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Case Series

Exploring curcuma zedoaria as a therapeutic option for saher muzmin (Chronic Insomnia): A unani medicine case series

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Abstract

Saher (Insomnia), a prevalent sleep disorder, is associated with hyperarousal and imbalances in cerebral temperament in Unani medicine. *Curcuma zedoaria* (Zarambād), a Unani drug, is traditionally used for its sedative and nervine tonic properties. The Objective is to evaluate the feasibility and efficacy of *Curcuma zedoaria* in improving sleep quality in patients with chronic insomnia using modern psychometric tools. A case series of five male patients (aged 42–62 years) with chronic insomnia (7 months to 2 years) was conducted at Aringnar Anna Government Hospital, Chennai, India. Patients received 500 mg *Curcuma zedoaria* capsules twice daily for 30 days. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI) and Sleep Satisfaction Scale (SSS) at baseline, days 10, 20, and 30. Mean PSQI scores decreased from 11.4 ± 3.13 to 6.0 ± 3.24 ($p = 0.043$, Wilcoxon Signed-Rank Test), and SSS scores improved from a median of 3 to 7 ($p = 0.042$). All patients reported increased sleep duration (6.5–7 hours) and improved sleep continuity. No adverse events were reported. *Curcuma zedoaria* shows promise as a safe, effective intervention for chronic insomnia, requiring further research with larger, controlled studies. These findings integrate Unani medical concepts with modern clinical assessment tools, highlighting the relevance of traditional therapeutics in contemporary evidence-based practice.

Keywords: Insomnia, Curcuma zedoaria, Unani medicine, Pittsburgh sleep quality index, Case series, Sleep disorders.

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1. Introduction

The word sleep is derived from the English verb (slēpan) which is a natural response of the body where consciousness is temporarily suspended, to restore energy.[1] Sleep is typically defined by duration and quality. Sleep deprivation or restricted sleep is often defined as 6 hours or less per night over a period of weeks, while sleep disturbances include issues like insomnia, poor sleep quality, and specific disorders such as sleep apnoea or excessive daytime sleepiness. It may disrupt your daily tasks and cause excessive daytime sleepiness.[2-5] Insomnia is characterized by a persistent state of hyperarousal, where both the body and brain stay overly alert even during sleep. This is commonly associated with increased levels of cortisol, resulting from an imbalanced hypothalamic-pituitary-adrenal (HPA) axis, particularly noticeable during the evening and night-time hours.[3] Brain imaging and EEG studies show heightened beta and gamma wave activity, suggesting ongoing cortical arousal during both waking hours and sleep.[4] Insomnia also involves a disrupted balance between wake-promoting neurotransmitters (like orexin and norepinephrine) and sleep-promoting systems (such as GABA and melatonin), with recent evidence highlighting overactivity of the orexin system.[5,6] Additionally, a person's genetic sensitivity to stress (high sleep reactivity) along with localized brain activity during sleep, when combined with ongoing stress, helps maintain the state of hyperarousal.[7] Reported rates of insomnia vary according to the diagnostic criteria used. Sleep problems are common across all age groups, with prevalence rates ranging from about 20% to over 40% depending on the population and definition used. Definitions vary but often focus on sleep duration and quality. Prevalence is influenced by age, gender, geography, and health status, highlighting the

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need for targeted interventions and further research. The prevalence of insomnia increases with age, including in children and adolescents, where it is often underrecognized. Gender differences have also been observed, with some studies indicating a higher prevalence among females, particularly in older adults and Post-COVID populations. Geographic and socioeconomic factors play a significant role, with higher rates reported in economically disadvantaged or rural regions. Additionally, various risk factors such as chronic stress, academic pressure, and underlying health conditions further elevate the likelihood of developing insomnia.[8,10] In an international survey of primary care patients, about 33% reported insomnia. In the United States, approximately 17% of adults experienced insomnia or difficulty sleeping regularly over the past 12 months, yet only 6–10% met full diagnostic criteria.[8] The term "chronic insomnia" is commonly used when symptoms last for several weeks or months, accounting for 40–70% of all insomnia cases. Longitudinal research has shown that chronic insomnia can last from 1 up to 20 years.[6] In India, recent studies indicate similarly high rates of insomnia. A 2023 meta-analysis covering nearly 68,000 participants estimated that 25.7% of the population suffers from insomnia,[9] with higher rates among patients (32.3%) and healthy individuals (15.1%).[10] Among older adults (aged 60 and above), about 37% reported symptoms of insomnia.[11] In rural Northern India, approximately 27.2% were affected by insomnia[12] and nearly half (47.2%) of hypertensive adults in a separate study exhibited insomnia symptoms.[13] Patients with medical or mental health conditions, middle-aged and older persons, and shift workers are all susceptible to insomnia.[14]

1.1. Classical descriptions of Saher

In the Unani system of Medicine, Sleep is an important factor mentioned in six essential factors of (*Asbāb Sitta Darūriyya*) of life which is (*Yaqza*), which functions continuously throughout a person's entire life. The essentials factors are: (a) *Hawā' al-muhit* (environmental air), (b) *Ma'kul-o-Mashrūb* (food and drinks), (c) *Harkat-o-Sukūn badnī* (bodily movement and repose), (d) *Harkat-o-Sukūn nafsānī* (psychic movement and repose), (e) *Nawm-o-Yaqza* (sleep and wakefulness), and (f) *Istifrāgh wa Ihtibās* (evacuation and retention).[15] Normal sleep is induced by a specific type of *rutūbat* (moisture), though not all forms of *rutūbat* contribute to this process. Conversely, *yabūsat* (dryness) serves as the principal disruptive factor for cerebral temperament, inducing an imbalance in naum (sleep) that progresses to *saher* (insomnia). Excessive consumption of hot and dry foods produces hot and dry humors, which is responsible for insomnia.[16] Ibn Sina equates *Saher* with prolonged, pathological wakefulness. Hakīm Azam Khan primarily attributes it to cerebral *harārat wa yabūsat* (heat and dryness), while considering abnormal humors to play a secondary role. Jurjānī defines it as the inability to sleep (*Saher*) despite the need for rest. Allama Kabīruddin highlights its harmful effects, including the depletion of *quw'a* (vital power), weakening of the brain, and disruption of digestion.[17] The main causes of insomnia include environmental factors (like noise or light), stress and anxiety, mood disorders (such as depression), physical discomfort (pain or illness), overheating (*Harārat wa Yabūsat* excessive heat and dryness), black bile imbalance (*Aurame Sawdawi*-melancholic humor), and acidic or alkaline bodily humor all contribute to insomnia.[21] Chronic insomnia creates significant personal and societal consequences, manifesting as diminished life quality, compromised daytime performance, and elevated workplace absenteeism rates. The root cause lies in abnormal drying and overheating of key organs particularly the brain resulting from the breakdown of bodily humors (*Akhlāt*), loss of vital heat energy (*Harārat Gharīziyya*), and dissipation of Rūh (vital spirit), collectively eroding *quw'a* (essential vitality).[22] Long-term insomnia also raises the risk of developing depression and becoming dependent on sleep medications.

1.2. Unani pharmacopeia and curcuma zedoaria

Unani pharmacopeia has a single drug *Curcuma zedoaria* (Arabic name: Zarambād, Hindi name: Narkachoor). described in classical Unani texts such as Makhzan-ul-Mufradat and Kitāb al-Ḥāwī, is recognized for its *Muqawwi A'ṣāb* (nervine tonic), *Muqawwi Qalb* (cardiotonic), *Mundajj-e-Balgam* (phlegm maturant), and *Mufarrih* (exhilarant) are among its attributes; it is regarded as *Mushil-e-Riyāh* (carminative) and beneficial for *Suda'* (headache), *Waswās* (anxiety), and *Tashannuj* (convulsions).[23] Its effects indicate potential in calming the derangements of *Balghamī* and *Saudāvī,* which are frequently associated with insomnia and disturbed sleep.[18] While traditional Unani medicine has historically recognized *Curcuma zedoaria* contains active compounds like curcumenol and zerumbone, exhibiting modern research supports by revealing its anti-inflammatory, antioxidant, and neuroprotective effects mechanisms that likely contribute to its sedative and sleep-promoting qualities and emotional disorders.[19] However, organized clinical evidence assessing its direct impact on sleep regulation is lacking. Chronic insomnia contributes to depression, cognitive dysfunction, poor quality of life, and reliance on sedative-hypnotic drugs, which carry risks of tolerance, dependence, and side effects. Considering these limitations, alternative approaches rooted in traditional systems like Unani medicine are increasingly explored. By integrating modern assessment tools such as the Pittsburgh Sleep Quality Index (PSQI) with traditional Unani principles, this observational case series aims to evaluate the effects of *Curcuma zedoaria* on sleep quality, latency, and overall satisfaction.[20,21] This case series integrates Unani theoretical insights with modern psychometric tools to evaluate the feasibility, safety, and efficacy of *Curcuma zedoaria* in managing chronic insomnia. The findings aim to generate evidence supporting Unani pharmacotherapy in sleep

disorders and encourage further controlled research on traditional formulations.

2. Case Series

2.1. Study design and setting

This was a prospective, observational case series conducted at the Postgraduate Department of Moalajat, Aringnar Anna Government Hospital of Indian Medicine, Chennai, Tamil Nadu, India. The study was conducted in accordance with the Declaration of Helsinki and received approval from the Institutional Ethics Committee. Written informed consent was obtained from all participants prior to inclusion.

2.2. Patient selection criteria

Five male patients, aged between 42 to 62 years, diagnosed with chronic insomnia of more than 3 months' duration (ranging from 7 months to 2 years), were enrolled. Inclusion criteria required a baseline Pittsburgh Sleep Quality Index (PSQI) score >10, indicating moderate to severe insomnia, along with subjective complaints of poor sleep quality and reduced duration, or sleep discontinuity. Exclusion criteria included active psychiatric illness, recent use of sedative medications, uncontrolled chronic illnesses (e.g., diabetes, hypertension), and substance abuse. No patients were lost to follow-up during the study.

2.3. Intervention protocol

The investigational drug was *Curcuma zedoaria* (Zarambād), administered in capsule form containing 500 mg of powdered rhizome. Patients were advised to take one capsule twice daily once in the morning and once at bedtime orally with lukewarm water, for a total duration of 30 days. No other sedative medications or herbal supplements were permitted during the intervention period.

2.4. Follow-up and monitoring

Patients were consistently evaluated at every assessment interval for clinical response and any adverse events. Compliance was verified through patient interviews and capsule counts. Safety was monitored using a standardized adverse event checklist to document potential symptoms (e.g., gastrointestinal discomfort, allergic reactions, neurological symptoms), Vital signs (blood pressure, heart rate, respiratory rate) were recorded at each assessment point (Days 0, 10, 20, 30) to detect any physiological changes. Throughout the study, there were no reported side effects or dropouts.

3. Discussion

Five male patients (mean age 54 ± 8.2 years) completed the 30-day intervention. No adverse events were reported, and vital signs, liver function tests (ALT, AST), and renal function tests (serum creatinine) remained within normal limits throughout the study. Given the small sample size (n=5) and the non-normal distribution of clinical scores, non-parametric statistical methods were employed to ensure appropriate analysis. Descriptive statistics were used to calculate the mean and standard deviation (SD) of PSQI scores at baseline and post-treatment. To evaluate the significance of changes in PSQI and Sleep Satisfaction Scale (SSS) scores before and after the 30-day intervention with *Curcuma zedoaria*, the Wilcoxon Signed-Rank Test was applied. This test is suitable for small, paired samples and does not assume a normal distribution. A p-value < 0.05 was considered statistically significant. All data were compiled and processed using Microsoft Excel, with statistical analysis conducted using SPSS version 27 and RStudio, adhering to standard biostatistical practices in complementary and integrative medicine research.

3.1. Pittsburgh sleep quality index (PSQI)

Baseline mean PSQI score was 11.4 ± 3.13, indicating moderate to severe insomnia. Post-treatment (Day 30), the mean score decreased to 6.0 ± 3.24 (mean change: 5.4 ± 1.52, $p = 0.043$, Wilcoxon Signed-Rank Test). Individual improvements ranged from 11.11% to 87.50% (**Table 1**). **Figure 1** shows the mean PSQI scores over time.

3.2. Sleep satisfaction scale (SSS)

Baseline median SSS score was 3 (range: 2–4), improving to 7 (range: 6–8) by Day 30 ($p = 0.042$, Wilcoxon Signed-Rank Test). **Figure 2** illustrates this improvement.

3.3. Sleep duration and continuity

All patients achieved 6.5–7 hours of consolidated sleep by Day 30, with reduced sleep latency and fewer nighttime awakenings observed by Day 10 in most cases.

3.4. Quality of life

WHOQOL-BREF scores showed improvements in physical and psychological domains. Two patients reported enhanced environmental domain scores, citing better sleep environment adaptation.

3.5. Individual case summaries

1. Case 1 (Age 42): PSQI reduced from 16 to 10, improved sleep initiation, and reduced fatigue by Week 2.
2. Case 2 (Age 62): PSQI reduced from 12 to 6, decreased irritability and headaches.
3. Case 3 (Age 61): PSQI reduced from 9 to 6, improved morning refreshment and sleep continuity.
4. Case 4 (Age 59): PSQI reduced from 8 to 1, enhanced sleep continuity and daytime alertness.
5. Case 5 (Age 53): PSQI reduced from 12 to 7, significant sleep improvement despite osteoarthritis.

The study included five male patients aged 42–62 years with chronic insomnia persisting for 7 months to 2 years. At baseline, all patients reported poor sleep quality, including reduced sleep duration, difficulty initiating or maintaining sleep, and frequent nighttime awakenings. The Pittsburgh

Sleep Quality Index (PSQI) was used as the primary assessment tool, with a score >5 indicating significant sleep disturbance. Baseline PSQI scores ranged from 8 to 16 (mean: 11.4 ± 3.13), indicating moderate to severe insomnia. Following a 30-day intervention with Curcuma zedoaria (500 mg twice daily), PSQI scores decreased in all patients, with final scores ranging from 1 to 10 (mean: 6.0 ± 3.24). Individual improvements ranged from 33.33% to 87.50%, demonstrating substantial reductions in symptom severity. The Sleep Satisfaction Scale (SSS) also showed notable enhancement, with median scores improving from 3 (range: 2–4) to 7 (range: 6–8), reflecting increased subjective satisfaction with sleep. Improvement was measured using changes in PSQI and SSS scores over four time points (Days 0, 10, 20, and 30). Response was categorized by percentage reduction in PSQI from baseline to Day 30. Notably, Patient 4 exhibited the most dramatic improvement (87.5%), while all others showed steady progress. These findings, summarized in **Table 1**, clearly support the effectiveness of Curcuma zedoaria in enhancing sleep quality and continuity, with no reported adverse effects throughout the study period.

Table 1: PSQI scores and percentage improvement

Subject	Baseline	Day 10	Day 20	Day 30	% Improvement (Baseline to Day 30)
1	16	14	12	10	37.50%
2	12	10	8	6	50.00%
3	9	8	7	6	33.33%
4	8	6	3	1	87.50%
5	12	11	9	7	41.67%

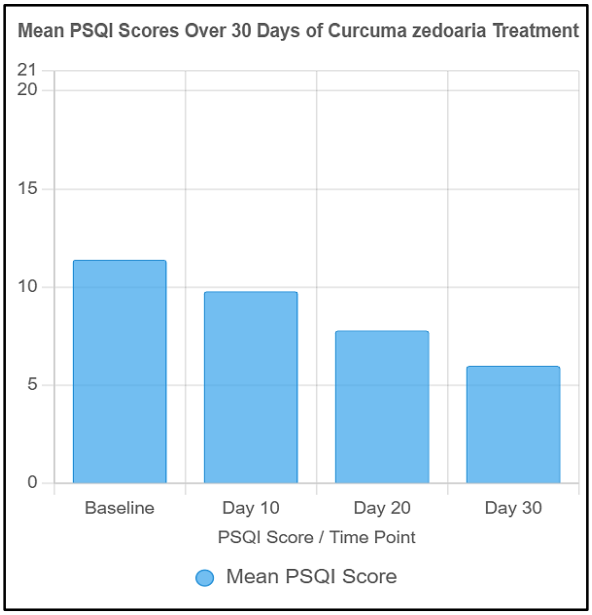

Figure 1: Mean PSQI scores over 30 days of curcuma zedoaria treatment

Description: This bar chart shows the mean PSQI scores (with standard deviation as error bars) at baseline, Day 10, Day 20, and Day 30 across all five patients, highlighting the significant improvement in sleep quality ($p = 0.043$). The blue color (rgba(54, 162, 235)) ensures visibility on both light and dark backgrounds. (**Figure 1**)

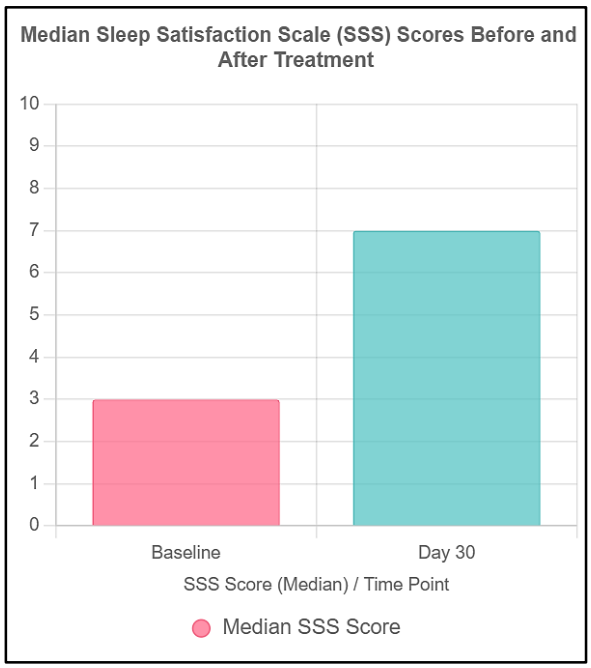

Figure 2: Median sleep satisfaction scale (SSS) scores before and after treatment

Description: This chart highlights the significant improvement in subjective sleep satisfaction ($p = 0.042$), with distinct colours (red for baseline, teal for Day 30) for clarity. (**Figure 2**)

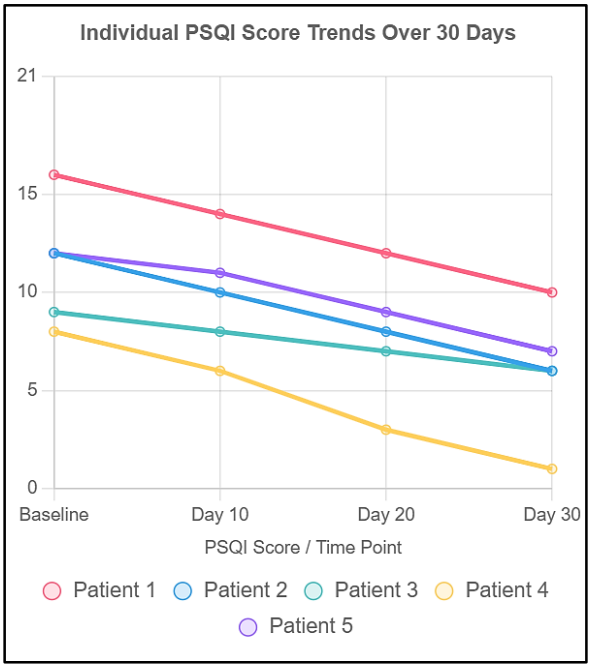

Figure 3: Individual PSQI Score before and after treatment

Description: This line chart shows individual patient trajectories, emphasizing variability in response (e.g., Patient 4's dramatic improvement from 8 to 1). (**Figure 3**)

The findings align with evidence for other Unani and herbal agents (e.g., *Valeriana wallichii*, *Withania somnifera*), possibly via GABA modulation. Importantly, no adverse effects occurred, and liver, renal, and vital parameters stayed normal. Unlike benzodiazepines, *C. zedoaria* caused no morning grogginess, dependence, or cognitive dulling, underscoring its practical relevance.

Limitations include small sample size, lack of control or blinding, and short follow-up, which restrict generalizability and assessment of long-term effects. Nevertheless, the results provide initial evidence supporting *C. zedoaria* as a safe, affordable, and potentially effective monotherapy for insomnia, warranting confirmation in larger randomized controlled trials.

4. Conclusion

Curcuma zedoaria demonstrated a positive therapeutic role in the management of *Saher Muzmin* (chronic insomnia), with all five patients showing measurable improvements in sleep quality, duration, and satisfaction over a 30-day period. Clinical observations supported by reductions in PSQI scores and enhanced Sleep Satisfaction Scale ratings highlight its sedative and nervine tonic effects, as documented in classical Unani literature. The absence of adverse effects, coupled with normal biochemical and vital sign parameters, further underscores its safety and tolerability. These preliminary findings suggest that Curcuma zedoaria holds significant promise as a viable, non-pharmacological option for insomnia management within both Unani and integrative medical frameworks. However, to establish its efficacy with greater certainty, well-designed randomized controlled trials with larger sample sizes and longer follow-up are essential. This case series lays the groundwork for further clinical exploration and supports the integration of Unani therapeutics into modern evidence-based insomnia care.

5. Source of Funding

None.

6. Conflict of Interest

None.

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