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Dr. Tae Ho Kim, a dedicated holistic health practitioner, graduated from Bastyr University with a Master of Acupuncture and East Asian Medicine degree and later earned a Doctor of Acupuncture degree. He has continually sought to expand his knowledge and expertise in the field. Dr. Kim established Mi Rae Acupuncture, a clinic where he blends modern Korean acupuncture techniques with traditional wisdom to provide care for a wide range of conditions. His specialization includes chronic pain management, addressing mental health issues, and offering facial rejuvenation therapies. His holistic approach aims to enhance the overall well-being of his patients through personalized, effective, and compassionate care.

Chinese Herbal Formulas For A Patient With Chronic Insomnia: A Case Report

By Tae Ho Kim DAc, LAc

Abstract

This case report presents the clinical response of a 42-year-old male patient with chronic insomnia to a Chinese herbal formula. Prior to receiving Chinese herbal medicine, the patient had insomnia for over ten years and tried various treatment modalities unsuccessfully. After more than a year of treatment with different herb formulas, the patient's symptoms showed minimal improvement until the final modified formula, significantly improving sleep quality. The patient was diagnosed with Liver qi stagnation with phlegm retention, phlegm heat disturbing the Heart, and underlying blood stasis. The final formula used was Ban Xia Hou Po Tang granules, modified. The patient's sleep quality improved from 2/10 to 9/10 on a 1-10 scale, with 10 being the best. Also, he could fall asleep every night after starting the formula. This case report highlights the potential efficacy of Chinese herbal medicine as an alternative treatment for insomnia with long-lasting results and minimal side effects.

Keywords: traditional Chinese medicine, Chinese herbal formula, chronic insomnia, case report

Introduction

Insomnia is a prevalent sleep disorder with potentially significant medical and psychological complications. The American Academy of Sleep Medicine defines insomnia as difficulty falling asleep, staying asleep, or both, resulting in poor sleep quality and daytime impairments. Insomnia is considered chronic if the symptoms occur three or more times a week for three months or longer. Insomnia can lead to several complications, including mental health disorders such as depression, anxiety, or substance abuse. It can also cause health problems such as diabetes, hypertension, and weight gain, according to the American Academy of Sleep Medicine (2013).

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Insomnia has been found to affect a significant portion of the global population, with research indicating prevalence rates ranging from 10% to 30%, and in some cases, even reaching as high as 50% to 60% (Bhaskar et al., 2016). In the United States alone, more than 50% of adults have reported experiencing sleep difficulties, and approximately 22.1% meet the diagnostic criteria for insomnia, according to the American Insomnia Survey (Dopheide, 2020). Research on chronic insomnia from Laval University included 3073 subjects. The mean insomnia duration was from 4.6 years to 6.3 years, depending on the severity of insomnia, and 37.5% of participants were still experiencing insomnia five years later (Morin et al., 2020).

Various treatment options exist to address insomnia, including pharmacotherapy and nonpharmacologic therapy. Standard pharmacotherapy for insomnia often involves the prescription of sedative-hypnotic medications. These medications, such as benzodiazepines like diazepam (Valium) or newer non-benzodiazepine hypnotics like zolpidem (Ambien), aim to help individuals with insomnia initiate and maintain sleep. It is important to note that pharmacologic treatments are typically prescribed for short-term use due to concerns regarding tolerance and dependence. On the other hand, nonpharmacologic therapies, including sleep hygiene education and cognitive-behavioral therapy, are also common approaches. These therapies exhibit varying effectiveness and outcomes among patients (Lie et al., 2015). Despite the availability of these treatment options, insomnia remains a substantial burden on the U.S. healthcare system, with combined healthcare costs exceeding \$100 billion annually, as reported by a 2016 study (Dopheide, 2020).

Chinese herbal medicine, with a history spanning over 2000 years and firmly rooted in medical principles that recognize the interconnectedness of the body and the aim of restoring balance, offers a unique and holistic approach to addressing insomnia. While scientific evidence for its effectiveness is still evolving, Chinese herbal medicine's individualized and patient-centered nature presents an intriguing and promising treatment option. Accumulating successful case studies is vital, especially given the ongoing evolution of scientific evidence, to build a robust foundation for understanding the efficacy of Chinese herbal medicine.

This case report presents a patient with over ten years of insomnia who had previously tried various treatments unsuccessfully. The patient was eventually treated with a Chinese herbal formula and showed positive results, indicating the potential effectiveness of this alternative therapy for insomnia. This introduction sets the stage for our case report, which explores an alternative

approach to addressing chronic insomnia using a Chinese herbal formula—a treatment with the potential to provide long-lasting relief and minimal side effects.

Patient Information

In the fall of 2021, a 42-year-old male patient presented with chronic insomnia. The patient reported that his sleep problem had started more than ten years ago (around 2010). He described that his sleep problem was usually triggered when he experienced a sensation of blockage along his left upper trapezius, extending from the base of the skull to the mid-shoulder region. This sensation always coincided with severe episodes of complete inability to fall asleep.

Over time, the symptoms worsened and occurred on average five days a week when he first visited the clinic. He reported being able to fall asleep only if he felt the blockage was removed, but it was still a light sleep that left him feeling unrefreshed. He had not felt well-rested in the morning in the past few years and rated his sleep quality 1/10.

The patient had no significant past medical history or family history. Approximately seven years ago, he visited his primary care provider, who prescribed zolpidem and melatonin. However, the patient reported side effects such as drowsiness, dizziness, and lightheadedness with no improvement in his sleep. He discontinued use after one week. The patient was upset with his doctor for recommending he see a counselor and giving him a suicidal prevention brochure despite his clear statement that he had no mental or emotional problems. He also tried herbal teas, meditation, exercise, and lifestyle modifications, but none resolved his sleep problems. Blood tests and physical exams did not reveal any underlying medical conditions.

Clinical Findings

In addition to chronic insomnia that the patient has been experiencing for over ten years, he also reported several minor complaints. He frequently experienced left-side occipital headaches accompanied by pressure when he could not sleep, but there was no history of head injury. He reported severe mental and physical fatigue, often resulting in poor concentration while studying or working. The patient also experienced high-pitched ringing in both ears and had dry eyes. He had some phlegm in his throat, which was difficult to expel, and occasional chest tightness and palpitations, particularly with

physical exertion and stress. Although the patient had a high-stress level, he did not believe that his emotional state was related to his sleep problem and attributed it to an actual physical issue in his body. The patient reported a neutral sensation of body temperature, regular bowel movements, and no complaints of other bodily pain. On examination, the patient's tongue was light red with slightly redder edges and tip and a thin, sticky white coating. His pulse was moderate and wiry.

Diagnostic Assessment

Traditional Chinese medicine (TCM) recognizes that a fundamental energy imbalance causes insomnia. TCM regards sleep as part of the natural rhythm of yin (cold) and yang (warm) qi (energy) in the body. Yang qi dominates during the day to keep us warm and support the body's activity, while yin qi dominates at night to cool and slow down the body's activity to facilitate a good night's sleep. Disruption of this natural cycle causes an imbalance of yin and yang, leading to sleep disorders (Xinnong, 2018). Multiple factors can lead to an imbalance in yin and yang, and zang-fu organ dysfunction may constitute one of the primary causes.

According to TCM principles, zang-fu is an organ group that governs the body's production and regulation of qi (energy) and blood. These organs are not merely anatomical structures but rather interrelated functions that elucidate the workings of the fundamental substances in the body. For instance, the Heart, a zang organ, is responsible for managing blood circulation and the mind and spirit of the body. Patients experiencing Heart blood deficiency may present with symptoms like palpitations and insomnia due to insufficient blood circulation and disordered shen (spirit or emotions).

TCM diagnosis and treatment differ from Western medicine as TCM focuses on treating the symptoms and pattern of the disease rather than the disease itself. Therefore, the diagnosis may differ among individuals, even if they share the same disease. For example, two patients with type 2 diabetes may receive different diagnoses based on their specific symptoms. If a patient presents with more polyuria, the emphasis may be placed on supporting the Kidney to control urination. Conversely, if a patient exhibits more polyphagia, clearing the excess from their Stomach may be the primary objective to reduce their hunger. This approach renders TCM diagnosis, at times, more intricate and challenging to standardize for everyone. However, TCM diagnosis and treatment are tailored to the patient's needs, resulting in the most appropriate treatment with fewer side effects.

In biomedicine, chronic insomnia is defined as a sleep disorder that occurs three or more times per week for three months or longer. The patient in this study had been experiencing sleep difficulty for more than two weeks per month for over ten years, resulting in a diagnosis of chronic insomnia. Despite attempting various modalities, such as melatonin, zolpidem, and counseling, behavioral therapy did not work, and Western pharmaceutical medications only exacerbated his symptoms. The patient began taking Chinese herbal formulas in the fall of 2021, and his TCM diagnosis has changed during treatment.

Due to the patient's unique sleep patterns, determining the exact number of daily sleep hours proved challenging. Instead, the severity of his condition was assessed by measuring the number of days he could fall asleep per week and his average sleep quality, rated on a 0-10 scale. Comments about each prescription and any side effects from the herbal formula were gathered. The diagnosis's most challenging aspect was measuring the daily sleep hours due to the patient's sleep characteristics and hesitancy to share his mental and emotional hardships during interviews.

The patient's initial diagnosis was Liver qi stagnation due to stress and anxiety. According to TCM, the Liver maintains the free flow of qi in the body. Stress can lead to qi stagnation, which was likely the case for this patient, given the severity of his emotional distress. Thus, the initial focus of treatment was to alleviate the patient's stress.

A week and a half after the initial visit, the second diagnosis was Heart and Liver blood deficiency. In TCM, the Heart and Liver are the primary organs associated with insomnia symptoms, and stagnant Liver qi can lead to heat in the body, which can deplete the Heart and Liver blood. The patient reported experiencing palpitations, dry eyes, and poor concentration, common Heart and Liver blood deficiency symptoms.

Four days later, the third diagnosis included blood stagnation based on the patient's description of a sleep trigger involving a feeling of blocked blood vessels behind the neck. To address this, treatment aimed to support better blood circulation.

A month later, the first and second diagnoses were combined, arriving at a new diagnosis of Liver qi stagnation with underlying Heart and Liver blood deficiency. We wanted to observe how the new herbal formula worked for the patient since he had experienced some benefits from the first diagnosis. However, his overall symptoms had not improved dramatically.

The final diagnosis before the patient took a six-month break from treatment was phlegm heat disturbing the Heart. Since the patient had been experiencing low overall energy, the diagnostic approach focused on deficiency symptoms. However, the patient consistently had adverse reactions whenever his formulas included Heart-tonifying herbs. Based on this observation and the presence of damp symptoms, such as a greasy, yellowish tongue coating, the diagnosis switched to an excess pattern.

After the patient's return to treatment following a six-month break, his diagnosis was Liver qi stagnation with phlegm retention, phlegm heat disturbing the Heart, and underlying blood stasis. All tonifying formulas were discontinued, with regulating and relieving formulas taking their place. This new approach proved highly effective, and his insomnia symptoms were almost entirely resolved. This diagnosis is the most accurate for his specific condition, and the treatment has continued to be effective through the present time.

Therapeutic Intervention

The herb prescriptions were adjusted accordingly as the patient's treatment focus shifted throughout therapy to address different aspects of their complex condition.

The initial prescription was eight pills of Xiao Yao Wan (Plum Flower brand) three times daily for Liver qi stagnation. Xiao Yao Wan is one of the most commonly used TCM formulas to promote the smooth flow of Liver qi and reduce stress. Additionally, it has a positive effect on strengthening the Spleen, which can help to support a patient's energy level.

The second prescription was four tablets twice daily of Suan Zao Ren Tang Pian (Plum Flower brand). Suan Zao Ren Tang is a well-known TCM formula used for treating insomnia. It nourishes the Heart and Liver blood and calms the shen to resolve sleep disorders. The patient had to stop after only three days because it worsened his symptoms.

The third prescription was Xue Fu Zhu Yu Tang Wan (Plum Flower), eight pills twice daily. This formula is known for its ability to disperse blood stagnation, especially in the chest area, thereby relieving chest tightness and pain; it also helps with insomnia and restless sleep.

The fourth prescription was a Xiao Yao San granule formula with modifications. The details were as follows:

- 40 grams of Xiao Yao San granules from KPC Herbs
- 10 grams of Suan Zao Ren (Semen Zizyphi Spinosae) from Sun Ten
- 10 grams of He Huan Pi (Cortex Albizziae) from Sun Ten
- 10 grams of Bai Zi Ren (Semen Platycladi) from Sun Ten

Xiao Yao San was chosen as the base to address the patient's stress (Liver qi stagnation). The herb suan zao ren nourishes the Heart and Liver while calming the spirit. He huan pi also supports calming the spirit, and bai zi ren nourishes the Heart and calms the spirit. The patient took five grams of granules in warm water twice daily but stopped after only two days due to an adverse reaction, which worsened his chest tightness.

The fifth prescription was Wen Dan Tang granules from KPC Herbs. This formula is commonly used for patients with phlegm heat disturbing the Heart. It helps regulate energy, clears damp phlegm, and dispels heat. The patient took five grams twice daily for a month and a half. However, he discontinued taking any herbs for six months because of diminishing efficacy and personal reasons. He resumed treatment in the summer of 2022 with a different diagnosis and herbal prescription.

The final prescription for the patient was a custom granule formula, and its detailed ingredients are listed in Table 1.

Table 1 – Ingredients of last granule modification			
Name	Amt.	Ingredients	Indication
Ban Xia Hou Po Tang (KPC)	20g	Ban xia, sheng jiang, fu ling, hou po, zi su ye	Liver qi stagnation, phlegm qi retention
Wen Dan Tang (KPC)	20g	Chen pi, ban xia, zhi shi, zhu ru, fu ling, gan cao, sheng jiang, da zao	Phlegm heat disturbing the Heart
Long Dan Xie Gan Tang (KPC)	10g	Long dan cao, chai hu, ze xie, che qian zi, san ye mu tong, sheng di huang, dang gui, shan zhi zi, huang qin, gan cao	Liver and Gallbladder damp heat
Xue Fu Zhu Yu Tang (KPC)	10g	Tao ren, dang gui, sheng di huang, hong hua, niu xi, zhi ke, chi shao, jie geng, chuan xiong, chai hu, gan cao	Blood stagnation in the chest
He huan hua (KPC)	10g	Individual herb	Liver qi stagnation insomnia

Ban Xia Hou Po Tang was prescribed to alleviate Liver qi stagnation and expressly to relieve the sensation of plum pit qi, the symptom of feeling a phlegm obstruction in the throat that cannot be coughed out. Wen Dan Tang was used again to treat phlegm heat disturbing heart type of insomnia. Long Dan Xie Gan Tang was chosen to address damp heat in the Liver and Gallbladder. Xue Fu Zhu Yu Tang was also used again for the blood obstruction

feeling on his neck and chest tightness. He huan hua was added to the formula to further calm his spirit.

The patient took five grams twice daily for eight weeks. As his symptoms improved significantly, the dosage was reduced to five grams once daily before bedtime, starting in late summer of 2022 and continuing through the present.

Outcomes

Before starting TCM herbal treatment, the patient reported an average sleep quality of 1/10, with 10 being the best. He reported only being able to fall asleep two days a week.

After taking the first prescription of Xiao Yao Wan pills, the patient reported a slight increase in sleep quality from 1/10 to 3/10 initially, but it decreased to 2/10 by the end of the first week, and he could fall asleep three days a week. The second prescription, Suan Zao Ren Tang Pian, worsened his symptoms, causing him to be unable to sleep for three consecutive days after taking the herbs, leading him to discontinue use after three days.

The patient reported that the third prescription, Xue Fu Zhu Yu Tang Wan, provided some relief in the first week, with sleep quality increasing to 5/10 and sleeping four days a week. However, his symptoms worsened over time, and by the fourth week of taking the prescription, his sleep quality had decreased to 3/10, and he could only sleep for three days a week. As a result, the patient felt that the prescription was no longer effective.

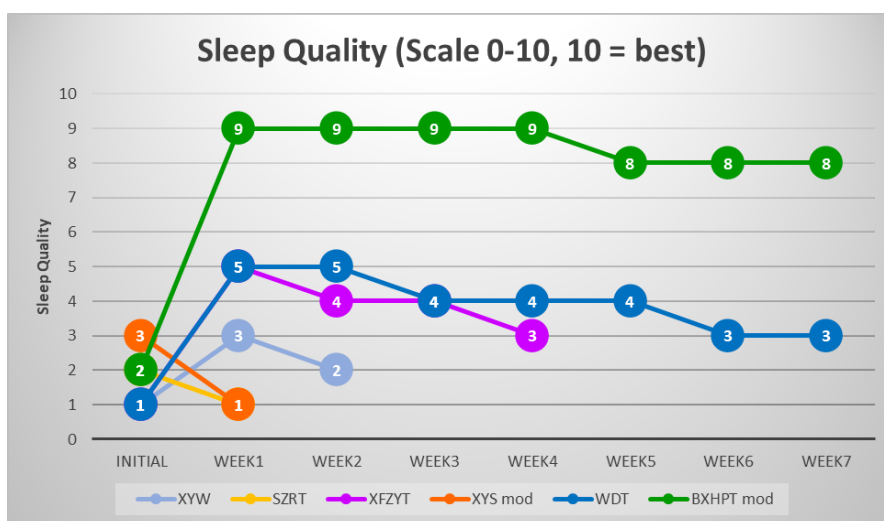
The fourth prescription, a modified version of Xiao Yao San, aggravated his chest tightness, and he could not sleep after starting the medication. Consequently, he stopped using the new prescription after two days. According to the patient's report, the fifth prescription, Wen Dan Tang, provided some relief, but its efficacy was short-lived. Initially, his sleep quality improved to 5/10, and he could sleep five days a week. However, by the seventh week of taking the fifth prescription, his sleep quality had declined to 3/10, and he could only sleep four days a week.

Upon resuming treatment after a six-month break, the patient reported 2/10 sleep quality and the ability to fall asleep only three days a week. With the last prescription, modified Ban Xia Hou Po Tang, the patient experienced significant relief and reported that his symptoms had almost entirely resolved. He was able to fall asleep every day from the first week of

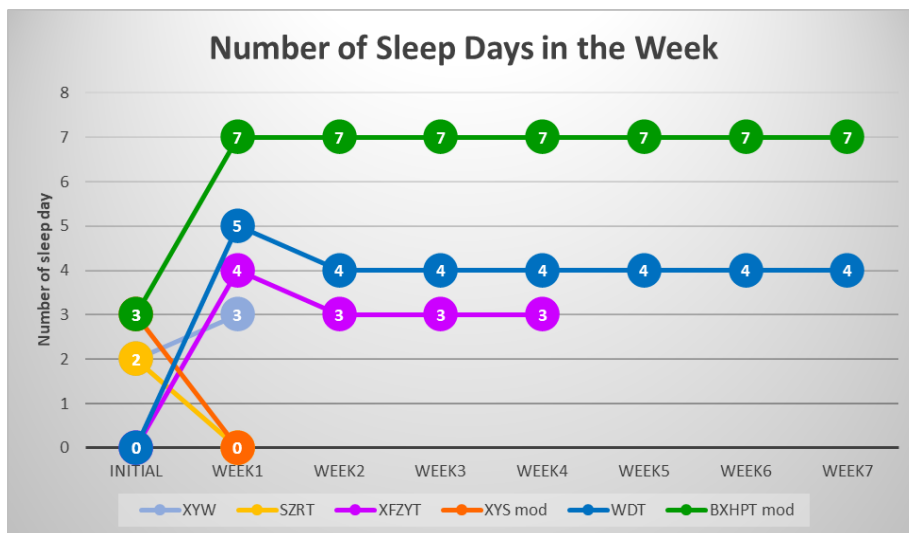
the last formula, and his sleep quality increased to 9/10. While his overall sleep quality slightly decreased over time, it has remained consistently good at 8/10 for over three months (as shown in Table 2). His chest tightness has improved significantly, and he no longer experiences headaches. Although he occasionally feels pressure on his neck, it is much less severe and less frequent than before and no longer triggers insomnia.

Table 2 – Outcome Table			
Days on Rx	Prescription	Sleep quality (0–10 scale)	Days of sleep per week
8	Xiao Yao Wan	2~3	3 days
2	Suan Zao Ren Tang	1	0 days
6	Xue Fu Zhu Yu Tang	5	4 days
6	Xue Fu Zhu Yu Tang	4	3 days
6	Xue Fu Zhu Yu Tang	4	3 days
7	Xue Fu Zhu Yu Tang	3	3 days
2	Xiao Yao San Modified	1	0 days
6	Wen Dan Tang	5	5 days
7	Wen Dan Tang	5	4 days
6	Wen Dan Tang	4	4 days
5	Wen Dan Tang	4	4 days
6	Wen Dan Tang	4	4 days
6	Wen Dan Tang	3	4 days
4	Wen Dan Tang	3	4 days
119	Ban Xia Hou Po Tang Modified	9	7 days

Outcomes in Graphs



XYW=Xiao Yao Wan; SZRT=Suan Zao Ren Tang; XFZYT=Xue Fu Zhu Yu Wan; YYS mod=Xiao Yao Wan modified; WDT=Wen Dan Tang; BXHPT mod=Ban Xia Hou Po Tang



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Discussion

During the initial visit, we noted his predominant sign of emotional stress, which indicated Liver qi stagnation. However, the patient reported experiencing extreme fatigue, both physically and emotionally. Based on these symptoms, we initially assumed that his long-term insomnia had caused some deficiency in his body, leading to his other symptoms such as heart palpitation, anxiety, and poor memory, which we attributed to Heart qi or blood deficiency, and Damp symptoms, which we attributed to Spleen deficiency. As a result, we focused our initial treatment plan on addressing his stress-related Liver qi stagnation and tonifying his internal deficiency. However, despite experiencing more than ten years of sleep disorder, the patient's original constitution was remarkably robust, indicating no actual deficiency.

The patient's body was replete with excess, leading to adverse reactions to tonification-type herb prescriptions. This misconception resulted in an unnecessarily prolonged treatment duration. Fortunately, the patient was willing to try various herbal prescriptions, even when the first five formulas provided limited relief. Although the patient exhibited fatigue due to sleep deprivation, it did not significantly affect his Spleen function. Liver qi was constrained in his body due to stress and emotional issues. Other chest symptoms were likely due to excess heat and blood stasis, and his dampness

was caused by external factors such as the environment and diet. The cause of the patient's sensation of a blocked blood vessel on the neck remains unclear. There were no objective signs of blood stasis, although the patient's subjective experience informed the diagnosis. As a result, our final strategy was to move qi and blood and remove dampness, which proved to be the most effective treatment for the patient.

One of the notable strengths of this case report is its uniqueness. The patient's experience is highly unusual as he had tried numerous biomedical modalities to treat his insomnia over ten years. However, treatment with Chinese herbal medicine proved to be effective.

Furthermore, it is rare to find a patient who exhibits no signs of deficiency after a decade of severely compromised sleep. Also notable was his willingness to follow up for over a year despite limited initial benefits from the herbal treatments.

The second strength of this case report lies in the detailed documentation of the treatment procedures. Every detail of the herbal prescriptions was carefully recorded, enabling the replication of the treatment in the future. This case report also has several limitations that should be noted. Firstly, although the patient's outcome demonstrated the resolution of his insomnia during treatment, the methods used to assess his sleep quality relied primarily on subjective measures. We based our sleep quality evaluation on the patient's self-reported assessment, which, while valuable, could have been complemented with more objective and standardized screening tools to provide a more comprehensive evaluation.

Another limitation was the misdiagnosis during the initial two months of treatments. Although each step was necessary to achieve optimal results for the patient, the process was time-consuming and costly.

Despite its limitations, this case report provides valuable insights into the treatment of sleep disorders. Given the complexity of symptoms and causes, insomnia can be challenging to manage effectively. However, this patient's positive outcome with Chinese herbal medicine suggests that it may be a promising alternative therapy for insomnia patients seeking long-lasting relief without significant side effects. As such, this case report highlights the potential of Chinese herbal medicines as a viable alternative treatment option for patients with insomnia.

Patient Perspective

As of the time of this report, the patient's condition has seen remarkable improvement. After over a year of using the final prescribed formula, the patient's overall sleep quality has significantly enhanced. Previously plagued by chronic insomnia for more than a decade, the patient can now enjoy restful sleep on a daily basis.

Initially, the prescribed formula was administered twice daily, yet with the sustained improvement in sleep quality, the patient has successfully transitioned to using it only one or two times a week, as needed. This reduction in frequency highlights the patient's newfound ability to manage their sleep patterns better and address occasional sleep disturbances effectively.

Conclusion

This case report underscores the potential of Chinese herbal medicine as a promising alternative for individuals grappling with insomnia. Through a patient-centered approach and a commitment to individualized care, the case of this individual, who had battled chronic insomnia for over a decade, is a demonstration that traditional Chinese herbal formulas can substantially improve sleep quality. Chinese herbal medicine offers a valuable avenue for further investigation and consideration within insomnia treatment. The findings presented here underscore the efficacy of Chinese herbal medicine, signifying its promise as a potent solution for people with insomnia.

Informed Consent

The patient was fully informed about Chinese herbal treatment's potential risks and benefits. The patient provided written consent for the treatment administration and authorization to publish his case, with all identifying information removed and age altered to protect his confidentiality.

Disclosure Statement

The author reported no conflicts of interest.

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