (25.00)	21 (40.38)	10 (19.23)	80.77 (42/52)
χ^2						4.308
P						0.038

**FIGURE 1.** Comparative study of PSQI in two groups of patients at different time points ($\bar{x} \pm s$)**TABLE 3.** Comparison of TCM symptom scores between two groups after treatment ($\bar{x} \pm s$, points)

Group	n	Light and restless sleep	Difficulty falling asleep	Palpitation	Dreaminess
Group A	52	0.87±0.39	1.04±0.58	0.96±0.46	1.02±0.38
Group B	52	2.16±0.43	2.24±0.49	1.85±0.43	2.18±0.42
t		16.024	11.397	10.192	14.769
P		0.000	0.000	0.000	0.000

TABLE 4. Comparative study of HAMD and HAMA scores between two groups of patients ($\bar{x} \pm s$, points)

Group	n	HAMD		HAMA	
		Before treatment	After treatment	Before treatment	After treatment
Group A	52	15.62±2.07	5.03±1.54	12.35±2.16	4.25±1.46
Group B	52	15.59±2.12	8.22±1.61	12.37±2.14	8.43±1.53
t		0.073	10.325	0.047	14.253
P		0.942	0.000	0.962	0.000

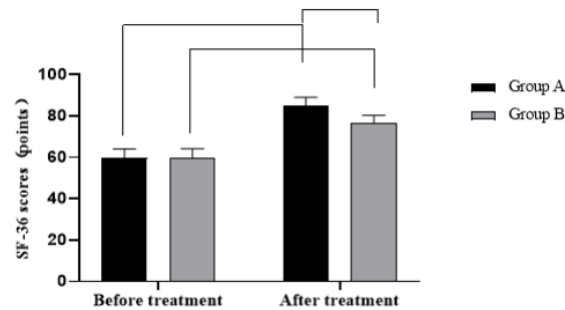


FIGURE 2. Comparison of SF-36 scores before and after treatment in two groups of patients ($\bar{x} \pm s$)

TABLE 5. Comparative study of therapeutic effects between two groups [n (%)]

Group	n	Epigastric pain	Pruritus	Ecchymoma	Dizziness and fatigue	Total incidence
Group A	52	1 (1.92)	1 (1.92)	0 (0.00)	1 (1.92)	5.77 (3/52)
Group B	52	3 (5.77)	2 (3.85)	2 (3.85)	3 (5.77)	19.23 (10/52)
χ^2						4.308
P						0.038

IV. DISCUSSION

Insomnia is a common clinical sub-health status, whose main pathogenic mechanisms are Yin-Yang disharmony, nutritional disorder, pathogenic factors and so on. While Western sedatives provide immediate symptomatic relief, their long-term use is associated with drug dependence and recurrence upon discontinuation. In this study, by utilizing a standardized nocturnal dose for Group B, we established a rigorous baseline to demonstrate that the integrated TCM therapy in Group A provides superior improvements in sleep quality without the typical sedative side effects associated with benzodiazepines. By implementing a rigorous washout period and ensuring the absence of concurrent sedative use in Group A, this study demonstrates that integrated TCM therapy can serve as a viable alternative. The significant reduction in HAMA and HAMD scores in Group A, despite the withdrawal of chemical hypnotics, further underscores the therapy’s independent efficacy in stabilizing the nervous system. In recent years, traditional Chinese medicine has gained much attention and favor from patients and doctors for its unique advantages of convenience, affordability and safety, and its main therapies include traditional Chinese medicine decoction, Tuina, acupuncture, cupping therapy, auricular-plaster therapy, etc., which have achieved significant efficacy in the treatment of insomnia [17,18]. Modern TCM research increasingly identifies Yin-Yang disharmony as the fundamental pathogenesis of insomnia, where the body’s internal ‘waxing and waning’ fails to align with the natural circadian rhythm. To bridge this ancient theory with modern clinical science, recent studies suggest that this Yin-Yang equilibrium is physiologically manifested through the regulation of the central nervous system [19]. Specifically, therapies like auricular point sticking do not merely ‘bal-

ance Yin and Yang’ in an abstract sense; they exert this influence by modulating the secretion and inhibition of key sleep-related neurotransmitters. This biochemical regulation serves as the physical mechanism through which the body’s rhythmic balance is restored. Our preliminary research has found that the combination of traditional Chinese medicine decoctions, warm needles, and ear point patches has a significant therapeutic effect on insomnia. Traditional Chinese medicine decoctions are the most commonly used drugs for treating insomnia in clinical practice, among which Schisandra chinensis and Ophiopogon japonicus have the function of nourishing qi and promoting blood circulation, while red dates and Anemarrhena chinensis have the main function of nourishing yin and calming the mind. Warm acupuncture can stimulate patients’ nerves to enhance the coordinate ability of the body, and the acupuncture performed on Sanyinjiao, Qihai and other acupoints plays the role of nourishing Qi and blood and calming the nerves. Auricular point sticking therapy can promote the sleep quality of patients with insomnia, inhibit the levels of neurotransmitters and regulate the rhythm in human body, so as to realize the balance between Yin and Yang [21-23]. Our research group found in the early stage that the PSQI of group A patients was significantly lower than that of group B in T2, T3, and T4 stages ($P<0.001$), indicating that traditional Chinese medicine has a certain effect on improving the state of qi and yin deficiency and can improve the sleep quality of patients. In TCM, the ‘Mind’ (Shen) is considered the primary governor of consciousness; therefore, achieving ‘heartease’ is a prerequisite for restorative sleep [24]. There exists a reciprocal relationship between psychological distress and sleep architecture: chronic sleep deprivation exacerbates negative emotional states, which in turn creates a feedback

loop that worsens insomnia. Consequently, integrating TCM therapies that simultaneously 'calm the Shen' and tonify Qi is essential to breaking this cycle, leading to the significant reductions in HAMA and HAMD scores observed in this study. Our previous research found that the HAMD and HAMA scores of insomnia patients with Qi Yin deficiency were significantly reduced ($P < 0.001$), which is consistent with the study by Yang *et al.* [25]; Yang *et al.* found that the application of Shengmai Anshen Tang ear acupoint patch significantly reduced the HAMD score of insomnia patients (5.12 ± 1.17) compared to before treatment (8.52 ± 1.63), indicating that traditional Chinese medicine can alleviate depression, calm nerves, improve quality of life, and alleviate patients' negative emotions. The shortcomings of this study are as follows.

1 The sample size is relatively small, necessitating further validation with larger cohorts in the future.

2 A significant limitation is the absence of a post-treatment follow-up phase. Given that insomnia is a chronic condition prone to relapse, the current data only reflects immediate therapeutic efficacy. Future research must incorporate a longitudinal follow-up (e.g., 3 to 6 months) to assess the long-term sustainability of this integrated TCM approach and its impact on relapse rates.

V. CONCLUSION

This clinical study demonstrates that the integration of Chinese herb decoction, warm acupuncture, and auricular point sticking therapy provides a highly effective and safe therapeutic strategy for managing insomnia among industry workers suffering from a deficiency of both Qi and Yin. By addressing the physical exhaustion and mental strain inherent in high-intensity production, this multi-modal approach successfully restores the vital balance required for restorative sleep. By combining the internal regulation of herbal formulas—such as *Schisandra chinensis* and *Ophiopogon japonicus* to nourish Yin and supplement Qi—with external stimulations like acupuncture at the Dadu and Sanyinjiao points, this multi-modal framework operates on a dual-pathway system: the internal herbal administration (e.g., *Schisandra chinensis*) addresses the systemic Qi and Yin deficiency, while external stimulations—such as acupuncture at the Dadu and Sanyinjiao points—target the meridian network. Rather than treating TCM and Western markers as separate entities, this approach views the restoration of Yin-Yang balance as the clinical objective, with the stabilization of neurotransmitter levels serving as the measurable physiological outcome. The results indicate that this integrated Traditional Chinese Medicine (TCM) regimen achieved a significantly higher overall response rate of 94.23% compared to the 80.77% observed in the routine Western medicine group. Furthermore, patients treated with the TCM combination showed a more rapid and sustained improvement in Pittsburgh Sleep Quality Index (PSQI) scores, particularly at the two-week and four-week marks, alongside a marked reduction in specific symptoms

like palpitations, dreaminess, and difficulty falling asleep. Beyond physical sleep metrics, the therapy significantly alleviated comorbid psychological distress, as evidenced by the substantial decrease in HAMA and HAMD scores, while simultaneously enhancing the overall quality of life reflected in higher SF-36 scores. While the long-term sustainability of these effects remains to be verified through extended follow-up studies, the immediate results suggest that this integrated therapy provides a valuable, comprehensive clinical model for promoting occupational health and managing acute or sub-acute insomnia among high-intensity workers, such as those in the manufacturing sector.

AUTHOR CONTRIBUTIONS

Conceptualization – Zhang Lei, Xue Weiguo, Wang Ying, Zhang Haixia and Ma Yuan; methodology – Zhang Lei, Xue Weiguo, Wang Ying, Zhang Haixia and Ma Yuan; investigation – Zhang Lei, Xue Weiguo, Zhang Haixia and Ma Yuan; writing-original draft preparation – Zhang Lei, Xue Weiguo, Wang Ying, Zhang Haixia and Ma Yuan. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

This research received no external funding.

HUMAN RESEARCH SUBJECTS

This study was approved by the Ethics Committee of Hebei North University, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form.

ACKNOWLEDGEMENTS

Not applicable.

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