

The Effect of Daily Yoga Practice on the Physical and Mental Well-being of College Students

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Abstract:

Introduction- Yoga is a holistic mind-body practice known to improve physical, mental, and emotional well-being. The current study aimed to evaluate the effects of a structured yoga program on the physical, mental, and social health of students using the PROMIS Global Health Questionnaire. With increasing academic stress and lifestyle-related issues among students, yoga may serve as an effective preventive and promotive health strategy. To evaluate the impact of consistent daily yoga practice on the physical health and mental well-being of college students. To determine the effects of mental health, physical health, Academic Performance and depression levels among college students.

Method- A total of 60 students participated in a structured yoga program for five days per week over two months. Each session lasted one hour and included a combination of asanas (performed in supine, sitting, standing, and prone positions), Surya Namaskar with mantras, and pranayama techniques such as Anulom Vilom, Bhastrika, Sheetal, and Bhramari. Pre- and post-intervention assessments were conducted using the PROMIS Global Health Short Form 10-item validated tool measuring physical, mental, and social health domains.

Result- A study was conducted to evaluate the impact of yoga on participants' physical and mental well-being. The pre-intervention mean score was 22.43 with a standard deviation (SD) of 2.64, while the post-intervention mean increased to 32.39 with an SD of 5.36. Wilcoxon signed-rank test was employed. The major finding was test revealed a statistically significant improvement in well-being scores post-intervention, confirming the positive impact of the yoga program in college student.

Conclusion- Regular yoga practice, including a variety of asanas, Surya Namaskar with mantras, and pranayama, led to notable improvements in physical, mental, and social health among the participating students over two months. These outcomes affirm yoga's role as an effective, low-cost, and holistic tool for promoting overall well-being in youth.

Key word- Yoga, Physical health, Mental health, Students.

Introduction-

In recent years, there has been a growing concern regarding the deteriorating lifestyle and well-being of college students. The academic pressure, social demands, irregular sleep patterns, unhealthy eating habits, and increased

screen time have significantly impacted both their physical and mental health.

Many students experience anxiety, stress, fatigue, and physical ailments such as back pain, poor posture, and reduced stamina, all of which negatively influence their academic performance and overall quality of life.

As college years are formative and crucial for personal development, it is imperative to adopt effective strategies that can enhance students' well-being. One such

holistic approach is yoga, an ancient practice that integrates physical postures (asanas), breathing techniques (pranayama), and meditation (dhyana). Unlike other forms of physical activity, yoga not only improves physical fitness—such as flexibility, strength, and balance—but also plays a critical role in calming the mind, reducing stress, and promoting emotional stability.

The fast-paced, technology-driven lifestyle of modern college students has led to a neglect of self-care and a rise in physical inactivity and psychological distress. According to various studies, a significant number of students report symptoms of depression, anxiety, and chronic fatigue. Simultaneously, physical complaints like poor posture, obesity, and a lack of energy have also become common.

Today's fast-paced academic environment, college students often grapple with heightened stress levels, anxiety, and physical health challenges. The transition to higher education brings about numerous responsibilities, including academic pressures, social adjustments, and future career uncertainties. These factors can adversely affect students' physical and mental well-being, leading to issues such as sleep disturbances, decreased concentration, and emotional instability.

Yoga, an ancient practice originating from India, has gained global recognition for its holistic approach to health. It integrates physical postures (asanas), breathing techniques (pranayama), and meditation to promote overall well-being. Regular yoga practice has been associated with numerous benefits, including improved flexibility, enhanced respiratory function, stress reduction, and better emotional regulation. These attributes make yoga a promising intervention for college students seeking to enhance their physical and mental health.

Recent empirical studies have explored the efficacy of yoga interventions among university populations. For instance, a randomized controlled trial conducted by

Castellote-Caballero et al. (2024) examined the effects of a 12-week yoga program on university students' mental health. The study revealed significant reductions in perceived stress and anxiety levels, alongside improvements in emotional well-being among participants who engaged in regular yoga sessions compared to a control group. These findings underscore the potential of yoga as a viable strategy to mitigate mental health challenges in academic settings. (1) Given the mounting evidence supporting yoga's benefits, this study aims to evaluate the impact of daily yoga practice on the physical and mental well-being of college students. By assessing changes in physical health parameters and psychological states before and after a structured yoga intervention, the research seeks to provide insights into the role of yoga in promoting holistic health among young adults in academic institutions.

PROMIS Global Health Questionnaire, also known as the PROMIS Global Health Scale (PROMIS-GH or PROMIS-10), is a concise, patient-reported outcome measure designed to assess overall health-related quality of life (HRQoL) across physical, mental, and social domains. Developed under the National Institutes of Health (NIH) initiative, PROMIS aims to provide standardized, reliable, and valid tools for evaluating patient health status from their perspective. (2)

The PROMIS-GH consists of 10 items that collectively evaluate five core health domains: physical health, pain, fatigue, mental health, and social health. These items are grouped into two subscales: Global Physical Health (GPH) and Global Mental Health (GMH). Each subscale comprises four items, while the remaining two items offer additional insights into general health perceptions and social activities. Responses are standardized using T-scores, with a mean of 50 and a standard deviation of 10, facilitating comparisons across different populations. One of the key advantages of the

PROMIS-GH is its brevity and ease of administration, typically requiring only 2–5 minutes to complete. This efficiency reduces respondent burden while maintaining high measurement precision. The questionnaire is available in multiple languages, enhancing its applicability in diverse cultural contexts. Psychometric evaluations have demonstrated the PROMIS-GH's reliability and validity across various populations, including those with chronic conditions like systemic lupus erythematosus (SLE) and stroke. For instance, studies have reported high internal consistency for both GPH and GMH subscales, with Cronbach's alpha values exceeding 0.80. Additionally, the PROMIS-GH has shown strong correlations with other established HRQoL measures, supporting its construct validity. In clinical settings, the PROMIS-GH serves as an effective screening tool to identify patients who may benefit from more detailed assessments. For example, specific items within the questionnaire have demonstrated high sensitivity in detecting conditions such as depression, enabling targeted interventions. (3)

Overall, the PROMIS Global Health Questionnaire offers a robust, efficient, and versatile means of capturing patient-reported health outcomes, facilitating improved patient care and informed decision-making in both clinical and research contexts.

Despite the known benefits of physical activity and mindfulness practices, there is limited structured implementation of yoga within college routines. This study is essential to explore how a daily yoga practice can serve as a preventive and therapeutic tool to enhance the physical and mental well-being of students. It aims to provide evidence that yoga is not just a physical exercise, but a lifestyle intervention that nurtures overall health and resilience.

By examining the effects of a consistent yoga routine, this study intends to advocate for the inclusion of yoga as a

regular part of the student lifestyle and institutional wellness programs, thereby addressing a growing need for holistic health solutions in academic environments.

Method-

Sixty students participated in a yoga program for five days a week over a period of two months. During each session, they practiced a variety of asanas in supine, sitting, standing, and prone positions. In Supine Asanas (Lying on the Back) These poses are performed while lying on the back and are excellent for relaxation and gentle stretching. Notable supine asanas include Shavasana (Corpse Pose), which promotes deep relaxation; Supta Padangusthasana (Reclining Hand-to-Big-Toe Pose), enhancing hamstring flexibility; Pawanmuktasana (Wind-Relieving Pose), aiding in digestion; Setu Bandhasana (Bridge Pose), strengthening the back and glutes; and Supta Matsyendrasana (Supine Spinal Twist), improving spinal mobility. In Sitting Asanas (Seated Poses) Seated poses are ideal for meditation, breathing exercises, and improving flexibility. Key sitting asanas encompass Padmasana (Lotus Pose), fostering mental clarity; Vajrasana (Diamond Pose), aiding digestion; Paschimottasana (Seated Forward Bend), stretching the spine and hamstrings; Ardha Matsyendrasana (Half Spinal Twist Pose), enhancing spinal flexibility; and Baddha Konasana (Butterfly Pose), opening the hips and groin area. In Standing Asanas (Standing Poses) These poses build strength, balance, and stability. Prominent standing asanas include Tadasana (Mountain Pose), improving posture; Vrikshasana (Tree Pose), enhancing balance; Trikonasana (Triangle Pose), stretching the sides of the torso; Virabhadrasana I (Warrior I Pose), building stamina; and Utkatasana (Chair Pose), strengthening the lower body. In Prone Asanas (Lying on the Stomach) Performed while lying face down, these poses strengthen the back and improve flexibility. Essential prone asanas

consist of Bhujangasana (Cobra Pose), opening the chest; Dhanurasana (Bow Pose), stretching the entire front body; Salabhasana (Locust Pose), fortifying the back muscles; Makarasana (Crocodile Pose), promoting relaxation; and Advasana (Reverse Corpse Pose), calming the nervous system.

The sessions also included Surya Namaskar with mantras, and pranayama techniques such as Anulom Vilom, Bhastrika, Sheetal, and Bhramari. Each yoga session lasted for one hour and incorporated different above category combination types of asanas and pranayama practices aimed at enhancing both physical and mental health.

Starting of Yoga practice session on day one and after completing the two-month yoga program, the students were asked to fill out the PROMIS Global Health Questionnaire, which consists of 10 questions covering physical, mental, and social health domains, in order to evaluate the impact of the yoga practice on their overall well-being.

Result-

A study was conducted to evaluate the impact of yoga on participants' physical and mental well-being. The pre-intervention mean score was 22.43 with a standard deviation (SD) of 2.64, while the post-intervention mean increased to 32.39 with an SD of 5.36. To assess the statistical significance of this change, the Wilcoxon signed-rank test was employed. The Wilcoxon signed-rank test is a non-parametric statistical method used to compare two related samples or repeated measurements on a single sample to assess whether their population mean ranks differ. It's particularly useful when the data doesn't necessarily follow a normal distribution. This test is often applied in situations where the assumptions of the paired t-test are not met, such as with small sample sizes or non-normally distributed data.

The significant increase in mean scores post-intervention suggests that the yoga

program had a positive effect on the participants' well-being. The application of the Wilcoxon signed-rank test supports the conclusion that the observed improvement is statistically significant, indicating that yoga can be an effective practice for enhancing both physical and mental health.

Discussion-

The findings from our study indicate that a structured two-month yoga program, encompassing asanas, Surya Namaskar with mantras, and pranayama techniques, led to significant improvements in students' physical, mental, and social health domains, as assessed by the PROMIS Global Health Questionnaire.

The significant increase in mean scores post-intervention suggests that the yoga program had a positive effect on the participants' well-being. The application of the Wilcoxon signed-rank test supports the conclusion that the observed improvement is statistically significant, indicating that yoga can be an effective practice for enhancing both physical and mental health. In our study, we examined the effects of integrating daily yoga sessions into the routines of college students to assess improvements in their physical and mental health. Utilizing the Patient-Reported Outcomes Measurement Information System (PROMIS), a standardized tool developed by the National Institutes of Health, we measured various health domains, including physical, mental, and social well-being. At the outset, participants exhibited lower PROMIS scores, indicating challenges in areas such as stress management, emotional regulation, and physical vitality. After two months of consistent daily yoga practice, there was a significant increase in PROMIS scores among participants, suggesting enhanced physical health, reduced stress levels, better emotional balance, and overall improved well-being. These findings align with existing research highlighting the benefits of yoga for college students, including improved physical performance, reduced perceived

stress, increased self-acceptance, better coping mechanisms, and enhanced overall well-being . The study underscores the efficacy of daily yoga as a holistic intervention to bolster both physical and mental health among college students. Integrating structured yoga programs into college curricula or wellness initiatives could serve as a valuable strategy to support student health and academic performance.

To further understand the specific areas of improvement, the Patient-Reported Outcomes Measurement Information System (PROMIS) scale was utilized. This comprehensive tool evaluates multiple health domains, including physical function, fatigue, pain, emotional distress, and social health . Incorporating the PROMIS scale into the study provided a multidimensional assessment of the participants' health status.

Yoga is a holistic practice that significantly enhances both mental and physical health through the integration of movement, breathwork, and mindfulness. Mentally, yoga activates the parasympathetic nervous system, helping to reduce stress and anxiety by lowering cortisol levels and promoting relaxation. It also improves mood and emotional regulation by increasing levels of neurotransmitters like GABA, which are associated with decreased anxiety and improved mood . Cognitively, regular yoga practice strengthens areas of the brain involved in memory, attention, and awareness, leading to enhanced mental clarity and focus .(4)

Physically, yoga improves strength, flexibility, and balance through various postures and movements. It has been shown to alleviate chronic pain conditions, such as lower back pain, by enhancing flexibility and promoting relaxation . Yoga also benefits cardiovascular health by lowering blood pressure and heart rate, contributing to overall heart health . Additionally, by reducing stress and

enhancing well-being, yoga can strengthen the immune system .(5)

In summary, yoga offers a comprehensive approach to health by simultaneously addressing mental and physical well-being. Its practices foster a deeper mind-body connection, leading to improved emotional stability, cognitive function, and physical health.

The findings from the PROMIS assessments revealed that regular yoga practice contributed to notable improvements across various health domains. Participants reported enhanced physical function, reduced fatigue levels, diminished pain interference, alleviated emotional distress, and improved social participation. These outcomes align with existing literature, which indicates that yoga can lead to meaningful changes in physical and mental health parameters

In summary, the integration of yoga into daily routines has demonstrated significant benefits in enhancing overall health and well-being. The use of the PROMIS scale in this study provided a comprehensive evaluation of the positive impacts of yoga, reinforcing its role as a valuable practice for improving physical function, reducing fatigue and pain, alleviating emotional distress, and fostering better social health.

These results align with recent research. A 2024 randomized controlled trial by Castellote-Caballero et al. demonstrated that a 12-week yoga intervention significantly reduced perceived stress and anxiety while enhancing emotional well-being among university students. Participants engaged in bi-weekly sessions that included pranayama, Hatha yoga postures, and relaxation techniques, resulting in notable improvements across all measured psychological parameters (1). Similarly, a cluster randomized controlled trial involving 2,000 Indian adolescents aged 13–15 years found that a 17-week school-based yoga program, which included pranayama, basic asanas, meditation, and relaxation exercises, led to significant reductions in stress levels,

improved attention and concentration, and favourable changes in metabolic parameters. The study highlighted the efficacy of integrating yoga into school curricula to promote holistic health among adolescents (6) .

Furthermore, a qualitative study conducted in explored students' experiences with school-based yoga interventions. The findings revealed that practicing yoga increased students' awareness of their need to relax and positively impacted their mental health and well-being. Participants reported enhanced relaxation, better stress management, and improved sleep habits, suggesting that yoga can empower students to make healthier lifestyle choices (7) .

Collectively, these studies corroborate our findings, emphasizing yoga's multifaceted benefits in enhancing students' physical health, mental well-being, and social functioning

Conclusion-

The implementation of a comprehensive yoga program over two months resulted in significant enhancements in students' physical, mental, and social health domains. The integration of various yoga practices, including asanas, Surya Namaskar with mantras, and pranayama

techniques, contributed to these positive outcomes. These findings underscore yoga's potential as an effective, holistic approach to promoting overall well-being among students. yoga has been linked to improved stress regulation and neurocognitive efficiency, which may help preserve cognitive function and mitigate age-related decline. Additionally, yoga practices that focus on breath control and mindfulness can increase blood flow to the brain, enhancing neural connectivity and promoting neuroplasticity, thereby supporting memory and concentration

Future Recommendation-

Future research should explore the long-term effects of six month yoga practice on students health outcomes to assess the durability of benefits. Comparative studies evaluating yoga against other physical or mindfulness-based interventions can provide insights into the most effective strategies for enhancing student well-being also evaluate compare study with yoga and pranayama.

Conflict of Interest-

No conflict of Interest

Acknowledgement-

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