

Case Report



Post-Traumatic Generalised Anxiety Disorder induced Secondary Insomnia managed with Multimodal Holistic Ayurveda approach: A case report

[1*Rajimunnisa Begam Shaik](#), [2Sunil Kumar](#), [3Bawadkar Prasad](#), [4Bhushan Mhaiskar](#)

ABSTRACT:

Background: Generalised Anxiety Disorder (GAD) is a condition which commonly associated with Insomnia particularly when precipitated by significant psychosocial stress. Persistent worry and hyperarousal interfere with normal sleep-wake cycle and impairs emotional resilience. Ayurveda correlates this clinical condition with *Chittodvega* (mental agitation), *Vishada* (low mood) and *Nidranasha* (insomnia) mostly attributed to aggravated *Vata dosha* and *Rajo guna*. Present report is unique as it exhibits quick and sustained recovery from trauma associated GAD-induced secondary insomnia through multimodal holistic protocol. **Methodology:** A single case report of 22-year-old male presented with chief complaints of difficulty in falling and maintaining sleep for last six months along with lack of interest in daily activities and continuous feeling of worry. These manifestations were noted especially after major psychosocial life events, namely road traffic accident, parental separation and grandfather's demise. Baseline assessment revealed marked distress. **Intervention:** Intervention consists of comprehensive 56-days staged protocol which include *Shirodhara* (pouring of medicated liquid over forehead), *Padabhyanga* (therapeutic foot massage), *Shirotalam* (therapeutic application of medicated paste over scalp), *Shiroabhyanga* (therapeutic head massage), *Medhya Rasayana* (nootropic and neurocognitive medicines) (*Brahmi Vati*, *Saraswatarishta*, *Brahmi Ghrita*), *Ashwagandha*, *Sarpagandha churna*, *Satwawajaya Chikitsa* (psychotherapy), therapeutic *Yoga*, *Marma* therapy (therapeutic stimulation of vital points) and Music-Supported Therapy, administered in inpatient and home-base treatment sequentially. **Outcomes:** Significant improvement was reported by day 7. At day 56 insomnia, anxiety and mood scores were nearly normal when assessed on standardised scale. No ADEs were reported and adherence to treatment was excellent. **Conclusion:** Post-traumatic GAD-induced secondary insomnia was effectively managed with integrative multimodal holistic Ayurvedic approach comprising oral formulations, external therapies and mind-body practices given over a period of 56-days. Intervention resulted in marked improvement across sleep, anxiety and overall functioning.

KEYWORDS: *Ayurveda*, *Case Report*, *GAD induced insomnia*, *Medhya Rasayana*, *Nidranasha*, *Shirodhara*.

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Corresponding Author Email:

dr.razia.sk@gmail.com

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1. INTRODUCTION

Generalised Anxiety Disorder (GAD) is a common mental disorder, affecting around 359 million people globally, while the prevalence of 0.57% in the Indian population. [1, 2] It is usually characterized by excessive worry, restlessness and impaired daily functioning. [3] It is commonly associated with secondary insomnia that maintains the cycle of hyperarousal, cognitive rumination and emotional dysregulations. Young adults experiencing psychosocial stressors especially traumatic events are more susceptible for worsening anxiety and sleep disturbances. [4] According to Ayurveda, insomnia associated with GAD can fall under *Chittodvega* (mental agitation)/*Vishada* (low mood) associated *Nidranasha* (insomnia). Excessive worry, mental shock and emotional equilibrium may manifest as secondary insomnia. [5]

Classical texts emphasize *Satwawajaya Chikitsa* (psychotherapy), *Medhya Rasayanas* (cognitive-enhancing rejuvenation) and *Achara Rasayana* (ethical regimen) to relieve mental disharmony with increased resilience. [5,6] Pharmacotherapy continues to be a staple of conventional management of GAD and insomnia from modern science, though, due to limitations like partial response, side effects and patient preference for nonpharmacological strategies. Previous studies have reported beneficial effects of Ayurvedic interventions, including *Medhya Rasayana*, *Shirodhara* and *Satwawajaya Chikitsa* in reducing anxiety as well as improving sleep quality. [8] Though, existing evidence is largely limited to small studies as well as isolated interventions with little or no emphasis on comprehensive, individualized and integrative treatment models. This indicates a clear knowledge gap regarding the role of a holistic Ayurveda-based integrative multimodal approach in the management of generalized anxiety disorder and insomnia. Present case report describes a structured, integrative multimodal Ayurvedic approach in a young adult with post-traumatic generalized anxiety disorder induced secondary insomnia, a clinically common presentation that

remains underreported in the literature with measurable rapid improvement among multiple domains within a short period of time.

2. CASE REPORT

Patient Information: A 22-year-old male patient presented with a six-month history of progressive sleep disturbances including difficulty in initiating sleep, frequent awakening during the night and non-refreshing sleep accompanied by excessive daytime tiredness, persistent worry along with lack of interest in daily work or activities, irritability and fatigue. Onset was followed after two major psychosocial stressors, death of his grandfather and separation of his parents six months prior, both of which significantly affected his emotional well-being. No history of chronic illnesses or previous medication reported. Stressful family background due to repeated occurring conflicts was reported by the patient. His lifestyle factors include cigarette smoking approximately ten per day likely as a coping mechanism, while he denied history of consuming alcohol or recreational drugs. There was no relevant genetic history. Prior to presentation, the patient had not received any contemporary medical management, including anxiolytics, antidepressants or hypnotics for generalized anxiety disorder or insomnia. He had also not undergone Ayurvedic treatment, structured psychotherapy or mind-body interventions prior. Over the last six months, his symptoms progressively worsened, significantly affecting his daily activities and quality of life.

Clinical Findings: Patient was moderately built, well-nourished with BMI of 18.42 kg/m²; stable vitals (BP:100/70 mmHg, pulse was 68/minute of regular pattern in rhythm), afebrile with normal pulse oximetry and there was no evidence of lymphadenopathy, pallor or pedal edema. Cardiovascular, respiratory, abdominal and neurological examination was found normal. Mental status assessment revealed anxious affect and ruminative thoughts, with intact cognition, orientation, memory and also insight. Sleep disturbance with difficulty initiating sleep, frequent

awakenings during night and non-restorative sleep. Functional assessment showed reduced activity, impaired concentration and lack of motivation, affecting academic and social performance.

Timeline: Detail sequential timeline of clinical events presented in [table 1](#).

Table 1: Sequential timeline of clinical events

Period	Clinical Events
2021	Death of grandfather due to COVID-19 (major emotional stressor)
Late 2024	Parental separation leading to psychological distress
Early 2025	Road Traffic Accident (RTA) leading to significant psychosocial stress
March 2025	Onset of anxiety and disturbed sleep
01-04-2025 to 03-10-2025	Progressive worsening of insomnia and anxiety without treatment
03-10-2025	Baseline assessment; inpatient Ayurvedic treatment initiated
03-10-2025 to 09-10-2025	Inpatient therapies including <i>Shirodhara</i> and supportive interventions.
10-10-2025 to 27-11-2025	Continued structured home-based therapies
27-11-2025	Final evaluation showing stable remission

Diagnosis Assessment: Patient was evaluated through, comprehensive physical and mental status assessment with standardised psychometric scales. On physical examination, he was moderately built, well-nourished with stable vital signs, with no systemic abnormalities suggesting any underlying medical illness. Since there were no clinical indications or comorbidities, laboratory tests and imaging studies were not carried out.

Table 2: Differential diagnosis

Differential Diagnosis	Reason for Consideration	Reason for Exclusion / Final Interpretation
Primary Insomnia	Difficulty initiating and maintaining sleep for >3 months	As it is anxiety and trauma-driven onset suggesting secondary cause rather than primary insomnia
Depressive Disorder	Low mood, reduced interest, sleep disturbance	HAM-D score denote moderate depression but anxiety and worry were predominant; sleep disturbance better explained through GAD

Psychological assessment using standardized scales revealed the following:

- Insomnia Severity Index (ISI): 21, suggesting severe insomnia
- Pittsburgh Sleep Quality Index (PSQI): 19, suggesting poor sleep quality
- Hamilton Anxiety Rating Scale (HAM-A): 33, suggesting severe anxiety
- Hamilton Depression Rating Scale (HAM-D): 23, suggesting moderate depressive features
- Mini-Mental State Examination (MMSE): Patient scored 27 of 30 on MMSE suggesting normal cognitive function. He was fully oriented to time, place and person demonstrated intact attention, memory as well as calculation abilities and performed language and comprehension tasks without any difficulty. This suggests that despite severe anxiety and insomnia his overall cognitive functions are preserved.

Above findings confirmed severe anxiety consistent with DSM-5 criteria for Generalized Anxiety Disorder (GAD), characterized by excessive and persistent worry for at least 6 months along with symptoms like fatigue and irritability. Patient's anxiety and hyperarousal were identified as main factors contributing to his secondary insomnia.

Diagnostic challenges: No significant challenges were faced. Main difficulty was establishing a connection between symptom manifestation and psychosocial stressors, from death of his grandfather and his parental separation events.

Diagnosis Workup (including differentials): Differential diagnosis presented in [Table 2](#). Above all findings supported definitive diagnosis of post-traumatic GAD induced secondary insomnia.

Adjustment Disorder	Recent psychosocial stressors (RTA, parental separation)	Severity and persistence of anxiety symptoms exceeded typical adjustment response
Substance-Induced Sleep Disorder	History of smoking 10 cigarettes/day	Nicotine use contributed minimally but did not fully explain insomnia severity or anxiety pattern
Generalized Anxiety Disorder (GAD) induced Secondary Insomnia	Persistent and excessive worry for 6-7 months, HAM-A 33, hyperarousal, fatigue, irritability fulfilling DSM-5 criteria.	Primary anxiety which leads to insomnia (secondary) → Final diagnosis

From Ayurvedic side *Alpanidra* (inadequate sleep), *Chinta* (excessive worry), *Udvega* (anxiety) and *Vishada* (depressed mood) suggesting *Vata* aggravation. Final diagnosis was *Vata-pitta* predominant *Nidranasha*, where *Vata* predominance explains sleep disturbance and restlessness, while *Pitta* explains to irritability as well as hyperarousal aligning the Ayurvedic diagnosis with psychometric findings align with GAD-induced secondary insomnia.

Prognosis: Prognosis was favourable with expected improvement through integrative Ayurvedic management.

Therapeutic Intervention: Patient underwent, 56-day multimodal Ayurveda protocol starting with a 7-day inpatient phase for supervised therapies and continuing with a 49-day home-based phase. External therapies included *Shirodhara* (pouring of medicated liquid over forehead) 45–60 min daily, *Shirotalam* (therapeutic application of medicated paste over scalp) 60 min daily, *Shiroabhyanga* (therapeutic head massage) 20 min daily along with *Padabhyanga* (therapeutic foot massage) 10–15 min daily, while *Marma* therapy (therapeutic stimulation of vital points) targeted *Kshipra*, *Talahridaya* and *Adhipati* points with gentle pressure (16 presses per point). Internal medications included *Medhya Rasayana* (nootropic and neurocognitive medicines) including *Brahmi Vati*, *Saraswatarishta*, *Brahmi Ghrita*, *Ashwagandha-Sarpagandha churna*. *Satwawajaya Chikitsa* (counselling, thought regulation, visualization) was delivered daily by a trained physician. Mind-body practices included *Yoga*, *Pranayama*, *Jyoti Trataka*, *Yoga Nidra* along with *mantra* chanting, while Music-Supported Therapy (soothing,

patient-selected) was carried out for 20 min at bedtime. Pre and post therapy measures ensured relaxation and monitoring and home based continuation consolidated improvements, leading to sustained clinical benefit.

Detail inpatient and home based comprehensive treatment protocol outlined in figure 1 and summarised in Table 3. Treatment adjustments was made during transition from inpatient to home-based care, therapies requiring specialized supervision including *Shirodhara*, *Marma* therapy were stopped at home.

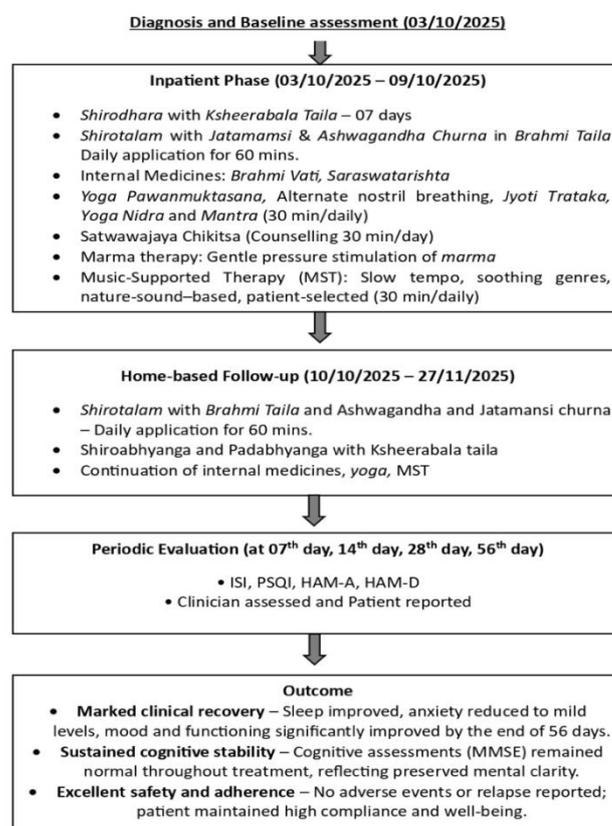


Figure 1: Treatment Flow, IP vs. Home phase and Follow-up Timeline

Table 3: Timeline of Comprehensive Treatment Plan at different time-points (IP-Inpatient-based and Home-based)

Therapy Type	Intervention	Drugs / Materials	Dose / Duration	IP Based	Home-based		
				(03/10/25–09/10/25)	10/10/25–15/10/25	16/10/25–29/10/25	30/10/25–27/11/25
External Therapy	Shirodhara (continuous medicated oil streaming therapy)	<i>Ksheerabala Taila</i> (B.No.: 1-KLJ)	1.5 L, 7 days (IP based)	✓	–	–	–
	Padabhyanga (therapeutic foot massage)	<i>Ksheerabala Taila</i> (B.No.: 1-KLJ)	Daily	✓	✓	✓	✓
	Shirotalam (medicated paste application on scalp)	<i>Brahmi Taila, Ashwagandha and Jatamansi Churna</i> (B.No.: 241)	Daily (60 min)	✓	✓	✓	✓
	Shiroabhyanga (head massage)	<i>Himsagara Taila</i> (B.No.: 55/25)	Daily (20 min)	–	✓	✓	✓
Shamana (pallative) Medicines		<i>Brahmi Vati</i> (B.No.: YPY-2301)	2 tablets twice daily after food	✓	–	–	–
		<i>Saraswatarishta</i> (B.No.: I-KLE22-23)	3 tsp twice daily with warm water after food	✓	✓	✓	✓
		<i>Brahmi Ghrita</i> (B.No.: YJ1e)	2 tsp twice daily with warm water after food	–	✓	✓	✓
		<i>Ashwagandha + Sarpagandha Churna</i> (B.No.: 01)	1 tsp twice daily with warm water after food	–	✓	✓	✓
Satwawajaya Chikitsa (Psychotherapy and visualization based therapy)	<i>Manaprasadana</i> (mental pacification), <i>Manonigraha</i> (thought regulation), <i>Asvasana</i> (reassurance) and Visualization based therapy <i>pratyaksha</i> and <i>kalpana</i>		30 min daily / during visit	✓	✓	✓	✓
Marma Therapy (Therapeutic)	Gentle pressure stimulation on <i>Kshipra Marma</i> (base of thumb-palm), <i>Talahridaya</i>		16 presses per <i>marma</i> ,	✓	–	–	–

stimulation of vital points)	(center of palm), <i>Adhipati Marma</i> (vertex of head, intersection of sagittal and coronal sutures)	once daily (5 min)				
Music-Supported Therapy (MST)	Slow tempo, soothing genres, nature-sound-based, patient-selected	Daily 20 min at bedtime	✓	✓	✓	✓
Yoga	Asana	<i>Pawanmuktasana</i>	10 min. Daily	✓	✓	✓
	Pranayama	Alternate nostril breathing	10 min. Daily	✓	✓	✓
	Kriya	<i>Jyoti Trataka</i> (steady-gaze cleansing practice)	5 min. Daily	✓	✓	✓
	Yoga Nidra	Guided yogic relaxation	5 min. Daily	✓	✓	✓
	Mantra	<i>Aaa...Uuu...Mmm</i>	5 min. Daily	✓	✓	✓

3. FOLLOW-UP AND OUTCOMES

Patient was evaluated at baseline, Day-7, Day-14, Day-28 and Day-56 and assessments were performed, are outlined in [figure-2](#) and summarised in [Table-4](#). Clinician and patient scored assessments showed progressive and substantial improvement among multiple domains in sleep onset, sleep continuity, anxiety and daily functioning at each follow-up assessed through ISI, PSQI, HAM-A, HAM-D and MMSE scales.

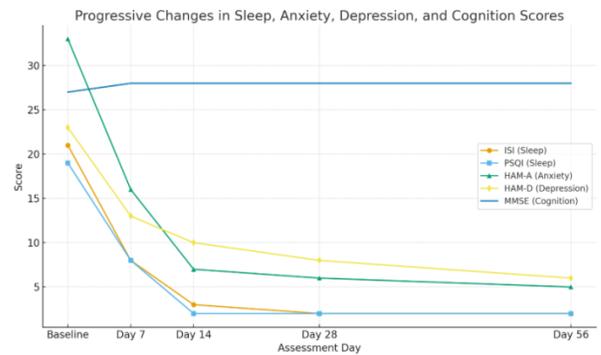


Figure 2. Showing Schematic Scales Trend change at different point of time.

Table 4A: Follow-up and Outcome Measures at different point of time.

Scale	Baseline	Day 7	Day 14	Day 28	Day 56	Notes / Clinician & Patient-Assessed Outcomes
PSQI (Sleep)	19	8	2	2	2	Clinician: Sleep quality improved by Day 14. Patient: Reports refreshing sleep and improved daytime energy.
HAM-A (Anxiety)	33	16	7	6	5	Clinician: Anxiety reduced from severe to mild to minimal. Patient: Calm, no persistent worry.
HAM-D (Depression)	23	13	10	8	6	Clinician: Mood improved, no depressive features. Patient: Improved interest and motivation.
MMSE	27	28	28	28	28	Clinician: Cognition intact from starting. Patient: No memory / concentration issues.

Table 4B: ISI Scores: Before and After Treatment

Sr. No.	ISI Item	03/10/2025 (Before)	27/11/2025 (After)
1	Difficulty falling asleep	3	1
2	Difficulty staying asleep	3	0
3	Problems waking up too early	3	0
4	Satisfaction with current sleep pattern	3	0
5	Noticeability of sleep problem to others	3	0
6	Worry/distress about sleep problem	3	0
7	Interference with daily functioning	3	1
	Total ISI Score	21 (Severe Insomnia)	2 (No Clinically Significant Insomnia)

Adherence, Tolerability and Adverse Events: Adherence was monitored through direct supervision during inpatient therapy and regular teleconsultations, patient-maintained logs as well as caregiver reports during home-based care. Patient followed all prescribed therapies and medications as instructed with good tolerability and no adverse effects.

4. DISCUSSION

This case demonstrates potential of holistic integrative Ayurvedic intervention in effectively managing GAD-induced secondary insomnia triggered by major psychosocial stressors like, RTA, parental separation. The treatment in current case was planned according to *Samprapti* based *Vighattana*, targeting to address pathogenesis of *Vata-Pitta* aggravated *Nidranasha* secondary to GAD. This *dosha* targeted, multimodal approach resulted in rapid and sustained improvement showing the effectiveness of multimodal Ayurvedic strategy guided by classical principles (figure 3). 7-day inpatient phase allowed supervised initiation of therapies while 56-day duration ensured sufficient time to restore

sleep, reduce anxiety as well as consolidate improvements at home.

Nidranasha (lack of sleep) was corrected by *Vata-Pitta-hara* and *Kapha* balancing treatment as well as by classical external therapies. *Shirodhara* and *Shirothalam* have been clinically reported to improve sleep quality in moderate to severe insomnia cases. [8] *Padabhyanga* is known to induce sleep and relieve exhaustion. [9] *Ksheerabala taila* as indicated in *Vata* disorders. These were used as a basis for topical Ayurvedic treatment intervention employed.

This integrative intervention addressed fundamental basis of anxiety disorder with insomnia. As *Shirodhara* stimulate parasympathetic activation thereby cortical hyperarousal and *Prana-Vata* stability, *Medhya Rasayana* has neurotropic, adaptogenic as well as HPA axis modulating effects that reduce anxiety and support sleep remodelling. Similarly herbal and nootropic interventions can modulate stress-related psychophysiological symptoms, suggesting Ayurveda-based phytotherapy may benefit anxiety and sleep disturbances. [10, 11] *Satwawajaya Chikitsa* stimulate cognitive restructuring and emotional processing, demonstrating nootropic effect compared to modern psychotherapeutic strategies. [12] Music-supported therapy, [13] along with *Yoga Nidra*, *Pranayama*, *Marma* stimulation [14], *Shirothalam* and *Padabhyanga* enhanced autonomic regulation and reduced ruminative cognition by enhancing releasing neurochemicals like serotonin and melatonin. Previous studies have reported that neurochemicals like serotonin and melatonin play a key role in regulating sleep and mood. [15] Rapid reductions in ISI, PSQI, HAM-A and HAM-D scores further substantiate the synergetic action of interventions, in line with contemporary principal of integrative psychiatry.

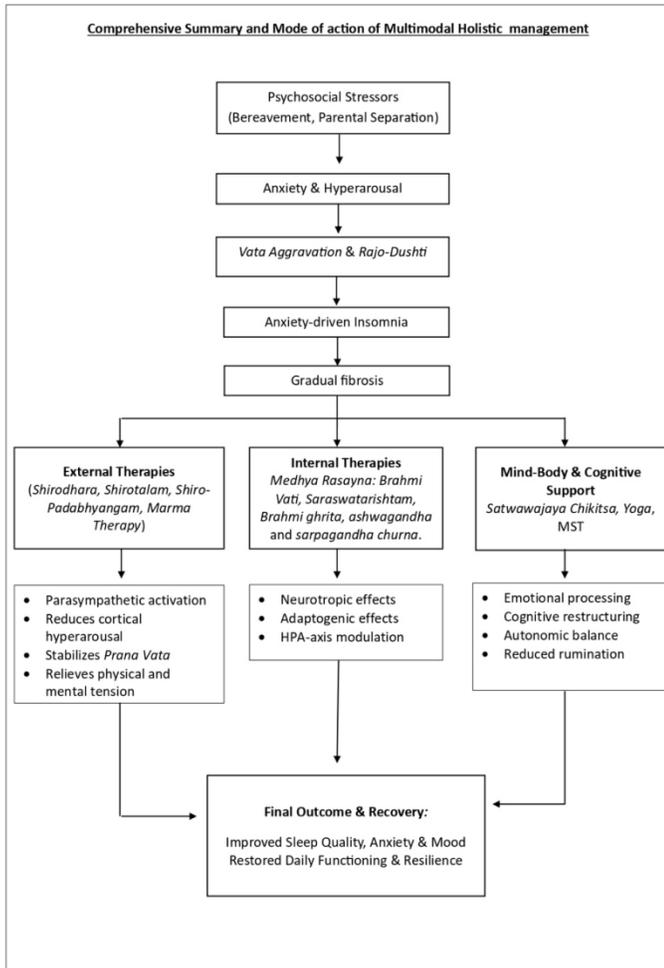


Figure 3: Mechanism of action illustrated based on domain-wise improvements

Strengths: Major strength of this case is well documentation of outcomes using validated standardised psychometric scales during multiple follow-up periods which clearly reflects the clinical outcomes. Also, well-structured integration of internal, external and psychotherapeutic modalities represents Ayurvedic practice in most practical and easy way.

Limitations: However, single case study design, lack of laboratory biomarkers or polysomnography and very short follow-up period of 56 days do not allow generalization or objective inference on sustained remission of outcomes beyond 56 days period.

Key Takeaways: Present case shown that multimodal holistic Ayurvedic protocol can facilitate quick and safe Improvement

from trauma-induced Generalized Anxiety Disorder associated secondary insomnia.

5. CONCLUSION

A 22-year-old male presented with post traumatic GAD-associated secondary insomnia triggered by major psychosocial life stressors, which includes RTA, parental separation and grandfather demise. Main chief complaints of difficulty in initiating and maintaining sleep and non-refreshing sleep for more than 6 months. As intervention patient given with multimodal holistic Ayurveda intervention which includes *Shirodhara, Shirotalam, Medhya Rasayana, Marma therapy, Pranayama, Yoga Nidra, Satwawajaya Chikitsa* and Music-supported therapy, delivered in inpatient and thereafter home-based phase. This total 56-days integrative regimen effectively pacified aggravated *Vata* and *Rajas*, improved emotional processing, reduced anxiety and restored healthy sleep patterns. Compliance was good; tolerability was excellent with no adverse event reported. Serial assessments carried at baseline, Day 7, Day 14, Day 28 and Day 56 revealed progressive and sustained clinical improvement, among multiple domains assessed through standardized scales regarding sleep. This case signifies role of integrative Ayurveda management in anxiety-related insomnia and suggest need for larger controlled studies in order to validate these findings.

Abbreviations Used:

ADE – Adverse Drug Event

BMI – Body Mass Index

BP – Blood Pressure

DSM-5 – Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition

GAD – Generalized Anxiety Disorder

HAM-A – Hamilton Anxiety Rating Scale

HAM-D – Hamilton Depression Rating Scale

IP – Inpatient

TSP – Teaspoon

ISI – Insomnia Severity Index

MMSE – Mini-Mental State Examination

MST – Music-Supported Therapy

PSQI – Pittsburgh Sleep Quality Index

RTA – Road Traffic Accident

BID – Twice daily

OD – Once daily

HS – At bedtime

min – Minutes

mL – Millilitre

kg – Kilogram

HPA axis – Hypothalamic–Pituitary–Adrenal axis

CNS – Central Nervous System

Declaration of Patient Consent – The authors confirm that they have acquired a patient consent form, in which the patient or caregiver has granted permission for the publication of the case, including accompanying images and other clinical details, in the journal. The patient or caregiver acknowledges that their name and initials will not be disclosed, and sincere attempts will be undertaken to safeguard their identity. However, complete anonymity cannot be assured.

Patient perspective - "I had problems with sleep and worrying to much constantly since past 6-7 months, after taking these all Ayurvedic treatment, I started noticing improvement within few days of treatment and as of now I sleep well, feel calmer and can manage my daily regular activities effectively than before."

Authors Details:

¹Associate Professor, Department of Manasaroga, KLE Academy of Higher Education and Research, Deemed to be University, Shri BMK Ayurveda Mahavidyalaya, Shahpur, Belagavi, Karnataka, India-590003

²Associate Professor, Department of Kayachikitsa, KLE Academy of Higher Education and Research, Deemed to be University, Shri BMK Ayurveda Mahavidyalaya, Shahpur, Belagavi, Karnataka, India-590003

³Final Year Post Graduate Scholar, Department of Kayachikitsa, KLE Academy of Higher Education and Research, Deemed to be University, Shri BMK Ayurveda Mahavidyalaya, Shahpur, Belagavi, Karnataka, India- 590003

⁴Associate professor, Dept. of Samhitha Sidhantha, Mahatma Gandhi Ayurveda Medical College, Datta Meghe Institute of Higher Education and Research, Deemed to be a university, Wardha, Maharashtra

Authors Contribution:

Conceptualization and clinical management: BP, RBS, R.SD

Data collection and literature search: BP, RBS

Writing original draft: BP, R.SD

Reviewing & editing: RBS, BP, R.SD

Approval of final manuscript: All authors

Declaration of Generative AI

The authors declare this manuscript was written without the use of generative artificial intelligence tools. All the content, including text generation, data analysis and references was developed and reviewed by the author without assistance from AI technologies.

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