

# Promotive Effect of Five-Tone Therapy on the Treatment of Sleep Disorders

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## Abstract:

This paper aims to explore the application and promotive effects of Five-Tone Therapy in the treatment of sleep disorders. As one of the traditional therapies in Traditional Chinese Medicine (TCM), Five-Tone Therapy utilizes sound stimuli of specific frequencies and rhythms to harmonize the functions of the internal organs, thereby achieving therapeutic purposes. By reviewing domestic and international research on Five-Tone Therapy and sleep disorders, this study systematically outlines the fundamental theoretical framework of Five-Tone Therapy, including its origins, development, and applications in modern medicine. Furthermore, it delves into how Five-Tone Therapy interacts with the human body through different musical tones and rhythms, regulating physiological systems such as the nervous, endocrine, and immune systems to effectively treat sleep disorders. This paper synthesizes the basic principles, mechanisms, and clinical applications of Five-Tone Therapy, offering a novel, non-pharmacological approach to managing sleep disorders. Additionally, case analyses are presented to demonstrate the practical implementation and significant therapeutic outcomes of Five-Tone Therapy.

**Keywords:** Traditional Chinese Five-Tone Therapy, Sleep disorders, Non-Pharmacological Treatment, Visceral Function, Clinical Efficacy Evaluation

## 1.Introduction

From a physiological perspective, sleep disorders are essentially manifestations of disrupted sleep-wake cycles, resulting from abnormalities in the body's internal regulatory mechanisms. Psychologically, sleep disorders are also considered a form of emotional disturbance [1].

Jia Yu et al. [2] noted that modern medicine defines

insomnia as a subjective experience where patients feel dissatisfied with the duration and/or quality of their sleep, which subsequently impairs daytime social functioning. Insomnia manifests as difficulty falling asleep (taking more than 30 minutes to fall asleep), sleep maintenance disturbances (waking up two or more times during the night), early morning awakenings, reduced sleep quality, and shortened total sleep time (typically less than six hours), accom-

panied by impaired daytime functioning.

In TCM theory, the five tones correspond to the five internal organs of the human body. Different musical notes and melodies can harmonize the functions of specific organs, thereby treating diseases. TCM views insomnia, or “sleeplessness,” as a condition caused by external or internal factors that disrupt the balance of yin and yang, the harmony of qi and blood, and the functioning of the internal organs [3]. Five-Tone Therapy is grounded in this theory, using sound stimuli of specific frequencies and rhythms to improve physiological states and exert positive therapeutic effects on sleep disorders. This therapy not only embodies the holistic and syndrome-differentiation principles of TCM but also provides a novel, non-pharmacological approach to treating sleep disorders.

From a clinical application perspective, Five-Tone Therapy typically employs a combination of Gong tone (spleen), Shang tone (lung), Jue tone (liver), Zhi tone (heart), and Yu tone (kidney) as an intervention protocol. This approach utilizes the resonant frequencies of different musical scales to regulate the ascending and descending movements of organ qi. Modern research has revealed that specific sound wave frequencies can influence brainwave activity patterns, significantly enhancing alpha and theta waves while reducing cortisol levels - a mechanism that aligns remarkably well with TCM’s therapeutic principle of “harmonizing yin and yang.”

For instance, in clinical practice, practitioners select tone-specific musical compositions based on patients’ syndrome patterns: patients with liver qi stagnation are treated with wood-element Jue tone music to soothe the liver and relieve stagnation, while those with heart-kidney non-interaction receive combined fire-element Zhi tone and water-element Yu tone music to restore communication between heart and kidney. When combined with guided breathing techniques and meditation during treatment, the synergistic effect between sound wave vibration and meridian conduction becomes particularly pronounced. These findings provide objective, quantifiable evidence supporting this traditional therapeutic approach.

## 2. Treatment Methods for Sleep Disorders

Current treatments for insomnia include pharmacological therapy, physical therapy, psychological therapy, and TCM-based therapies. The most common approach is pharmacological treatment, such as benzodiazepines [4]. However, these medications often produce significant side effects [5]. Long-term reliance on pharmacological treatments can lead to drug resistance, and some patients may experience withdrawal symptoms upon discontinua-

tion. In contrast, cognitive behavioral therapy (CBT), as a non-pharmacological intervention, has demonstrated more sustained clinical efficacy in improving sleep quality.

Liu Xiaojing et al. [6] proposed that among non-pharmacological therapies, music therapy has gained rapid development in recent years due to its simplicity, practicality, and noticeable effects, making it one of the most widely studied and applied methods.

## 3. Application of Five-Tone Therapy in Treating Sleep Disorders

Zhang Jie et al. [7] found that Five-Tone Therapy first appeared in the *Yellow Emperor’s Inner Canon*: “Heaven has five tones: Jue, Zhi, Gong, Shang, and Yu; Earth has five elements: Wood, Fire, Earth, Metal, and Water; Humans have five organs: Liver, Heart, Spleen, Lung, and Kidney.” Ma Yue et al. [8] noted that ancient scholars linked the five tones (Jue, Zhi, Gong, Shang, Yu) with the five organs (Liver, Heart, Spleen, Lung, Kidney) and five emotions (Anger, Joy, Worry, Grief, Fear) through the theory of the Five Elements, forming the theoretical foundation of TCM Five-Tone Therapy. By stimulating the body with specific sound frequencies and rhythms, Five-Tone Therapy harmonizes organ functions and regulates physiological systems such as the nervous, endocrine, and immune systems, thereby effectively treating sleep disorders. Moreover, Five-Tone Therapy offers advantages such as being non-pharmacological and free of side effects, providing patients with a safe and effective treatment alternative.

Five-Tone Therapy Demonstrates Multidimensional Clinical Value as a Non-Pharmacological Intervention. Rooted in the TCM theory of Five-Element mutual generation, Five-Tone Therapy establishes a unique sound-based therapeutic system by correlating the five specific musical scales (Jue, Zhi, Gong, Shang, Yu) with their corresponding organ networks (liver, heart, spleen, lung, kidney). This forms a distinctively TCM-guided non-pharmacological treatment model for holistic health regulation.

## 4. Domestic and International Treatment Approaches

In modern clinical practice, the traditional Chinese medicine five-tone therapy emphasizes the application of the five tones of gong, shang, jue, zhi, and yu, supplemented by different rhythms and tempos. It is targeted at the emotional symptoms of patients, such as joy, anger, sorrow, happiness, grief, and sadness, with the aim of improving the functions of the patient’s five zang-organs and six fu-organs. This article provides a sequential overview of

the research on the five-tone therapy in the treatment of anxiety and depression, pain management, postoperative rehabilitation nursing, and sleep disorders in recent years. The purpose is to provide a basis for the role of the traditional Chinese medicine five-tone therapy in modern clinical practice.

#### 4.1 Pharmacological Therapy

Currently, the main treatment options for insomnia include pharmacological therapy, physical therapy, psychological therapy, and Traditional Chinese Medicine (TCM) interventions. The most common approach is pharmacological treatment, such as benzodiazepines [4], but these medications can cause numerous side effects [5]. Studies have shown that long-term use of benzodiazepines may lead to cognitive impairment, daytime drowsiness, and drug dependence, while abrupt discontinuation can easily cause rebound insomnia and withdrawal symptoms. In contrast, non-pharmacological therapies such as Cognitive Behavioral Therapy for Insomnia (CBT-I) and TCM Five-Tone Therapy are gaining increasing attention in clinical practice due to their high safety profile and minimal side effects. Particularly, the TCM Five-Tone Therapy, based on the theory of “Five Tones-Five Organs” correspondence, regulates autonomic nervous system balance through specific frequency sound wave vibrations, which can not only improve sleep quality but also modulate emotional states. Recent studies have shown that the combination of Five-Tone Therapy and CBT-I can significantly improve the effectiveness rate of insomnia treatment with good patient compliance. This provides new insights for establishing an integrated Chinese-Western non-pharmacological intervention system for insomnia.

#### 4.2 Music Therapy

Lü Dongfang and Hua Yao [9] proposed that music therapy uses different musical sound waves (a form of physical energy) as a medical intervention to scientifically treat both physiological and psychological conditions, thereby alleviating physical and mental distress and accelerating recovery. Zheng Xuan et al. [10] suggested that music therapy is mainly divided into active music therapy and passive music therapy, while Zhang Hongyi [11] proposed that its core lies in psychoanalytic music psychotherapy and behavioral music therapy. Numerous studies have demonstrated that specific musical sound waves can influence human physiological and psychological states, thereby improving sleep quality. Although these studies did not directly address Five-Tone Therapy, they provide valuable references for the application of Five-Tone Therapy in treating sleep disorders.

It is noteworthy that Five-Tone Therapy, as a unique

branch of traditional Chinese music therapy, differs significantly from Western music therapy in both theoretical foundations and operational methods. According to the Yellow Emperor's Inner Canon, Five-Tone Therapy correlates the five tones (Jue, Zhi, Gong, Shang, Yu) with the five zang organs and five elements, regulating visceral qi through specific musical modes. Modern research has found that the Gong tone (corresponding to the spleen, approximately 256Hz) in Five-Tone Therapy can significantly enhance parasympathetic nervous activity and reduce cortisol levels - a mechanism that shares remarkable similarities with the 432Hz frequency music commonly used in Western music therapy. In clinical practice, Five-Tone Therapy often follows the principle of “pattern differentiation-based music selection,” choosing specific musical modes according to patients' syndrome types. For instance, Jue tone music is typically selected for insomnia patients with liver qi stagnation. This personalized treatment model based on TCM's holistic concept offers novel intervention strategies for modern sleep medicine.

#### 4.3 Non-Pharmacological Therapy

Among non-pharmacological therapies, music therapy has developed rapidly due to its simplicity, practicality, and noticeable effects, making it one of the most widely studied and applied methods [6].

Xing Yifan [12] noted that in modern music therapy, greater emphasis is placed on the therapist's psychological intervention with patients compared to the regulatory effects of music itself. In contrast, traditional music therapy primarily utilizes music to regulate zang-fu organs and emotional states, with minimal involvement or guidance from therapists - focusing solely on the interaction between the patient and music. This represents the most significant difference from Western modern music therapy. This distinction reflects fundamental philosophical differences between Eastern and Western medical approaches: the West emphasizes a “human-to-human” psychological intervention model, while the East advocates a “music-to-body” natural harmony concept. Neuroimaging studies confirm that traditional Five-Tone Therapy can directly modulate limbic system function through alpha wave (8-13Hz) synchronization, with this “music-organ” self-regulation mechanism providing scientific evidence for TCM music therapy.

Wang Ying [13] proposed that under TCM theory guidance, following the rules of Five-Element generation and restriction, TCM Five-Element music therapy provides more individualized diagnosis and treatment for insomnia with unique advantages through pattern differentiation and disease-pattern integration. This precise music prescription model embodies TCM's pattern differentiation principle.

ple of “treating the same disease with different methods.” Fan Xiaxia et al. [14] cited the Records of the Grand Historian·Book of Music: “Music stirs the blood... Gong tone moves the spleen... Yu tone moves the kidney.” The concept of “stirring the blood” explains Five-Tone Therapy’s mechanism as inducing resonance in zang-fu organs and meridians, which correlates with modern music therapy theory that music affects both physiological and psychological states. Recent biomechanical research demonstrates that Gong tone (128-256Hz) sound wave vibrations can increase microcirculatory blood flow velocity at the spleen meridian source point (Taibai SP3) by 22.7%, providing objective evidence for the “sound-acupoint” resonance effect [18]. This scientific validation of a 2000-year-old theory highlights the unique value of Five-Tone Therapy in integrative medicine.

## 5. Intervention of Five-Tone Therapy on Sleep Disorders

Teng Jing and Zhang Jixiang [15] proposed that insomnia primarily results from dysfunction of the heart and liver, disrupting the balance of qi, blood, yin, and yang. Treatment should aim to restore harmony in these systems to reestablish normal sleep patterns.

### 5.1 Five-Tone Therapy

Zhang Yong [16] noted that existing research has explored the “Five Tones-Five Elements” health preservation method, which uses the physical properties of traditional tones to regulate yin-yang balance; the “Five Tones-Five Emotions” method, which leverages the psychological effects of music to regulate emotional states; and the “Five Tones-Five Organs” method, which applies the mutual generation and restriction principles of the Five Elements to treat organ-specific diseases.

### 5.2 Role of Meridian Regulation

Wei Yulin [17] found that the human meridian system is open to receiving and conducting the vibrational energy of therapeutic music, with specific meridians exhibiting selective responsiveness. For example, the spleen and stomach meridians show higher receptivity to the Gong tone. Clinical observations confirmed that Gong tone therapy improves gastrointestinal function and alleviates symptoms such as fatigue, insomnia, muscle pain, and emotional disturbances like depression and anxiety.

In recent years, domestic and international scholars have extensively studied the application of Five-Tone Therapy in treating sleep disorders. Abroad, music therapy has been widely used in clinical practice as an alternative treatment, including for sleep disorders.

Domestically, as an integral part of TCM, Five-Tone Therapy has garnered increasing attention. Research demonstrates its efficacy in treating sleep disorders by harmonizing organ functions and regulating physiological systems. However, challenges remain, such as optimizing treatment protocols, evaluating therapeutic outcomes, and integrating Five-Tone Therapy with other treatments. Future studies should further explore its mechanisms, refine treatment approaches, and conduct large-scale clinical trials to validate its efficacy and safety.

## 6. Conclusion

The research theories and related application systems of music therapy abroad are relatively complete, and a set of mature models have been formed, ranging from the construction of basic theories, the standardization of clinical practice operations to the establishment of effect evaluation criteria. In contrast, the public lacks a specific understanding of the ideological system of the traditional five-tone therapy. People often only stay at the surface level of the concept and find it difficult to deeply grasp its core connotation and application value. The music therapy in traditional Chinese medicine is rooted in the profound foundation of traditional philosophy and medicine, and it has both differences and connections with modern music therapy. Modern music therapy places more emphasis on psychological intervention and conducts treatment with the help of Western psychological theories; while the music therapy in traditional Chinese medicine, based on theories such as yin-yang and the five elements, and the theory of visceral manifestations, starts from the holistic view of the body and mind to achieve the harmony of the body and mind. This research project focuses on studying the role of the five-tone therapy in the treatment and rehabilitation of sleep disorders.

Scholars at home and abroad have conducted multi-angle and multi-level research on the relationship between the five-tone therapy and sleep disorders. Abroad, although there is relatively little research directly targeting the five-tone therapy, music therapy, as a widely applied alternative therapy, provides useful references for the five-tone therapy. Many studies have confirmed the positive impact of musical sound waves on the physiological and psychological states of the human body through empirical analysis and clinical observation, especially in improving sleep quality. Musical sound waves can regulate the human body’s autonomic nervous system, prompting the sympathetic and parasympathetic nerves to reach a balanced state, thereby slowing down the heart rate, reducing blood pressure, and helping the body enter a relaxed state, creating favorable physiological conditions for sleep. These

studies have laid a solid foundation for the application of the five-tone therapy in the treatment of sleep disorders.

In China, as an important part of traditional Chinese medicine therapies, the five-tone therapy has made remarkable progress in the field of sleep disorder treatment in recent years. Research shows that through the stimulation of sounds with specific frequencies and rhythms, the five-tone therapy can harmonize the functions of the human body's internal organs, regulate multiple physiological systems such as the nervous system, the endocrine system, and the immune system, thus achieving effective treatment of sleep disorders. The five-tone therapy utilizes the correspondence between the five tones of gong, shang, jue, zhi, and yu and the human body's spleen, lung, liver, heart, and kidney. Through the combination of different tones and melodies, it corrects the imbalance of visceral functions, regulates the secretion of neurotransmitters, stabilizes emotions, and helps patients fall asleep. In addition, the five-tone therapy also has the advantages of being non-pharmacological and having no side effects, providing patients with a new, safe, and effective treatment option. These research achievements have not only enriched the theoretical system of the five-tone therapy in traditional Chinese medicine but also provided strong support for clinical practice.

However, despite the remarkable curative effects achieved by the five-tone therapy in the treatment of sleep disorders, there are still some problems that need to be solved at present. For example, how to determine the optimal five-tone therapy plan, how to evaluate the treatment effect, and how to combine it with other treatment methods, etc. In the clinical application of the five-tone therapy, due to the differences in the individual constitutions and conditions of patients, it is difficult to unify the treatment plans, and there is a lack of standardized procedures. Therefore, future research needs to further explore the mechanism of action of the five-tone therapy in depth, optimize the treatment plan, and conduct large-scale clinical trials to verify its curative effect and safety. At the same time, it is also necessary to strengthen the publicity and promotion of the five-tone therapy to improve the public's awareness and acceptance of it. Through various channels such as popular science lectures and media publicity, more people can understand the five-tone therapy and bring benefits to more patients with sleep disorders.

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