

## Effect of Yoga Therapy with Ayurvedic Diet on Sleep Quality Among Aged Insomniac Women

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| Article History                                                                   | Abstract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>Received: 06 June 2023<br/>Revised: 05 Sept 2023<br/>Accepted: 03 Nov 2023</p> | <p><i>This study investigates the impact of a holistic approach combining Yoga therapy and Ayurvedic dietary interventions on sleep quality in aged women suffering from insomnia. A single group study was conducted, involving aged women (age range: 60 to 70years) diagnosed with insomnia based on standardized assessment criteria. The intervention group attended supervised Yoga sessions six times a week for 12 weeks, complemented by personalized Ayurvedic dietary recommendations. The primary outcome measure was sleeping quality, assessed using standardized sleep quality indice, Insomnia Severity Index (ISI), administered at baseline and post-intervention (12 weeks). Secondary outcome measure was anxiety and fear accessed by VAS (Visual Analog Scale). Preliminary results indicate a significant improvement in sleep quality in the intervention group, as evidenced by reductions in ISI scores, anxiety and fear (<math>p &lt; 0.001</math>). These results imply that the integration of Yoga therapy with Ayurvedic dietary practices can have a positive and long-lasting impact on quality of sleep and general wellbeing in aged women with insomnia. In conclusion, this study highlights the potential benefits of a holistic approach to addressing insomnia in aged women, emphasizing the role of complementary therapies such as Yoga and Ayurvedic dietary interventions in improving sleep quality and enhancing overall quality of life. Further research is needed to explore the long-term effects and mechanisms underlying these positive outcomes.</i></p> |
| <p><b>CC License</b><br/>CC-BY-NC-SA 4.0</p>                                      | <p><b>Keywords:</b> Yoga therapy, Ayurvedic diet, sleep quality, insomnia, aged women, holistic approach.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 1. Introduction

Sleep quality is a critical aspect of overall well-being, and insomnia is a prevalent sleep disorder, particularly among aging women. Insomnia, a prevalent sleep disorder, can impact individuals across various age groups, including elderly women. It is marked by challenges in initiating sleep, maintaining it, or achieving restful sleep, resulting in daytime exhaustion and other adverse effects.

There are several factors that can contribute to insomnia in older women like Hormonal Changes, Medical Conditions, Medications, Lifestyle Factors, Stress and Anxiety, Poor Sleep Habits.

Yoga and dietary changes can be valuable complementary approaches for managing insomnia and improving sleep quality. While they may not cure insomnia in all cases, they can help alleviate symptoms and promote better sleep patterns. Therefore, the purpose of this study was to determine the effectiveness of yoga and diet in treating insomnia in elderly women (Gunjiganvi *et al.*, 2023; Karbasi *et al.*, 2023).

### 2. Materials And Methods

The research employed a single-group pre- and post-test design. Thirty insomniac old aged women of age ranging from 60 to 70 were chosen for this study after screening 50 subjects using the Insomnia Severity Index Questionnaire. All of them have received diet charts and yoga schedules.

Yoga practices like Pawanmuktasana Series1, Asanas, Breathing Stretches, Pranayamas, Kriyas, Mantra Chanting, Yoga Nidra and breath awareness. The intervention was given over a period of 12

weeks, with yoga sessions taking place six days a week, lasting for a maximum of one hour each morning.

A diet plan based on Ayurvedic concepts was followed every day. Written consent was obtained from these participants. After a 12-week duration, the Insomnia Severity Index Questionnaire and Visual Analog Scale (VAS) were used to access the scores. VAS was used to rate the depth of anxiety and fear in participants.

A popular self-report questionnaire used to gauge how severe someone's insomnia symptoms are is the Insomnia Severity Index (ISI). It helps healthcare providers and researchers understand the impact of insomnia on a person's daily life and overall sleep quality. The ISI is a quick and easy tool to evaluate insomnia symptoms and track changes in sleep patterns over time.

The VAS score was computed by gauging the separation between the analog scale's left extremity, symbolizing 'zero,' and the right extremity, symbolizing 'ten,' with the right side representing the most intense level of anxiety and fear, and the left side representing the least.

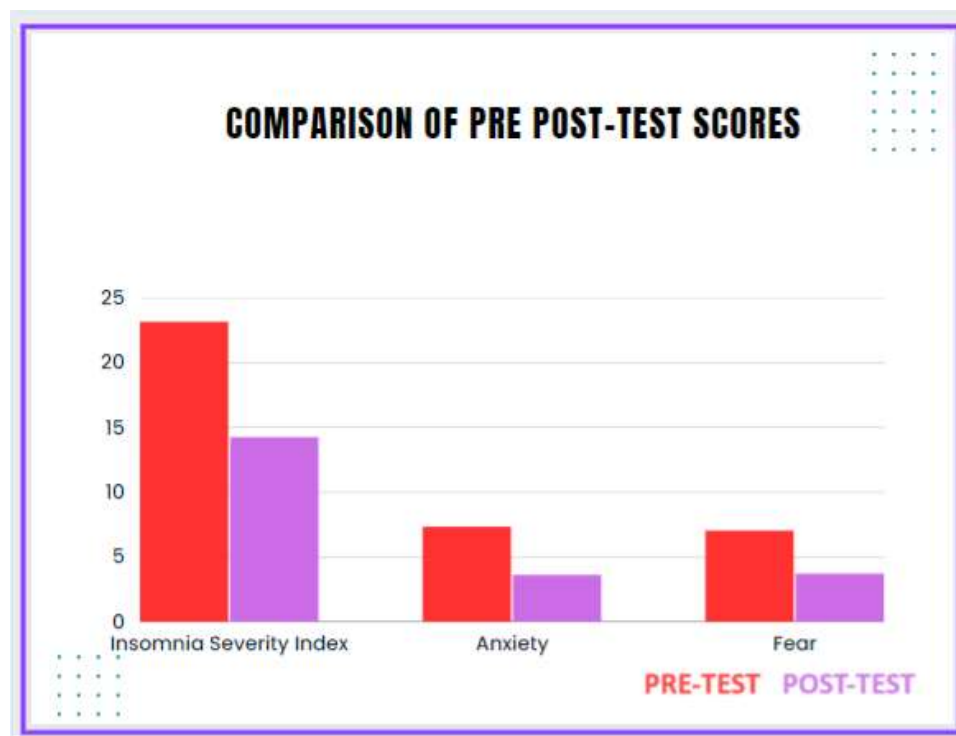
### Statistical Analysis

Paired t-test was used to assess the statistical significance of the differences observed before and after the intervention.

### 3. Results and Discussion

All the participants successfully completed the 12-week intervention. Most of the participants belonged to the age category 60 to 65 (60%), whereas 40% of them belonged to the above 65 to 70 categories. The data has shown a reduction in the Insomnia Severity Scores from 23.13 ( $\pm 2.44$ ) to 14.23 ( $\pm 2.99$ ). This has shown statistical significance as the calculated paired test value of  $t=32.636$  was greater than the tabulated value  $p<0.001$ .

Self-reported anxiety decreased significantly from an initial score of 7.3 ( $\pm 1.1$ ) to 3.6 ( $\pm 1$ ), and the reported fear decreased from 7 ( $\pm 1.2$ ) to 3.7 ( $\pm 1.1$ ), with a statistically significant p-value  $<0.001$ .



**Fig. 1** Comparison of Pre-Post Test Scores

The main findings of the study show significant improvement in sleep quality among aged insomniac women receiving the combined Yoga therapy and Ayurvedic diet intervention, underscoring the potential effectiveness of holistic and integrative approaches to managing insomnia. These findings are consistent with prior research that has shown the beneficial impact of Yoga on the quality of sleep, primarily by virtue of its stress-reduction and relaxation-inducing mechanisms. The addition of Ayurvedic dietary recommendations tailored to individual constitutions complements the holistic approach by addressing potential dietary contributors to sleep disturbances. This study's findings suggest that a combination of mind-body practices and dietary adjustments can have a substantial impact on sleep quality.

This study establishes a correlation between the intervention and improved sleep quality. Yoga is known to reduce stress, enhance mindfulness, and improve overall mental well-being, all of which can contribute to better sleep. Ayurvedic dietary changes, such as incorporating foods and herbs with relaxing properties, may also play a role in improving sleep patterns. Future studies could explore physiological markers and biomarkers associated with sleep regulation to provide a deeper understanding of the mechanisms underlying the observed improvements.

A notable aspect of this research is its focus on aged women, a demographic group often underserved in sleep studies. Aging is associated with changes in sleep architecture, hormonal fluctuations, and an increased risk of sleep disorders. The study's positive outcomes indicate that tailored interventions, which consider the specific needs and challenges of aged women, can effectively address age-related sleep disturbances. This is especially relevant as the aging population continues to grow, and non-pharmacological approaches become increasingly important in managing sleep disorders.

Gunjiganvi et al. (2023) conducted a study to assess the impact of two interventions, yoga nidra and listening to calming music, on the mental well-being of frontline healthcare workers during the COVID-19 pandemic. Subjects engaged in these activities daily for 30 minutes over a 2-week period while on duty. Within this study, individuals in the Relaxation-to-Music Group were exposed to deep relaxation music, whereas those in the Yoga Nidra Group practiced yoga nidra. At the conclusion of the duty period, the primary outcomes were evaluated using standardized scales: the Patient Health Questionnaire (PHQ)-9, Generalized Anxiety Disorder (GAD)-7 scale, and Insomnia Severity Index (ISI). The findings of the study indicated that the practice of yoga nidra was more effective than listening to relaxing music in reducing symptoms of anxiety, depression, and insomnia among healthcare professionals.

Karbasi et al. (2023) examined the relationships between significant food patterns, as determined by principal component analysis (PCA), and sleeplessness in young women. The study included 159 healthy young women between the ages of 18 and 25. Standard tools were used to undertake a neuropsychological examination. In this study, PCA was used to extract dietary trends from a 65-item validated food frequency questionnaire (FFQ). There were two main dietary types found, "Traditional" and "Western." Results showed that following the Western schedule can make you more likely to have sleeplessness.

#### **4. Conclusion**

This study underscores the potential of a holistic approach combining Yoga therapy and Ayurvedic dietary recommendations to enhance sleep quality among aged insomniac women. These findings provide valuable insights for healthcare providers, emphasizing the importance of personalized, patient-centered care that considers the unique needs of individuals, particularly in the context of aging and sleep disorders. As the field of integrative medicine continues to evolve, these results add to the growing body of research that shows complementary therapies can improve sleep quality and general well-being.

#### **Acknowledgement**

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