Efficacy of Yoga Nidra in Mitigating Aggression and Enhancing Sleep Quality Among Adolescents: A Controlled Study in Manipur

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ABSTRACT

Background: Adolescence is a major stage of growth where teenagers often deal with intense emotions and sleep problems. New research shows that poor sleep is a leading cause of aggressive behavior. While there are many ways to help, simple yoga techniques like **Yoga Nidra** are proving to be very effective at helping the body and mind stay calm.

Objective: This study was designed to see if practicing Yoga Nidra could lower aggression and improve sleep for school students in Manipur.

Methods: We conducted an experiment with 60 students (ages 13–15) from Evergreen Flowers School. They were split into two groups: 30 students practiced a 20-minute Yoga Nidra session five days a week for three months, while the other 30 did not practice any yoga. We used standard surveys (the Buss-Perry Questionnaire and the PSQI) to measure their aggression and sleep, then analyzed the data using statistical software (SPSS).

Results: The results showed that the students who practiced Yoga Nidra had much lower levels of aggression and far fewer sleep problems compared to those who did not ($p<0.001$).

Conclusion: This study confirms that Yoga Nidra is a powerful tool for helping teenagers reduce anger and sleep better. Adding these practices to the school schedule could create a better environment for learning and help students manage stress and their behavior more effectively.

Keywords:: *Yoga Nidra,* Sleep Quality, Aggression, Adolescents, Emotional Regulation, School-based Intervention

INTRODUCTION

Sleep is much more than just a time for the body to rest; it is a basic biological need that is vital for our mental health and emotional balance (Wulff et al., 2010). Over the last few decades, many studies have shown that when people do not get enough sleep or have poor-quality sleep, their brains struggle to process information correctly (Fortier-Brochu et al., 2012; Walker, 2009; Pilcher et al., 2015). In addition to affecting how we think, sleep is

essential for managing our emotions. When we are sleep-deprived, it becomes much harder to control our internal feelings and how we react to the world around us (Walker, 2009; Palmer & Alfano, 2017).

Good sleep is essential for keeping the mind steady. Because of this, when someone's sleep patterns change, it is often an early warning sign of more serious health problems. Research has consistently shown that long-term sleep issues are closely tied to several mental health challenges, such as frequent mood swings, shifts in personality, and certain growth or developmental difficulties (Baglioni et al., 2016; Harvey et al., 2011; Hertenstein et al., 2019).

The connection between sleep and our behavior is especially clear when looking at aggression. Good sleep acts as a recovery process that helps the brain maintain self-control and resist impulsive urges. On the other hand, a lack of sleep makes it harder for a person to stay calm or think before they act, which often leads to irritability and sudden outbursts (Pilcher et al., 2015; Palmer & Alfano, 2017). Studies have confirmed that people who do not sleep enough often feel more anger, are quicker to blame others, and are more likely to get into physical or verbal arguments (Kamphuis & Lancel, 2015).

Furthermore, recent scientific findings suggest that how well a person sleeps (the depth and lack of interruptions) might be more important for preventing aggression than simply how many hours they spend in bed (Barker et al., 2016; Tsuchiyama et al., 2013). Overall, experts agree that poor sleep is a major cause of hostile and disruptive behavior, highlighting why finding ways to improve sleep habits is so important for a peaceful society (Kamphuis et al., 2012; Sadeh et al., 2014).

THE LINK BETWEEN SLEEP AND AGGRESSION

In research, to understand how sleep affects aggressive behavior, we must first define what these terms mean. "Poor sleep" is a general term that includes medical conditions like insomnia, data from sleep trackers or brain monitors, and a person's own feeling that they didn't rest well. On the other hand, aggression is defined as any purposeful action meant to hurt someone who does not want to be harmed.

To explain how these behaviors happen, scientists often use the **General Aggression Model (GAM)** (Allen et al., 2018). This framework suggests that aggression comes from a mix of a person's environment and their internal state. It focuses on three main internal areas:

- **Affect:** Emotions like feeling angry.
- **Arousal:** Physical energy levels.
- **Cognition:** Thought patterns, such as blaming others or having low self-control.

Because a lack of sleep negatively impacts all three of these areas, improving sleep is an important but often ignored way to lower aggression in society (Van Veen et al., 2021).

A large review of 92 different studies discovered that in more than 80% of the cases, poor sleep was directly tied to increased feelings of anger and hostility (Van Veen et al., 2021). This research explained that sleep impacts our behavior in three main ways: it makes it difficult to think clearly, makes it harder to control strong emotions, and weakens our ability to stop ourselves from acting on negative urges.

For children becoming teenagers, sleep is even more important. During this time, sleep helps the body grow, helps the brain remember what was learned during the day, and restores mental energy. When children do not get enough rest, they may suffer from headaches, struggle to pay attention, and be more likely to act out aggressively. Because of this, it is vital for parents and schools to focus on "sleep hygiene"—creating a good sleep environment and teaching students why healthy sleep habits matter (Zong et al., 2024).

Past research strongly suggests that better sleep can help manage aggressive behavior. Based on these ideas, this study looks at whether practicing Yoga Nidra is an effective way to improve sleep and, as a result, lower aggression levels in students.

MATERIALS AND METHODS

This section describes the research plan and the steps taken to see how Yoga Nidra affects the mental health of teenagers.

Participants

A total of 60 students (N = 60) from Evergreen Flowers School in Thoubal Ningombam, Manipur, took part in this study. All participants were students in the 9th and 10th grades.

Who was included and excluded:

To make sure the results were reliable, the researchers followed specific rules:

- **Inclusion:** The study included healthy boys and girls aged 13 to 15 who were in the 9th or 10th grade and wanted to participate voluntarily.
- **Exclusion:** Students with known brain or mental health conditions or learning difficulties were not included. Also, students taking long-term medicine for chronic illnesses were excluded to ensure the results were not affected by other health factors.

Research Design

The study used a controlled experiment where students were split into two equal groups:

1. **Yoga Nidra Group (n = 30):** These students practiced Yoga Nidra for three months.
2. **Yoga Naive Group (n = 30):** This was the "control" group. These students did not practice any yoga or meditation during the three-month period.

The Intervention

The Yoga Nidra group attended 20-minute sessions, five days a week, for three months. The researchers used the "Yoga Nidra for Children" method developed by Swami Satyananda Saraswati of the Bihar School of Yoga. To make sure the students understood everything perfectly, the instructions were played from a recording in the Manipuri language.

Measurement Tools

To track changes in the students, two standard surveys were used:

- **Aggression:** Measured by the **Buss-Perry Aggression Questionnaire**, which looks at different types of hostile behavior.
- **Sleep Quality:** To measure this, we used a well-known questionnaire called the **Pittsburgh Sleep Quality Index (PSQI)**. It is a standard tool that helps researchers see how well a person sleeps and find out if they are having any specific trouble during the night.

Both groups filled out these surveys at the same time. The researcher gave instructions in the Manipuri (Meitei Mayek) script and explained any difficult words to make sure the students' answers were accurate.

Data Analysis

The data collected was studied using computer software called SPSS (Version 21). The researcher used a statistical test called an independent samples t-test. This test compared the average scores of the two groups to see if practicing Yoga Nidra really led to a significant improvement in sleep and a reduction in aggression compared to the group that did not practice.

RESULTS

This section shares the results of the study. It focuses on comparing the group that practiced Yoga Nidra (the experimental group) with the group that did not practice any yoga (the control group).

Comparison of Aggression Levels

The first goal was to see if regular Yoga Nidra sessions changed how aggressive students felt. As shown in Table 1, students in the Yoga Nidra group had much lower average scores on the Buss-Perry Aggression Questionnaire compared to the Yoga Naive group ($p < 0.001$).

These results prove that doing Yoga Nidra on a regular basis is a very effective way to reduce aggression in teens. The deep relaxation from the practice helps students balance their feelings and stay calm, which leads to fewer physical fights or mean words. You can see this positive change clearly in Figure 1.

Comparison of Sleep Quality

The second goal was to compare how well both groups slept. The results from the PSQI survey showed that the students who practiced Yoga Nidra had much lower scores than the group that did not ($p < 0.001$). In this study, a lower score is a good thing because it means the students experienced much better sleep.

On the PSQI scale, a lower score means better sleep. Therefore, these results provide strong evidence that students who practice Yoga Nidra get much better, more restful sleep. This

improvement is shown in Figure 2, highlighting how the practice helps both the body and mind recover.

TABLE 1: Statistical Comparison of Groups

This table displays the results of the statistical test used to compare the two groups and see if there is a real difference between them.

Measure	**Group**	**Mean ± SD**	**t-value**	**df**	**p-value**
Buss-Perry Aggression	Yoga Nidra	**74.13 ± 5.79**	4.810	58	**<0.001**
	Yoga Naive	84.27 ± 9.98			
Sleep Quality (PSQI)	Yoga Nidra	**3.40 ± 0.89**	8.598	58	**<0.001**
	Yoga Naive	6.47 ± 1.74			

Note: A p-value of <0.001 indicates that the results are highly significant and unlikely to have happened by chance.

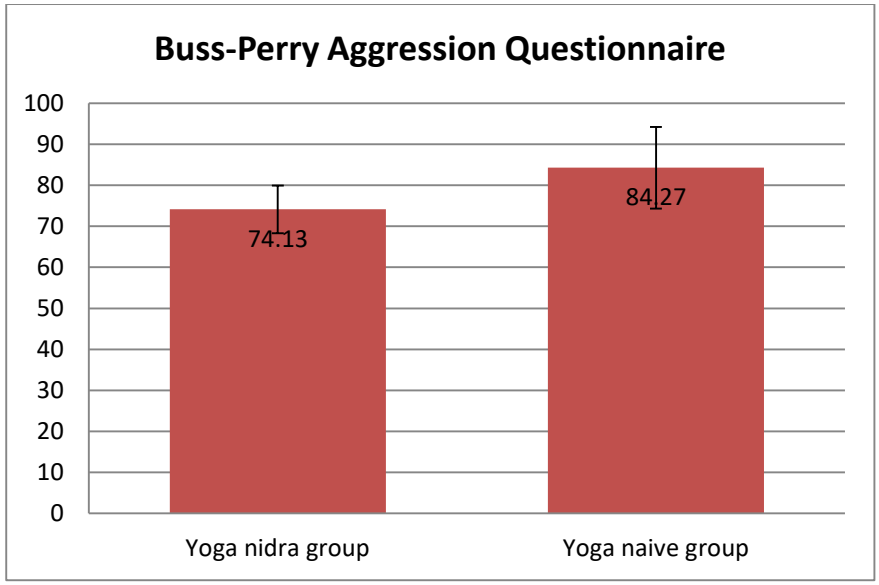

Figure 1: Diagram comparing Mean±SD between the yoga nidra group and yoga naive group for the Buss-Perry Aggression Questionnaire scores.

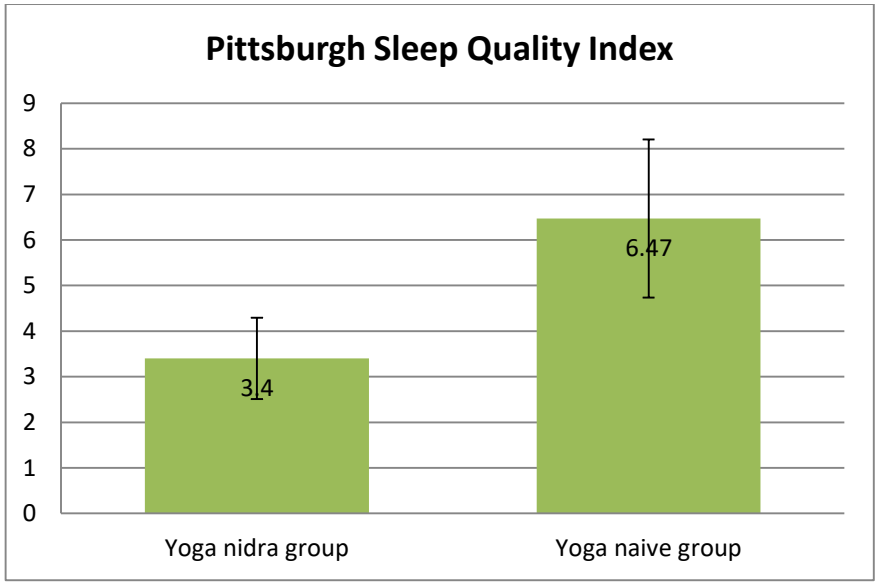

Figure 2: Diagram comparing Mean±SD between the yoga nidra group and yoga naive group for the Pittsburgh Sleep Quality Index scores.

DISCUSSION

The findings of this research show that students who regularly practiced Yoga Nidra had much lower levels of aggression and fewer sleep problems compared to the students who did not ($p < 0.001$). These results suggests that practicing Yoga Nidra regularly leads to a state of deep physical and mental relaxation by affecting the hypothalamus in the brain.

This process calms the body's "fight or flight" system (the sympathetic nervous system i.e. which handles stress and emergencies) and strengthens the "rest and digest" system (the parasympathetic nervous system i.e. which helps the body relax and recover). By reaching this balance, the body produces fewer stress hormones like cortisol and releases more "feel-good" chemicals like dopamine and serotonin, which are necessary for keeping the mind calm and peaceful (Saraswati, 1998).

In addition to the main goals, this study noticed a clear improvement in the general health and energy of those practicing Yoga Nidra. This shift toward a more balanced nervous system is linked to better heart rhythm control. Having a stable heart rhythm is a known factor in lowering anxiety and making sleep much better (Markil et al., 2012; Werner et al., 2015).

Interestingly, research shows that the benefits of Yoga Nidra last throughout the day. Practicing in the morning can actually make sleep more restful later that night (Patra & Telles, 2010; Deepak, 2002). This likely happens because the practice helps the brain handle daily stress with more strength and less emotional upset. Even though researchers are still learning the exact details of how it works, we know that practices like meditation are great for helping people focus better and lowering feelings of stress and worry (Ferreira-Vorkapic et al., 2018).

Yoga Nidra helps students find a sense of peace and calm, which naturally reduces feelings of anger (Sahu, 2023). Because it allows for deep relaxation and lowers stress, it is a very effective tool for cutting down on aggressive behavior (Vijay & Pal, 2023). Simply put, it helps the body manage stress more easily, which helps students control their emotions, sleep better, and feel happier overall..

In conclusion, the results of this study confirm that Yoga Nidra is a powerful tool for reducing aggression and improving sleep in teenagers. These findings match other scientific studies which show that Yoga Nidra works similarly to sitting meditation; it calms the "fight

or flight" system, triggers the body's relaxation response, and improves how the brain and heart communicate through the vagus nerve (Balasubramaniam et al., 2012).

CONCLUSION

The results of this study show a clear connection between not getting enough good sleep and increased feelings of anger or aggressive behavior in teenagers. The data suggests that long-term sleep problems should be officially recognized as a major risk factor for developing aggressive behavior in this age group. Because of this, it is very important for teachers and doctors to make sleep health a top priority when supporting students, especially those who are already dealing with mental health struggles or long-term physical illnesses.

Furthermore, this study shows that making Yoga Nidra a regular part of a student's routine successfully reduces aggressive urges while also making sleep much better. By helping the mind stay calm and ensuring more restful sleep, Yoga Nidra acts as a helpful, science-backed tool for improving the overall health and school performance of children.

To sum up, introducing easy and safe yoga practices in schools teaches students how to handle stress well. This does more than just help each student control their own behavior; it helps the entire school become a more peaceful and successful place for everyone to learn and work.

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