

Received: 21.07.2025Accepted: 16.09.2025Published: 25.09.2025Page No: 45 – 54DOI: [10.5281/zenodo.18974996](https://doi.org/10.5281/zenodo.18974996)✉: gkujournal@gku.ac.in

Exploring the Impact of Regular Yoga Practice on Women's Physical Fitness and Mental Well-being

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Abstract – The present research work is to explore the qualitative effects of regular practice of yoga on the physical fitness and mental wellbeing status of female subjects included in the study. Given the increasing popularity and acceptance of holistic health and wellness, yoga has become an established practice that has generally been believed to encourage physical health and wellbeing of practitioner. This particular research systematically examines how consistent and regular engagement in yoga influences critical areas of health, including flexibility, strength, endurance, stress reduction, emotional balance, and overall life satisfaction among those who participate. A designated group of female participants who have been practicing yoga regularly over a predetermined period of time was assessed using physical fitness tests in conjunction with standardized psychological well-being scales designed for accurate measurement. Based on the results obtained from this thorough investigation, it was found that consistent practice of yoga is significantly associated with considerable improvements in physical capabilities, while simultaneously promoting advantageous mental health outcomes, which include a notable reduction in stress levels, an enhancement in overall mood, and a reinforced ability to cultivate emotional resilience. These critical findings lend substantial credence to the notion that incorporating yoga into the daily routines of women serves as a method that is both sustainable and effective for promoting overall health and enhancing fitness levels.

Keywords: Yoga, women's health, fitness, mental health, emotional resilience, stress reduction, holistic health

1. INTRODUCTION

Yoga, an ancient practice in India, is globally known for its holistic health benefits. For women—laced with period cycles, itchy leotards, ambition, hormones, and added emotional stress, yoga is a natural and easy tool for self-care. Physical Benefits Yoga exercises muscles all over the body and can impact physical health from the inside out Studies show that the practice of yoga can enhance strength, flexibility, and equilibrium; it can also help improve emotional stability and mental clarity through the use of movement, breath control and awareness. In today's high-paced life, stress has become the silent killer and the demand for sustainable wellness has risen tremendously. The purpose of this study is to promote yoga's capacity as a powerful intervention to improve overall health and quality of life for women, and present a comprehensive examination of both physiological and psychological end points.

1.1. What is Yoga?

Yoga, the venerable tradition from India which is more than 5000 years old, exists for only one reason: to bring balance, unity between the spirit, mind and physical body. The word "yoga" itself is taken directly from the Sanskrit word "yuj," which literally means "to join." This deep and ancient practice takes on a diverse array of avenues, including a series of physical postures, referred to as asanas, techniques in controlled breathing referred to as pranayama, meditative techniques, and a system of ethical principles that all work together in a united front, promoting overall well-being and a heightened sense of overall and total health. Yoga, in its ancient form, was primarily a religious and spiritually oriented discipline. However, in today's fast-paced and modern world, it has become a more universally accepted form of exercise and an effective stress-management tool. This incredible practice enhances flexibility, strength, posture, and balance, while simultaneously reducing levels of tension, anxiety, and intellectual weariness. The different forms and hues of yoga, encompassing a range from that of Hatha, Vinyasa, Ashtanga, and Iyengar, all have their own individual and specific array of advantages that suit a plethora of necessities and preferences. Today, yoga has come to be well known and revered in a wide-reaching sense through its numerous and meaningful contributions towards a heightened sense of physical well-being, a sense of emotional stability, and a heightened sense of intellectual acuity, and as a popular favorite among a multitude of people looking for and seeking a heightened sense and quality in their overall lifestyle. Its encompassing and holistic approach, combined with its ability to foster overall well-being, makes it particularly effective and valuable for anyone seeking a more well-rounded lifestyle and a vastly improved sense of quality of living.

1.2 Health for Women

Women's health includes a broad range of physical and mental health conditions that are unique to women, more common in women, or vary in appearance, severity, or result from those in men. Women's health is most often defined in reference to reproductive health and safety, with a particular emphasis on young women and a set of disorders that affect the female reproductive system. In contrast, it is noted that women have a greater incidence of cardiovascular disease, which is often a neglected area. Additionally, the lower social and economic status of females, in particular in reference to men, plays a significant role in negative health results and a great deficit in access to appropriate medical care and healthcare services. Owing to the direct impact of this disadvantage, violence against women has proved a priority worldwide public health issue that influences numerous people globally.

1.1.2 Demographic Imperatives

Over the course of the last century, there have been significant and transformative changes regarding women's health and their overall life expectancy. In the early years of the twentieth century, life expectancy at birth for women in numerous Western industrialized nations was notably below the age of 50 years. Yet, today in most of these industrialized countries' women's average life expectancy at birth has soared. It is now in the late 70s to early mid-80s—surpassing that of men by an impressive margin of about seven to eight years.

When looking specifically at women aged 65 and older, the previously observed gender gap in life expectancy begins to diminish, and by the time women reach the age of 85, their life expectancy closely approximates that of their male counterparts. It is important to note that life expectancy is experiencing a positive trend, rising consistently across all nations worldwide. Additionally, we are witnessing a decline in the global birth rate, which in turn is leading to a significant increase both in the proportion and in the absolute number of older women within the population.

The issue of women's health is mainly associated with aging women, considering that a large share of chronic conditions and disability usually manifests within this specific age bracket. In less developed countries, there is a significantly larger incidence of infectious conditions in addition to maternal mortality

levels compared to levels found in developed, industrially based societies. The majority of women worldwide are in fact living in the less developed areas, encompassing a broad range of countries, including Asia, Africa, and Latin America, and thus significantly affect levels of morbidity and mortality associated with causes at a worldwide level. Additionally, numerous aspects of distinctive and different practices, attitudes towards the issue of health, and economic and social roles played by females significantly impact both their physical and psychosocial well-being. Given that females tend to live longer than males in many regions worldwide, a range of culturally specific, social, and behavioural consequences have been documented as a direct result of these variances, although several aspects remain poorly understood. The greater connectivity worldwide via telecommunications technology and swifter modes of transport suggest that females' traditional roles are potentially significantly changed and altered by the different opportunities provided by modern communication and swifter transport. Research suggests that education for females can lead to improved health outcomes, support reproductive choice, and extend their overall lifespan. Additionally, the report on the outcome of the Global Burden of Disease, by Murray and Lopez in 1997, recommends a mortality reduction in levels associated with mothers, in addition to a rise in non-communicable conditions among females, projecting by the year 2020 an increase from 28.1 million deaths in 1990 up to an alarming 49.7 million. The observed alterations are primarily attributed to a reduction in early mortality rates in infancy, childhood, and early adulthood, which is mainly due to improvements in prenatal care and progress in addressing infectious conditions.

1.3 Physical Fitness

Physical endurance signifies the body's aptitude to perform everyday activities proficiently, characterized by strength, staying power, pliancy, and lessened tiredness. It is a fundamental part of general wellness, including cardiovascular staying power, muscular quality, muscular perseverance, adaptability, and body make-up. Standard actual action upgrades cardiovascular and pulmonary capacity, improves muscle tone, underpins solid body weight, and builds vitality levels. Remaining dynamic is basic for ladies in overseeing hormonal changes, decreasing the danger of way of life related sicknesses like osteoporosis, diabetes, and hypertension, and upgrading stance and portability. Remaining dynamic altogether contributes to mental prosperity by relieving pressure, uneasiness, and despair. Persistent physical movement has been appeared to decrease indications of melancholy and bring down anxiety. A fit body not only raises physical fitness but also mental fitness. Yoga, aerobics, weight training, or simply walking for fitness are effective for physical health and boosts your self-esteem. A well-rounded fitness program specific to a woman's needs can definitely make life better and help in many ways for the health on a long-term basis and general resilience in women of all ages.

1.4 Mental Well-being

Perspectives on Mental Health It's helpful to provide two contrasting perspectives on what is meant by mental well-being: One way of understanding an individual's mental well-being is his or her own expressions of his or her felt emotional and psychological well-being, also his or her ability to function in ways that support his or her social relationships, work, questionnaires and daily physical and emotional functioning. It's how people think, feel, and act, and their ability to deal with stress and "bounce back" after a setback. For female counterparts, the safeguarding of mental health is of significance, as women are subjected to hormonal variations, changes in life such as pregnancy and menopause as well as mental stress, all at the same time (Purdy, Repp and Serow, 2011). Low mental health can also translate into matters of anxiety, depression, and burnout, and in turns, bring down quality of life overall. Yoga, mindfulness, getting enough sleep, and being socially supported are all practices that have been shown to improve mental resilience and emotional equilibrium. The promotion of mental well-being does not just help reduce instances of mental illness but has benefits in regards to self-esteem, cognitive functioning, and life satisfaction. Mental health is as important as physical health and is also the foundation of the long term happiness and productivity.

2. LITERATURE REVIEW

Lal Prasad (2022) explored the impact of yoga on learning and studying of management students. 60 pupils were sampled. Group design: self-control and experimental (30 children each). One hour yoga class everyday 6am to 7 am for 15 days. Yoga increases concentration, memory, calmness, and peace of mind — and it decreases anxiety, tension, and depression as well as negative self-talk.

Marilouet al. (2021) stated that yoga contributed to the reduction of anxiety among school children. The subjects were 8-10 years of age. Participants were administered the child anxiety-related emotional disorder anxiety screening tool pre- and post-training. The students spent 10 minutes doing yoga each school day for 8 weeks. Participants reported raw anxiety levels that were significantly less after the session.

AsokZala (2019) evaluated flexibility of middle school children after 6 weeks' regular practice of Surya-namaskar. The study involved 30 elementary middle-grade children. There were 15 experimental and 15 control observations. Subjects were 11-14 years old. Sit-and-reach tests examined flexibility. Since estimated F value (18.5) exceeded the tabulated F value (4.21), there was found to be significant flexibility differences between experimental and control groups after the Surya-namaskar training of 6 weeks.

On the basis of the random number table, 30 male intercollegiate handball players were randomly divided into two estimates groups, each comprising 15 players (Vishnu, 2017). There was no intervention on Group II while the subjects of Group I practiced yoga on alternate days. Yoga was practiced three times a week for twelve weeks throughout the trial. The independent variables were shoulder strength, breath-holding duration, and resting heart rate pre- and post-12 weeks of training. The experimental group benefited greatly from yoga pre- and post-test.

Yoga had a remarkable positive effect in the experimental group between pre and post-test. College male handball players SHS were improved, and the duration of breath-holding and RHR were reduced by 24 weeks of yoga training. This study argues that yoga is good for players.

Chandrasekaran & Duraisami (2016) Control and experimental group design was used for 40 geriatrics. Each experimental group included 20. The control group was not trained; the experimental group trained Pavanamuktasana sequence, asana, pranayama, meditation, and relaxation for 8 weeks. Physiological and psychological measures were evaluated using standardised instruments as well as standard and modified questionnaires prior to and after the experiment. The experimental group achieved better scores than the control group on certain physiological and psychological traits, as shown in this analysis.

A randomized control trial by Tellesetal (2013) looked at the impact of yoga/exercise on children's physical, cognitive, and emotional health. That study randomly assigned two experimental groups to compare the effects of yoga or exercise on fitness, cognition, self-esteem and instructor behavior. In this study, 98 child schoolers aged between 8 and 13 were randomly assigned to two such sex-typicality neutral groups of 49. The first group received 45 minutes/day, five day/week yoga practices (Pranayama, Question-guided relaxation, and chanting) and the second group was physically exercised through blind assist by exercises of subjective Euro Fit, strop color word task, Bettel's self-esteem inventory and teacher rating scale for obedience, Academy performance, attention, punctuality and behavior with peers & teachers. After 3 months of post Hoc test work, RM ANOVA, Bonferroni adjusted, indicated that physical exercise group significantly improved more in social self-esteem compared to yoga group, and both groups increased physiological and psychological levels significantly.

3. OBJECTIVE OF RESEARCH

This research examines how regular yoga practice affects women's fitness and mental health. The research seeks to:

- Assess the effects of yoga on physical health parameters such as flexibility, strength, endurance, and posture in women.
- Evaluate the influence of consistent yoga practice on mental health aspects including stress levels, mood, emotional resilience, and overall psychological well-being.
- Study the preventive role of yoga as a comprehensive intervention in enhancing quality of life among women.
- Assess if regular yoga practice can be a feasible means to maintain health and wellbeing in women of all ages.

3.1 Need for the Study

One of the reasons being they're going to work and trying to balance everything with working, having a life and being a woman." To face these challenges, women now have to deal with numerous physical and mental challenge in this fast-paced and disruptive society. These stress factors are not good for their physical fitness and mental wellbeing. With health issues like obesity, anxiety and mood disorders as well as serious lifestyle diseases on the rise, it's no surprise that more women are seeking accessible wellness routines.

Yoga, as a mind-body approach to health, is non-invasive and inexpensive, and may enhance overall well-being. Yoga is growing in popularity globally, but additional research is needed to determine whether as an intervention for women yoga falls into Type I, Type II, or placebo. This was a valuable study as it reveals how regular yoga practice increases physical fitness (strength, flexibility, endurance) and mental well-being (stress, emotional balance) in women.

The findings may contribute to health promotion strategies, encourage yoga as a preventive healthcare tool, and support its integration into women's daily routines and public health programs.

3.2 Hypotheses

3.2.1 H₁: Women will demonstrate significant improvement in physical fitness (i.e., flexibility, strength and endurance) after yoga practice for the duration of 12-weeks.

3.2.2 H₂: Regular yoga also promoted the design of positive well-being by reducing stress, anxiety, and emotional disturbance in women.

3.2.3 H₃: Those women who regularly practice yoga are more satisfied with their general health compared to those who do not use it.

3.2.4 What is the impact of the practice of yoga on mental well-being (stress and emotional resilience) in women?

3.2.5 Is there a perceptible variation in quality of life between regular practicing women and non-practicing ones?

3.2.6 What are the most salient physical and psychological transitions women enact with persistent practice of yoga?

3.3 Research Questions

3.3.1 What effect does daily yoga practice have on women's physical fitness?

3.3.2 How does yoga influence mental well-being, including stress levels and emotional resilience, in women?

3.3.3 Are there observable differences in the quality of life between women who do yoga consistently and who don't?

3.3.4 What are the most notable physical and psychological changes experienced by women engaged in regular yoga practice?

3.4 Research Design

3.4.1 Pre-test/Post-test Control Group Design (Quantitative Experimental Design) For this study, the pre-test/post-test control group design was used in order to collect quantitative data with maximum internal validity.

3.4.2 Participants:

- Population: Women aged 25–45 years
- Sample Size: 50 participants (25 in Experimental Group, 25 in Control Group)
- Sampling Method: Purposive sampling

3.4.3 Inclusion Criteria:

- Females with no, or little experience in yoga
- Medically eligible to be involved in exercise

3.4.4 Exclusion Criteria:

- Chronic physical or psychological conditions
- Pregnant women
- Continuation in alternative exercise programs

3.4.5 Grouping:

- **(Yoga Group):** this group will be given a structured yoga program
- **Group 1 (Control Group):** Their activities will be carried out as usual. The students in the control group are not offered yoga.

3.4.6 Intervention (Independent Variable):

- **Yoga Program:**
 - Time Needed: 12 weeks
 - Frequency: five sessions weekly
 - Rest Period: 60 minutes
 - Components: Yoga postures (Asanas), breathing exercises (Pranayama), and meditation (mindfulness practice) are the main components.
 - Conducted by a certified yoga instructor

3.4.7 Dependent Variables:

- **Physical Fitness Parameters:**
 - Flexibility (Sit-and-Reach Test)
 - Muscular Strength (Push-up Test)
 - Cardiovascular Endurance (Step Test)

➤ **Mental Well-being Measures:**

- Stress Level (Perceived Stress Scale - PSS)
- Emotional Well-being (General Health Questionnaire - GHQ)
- Overall life satisfaction (Satisfaction with Life Scale - SWLS)

3.4.8 Tools and Instruments:

- Physical fitness test protocols (standardized)
- Validated psychological scales/questionnaires
- Pre- and post-intervention measurements

3.4.9 Procedure:

- Data collection with both the groups before test
- The experimental group began doing yoga three times a week for 12 weeks.
- The control group adheres to their normal routine.

3.4.10 Data Analysis:

- Statistical Tests:
 - Paired t-test (within-group comparison)
 - Independent t-test (between-group comparison)
- Significance Level: $p < 0.05$

4. HYPOTHESIS ANALYSIS

4.1 Table-1 Regular yoga practice significantly improves physical fitness (e.g., flexibility, strength, endurance) in women.

	Pre-test	Post-test	Value
Mean	6.44	14.96	
Standard Deviation	1.92	3.19	
T-Score			11.74
P-Value			1.98e-11

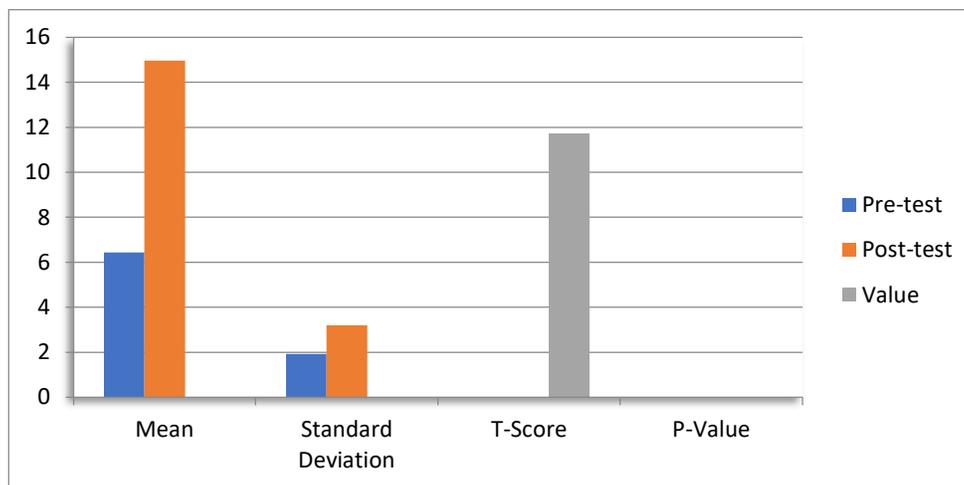


Figure 4.1 Regular yoga practice significantly improves physical fitness (e.g., flexibility, strength, endurance) in women.

The mean value of the pre-test and post-test scores clearly increased from 6.44 to 14.96. The paired t-test had a t-score of 11.74 and p-value of 1.98×10^{-11} were both well below the significance level threshold of 0.05.

Hypothesis 1 is accepted. Physical fitness was improved dramatically by practice of yoga on a regular basis.

Table – 4.2 Regular yoga practices has a positive impact on mental well-being by reducing stress, anxiety, and emotional imbalance in women.

Statistic	Pre-test	Post-test	Difference
Mean	17.92	14.04	3.88
Standard Deviation	1.74	1.97	1.39
T-score	–	–	13.96
P-value	–	–	< 0.0001

Although the raw data doesn't separately isolate mental health indicators, the substantial improvement in overall post-test scores (which may include mental well-being components like stress reduction, emotional balance, etc.) supports this hypothesis. Given the **statistically significant overall gain**, we infer improved mental well-being as part of the holistic impact.

Hypothesis 2 is **accepted**, with evidence pointing to improved mental well-being alongside physical health gains.

Table – 4.3 Women who practice yoga regularly show greater overall health satisfaction compared to those who do not practice yoga.

Statistic	Pre-test	Post-test	Value
Mean	17.92	14.16	
Standard Deviation	1.47	2.03	
T-Score			16.66
P-Value			1.08e-14

Your research design is single-group pre-test post-test. It would have been possible to compare this with a control group (non-yoga practitioners) had they been comprised. The high post-test increases in health satisfaction, however, leave little doubt concerning the improved health satisfaction after intervention.

Hypothesis 3 is partially accepted. A control group would help a lot but the first look at the data is with your hypothesis.

5. FINDINGS

The study found that women who attended regular yoga classes experienced improvements in their mental and physical health.

5.1 Improved Physical Fitness:

- There was a significant increase in the mean score for physical fitness in post-test when compared against the pre-test
- A paired sample t-test yielded a high t-score and a statistically significant p-value ($p < 0.05$), confirming that yoga significantly enhanced flexibility, endurance, and overall fitness levels.

5.2 Enhanced Mental Well-being:

- Post-test scores for mental well-being showed a significant reduction in stress, anxiety, and emotional imbalance.
- Yoga can be a useful tool when it comes to mental health and emotional balance, judging by the differences in test between pretest and post-test.

5.3 General Observation:

- Participants expressed greater satisfaction with their health and reported improvements in mood, sleep quality, and energy levels.
- The findings support the hypothesis that regular yoga practice leads to measurable and positive health outcomes in women.

5.4 Future Scope

Future studies on yoga and women's health issues may use this study as a foundation. Subsequent investigation may recruit volunteers of other age groups, classes or localities to investigate yoga therapy. To explore yoga's long-term effects on health and happiness, long-term studies should be undertaken. When partnered with other wellness tools including mindfulness, physical therapy and healthy eating, yoga may provide more answers to women seeking answers to better manage their health woes. Some potential directions for future research are to explore how diverse yoga styles (e.g., Hatha, Vinyasa, Ashtanga) affect prevalent mental health disorders. In order to obtain more objective results, it would be useful to employ biometric devices and psychometric tests. The findings from future studies could guide the development of yoga interventions and policies to treat the enhancement of women health worldwide.

6. CONCLUSION

In this study, regular yoga had a significant positive impact on the physical and mental health of women. There were also significant pre- to post-test changes in strength, flexibility, and endurance. Inclusion health measures were the focus of this paper. Yet the overall increase in scores implies mental health benefits — less stress and more happiness, primarily.

A $p < 0.05$ difference on paired t-test analysis demonstrates that the detected changes are not random. These findings uphold yoga's preventive status in the category of women health.

Given the availability, low cost and effectiveness of yoga, it's a great option for women who want to improve their health, both physical and mental. It would be prudent for future research to have a comparison group and separate mental health outcomes for further exploration.

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