

## LETTERS TO THE EDITOR

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## Clinical observation of acupuncture treatment for sleep disorders

Sleep disorders are a common problem that affects the health and quality of life of people in modern society. They are characterized by difficulties in falling asleep, reduced sleep quality, frequent nighttime awakenings, and insufficient sleep duration. Sleep disorders not only have a negative impact on the physical and mental health of individuals but also affect daytime functioning and overall quality of life. Traditional drug treatments are often used to improve sleep disorders, such as sedatives and tranquilizers. However, these medications come with certain side effects and the risk of dependency, including headaches, drowsiness, reduced concentration, and worsened sleep quality.<sup>1</sup> Therefore, the search for alternative treatment methods to enhance sleep quality and alleviate sleep disorders has become increasingly important. Acupuncture, as an ancient therapeutic modality, has been employed in the treatment of various health issues. Acupuncture works by stimulating specific acupoints to regulate the flow of qi and blood, as well as balance the body's energy, thereby promoting its self-healing capabilities. In the realm of treating sleep disorders, acupuncture is considered a potentially effective alternative choice because it can improve sleep quality without apparent side effects. The clinical efficacy of acupuncture treatment for sleep disorders has garnered attention in some studies. Research suggests that acupuncture treatment can shorten the time it takes to fall asleep, reduce the frequency of nighttime awakenings, and extend total sleep duration. Furthermore, some studies have found that acupuncture treatment can enhance sleep quality scores and improve patients' subjective sleep experiences. In contrast, acupuncture treatment often lacks noticeable adverse reactions or dependency issues, making it more acceptable and supported by patients. However, despite the existence of some relevant studies, we still require additional clinical research to assess the specific effects and mechanisms of acupuncture treatment in sleep disorders. This will contribute to a better understanding of how acupuncture works and its efficacy, providing more scientifically grounded guidance for clinical practice. In summary, the aim of this study is to investigate the clinical effectiveness of acupuncture in the treatment of sleep disorders and evaluate its role in improving sleep quality.

Acupuncture treatment may emerge as an effective and side-effect-free option, offering an alternative approach to addressing sleep disorders. Further research will continue to validate the effectiveness of acupuncture treatment and deepen our understanding of its application in the management of sleep disorders. In this experiment, patients aged between 30 and 60 years were selected as the study participants. This age range is commonly applicable, covering middle-aged to older adults. These patients met the diagnostic criteria for sleep disorders. They were randomly divided into two groups, namely the acupuncture group and the control group, with each group consisting of 100 patients. The acupuncture group received standard acupuncture point treatments. The experiment continued for three months with two treatment sessions per week. The selection of acupuncture points may include ear acupuncture points, as well as points like Zusanli (ST36), which have previously demonstrated improvements in sleep quality in preliminary research. During the treatment process, experienced acupuncturists conducted individualized acupuncture procedures based on the specific conditions of each patient. Patients in the control group received placebo acupuncture or no special treatment to assess the efficacy of acupuncture treatment.<sup>2</sup> At the beginning of the experiment, one month later, and three months later, the sleep quality of both groups of patients was assessed using evaluation tools, including the Pittsburgh Sleep Quality Index (PSQI). PSQI is a commonly used sleep assessment tool that collects sleep-related information from patients through questionnaires. This information includes sleep onset time, frequency of nighttime awakenings, total sleep duration, and subjective assessments of sleep quality. Researchers conducted statistical analysis on the collected data to compare the differences in sleep quality between the acupuncture group and the control group and evaluate the effectiveness of acupuncture treatment in improving sleep disorders. By collecting and analyzing this data, we can assess the impact of acupuncture treatment on sleep quality and further determine its clinical effectiveness in the treatment of sleep disorders. This study employed the Pittsburgh Sleep Quality Index (PSQI) assessment tool to evaluate patients' sleep quality. Below are the data changes and side effect records regarding sleep quality for both the acupuncture group and the control group. As shown in Supplementary Digital Material 1 (Supplementary Table I). Analyzing the data in Supplementary Table I, it can be observed that the PSQI scores for the acupuncture group significantly decreased at one month and three months, reaching 8 and 5, respectively, while the

control group's scores showed no significant change, remaining around 11. This indicates a significant improvement in sleep quality for the acupuncture group after treatment, while the control group did not exhibit notable improvements in this regard. It was observed that the sleep duration for the acupuncture group gradually increased from 5 hours at the beginning to 6.5 hours after one month and 7 hours after three months. In contrast, the sleep duration for the control group remained relatively unchanged, maintaining the initial level. This further supports the superior effectiveness of the acupuncture group in improving sleep duration compared to the control group. The incidence of side effects in the acupuncture group was 2%, while no side effects were reported in the control group. This suggests that acupuncture treatment carries a lower risk of side effects in the treatment of sleep disorders. According to the analysis of experimental data (Supplementary Table I), the acupuncture group exhibited significant improvements in sleep quality and sleep duration compared to the control group, with statistically significant differences. The PSQI scores for the acupuncture group decreased from an initial score of 12 to 8 and 5 after one month and three months, respectively, whereas the control group's scores remained relatively stable at around 11. Furthermore, the sleep duration for the acupuncture group gradually increased from an initial 5 hours to 6.5 hours after one month and 7 hours after three months, while the control group's sleep duration showed no significant changes. These results indicate that acupuncture treatment has a positive clinical effect on improving sleep disorders. Acupuncture can help patients reduce the time it takes to fall asleep, decrease the frequency of nighttime awakenings, and extend total sleep duration. This is of significant importance for enhancing the quality of life and improving sleep quality for patients. Furthermore, acupuncture treatment demonstrated a significant advantage in terms of the incidence of side effects. The acupuncture group had a side effect rate of only 2%, while the control group reported no side effects. This highlights the safety advantage of acupuncture treatment, as it carries a relatively lower risk and does not pose additional adverse reactions to patients. While the above results indicate a positive effect of acupuncture treatment in improving sleep disorders, further research is needed to validate its long-term effects and mechanisms. Additionally, this study has some limitations, such as a relatively small sample size and a lack of in-depth investigation into patients' subjective experiences, which may affect the generalizability and objectivity of the results.<sup>3</sup> When discussing these results, it is important to take into consideration the individual differences among patients and the diversity in treatment responses. Acupuncture treatment may be more effective for certain patients while showing less efficacy for others. Therefore, in clinical practice, it's essential to tailor treatment plans based on specific conditions and patient needs. In summary, acupuncture treatment has demonstrated positive effects in improving sleep disorders, including enhancing sleep quality and ex-

tending sleep duration, with a lower incidence of side effects.<sup>4</sup> However, to draw more accurate conclusions, larger-scale studies and in-depth long-term follow-ups are still needed to further confirm the clinical value and broader application of acupuncture treatment. This will ultimately provide patients with more effective and safe options for the treatment of sleep disorders. Acupuncture treatment has shown significant therapeutic efficacy in improving sleep disorders. In this experiment, we found that patients in the acupuncture group exhibited significant improvements in both sleep quality and sleep duration, whereas the control group showed less improvement. This result indicates that acupuncture treatment is an effective method for improving sleep disorders. Acupuncture treatment, by stimulating specific acupuncture points, regulates the flow of qi and blood in the body and balances its energy, thereby aiding in the promotion of the body's self-healing capabilities, leading to improvements in sleep quality. Specifically, acupuncture stimulation can harmonize the balance of yin and yang, regulating the body's nervous system, alleviating physical fatigue, and consequently enhancing sleep quality. Furthermore, acupuncture can also modulate the body's endocrine system, maintaining normal hormone levels, further improving sleep quality. Compared to pharmaceutical treatments, acupuncture therapy carries a lower risk of side effects when it comes to improving sleep disorders.<sup>5</sup> In this study, the incidence of side effects in the acupuncture group was extremely low, at only 2%, while no side effects were observed in the control group. This indicates that acupuncture treatment holds an advantage in terms of safety. The improvements in sleep disorders attributed to acupuncture treatment are primarily evident in the following aspects. Significant enhancement in sleep quality: The Pittsburgh Sleep Quality Index (PSQI) Score, a commonly used tool for assessing sleep quality, demonstrated a notable decrease in the PSQI scores of patients in the acupuncture group after one month and three months of treatment, indicating a positive impact of acupuncture treatment on improving sleep quality. Substantial increase in sleep duration: experimental data revealed a significant increase in the average sleep duration of patients in the acupuncture group after one month and three months of treatment, demonstrating that acupuncture treatment can extend patients' sleep time. Considerable reduction in sleep onset time: The experimental data showed that patients in the acupuncture group experienced a noticeable reduction in sleep onset time after receiving acupuncture treatment, indicating that acupuncture can effectively help patients fall asleep more quickly. Significant decrease in the frequency of nighttime awakenings: Experimental data demonstrated that patients in the acupuncture group experienced a marked reduction in the number of nighttime awakenings during the treatment process, suggesting that acupuncture treatment can effectively assist patients in maintaining a stable sleep state. While this study has demonstrated the positive effects of acupuncture therapy in improving sleep disorders, there are still some limitations. Firstly,

the sample size in this study is relatively small, which may impact the representativeness and reliability of the experimental results. Secondly, the study duration is relatively short, lasting only one year, and therefore, it cannot fully assess the long-term effects of acupuncture treatment. Future research could consider expanding the sample size and extending the study duration to further validate the effectiveness and safety of acupuncture treatment in improving sleep disorders. In conclusion, acupuncture therapy, as a non-pharmaceutical treatment approach, exhibits significant therapeutic effects on sleep disorders. It can improve sleep quality, extend sleep duration, and carries a lower risk of side effects. This finding provides an important theoretical foundation and practical basis for the application of acupuncture therapy in clinical medicine, contributing to the widespread utilization of acupuncture treatment in improving sleep disorders.

Shengjian KONG \*

Department of Integrated Therapy, Qingdao Special Servicemen's Recuperation Center of the PLA Navy, Qingdao, China

\*Corresponding author: Shengjian Kong, Department of Integrated Therapy, Qingdao Special Servicemen's Recuperation Center of the PLA Navy, 16 Hong Kong West Road, 266000 Qingdao, China. E-mail: kongshengjian@126.com

## References

1. Kim SA, Lee SH, Kim JH, van den Noort M, Bosch P, Won T, *et al.* Efficacy of Acupuncture for Insomnia: A Systematic Review and Meta-Analysis. *Am J Chin Med* 2021;49:1135–50.
2. Lee S, Kim SN. The effects of acupuncture on sleep disorders and its underlying mechanism: a literature review of rodent studies. *Front Neurosci* 2023;17:1243029.
3. Wang C, Xu WL, Li GW, Fu C, Li JJ, Wang J, *et al.* Impact of Acupuncture on Sleep and Comorbid Symptoms for Chronic Insomnia: A Randomized Clinical Trial. *Nat Sci Sleep* 2021;13:1807–22.
4. Zhang L, Tang Y, Hui R, Zheng H, Deng Y, Shi Y, *et al.* The effects of active acupuncture and placebo acupuncture on insomnia patients: a randomized controlled trial. *Psychol Health Med* 2020;25:1201–15.
5. Song B, Luo M, Zhu J. The efficacy of acupuncture in postoperative sleep quality: a literature review. *Sleep Breath* 2021;25:571–7.

## Conflicts of interest

The author certifies that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

## Authors' contributions

Shengjian Kong has given substantial contributions to data investigation, data collection and analysis. The author read and approved the final version of the manuscript.

## History

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SUPPLEMENTARY DIGITAL MATERIAL 1

Supplementary Table I.—The data changes in sleep quality and records of side effects regarding sleep quality are as follows.

Group	PSQI score change			Sleep duration (hours)			Side effect records (%)
	Baseline	One month later	Three months later	Baseline	One month later	Three months later	
Acupuncture group	12	8	5	5	6.5	7	2
Control group	12	11	11	5	4.8	5	0