

A Study to Assess the Relationship Between Pranayama Practice and Sleep Quality Among Adults

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Abstract

Introduction: Sleep is a basic physiological function that is necessary for both mental and physical health. The prevalence of poor sleep quality has increased as a result of stress, changes in lifestyle, and responsibilities at work. Yogic breathing techniques like pranayama are thought to promote autonomic balance, lower stress levels, and increase the quality of sleep. The purpose of this study was to evaluate the connection between adult pranayama practice and sleep quality.

Methodology: The study design used was quantitative descriptive correlational. One hundred adults who lived in particular localities participated in the study. A non-probability convenience sampling method was used to choose the participants. A demographic questionnaire, the Pittsburgh Sleep Quality Index (PSQI), and the Pranayama Practice Assessment Scale were used to gather data. The analysis employed both descriptive and inferential statistics.

Results: The findings revealed that 46% of participants practiced pranayama regularly, 34% practiced occasionally, and 20% did not practice pranayama. Good sleep quality was observed among 58% of participants, whereas 42% reported poor sleep quality. A significant positive relationship was found between pranayama practice and sleep quality ($r = 0.62$, $p < 0.001$).

Conclusion: Adults who regularly practice pranayama report higher-quality sleep. Promoting pranayama as a non-pharmacological intervention may help people sleep better and feel better all around.

Keywords: Pranayama, Sleep Quality, Adults, Yoga, Mental Health, Lifestyle Modification.

INTRODUCTION

One of the most crucial biological processes for preserving one's physical well-being, mental clarity, emotional control, and general quality of life is sleep.

¹ Immune system performance, memory consolidation, tissue regeneration, and psychological health are all enhanced by getting enough sleep. Fatigue, decreased productivity, poor focus, anxiety, depression, cardiovascular diseases, and

metabolic disorders have all been linked to poor sleep quality.²

Adults' sleep patterns have been drastically changed

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by modern lifestyles.³ Sleep problems are caused by a number of factors, including increased work demands, stress, erratic scheduling, excessive screen time, and unhealthy lifestyle choices. Millions of people of all ages are impacted by sleep-related issues, which have grown to be a significant global public health concern.⁴

A person's level of happiness with their sleep experience, encompassing factors like sleep duration, latency, efficiency, and daytime functioning, is referred to as sleep quality.⁵ Adequate durations, few disruptions, and a sense of renewal upon awakening are characteristics of high-quality sleep. On the other hand, insufficient sleep has a detrimental impact on both mental and physical well-being.⁶

The goal of yoga, an age-old holistic discipline with Indian roots, is to foster balance between the body, mind, and spirit.⁷ Pranayama is one of the most important yogic techniques. The controlled breathing techniques used in pranayama are intended to control respiratory patterns and have an impact on physiological and psychological processes.

The Sanskrit terms "prana," which means life force or vital energy, and "ayama," which means expansion or control, are the origin of the name pranayama.⁸ Anulom Vilom, Bhramari, Kapalabhati, Nadi Shodhana, and Ujjayi breathing are some of the pranayama techniques. These methods are thought to promote autonomic nervous system balance, lower stress levels, and increase breathing efficiency.⁹

Research indicates that pranayama affects respiratory, neurological, endocrine, and cardiovascular systems.¹⁰ Frequent breathing exercises can promote parasympathetic dominance and decrease sympathetic nervous system activity, which can lead to relaxation and a reduction in stress. These physiological impacts could improve the quality of sleep.¹¹

One of the main reasons of sleep disruptions is acknowledged to be stress.¹² People who are under a lot of stress frequently report having trouble falling asleep and staying asleep. It has been demonstrated that pranayama lowers stress hormones and enhances emotional control, which helps to improve sleep patterns.¹³

Numerous research has shown how yoga and pranayama improve mental health outcomes.¹⁴ Breathing exercises have been shown to reduce

symptoms of anxiety, depression, perceived stress, and insomnia. These results validate the use of pranayama as an additional strategy for promoting health.¹⁵

There are still few community-based research examining the connection between pranayama practice and sleep quality. Knowing this connection could help medical practitioners advocate for affordable, non-pharmacological ways to improve adults' sleep health.

Therefore, the current study was conducted to evaluate the connection between adults' sleep quality and pranayama practice.¹⁵

OBJECTIVES

1. To assess the level of pranayama practice among adults.
2. To assess sleep quality among adults.
3. To determine the relationship between pranayama practice and sleep quality.
4. To find the association between sleep quality and selected demographic variables.
5. To find the association between pranayama practice and selected demographic variables.

HYPOTHESES

H₁: There will be a significant relationship between pranayama practice and sleep quality among adults.

H₂: There will be a significant association between sleep quality and selected demographic variables.

H₃: There will be a significant association between pranayama practice and selected demographic variables.

METHODOLOGY

Research Approach:

Quantitative research approach.

Research Design:

Descriptive correlational research design.

Setting:

Selected urban and rural communities.

Population:

Adults residing in selected communities.

Sample Size:

100 adults.

Sampling Technique:

non-probability convenience sampling.

Inclusion Criteria:

- Adults aged 25–60 years.
- Individuals willing to participate.
- Individuals residing in selected communities.

Exclusion Criteria:

- Individuals diagnosed with severe psychiatric illness.
- Individuals currently receiving sleep disorder treatment.

Research Variables

Independent Variable:

Pranayama practice.

Dependent Variable:

Sleep quality.

Research Tool

Section A:

Demographic Data

- Age
- Gender
- Occupation
- Educational status
- Marital status
- Duration of pranayama practice

Section B:

Pranayama Practice Assessment Scale

Scoring:

Poor Practice: 0–10

Moderate Practice: 11–20

Regular Practice: 21–30

Section C:

Pittsburgh Sleep Quality Index (PSQI)

Scoring:

Good Sleep Quality

Poor Sleep Quality

Validity:

The tool was validated by experts in nursing, yoga therapy, psychiatry, and public health.

Reliability:

Cronbach's Alpha = 0.87.

Pilot Study:

Conducted among 10 adults excluded from the final sample.

Data Collection Procedure

After receiving approval from local authorities, data was gathered. The goal of the study was explained to the participants. Written informed consent was acquired. Individual questionnaires were distributed, and confidentiality was upheld.

Ethical Considerations

- Ethical clearance obtained.
- Written informed consent obtained.
- Confidentiality maintained.
- Voluntary participation ensured.

RESULTS

Table 1: Distribution of Participants According to Pranayama Practice (N = 100)

Pranayama Practice	Frequency (f)	Percentage (%)
Regular Practice	46	46.0
Occasional Practice	34	34.0
No Practice	20	20.0
Total	100	100.0

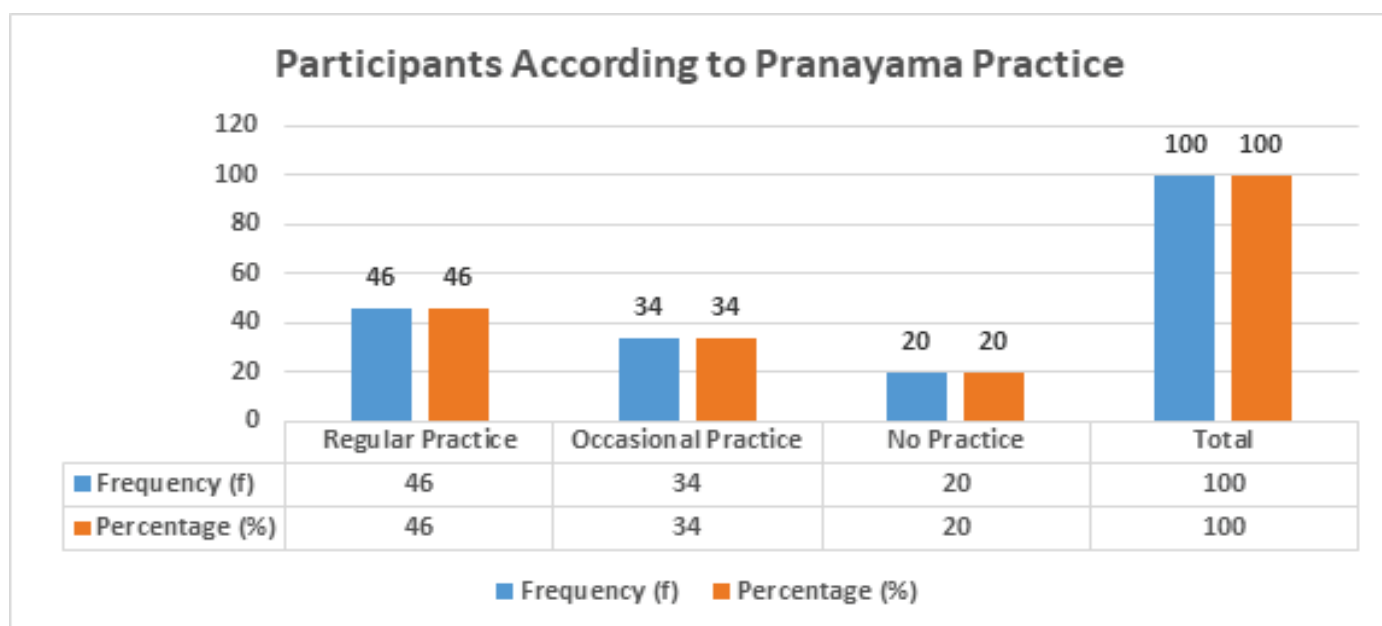


Figure 01: Distribution of Participants According to Pranayama Practice

Table 2: Distribution of Participants According to Sleep Quality (N = 100)

Sleep Quality	Frequency (f)	Percentage (%)
Good Sleep Quality	58	58.0
Poor Sleep Quality	42	42.0
Total	100	100.0

Table 3: Correlation Between Pranayama Practice and Sleep Quality (N = 100)

Variable	Mean	Standard Deviation (SD)	Correlation Coefficient (r)
Pranayama Practice	21.42	5.34	0.62*
Sleep Quality Score	7.84	2.16	—

* Significant at $p < 0.001$

MAJOR FINDINGS

- 46% practiced pranayama regularly.
- 58% reported good sleep quality.
- A significant positive relationship was observed between pranayama practice and sleep quality ($r = 0.62$).
- Participants practicing pranayama regularly demonstrated better sleep quality scores than non-practitioners.

DISCUSSION

According to the current study, about half of the

individuals consistently performed pranayama. Most people showed high-quality sleep. The results also showed that pranayama practice and sleep quality were significantly positively correlated.

The findings corroborate earlier research indicating that breathing techniques enhance autonomic nervous system function and lower stress levels. Frequent pranayama practice may help with sleep patterns, respiratory efficiency, and calm.

Pranayama practitioners regularly showed improved sleep outcomes compared to non-pranayama practitioners. These results corroborate the use of pranayama as a non-pharmacological strategy to enhance the quality of sleep.

CONCLUSION

The study found a substantial correlation between frequent pranayama practice and improved sleep quality in people. When compared to non-practitioners, those who regularly practiced pranayama reported better sleep outcomes. Encouraging pranayama as a regular part of daily living could lead to better mental and physical health.

RECOMMENDATIONS

1. Similar studies may be conducted with larger sample sizes.
2. Experimental studies may be conducted to evaluate the effectiveness of pranayama interventions.
3. Comparative studies among different age groups are recommended.
4. Community-based yoga awareness programmes should be encouraged.
5. Healthcare professionals should promote pranayama as a complementary health practice.

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Nil

CONFLICT OF INTEREST: None

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