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EFFECTS OF YOGA ON ANXEITY, ALERTNESS AND SLEEP AMONG COLLEGE STUDENTS.

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Abstract : Background - In today's stress-ridden society, especially among students, anxiety, depression, and poor sleep are prevalent challenges. The lack of focus during study exacerbates these issues, impacting not only individuals but also their families. Yoga, recognizing the intricate connection between mind and body, emerges as a holistic solution. Its goals encompass enhancing overall well-being, mental health, attention, and sleep quality, addressing the multifaceted concerns of contemporary living.

The objectives of present study were to see effects of yoga on anxiety, alertness and sleep among young individuals. The mean age of young individuals in this study was 20.60 and BMI was 18.72. In this present study there was mild to moderate effect on anxiety and severe effect on alertness and sleep. The correlation was found in the values of between 0.00 to 0.68 for STAI and 0.00 for MAAS and PSQI.

Keywords: Yoga, Young individuals, STAI, MAAS, PSQI, anxiety, alertness, sleep.

I INTRODUCTION

The question of stress affects everyone and highlights two recent trends. Indian students experience more stress, anxiety, depression, and frustration, hurting them and their families. The decline in a healthy value system makes it difficult for adolescents to distinguish right from wrong. These trends lead to alarming consequences like suicide, drug abuse, theft, rape, and murder among adolescents. The education system is too mechanical and fails to promote holistic development.(1)

Depression and anxiety are treated with drugs and therapy, but their effectiveness is uncertain.(2) Adolescence varies among individuals and is expanding in developing countries..(3) Indian students now face increased stress, anxiety, and depression, as well as a decline in a healthy value system. Concentration and yoga are recognized for promoting overall well-being.(1)

Yoga is a term derived from Sanskrit that signifies the integration of cognition and corporeality..(4) Yoga, deeply rooted in the Indian philosophical tradition spanning over 5,000 years, encompasses diverse manifestations such as Hatha and Iyengar, accommodating individuals of all ages and capacities. Traditional yoga amalgamates principles of ethical conduct and spiritual practices, yielding an efficacious approach for the management of stress, promoting well-being, and fostering self-awareness. (5) Yoga has gained significant popularity as a means to enhance psychological well-being. (6) The attainment of global consciousness is vital in order to explicate the genuine essence and advantages of yoga, employing the platform to decipher the traditional wisdom of India and address universal predicaments.(7) Nasal breathing during yoga augments spatial memory, whereas meditative recitation of the syllable "OM" heightens mental acuity. It invigorates the prefrontal lobes, mitigates psychological ailments, such as depression and anxiety, and fosters enhanced conduct and interpersonal skills. (1) Concentration entails the perseverance of focused attention. Attention encompasses perceptual lucidity and discerning accentuation. Yoga fosters physical well-being, mental tranquility, spiritual invigoration, and harmonious communal existence.(1) The attainment of high-quality sleep is pivotal for academic excellence; however, there is a general lack of cognizance regarding the grave ramifications of chronic sleep insufficiency. Lifestyle factors, which are influenced by personal and professional demands, frequently disrupt the body's regulatory processes and contribute to the pervasive sleep deprivation experienced by children and adolescents.(8)

Our study aims to establish a holistic education system that promotes the development of the body, mind and spirit and improves self-confidence in a balanced approach to material prosperity and spiritual growth. Medical professionals need to recognize the therapeutic benefits of yoga, including its positive effects on addiction, stress, anxiety, depression, chronic pain, sleep patterns, general well-being and quality of life. The focus is on stimulating the process of balancing individual personalities and promoting

social, psychological, spiritual and moral coordination for creative and productive functioning at different levels.[7, 9]. Anxiety is a common weakening condition, and if not treated, it tends to follow a chronic cause.[10] The three most common complaints about sleep quality or sleep disorders include sleep difficulties, sleep maintenance, and early morning awakening..[11]

Our study aims to establish a comprehensive education system that supports the development of students' minds, bodies, and spirits, promoting self-confidence, and balance between material prosperity, and spiritual growth. The primary objective of our research is to improve individuals' overall quality of life by enhancing their holistic development, including their spiritual, mental, and consciousness aspects. Our study aims to provide valuable insights into the potential benefits of incorporating yoga practices into daily life in terms of anxiety, sleep quality, and concentration, which is a relatively unexplored area of research.

II NEED OF THE STUDY.

The primary objective of our study is to enhance individuals' holistic development, encompassing spiritual, mental, and consciousness aspects, with the ultimate goal of improving overall quality of life. Notably, there is a scarcity of research that delves into the specific impacts of yoga on key aspects such as anxiety, sleep quality, and concentration. By focusing on these dimensions, our study seeks to provide valuable insights into the potential benefits of incorporating yoga practices into daily life for a more comprehensive understanding of its effects on well-being.

III RESEARCH METHODOLOGY

3.1Population and Sample

The study design involves a randomized controlled approach, targeting college students in Surat, India. Purposive sampling will be employed to select participants based on specific criteria, and the sample size will be determined according to feasibility and availability. The study is set to span a duration of six months, with the research taking place within college settings and involving students in the city of Surat. This design aims to provide valuable insights into the specified population's response to certain interventions or variables under investigation.

3.2 Data and Sources of Data

College students studying in Surat, India.

3.3 Theoretical framework

Questionnaire will be taken at the initial period of the course. Students will be randomly divided into two groups, Group A will be given Yoga sessions and Group B will be control group.
Study Design: Randomised controlled study with Purposive sampling **,**as per feasibility and availability and Study Duration of 6months.

3.4 Inclusion criteria:

- The age of students should be between 18-26years.
- The students not doing regular yoga.
- The students have willingness for participation.

3.5 Exclusion criteria:

- Students going for yoga in past and at present as well.
- Students going to gym, taking any kind of medication.
- Students who are athletes, gymnasts.

3.6 Tools and Materials with Outcome measure: Yoga mats, sound system and other required tools.
Informed Consent Form and Self-Evaluation Questionnaire:

1)State-Trait-Inventory for Adults (STAI)[12]
2)The Mindful Attention Awareness Scale(MAAS) [13]
3)The Pittsburgh Sleep Quality Index(PSQI)[14]

3.7 Procedure

Questionnaire will be taken at the initial period of the course. Students will be randomly divided into two groups, Group A will be given Yoga sessions and Group B will be control group.
Sessions of the yoga will be conducted 6 times a week for 4 weeks (24 sessions) for 45-50 minutes (8 to 9 am &4 to5pm).

Table 3.1: Procedure followed during weekly yoga session

Sr. no	Week 1	Week 2	Week 3	Week 4
1.	Mantra Ucharan	Mantra Ucharana	Mantra Ucharan	Mantra Ucharan
2.	Pranayama Kapalbhatti (5min) Anulomvilom(5min) Bhastika(30 breaths)	Pranayama Kapalbhatti (5min) Anulomvilom(5min) Bhastika(30 breaths)	Pranayama Kapalbhatti (5min) Anulomvilom(5min) Bhastika(30 breaths)	Pranayama Kapalbhatti (5min) Anulomvilom(5min) Bhastika(30 breaths)
3.	OM Chanting(5 times)	OM Chanting(5 times)	OM Chanting(5 times)	OM Chanting(5 times)
4.	ASANAS • Paschimottasana • Butterfly pose • Side stretch • Kandhrasana • Bhjuangasana • Shalbhasana • Parvatsana • Tadasana • Vrukshasana • Virbhadrasana • Padhastasana	ASANAS • Paschimottasana • Kandhrasana • Bhujangasana • Salbhasana • Parvatasana • Halasana • Padhastasana • Tadasana • Vrukshasana • Virbhadrasana I & II • Trikonasana	ASANAS • Paschimottasana • Navasana • Halasana • Kandhrasana • Bhujangasana • Dhanurasana • Ushtrasana • Parvatasana • Trikonasana • Virbhdrasana II & III	ASANAS • Bhuminaman • chaturngasana • Navasana • Sarvangasana • Kandhrasana • Chakrasana • Markatasana • Dhanurasana • Parvatasana • Trikonasana • Virbhadrasana III • Virbhadrasan IV
5.	SUN Salutation (5times)	SUN Salutation (5times)	SUN Salutation (5times)	SUN Salutation (5times)
6.	Slow music meditation	Slow music meditation	Slow music meditation	Slow music meditation
	Rubbing palms and opening eyes	Rubbing palms and opening eyes	Rubbing palms and opening eyes	Rubbing palms and opening eyes

IV. RESULTS AND DISCUSSION

All fifty selected individuals have completed the conditioning program satisfactory. The data of fifty individuals were analysed using statistical package for the social sciences version 20(SPSS v.20) and Microsoft excel 2016. Before applying statistical tests, data was screened for normal distribution. Confidence interval was set at 95% and $p<0.05$ was considered as significant.

Total 50 participants were divided in two groups: -

GROUP A: EXPERIMENTAL GROUP

GROUP B: CONTROL GROUP

Changes in the outcome measures were analysed within the group as well as between the groups.

4.1 Results of Descriptive Statics of Study Variables

The mean age and BMI is shown in table 4.2

	CONTROL	EXP
	Mean±SD	Mean±SD
AGE	20.08±1.470	20.60±1.25
BMI	20.09200±3.63	18.7280±3.5

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Analysis the effects on intervention, 2*2 factorial design (ANOVA)was used in both the group. The mean changes of the STAI1 ,STAI2, MAAS and PSQI was done, which is shown in table

	Mean±SD				Within groups		Between Groups	
STAI 1	PRE		POST					
	CONTROL	EXP	CONTROL	EXP	Fvalue	P value	Fvalue	P value
	51.88±4.13	49.36±6.02	51.88±4.13	48.76±6.65	.171	.681	4.494	**.039**

	Mean±SD				Within		Between	
STAI 2	PRE		POST					
	CONTROL	EXP	CONTROL	EXP	F	P	F	P
	52.80±4.87	48.40±4.36	52.80±4.87	48.96±5.29	.520	.475	9.747	**.003**

	Mean±SD				Within		Between	
MAAS	PRE		POST					
	CONTROL	EXP	CONTROL	EXP	F	P	F	P
	60.04±11.93	55.84±1175	60.04±11.12	64.88±11.12	17.2	**.00**	4.16	.80

	Mean±SD				Within		Between	
PSQI	PRE		POST					
	CONTROL	EXP	CONTROL	EXP	F	P	F	P
	12.72±6.12	5.96±3.20	12.72±6.12	3.00±3.08	18.845	**.000**	38.188	**.000**

V DISCUSSION:

On 50 individuals were divided into group A (Experimental) and group B (control).group A performed yoga session for 4 weeks (24 days) for 40 min / day and group B did not perform yoga sessions . Before the intervention scales were filled (STAI1, STAI 2 , MAAS , PSQI) by both the groups. After that group A performed yoga for 24 days and then were asked to fill the scales again and group B did not perform yoga session and were asked to fill the scales again after 24 days .

This study examined the influence of yoga on anxiety, alertness, and sleep in college students. Fifty participants were divided into experimental (Group A) and control (Group B) groups. Group A engaged in daily 40-minute yoga sessions for four weeks, while Group B did not. Pre- and post-intervention scales (STAI1, STAI2, MAAS, PSQI) were administered to both groups. While no significant changes were observed in anxiety levels (STAI1 and STAI2) in the control group, the experimental group demonstrated statistical improvements in mindfulness (MAAS) and sleep quality (PSQI). Overall, the study suggests that yoga positively impacts mindfulness and sleep, offering potential benefits for college students.

Therefore, the validity of using Maas for young people is confirmed, including by combining and contrasting the degree of mindfulness among various young people. Yoga integrates mind and body through mindfulness, emphasizing practices like asana and pranayama for focused attention and breath awareness.[15]

The prior study establishes Yoga's impact on physical activity, releasing opioids, altering serotonergic/noradrenergic systems, and enhancing thalamic GABA. Mindfulness influences the HPA system, lowering cortisol. Breathing control stimulates the vagus nerve, returning the sympathetic nervous system. Yoga boosts melatonin, improves immune function, and reduces stress, as validated by decreased anxiety complaints. Notably, this study demonstrates yoga's novel connection to enhanced subjective sleep quality, daytime performance, and objective changes in sleep structure, as revealed by actigraphy, indicating reduced arousals.

Mindfulness yoga, a common mind-body exercise, is integrated into mindfulness-based stress reduction (MBSR), reducing emotional disturbances and enhancing stress tolerance, particularly for sadness and anxiety.[16]

Yoga enhanced attention and parent-child interactions, with reported stress management improvements. Heart rate variability (HRV) influences physiologic resiliency and executive function, showing distinctions in children with ADHD compared to healthy controls· Studies (Hoffman et al. 2012; Shao et al. 2021) reveal the statistical and clinical significance of mindfulness yoga in alleviating anxiety and depressive symptoms, demonstrating superiority over controls. Our research emphasizes mindfulness yoga's effectiveness as a broad mind-body intervention, promoting both physical and mental health, appealing to a diverse audience.[17]

Our study revealed significant improvements in sleep, concentration, and anxiety reduction among college students practicing breathing, chanting, and sustained asanas. Consistent asana practice demonstrated increased stability over time. The PSQI and MASS questionnaires showed positive changes after 4 weeks of yoga, indicating enhanced overall well-being, alertness, and sleep quality.

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