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# A NARRATIVE REVIEW ON THE MANAGEMENT OF INSOMNIA IN OLDER ADULTS: INTEGRATING WESTERN AND TRADITIONAL CHINESE MEDICINE PERSPECTIVES

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**Abstract**

**Objective**: To review and synthesize the current clinical approaches for treating insomnia in the older adult population, drawing from both Western medicine and Traditional Chinese Medicine (TCM).

**Background**: The global population is aging rapidly, and with this demographic shift, the prevalence of insomnia among older adults has become a significant public health concern (Chaplin et al., 2025; Tampi, 2024). Insomnia, characterized by difficulty initiating or maintaining sleep, affects up to 50% of the elderly population and is associated with a decline in quality of life, an increased risk of chronic diseases, cognitive impairment, and falls (Abad & Guilleminault, 2018; Hedges & Gotelli, 2019). While numerous treatments exist, they each present a unique set of advantages and challenges.

**Summary**: This review examines the primary therapeutic modalities for insomnia in the elderly. Western medical treatments are broadly categorized into pharmacological and non-pharmacological interventions. Pharmacological agents, such as benzodiazepine receptor agonists (BZRAs), offer rapid, short-term relief but carry substantial risks for older adults, including dependency, cognitive side effects, and an increased risk of falls (American Geriatrics Society Beers Criteria® Update Expert Panel, 2023; Poelgeest et al., 2021). Non-pharmacological approaches, particularly Cognitive Behavioral Therapy for Insomnia (CBT-I), are recommended as the first-line treatment due to their long-term efficacy and safety (Park et al., 2024; Riemann et al., 2023), though their accessibility can be limited by cost and the availability of trained practitioners (Schotland et al., 2024). Concurrently, Traditional Chinese Medicine offers a variety of therapies, including acupuncture, moxibustion, herbal medicine, and aromatherapy, which are gaining popularity due to their holistic nature and favorable safety profiles (Ye et al., 2024; Zhao et al., 2023). These TCM methods aim to restore the body's natural balance to promote sleep.

**Conclusion**: The management of insomnia in older adults is complex, requiring a careful balance between efficacy and safety. While Western medicine provides powerful tools, their long-term use is often problematic in this demographic (Ancoli-Israel et al., 2005). TCM offers promising, less invasive alternatives that align well with a holistic approach to geriatric care (Wang et al., 2023). There is a clear clinical need for an integrated approach that leverages the strengths of both systems to provide safe, effective, and accessible solutions for managing insomnia in the aging population.

**Keywords**: Older Adults, Insomnia, Pharmacotherapy, Non-pharmacological Treatment, Cognitive Behavioral Therapy for Insomnia (CBT-I), Traditional Chinese Medicine (TCM), Integrative Medicine.

## 1. INTRODUCTION

Sleep is a fundamental physiological need, essential for maintaining physical and psychological health, consolidating memory, and regulating hormonal balance. Insomnia, a subjective experience of inadequate or poor-quality sleep despite ample opportunity, represents one of the most common sleep disorders, particularly among older adults (Xia et al., 2025). Studies indicate that the prevalence of insomnia symptoms in individuals over 65

ranges from 30% to 50%, with women being more frequently affected than men (Sawadogo et al., 2025; Chang et al., 2024).

Chronic insomnia in the elderly is not a benign condition. It is a significant risk factor for a cascade of negative health outcomes, including depression, anxiety, impaired cognitive function, and an increased propensity for falls (Hwang et al., 2024; Virnes et al., 2022). Furthermore, it can exacerbate existing chronic conditions such as cardiovascular disease, diabetes, and chronic pain, leading to increased healthcare utilization and a diminished quality of life (Kim et al., 2009).

Given the profound impact of insomnia, effective treatment is paramount. The clinical landscape offers a spectrum of options, spanning Western pharmacological and non-pharmacological therapies to ancient practices rooted in Traditional Chinese Medicine (TCM) (Zhao et al., 2023). However, no single approach is universally effective or free of limitations. This review aims to provide a comprehensive overview of these treatment modalities, highlighting their respective mechanisms, benefits, and drawbacks in the context of geriatric care.

## 2. Western Medical Approaches to Insomnia

Modern Western medicine classifies insomnia treatments into two primary categories: pharmacological and non-pharmacological.

### 2.1 Pharmacological Treatment

Pharmacotherapy is a common approach for managing insomnia due to its rapid onset of action. Key drug classes include:

2.1.1. Benzodiazepine Receptor Agonists (BZRAs): This category includes both older benzodiazepines (BZDs) like temazepam and newer non-benzodiazepines (Non-BZDs) like zolpidem and eszopiclone. Both subclasses effectively reduce sleep latency and improve sleep continuity. However, their use in older adults is highly controversial. The 2023 American Geriatrics Society Beers Criteria® strongly advises against their use in this population due to significant risks of tolerance, physical dependence, rebound insomnia upon discontinuation, and next-day residual effects like sedation, cognitive impairment, and ataxia, which markedly increase the risk of falls and fractures (American Geriatrics Society Beers Criteria® Update Expert Panel, 2023; Rozing et al., 2023).

2.1.2. Melatonin Receptor Agonists: Drugs like ramelteon target melatonin receptors to regulate the sleep-wake cycle (Kim & Yang, 2022). They have a better safety profile than BZRAs, with minimal risk of abuse or dependence, but may have more modest efficacy (Maruani et al., 2023).

2.1.3. Orexin Receptor Antagonists: This newer class of drugs, including suvorexant and lemborexant, promotes sleep by blocking the wake-promoting neuropeptides of the orexin system (Yu & Cline, 2025). They have shown efficacy in both sleep onset and maintenance, but long-term safety data in the elderly are still emerging (Arnold et al., 2024; Alshiban et al., 2025).

2.1.4. Antidepressants: Certain antidepressants with sedative properties, such as trazodone and mirtazapine, are frequently prescribed off-label for insomnia (Bakker et al., 2025; Berardelli et al., 2024). However, they carry their own side effect profiles, including anticholinergic effects (dry mouth, urinary retention) that can be particularly problematic for older adults (Hughes et al., 2025; Jaffer et al., 2017).

### 2.2 Non-Pharmacological Treatment

Due to the risks associated with sleep medications, clinical guidelines from organizations like the American College of Physicians recommend non-pharmacological interventions as the first-line treatment for chronic insomnia (Qaseem et al., 2016).

2.2.1. Cognitive Behavioral Therapy for Insomnia (CBT-I): CBT-I is the gold standard and is a multi-component therapy that addresses the dysfunctional beliefs and behaviors that perpetuate insomnia (Ntikoudi et al., 2024). Its core components include:

2.2.2. Cognitive Therapy: Restructuring negative or unrealistic thoughts about sleep (de Paz-Montón et al., 2025).

2.2.3. Stimulus Control: Re-associating the bed and bedroom with sleep by limiting wakeful activities in bed (McLaren et al., 2023).

2.2.4. Sleep Restriction: Limiting time in bed to the actual amount of time spent sleeping to increase sleep drive (McLaren et al., 2023).

2.2.5. Relaxation Training: Techniques like progressive muscle relaxation and diaphragmatic breathing to reduce somatic arousal (Katzenelenbogen & Aisenberg- Shafran, 2025).

2.2.6. Sleep Hygiene Education: Providing information on lifestyle and environmental factors that influence sleep (Tassone et al., 2023; Hafızoğlu et al., 2025).

CBT-I has demonstrated long-term efficacy comparable or superior to pharmacotherapy, without the associated risks (Mitchell et al., 2012). However, its widespread implementation is hindered by a shortage of trained therapists, cost, and the significant commitment required from the patient (Schotland et al., 2024).

## 3. Traditional Chinese Medicine (TCM) Approaches

TCM views insomnia not as an isolated disease but as a manifestation of a deeper systemic imbalance, typically related to the disharmony of Yin and Yang, and the disruption of Qi (vital energy) and blood flow (Ye et al., 2024). Treatment is therefore holistic and individualized.

3.1. Acupuncture and Moxibustion: Acupuncture involves the insertion of fine needles into specific acupoints to restore the smooth flow of Qi. Moxibustion involves burning the herb mugwort over these points to warm and invigorate them (Wu & Wu, 2024). Both have been used for centuries to calm the spirit (Shen) and harmonize the body's functions to promote restful sleep (Dong et al., 2023; Chang et al., 2024).
3.2. Chinese Herbal Medicine: TCM utilizes complex herbal formulas tailored to an individual's specific pattern of disharmony. These can be administered orally as teas or pills, or used externally. External applications are particularly suitable for the elderly and include:
3.2.1. Herbal Foot Soaks: Using warm water infused with specific herbs to draw energy downward, away from an overactive mind, promoting relaxation before bed (Liao et al., 2008; Nasiri et al., 2024).
3.2.2. Herbal Pillows and Sachets (Aromatherapy): These utilize aromatic herbs that, when inhaled, are believed to have a calming and sleep-promoting effect (Wang et al., 2023). This non-invasive method is gentle and easy to use.
3.3. Aromatherapy (芳香療法): A modality with roots in many ancient cultures, including TCM, aromatherapy uses the inhalation of aromatic compounds from plants to promote health (Xu et al., 2024). In the context of insomnia, herbs like lavender are often used in pillows, sachets, or diffusers to calm the nervous system and induce sleep (Aini et al., 2025; Karimi et al., 2025).
The primary advantages of TCM therapies are their excellent safety profile, minimal side effects, and high patient acceptance (Ye et al., 2024). However, a major limitation is the need for more large-scale, methodologically rigorous randomized controlled trials to firmly establish their efficacy by modern scientific standards.
Having detailed the primary modalities within both Western and Eastern medicine, the following table provides a direct comparison to summarize their core philosophies, methods, and clinical considerations in the management of insomnia for older adults.

Table 1. Comparison of Western and Eastern (TCM) Treatments for Insomnia in Older Adults

| **Feature** | **Western Medicine** | **Eastern Medicine (Traditional Chinese Medicine - TCM)** |
|---|---|---|
| Core Philosophy | Views insomnia as a distinct clinical disorder, often caused by specific neurobiological, psychological, or behavioral factors. | Views insomnia as a symptom of a deeper, systemic imbalance in the body's vital energy (Qi), blood, and the harmony of Yin and Yang. |
| Primary Modalities | 1. Pharmacological: Use of medications to induce or maintain sleep. 2. Non-Pharmacological: Use of structured therapies to change behaviors and thoughts around sleep. | 1. Acupuncture/Moxibustion: Stimulating acupoints to regulate energy flow. 2. Herbal Medicine: Using plant-based formulas (internal or external). 3. Mind-Body Practices: Including aromatherapy, therapeutic massage (Tui Na), and foot soaks. |
| Specific Examples | • Pharmacological: Benzodiazepines (e.g., Temazepam), Non-BZDRAs (e.g., Zolpidem), Orexin Receptor Antagonists (e.g., Lemborexant), sedating antidepressants (e.g., Trazodone). • Non-Pharmacological: Cognitive Behavioral Therapy for Insomnia (CBT-I) is the gold standard. | • Acupuncture: Needling points like Shenmen (HT7) and Anmian (Extra). • Herbal Formulas: Suan Zao Ren Tang (Sour Jujube Decoction). • Aromatherapy: Using herbal sachets or pillows with lavender or other calming herbs. |
| Mechanism of Action | Targets specific neurochemical systems (e.g., enhancing GABAergic inhibition, blocking orexin wakefulness signals) or restructures maladaptive sleep-related cognitions and behaviors. | Aims to restore balance by nourishing Yin, clearing excess heat, calming the Shen (spirit/mind), and ensuring the smooth flow of Qi and blood throughout the body. |
| Strengths & Advantages | • Pharmacotherapy: Rapid onset of action, effective for acute or short-term insomnia. • CBT-I: High long-term efficacy, addresses root behaviors, no risk of medication side effects, considered first-line treatment. | • Holistic approach that can address other concurrent symptoms. • High safety profile with minimal side effects, especially for external therapies. • Well-suited for older adults who are sensitive to medication or have multiple comorbidities. |

| | | |
|---|---|---|
| Weaknesses & Disadvantages | • Pharmacotherapy: Significant risk of side effects in the elderly (falls, cognitive impairment, dependency, tolerance). Not recommended for long-term use. • CBT-I: Can be costly, requires significant patient motivation, and access is limited by a shortage of trained practitioners. | • Onset of action is often slower compared to Western pharmaceuticals. • The evidence base, while growing, lacks the large-scale, rigorous randomized controlled trials common in Western medicine. • Efficacy can be dependent on the skill and experience of the practitioner. |
| Evidence Base | Strong evidence from numerous large-scale, double-blind, randomized controlled trials (RCTs) and meta-analyses, especially for CBT-I and pharmaceuticals. | Based on thousands of years of empirical use and case studies. The number of modern RCTs is increasing but they are often smaller in scale. |
| Best Suited For | • Acute Insomnia: Short-term pharmacotherapy. • Chronic Insomnia: CBT-I for motivated patients who want a long-term, non-drug solution. | • Chronic Insomnia: Patients seeking a gentle, holistic, or non-pharmacological approach. • Sensitive Patients: Individuals who cannot tolerate Western medications or have complex medical histories. |

## 4. DISCUSSION AND CONCLUSION

The management of insomnia in older adults presents a significant clinical challenge, as highlighted by the distinct approaches summarized above. Western medicine offers potent pharmacological solutions that, while effective in the short term, are fraught with risks that are amplified in the geriatric population. Specifically, the use of sedative-hypnotics is strongly associated with an increased risk of falls and subsequent fractures, a devastating outcome for an older individual's independence and quality of life (Nordström & Nordström, 2019; Kang et al., 2012).

This therapeutic dilemma is further complicated by the high prevalence of comorbidities in this age group. Chronic conditions, particularly those involving chronic pain, arthritis, or nocturia, are themselves primary drivers of insomnia. This creates a vicious cycle where the symptoms of the illness disrupt sleep, and the resulting poor sleep can, in turn, exacerbate the perception of pain and worsen overall health, making treatment exceptionally complex (Jain et al., 2024; Runge et al., 2024). While Cognitive Behavioral Therapy for Insomnia (CBT-I) is rightly positioned as the first-line gold standard due to its robust safety and long-term efficacy, its practical implementation is severely hampered by systemic barriers, including a scarcity of trained therapists, high costs, and the need for significant patient commitment—factors that can be particularly challenging for older adults (Schotland et al., 2024). This results in a significant "treatment gap," where the safest option is often inaccessible and the most accessible option is often unsafe.

It is precisely within this treatment gap that Traditional Chinese Medicine offers its most compelling value. TCM approaches are not merely "alternatives"; they represent a fundamentally different paradigm that is exceptionally well-suited to geriatric care. The emphasis on holistic balance, gentle intervention, and safety aligns perfectly with the primary dictum of geriatric medicine: "first, do no harm." This is especially relevant for patients caught in the cycle of pain and sleeplessness. Non-invasive modalities like aromatherapy with herbal sachets, therapeutic foot soaks, and acupuncture can be integrated into a patient's daily routine with minimal disruption or risk. These methods are particularly beneficial for frail older adults or those with multiple comorbidities who may be taking numerous other medications, making the addition of another systemic drug highly undesirable. The focus of TCM is often on restoring function and improving overall quality of life, rather than solely targeting the metric of sleep duration, which resonates more deeply with a patient-centered model of care.

The most promising path forward, therefore, is not to view these two systems as competitors, but as collaborators in an integrative care model. An integrative approach is uniquely positioned to address both the sleep disturbance and the underlying symptoms, such as chronic pain, that perpetuate it. Such a model would leverage the diagnostic precision and evidence-based structure of Western medicine with the holistic, safety-oriented therapies of TCM. For instance, a patient beginning CBT-I could concurrently use a calming herbal sachet or nightly foot soak to manage the initial anxiety and frustration that often accompanies sleep restriction therapy. In a primary care setting, a physician could use validated screening tools to diagnose insomnia and then, based on the patient's profile and preferences, recommend a trial of acupuncture or a consultation with a TCM practitioner before resorting to pharmacotherapy. This tiered, integrative approach allows for a more personalized and flexible treatment plan that can be adapted to the individual's needs and risk factors.

However, for this integrative vision to become a clinical reality, critical gaps in the evidence must be addressed. The primary challenge for TCM is the need for more methodologically rigorous research. Future studies should focus on standardizing interventions (e.g., consistent herbal formulas, defined acupuncture protocols) and

employing larger, multi-center randomized controlled trials that use validated Western outcome measures (like the Pittsburgh Sleep Quality Index and Insomnia Severity Index) alongside qualitative patient-reported outcomes. For Western medicine, the challenge is one of implementation. Research must focus on innovative delivery models for CBT-I, such as digital or telehealth platforms (dCBT-I), and on training primary care providers and nurses to deliver its core components, thereby increasing accessibility and reducing costs.

In conclusion, the treatment of insomnia in the older adult population requires a paradigm shift away from a one-size-fits-all approach and toward a more nuanced, patient-centered, and integrative framework. Neither Western medicine nor TCM alone holds the complete answer. The true strength lies in their synergy: combining the evidence-based rigor and behavioral science of the West with the holistic wisdom, safety, and long tradition of the East. By building bridges between these two systems, clinicians and researchers can develop the safe, effective, and accessible solutions that are essential to improving sleep, function, and quality of life, thereby promoting healthier aging for a growing global population.

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