

Effects of Yoga & Meditation on Stress in female's Quality Life

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Abstract

This study aims to examine the effects of yoga and meditation on stress levels and their contribution to improving the quality of life among females. The population of this particular research study were comprised of young female students of university of Punjab, Lahore Pakistan. Participants of study were comprised of (30) subjects and they were divided randomly into two groups i.e. Experimental group (EG I Yoga, EG II Meditation) and control group (CG). Each group was comprised of 10 subjects. The intervention for the experimental group was involve 08-week yoga and meditation program consisting of; Yoga sessions (5 times a week for 30 minutes each session) focusing on gentle yoga styles / postures, relaxation, breathing exercises, and mindfulness such as

Hatha & Yin yoga, Daily meditation practice (20 minutes per day), including guided mindfulness meditation, body scans, and stress-relief techniques, which can be listening, loving, kindness & positive thoughts, The program was delivered with access to physical classes, demonstration and weekly group check-ins, which cater to the lifestyle of young females who may have busy schedules with university or work commitments. The control group was asked to maintain their usual daily activities and were not given any specific yoga or meditation intervention. They continued with their current routines without additional structured wellness practices. Perceived Stress Scale (PSS) was assessing the level of perceived stress among participants. The PSS is widely used to evaluate how unpredictable, uncontrollable, and overloaded participants feel in their lives and Mental Health Questionnaire (GHQ) was used to assess mental health and well-being, specifically focusing on emotional distress and functioning All the protocols of study were approved by the ethical and review board of department of sports sciences & physical education, University of Punjab, Pakistan and similarly a written informed consent was taken from all the subjects. To analyze the collected statistical package for social season (SPSS version – 26) and similarly suitable statistical tools was applied. On the basis of data analysis, the study arrived at conclusion that significant reduction in stress among participants who regularly practiced yoga and meditation was found. Participants reported improved emotional stability, better sleep patterns, and enhanced mental clarity. Moreover, there was a

notable improvement in physical well-being, including reduced fatigue and increased energy levels.

Introduction

Yoga is a physical, mental, and spiritual practice that involves postures, breathing techniques, and meditation to promote overall well-being. Meditation is mental practice involving focused attention and mindfulness to increase awareness and relaxation. Both practices are known for their ability to induce relaxation, reduce anxiety, and help manage stress (Sharma et al, 2022).

Workplace stress, particularly in high-pressure professions such as nursing, has become a significant occupational health concern, with increasing levels of stress and burnout. Stress not only affects physical health but also impacts personal, professional, and social well-being. Nursing staff, in particular, experience elevated levels of stress due to the emotional and physical demands of their profession. The potential of yoga as an intervention for reducing stress has been explored, with evidence suggesting that it can activate the parasympathetic nervous system, leading to relaxation, reduced anxiety, and improved self-compassion. Yoga may also have positive effects on professional quality of life (Mandal et al, 2021).

Previous studies have highlighted the benefits of yoga and meditation in reducing stress, improving coping mechanisms, and modulating physiological responses, but there is limited research focusing on their specific impact on hemodialysis patients. This study aimed to explore the effectiveness of a 12-week yoga and meditation program in improving QoL among CKD patients undergoing hemodialysis. By evaluating the influence of practices like pranayama, alternate nostril breathing, and mindful meditation on physical, psychological, and social health, this research sought to contribute to the understanding of how these holistic interventions can enhance the lives of individuals with chronic illnesses (Parekh & Prakasam, 2024).

Yoga and meditation have been widely recognized for their physical, mental, and emotional health benefits, with numerous studies highlighting their positive impact on overall well-being. Yoga and meditation contribute to enhanced physical and mental health, gaps remain in understanding how sustained practice influences (health related quality of life) over time (Thimmapuram et al, 2022).

The concern of stress and anxiety among students, experience high levels of stress, which negatively impacts their quality of life and overall well-being. Stress can manifest in physical and emotional symptoms, including headaches, anxiety, and depression, and is increasingly prevalent among college-aged individuals. Despite the recognition of stress as a significant issue, many students do not adequately address it through positive coping strategies. Previous studies have explored the benefits of mindfulness-based interventions for medical, nursing, and psychology students, showing promise in reducing stress (Lemay et al, 2019).

Despite the proven benefits of yoga and meditation in managing stress and promoting overall well-being, many teenagers remain unaware of these practices. Often, they view yoga as an outdated or traditional practice, not realizing that it is a holistic approach that can be tailored to modern-day needs. While yoga has been used for centuries to improve mental clarity, reduce anxiety, and enhance physical health, its application in stress management for adolescents is not widely recognized or practiced. This study aims to explore how yoga and meditation can serve as effective tools for stress reduction in teenagers, particularly during the challenging phase of adolescence (Sharma et al, 2022).

The rising prevalence of chronic kidney disease (CKD) presents a significant challenge to both healthcare systems and economies worldwide. For patients with kidney failure, hemodialysis becomes a crucial treatment option, yet it can severely impact their overall quality of life (QoL) due to the physical, emotional, and social strain it places on

individuals. While traditional medical interventions are essential, there is growing interest in complementary approaches such as yoga and meditation, which have shown potential in enhancing QoL by addressing various aspects of well-being (Parekh & Prakasam, 2024).

Adolescence is a challenging period, especially for girls, who face increased stress from academic, social, and personal pressures negatively impact their mental health and quality of life (QOL). Cyclic Meditation (CM), a yoga-based practice that includes mindfulness and breathing exercises, has shown promise in reducing stress and improving well-being (Khursheed et al, 2023).

Yoga has been shown to have positive effects on various health conditions, including mental health, gastrointestinal symptoms, and overall quality of life (Koch et al, 2020). Yoga, with its emphasis on relaxation, mindfulness, and physical movement, has shown promise in improving mental health by reducing stress, anxiety, and depression (Shohani et al, 2018).

Yoga is good for both depression and anxiety, particularly panic disorder. Mindfulness-based meditation can be useful alongside other treatments for mental health issues. The increasing levels of stress and anxiety experienced by adolescents due to various challenges they face during their developmental years. Adolescence is a crucial phase of life, marked by significant physical, emotional, and psychological changes. Teenagers often struggle with academic pressure, social expectations, peer influence, and hormonal fluctuations, which can lead to high stress levels and mental health concerns (Sharma et al, 2022).

Methodology of Study

Research Design:

The current study was associated with Yoga and Meditation exercises and its impact upon stress and Overall Quality of Life therefore, the researcher applied quantitative research design.

Population of the Study:

The population of this particular research study was comprised of young female students (age 15 – 25) of university of Punjab, Lahore Pakistan

Sample Size & Sampling:

Participants of study was comprised of (30) subjects and they were divided randomly into two groups i.e. Experimental group (EG I Yoga, EG II Meditation) and Control group (CG). Each group was comprised of 10 subjects.

Tools for Data Collection

All participants completed the PSS, and GHQ assessments to evaluate changes in stress levels, overall quality of life including age, occupation (student, professional, etc.), and lifestyle habits.

Data Analysis:

To collect the data were processed through statistical package for social season (SPSS version – 26) and similarly suitable statistical tools were applied.

Results

Table No 1: Demographic Attributes of CG

Variables	N	Mean	Std. Deviation
Age	10	1.6000	.51640
Living Style			.69921

The table 1 presents the descriptive analysis of demographic variables of the control group (CG). The total number of respondents was 10. The mean age of participants was 1.6000 with a standard deviation of ± 0.51640 , indicating slight variation among respondents. In terms of living style, the standard deviation was 0.69921, showing moderate variability in participants' living arrangements.

Table No 2: Demographic Attributes of EG-I

Variables	N	Mean	Std. Deviation
Age	10	1.1000	.31623
Living Style		1.8000	.42164

The table 2 illustrates the descriptive statistics of demographic variables of the Experimental Group-I (EG-I). The total number of respondents was 10. The mean age was recorded as 1.1000 with a standard deviation of ± 0.31623 , reflecting low variability among participants. Regarding living style, the mean was 1.8000 with a standard deviation of ± 0.42164 , indicating some variation in the living conditions of the respondents.

Table No 3: Demographic Attributes of EG-II

Variables	N	Mean	Std. Deviation
Age	10	1.4000	.51640
Living Style			

The table 3 shows the descriptive analysis of demographic variables of the Experimental Group-II (EG-II). The total number of respondents was 10. The mean age of participants was 1.4000 with a standard deviation of ± 0.51640 , suggesting moderate variation within the group. The data related to living style indicates demographic diversity among participants.

Table 4: Paired sample t-Test showing the comparison of Stress level Pre and Post-intervention characteristics of CG.

Testing Variables	N	Mean	Std. Deviation	Df	t	Sig. (2-tailed)
Stress-pre	10	2.8100	.36652	9	3.094	.013
Stress Post		2.2800	.49171			

Table 4 presents the paired sample t-test of CG (pre & post) on stress level. The mean of pre and post test was 2.8100 and 2.2800 with standard deviation .36652 and .49171 respectively. The t-value was 3.094 at df 9 and p-value .013, showing a statistically significant difference between pretest and posttest.

Table 5: Paired sample t-Test showing the comparison of Stress level Pre and Post-intervention characteristics of EG-I.

Testing Variables	N	Mean	Std. Deviation	Df	t	Sig. (2-tailed)
Stress-pre	10	2.6100	.36040	9	2.848	.019
Stress Post		2.2900	.36652			

Table 5 shows the paired sample t-test of EG I (pre & post). The mean of pre and post test was 2.6100 and 2.2900 with standard deviation .36040 and .36652 respectively. The t-value was 2.848 with df 9 and significance value .019, indicating a significant difference between pretest and posttest.

Table 6: Paired sample t-Test showing the comparison of Stress level Pre and Post-intervention characteristics of EG-II.

Testing Variables	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Stress-pre	10	2.3600	.60222	9	2.743	.023
Stress Post		1.8800	.42111			

Table 6 shows the paired sample t-test of EG II (pre & post). The mean of pre and post test was 2.3600 and 1.8800 with standard deviation .60222 and .42111 respectively. The calculated t-value was 2.743 with df 9 and p-value .023, indicating a statistically significant difference.

Table 7: Paired sample t-Test showing the comparison of Quality of Life Pre and Post-intervention characteristics of CG.

Testing Variables	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Quality of Life Pre	10	2.7000	.24495	9	-1.633	.178
Quality of Life Post		2.8200	.13038			

Table 7 represents the paired sample t-test of CG (pre & post). The mean of pre and post test was 2.7000 and 2.8200 with standard deviation .24495 and .13038 respectively. The t-value was -1.633 with df 4 and significance value .178, showing no significant difference.

Table 8: Paired sample t-Test showing the comparison of Quality of Life Pre and Post-intervention characteristics of EG-I.

Testing Variables	N	Mean	Std. Deviation	df	T	Sig. (2-tailed)
Quality of Life Pre	10	2.9200	.51672	9	-2.087	.105
Quality of Life Post		3.3800	.43818			

Table 8 shows the paired sample t-test of EG I (pre & post). The mean of pre and posttest was 2.9200 and 3.3800 with standard deviation .51672 and .43818 respectively. The t-value was -2.087 with df 4 and p-value .105, indicating that the result is not statistically significant.

Table 9: Paired sample t-Test showing the comparison of Quality of Life Pre and Post-intervention characteristics of EG-II.

Testing Variables	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Quality of Life Pre	10	2.9200	.39623	9	-1.845	.139
Quality of Life Post		3.3000	.52440			

Table 9 shows the paired sample t-test of EG II (pre & post). The mean of pre and post test was 2.9200 and 3.3000 with standard deviation .39623 and .52440 respectively.

The calculated t-value was -1.845 with df 4 and p-value .139, indicating no statistically significant difference.

Discussion

The results of the current study revealed that there was a statistically significant reduction in stress levels in all three groups, including the control group, experimental group I (yoga), and experimental group II (meditation). However, the greatest reduction in stress was observed in the experimental groups, particularly in the meditation group (EG-II), where the mean stress score decreased from 2.36 to 1.88. This indicates that structured interventions such as yoga and meditation are effective strategies for managing stress among young females.

These findings are consistent with previous research reported Lemay et al. (2019) highlighted that yoga and meditation interventions significantly reduce stress and anxiety among students by improving emotional regulation and mindfulness. Similarly, Shohani et al (2018) found that yoga practices contribute to lowering stress, anxiety, and depression levels in women. The current study supports these findings by demonstrating measurable improvements in stress after an 8-week intervention program. Interestingly, the control group also showed a significant reduction in stress. This may be due to external factors such as natural adaptation, environmental influences, or participants becoming more aware of their stress levels during the study period. However, the magnitude of change was smaller compared to the experimental groups, which reinforces the effectiveness of yoga and meditation as structured interventions.

In contrast to stress, the results related to quality of life (QoL) showed no statistically significant improvement in any of the groups, although there was a slight increase in mean scores across all groups. For example, in EG-I, the mean QoL increased from 2.92 to 3.38, and in EG-II from 2.92 to 3.30, but these changes were not statistically significant. This suggests that while yoga and meditation may produce immediate effects on stress reduction, their impact on overall quality of life may require a longer duration or more intensive intervention. This finding aligns with Thimmapuram et al (2022), who reported that improvements in quality of life through yoga and meditation are often observed over a longer period of consistent practice. Similarly, Koch et al. (2020) suggested that stress reduction may mediate improvements in quality of life, meaning that QoL changes occur gradually as stress levels decrease over time. Therefore, the non-significant results in QoL in this study may be due to the relatively short duration (8 weeks) of the intervention.

Furthermore, the demographic analysis indicated that most participants were young females aged 15–25, with varying living styles such as joint family systems and hostel environments. These factors may also influence stress levels and quality of life. As discussed by Hewett et al. (2018), environmental and lifestyle factors play a significant role in psychological well-being and stress perception. Therefore, differences in living conditions could have contributed to variations in outcomes among participants. Overall, the findings of this study support the hypothesis that yoga and meditation are effective in reducing stress among female students. However, their effect on quality of life was not statistically significant within the given timeframe. The study highlights the importance of incorporating mind-body practices into daily routines for better stress management, while also suggesting that long-term engagement may be necessary to observe significant improvements in overall quality of life.

Conclusion:

On the basis of data analysis and findings, the researcher arrived at conclusion that significant reduction in stress among participants who regularly practiced yoga and meditation was found. Participants reported improved emotional stability, better sleep patterns, and enhanced mental clarity. Moreover, there was a notable improvement in physical well-being, including reduced fatigue and increased energy levels. The results

also highlight a positive relationship between consistent practice duration and greater stress reduction. Females engaging in these practices demonstrated higher resilience to daily life challenges. Social functioning and interpersonal relationships were also positively influenced.

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