



Considering the Impact of Yoga on Psychological Well-being and Quality of Life in Perimenopausal Women: A Randomized Controlled Trial

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Abstract

Background. The onset of menopause and the perimenopausal period is often associated with the manifestation of psychological and physical symptoms that can adversely affect a woman's quality of life. Yoga has been identified as a promising non-pharmacological intervention for alleviating these symptoms.

Materials and methods. This randomized controlled trial assessed the effects of a 12-week Hatha Yoga intervention on psychological well-being and quality of life in 100 perimenopausal women (yoga group: n = 50; control group: n = 50). The participants in the yoga group engaged in Hatha Yoga practices, while the control group received no intervention. The psychological outcomes, including depression, anxiety, sleep quality, stress, climacteric symptoms, and self-esteem, were measured using standardized scales before and after the intervention. Hormonal analysis and anthropometric measures were also collected.

Results. The yoga group demonstrated significant improvements in all psychological parameters compared to the control group. Depression and anxiety scores reduced by 6.3 points ($p = 0.001$, $d = 0.78$) and 6.8 points ($p < 0.001$, $d = 0.82$), respectively, while perceived stress, sleep quality, climacteric symptoms, and self-esteem improved significantly ($p < 0.01$). The study also revealed a substantial increase in quality of life in the yoga group ($p < 0.001$, $d = 0.86$), along with a reduction in neuroticism scores ($p < 0.001$, $d = 0.79$). In contrast, the control group exhibited minimal changes across all measures.

Conclusions. These findings highlight yoga's effectiveness in alleviating psychological distress and enhancing quality of life among perimenopausal women. Yoga serves as an accessible and holistic approach to managing menopausal symptoms and promoting mental well-being. It is recommended that further research should focus on investigating the potential long-term benefits and physiological mechanisms underlying these positive alterations.

Keywords: anxiety, climacteric symptoms, depression, perimenopausal, self-esteem, sleep quality.

Introduction

Menopause marks the cessation of menstruation and the end of a woman's reproductive years, typically occurring between the ages of 45 and 55 (Davis et al., 2015). However, the transition to menopause, known as perimenopause, often begins several years before the last menstrual period and is characterized by fluctuating levels of estrogen and progesterone (Hale & Burger, 2009). These hormonal fluctuations can lead to a variety of symptoms such as hot flashes, night sweats, mood swings, irritability, depression, anxiety, sleep disturbances, and reduced quality of life (Woods et al., 2021). These symptoms can severely impact the psychological well-being and overall health of women during this stage (Ambikairajah et al., 2022).

The conventional management of perimenopausal symptoms often includes pharmacological interventions like hormone replacement therapy (HRT) and antidepressants (Jeong & Park, 2022). While these treatments are effective in managing some symptoms, they are associated with potential side effects such as weight gain, increased risk of cardiovascular events, and breast cancer, especially with long-term use (Gatenby & Simpson, 2024). This has prompted the exploration of alternative and complementary therapies that offer fewer side effects and more holistic benefits (Ninot, 2021).

One promising non-pharmacological intervention is yoga, a mind-body practice that combines physical postures, controlled breathing, and meditation techniques (Wankhar et al., 2024). Yoga has gained increasing recognition for its role in improving mental health and physical well-being (Ghosh et al., 2024; K.S. et al., 2023). Previous studies have suggested that yoga can alleviate symptoms such as anxiety, depression, and sleep disturbances, all of which are commonly experienced by perimenopausal women (Padmavathi et al., 2023). For instance, a systematic review and meta-analysis of randomized controlled trials (RCTs) conducted by Gangadharan et al. (2024) found that yoga significantly reduced menopausal symptoms and improved overall quality of life in menopausal women (Gangadharan et al., 2024). Similarly, a study by Nayak et al. (2014) demonstrated that yoga therapy had significant effects on psychological health, vasomotor symptoms, and overall quality of life, especially for women in the perimenopausal phase (Nayak et al., 2014). Moreover, a study by Khadka et al. (2022) found that yoga practice significantly increased serum levels of estrogen and progesterone in perimenopausal women, suggesting that yoga may have beneficial effects on hormonal balance during the transition to menopause (Khadka et al., 2022). In a recent study by Susanti et al. (2022), yoga was shown to improve sleep quality and reduce menopausal symptoms in postmenopausal and perimenopausal women, further supporting the efficacy of yoga in addressing the psychological and physical challenges of menopause (Susanti et al., 2022).

Despite these promising findings, there is a lack of comprehensive studies specifically focusing on the effects of Hatha Yoga on both the psychological and physiological parameters in perimenopausal women. This gap in the literature highlights the need for further investigation into how yoga can impact various aspects of perimenopausal health, including hormonal regulation, psychological well-being, and overall quality of life.

Materials and Methods

Study Design

This study employed a parallel-group randomized controlled trial design conducted over 12 weeks. Participants attended sessions five days per week (Monday through Friday), with each session lasting 75 minutes. The study included an experimental group that received a yoga intervention and a control group that did not receive any intervention.

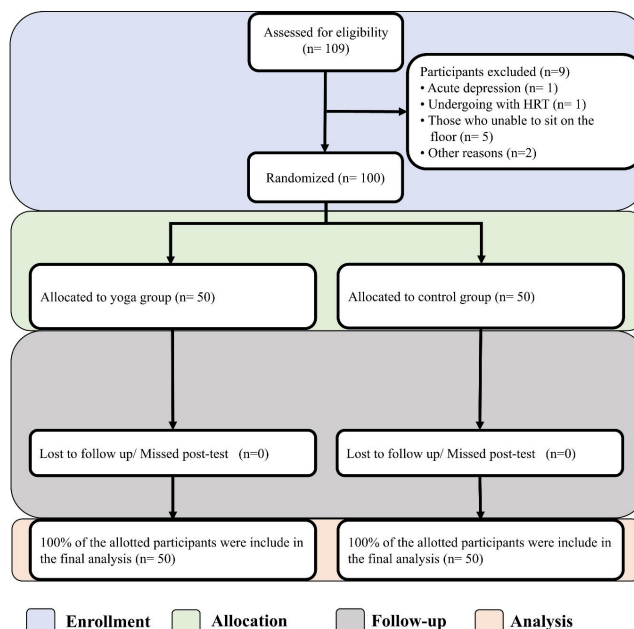


Fig 1. Semantic repetition of the research study

Participants

The study targeted perimenopausal women aged 40–55 years residing in Thane City, India. Participants were required to be from urban areas and to have follicle-stimulating hormone (FSH) levels of 15 or higher on the sixth day of their menstrual cycle. Women with acute depression ($n = 1$), those undergoing hormone replacement therapy (HRT) ($n = 1$), individuals unable to sit on the floor ($n = 5$), and those with severe backache, osteoarthritis, hypertension, diabetes mellitus, or surgical menopause ($n = 2$) were excluded. Semantic representation and sample sizes in various stages of research were presented in Figure 1.

Sample Size and Randomization

A statistical calculation with a 95% confidence level and 80% power determined the total sample size to be 100 participants, with 50 allocated to the experimental group and 50 to the control group. Participants were selected through simple random sampling from a pool of eligible women visiting a renowned gynecologist in Thane City.

Ethical Considerations

The study was approved (MMCH&RI IEC/PhD/20/JAN/23) by the Institutional Ethics Committee of Meenakshi

Table 1. Yoga practices for 12 weeks

Component	Practice	Duration (Minutes)	Purpose
Warm-Up	Joint rotations, gentle stretches		Prepare the body, improve flexibility, and prevent injury.
Asanas	Tadasana (Mountain Pose)	10	Improve posture and balance.
	Trikonasana (Triangle Pose)		Stretch and strengthen muscles, enhance hormonal balance.
	Bhujangasana (Cobra Pose)		Stimulate adrenal glands and improve spinal flexibility.
	Baddha Konasana (Bound Angle Pose)		Enhance pelvic health and hormonal function.
	Shavasana (Corpse Pose)		Induce deep relaxation and reduce fatigue.
Pranayama	Nadi Shodhana (Alternate Nostril)	25	Balance energy and calm the mind.
	Bhramari (Bee Breathing)		Reduce anxiety and improve concentration.
Meditation	Mindfulness meditation	15	Promote emotional stability and reduce stress.
Relaxation	Yoga Nidra (Guided Relaxation)	10	Foster mental calmness and improve sleep quality.

Academy of Higher Education and Research. Detailed informed consent forms were provided to participants in both English and Marathi to ensure clear understanding of the study's purpose, procedures, risks, and benefits. Participant confidentiality was maintained throughout the study, and all ethical guidelines were strictly adhered to.

Intervention

The intervention consisted of a structured 12-week yoga program specifically designed to address the hormonal and psychological challenges faced by perimenopausal women. Participants in the experimental group attended yoga sessions five days a week, with each session lasting 75 minutes. The yoga practice incorporated a combination of asanas (postures), pranayama (breathing techniques), dhyana (meditation), and relaxation techniques, focusing on improving physical and mental well-being. The sessions were led by certified yoga instructors and adapted to suit the needs of perimenopausal women. Warm-up exercises were followed by a sequence of postures to enhance flexibility, hormonal balance, and strength, breathing exercises to promote relaxation and improve lung capacity, and meditation to reduce stress and anxiety. Each session concluded with guided relaxation to foster mindfulness and calmness.

Outcome Measures - Psychological Parameters

Hamilton Depression Rating Scale (HDRS): The Hamilton Depression Rating Scale (HDRS) is a 17-item clinician-administered assessment tool measuring depression severity. Each item is rated on either a 5-point scale (0-4) or a 3-point scale (0-2), with a total score range of 0-52. Scores of 0-7 indicate normal mood, 8-13 suggest mild depression, 14-18 indicate moderate depression, 19-22 show severe depression, and scores ≥ 23 represent very severe depression. The scale evaluates key symptoms including mood, guilt, suicide ideation, insomnia, work/activities, psychomotor retardation/agitation, anxiety, and somatic symptoms (Hieronymus et al., 2021).

Pittsburgh Sleep Index (PSQI): The Pittsburgh Sleep Index comprises 19 self-rated questions and 5 questions rated

by a bed partner or roommate (if available). These questions are combined to form 7 component scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. Each component score ranges from 0-3. The sum of these 7 component scores yields a global PSQI score ranging from 0-21. A global score >5 indicates poor sleep quality, with higher scores representing progressively worse sleep quality (Zitser et al., 2022).

Greene Climacteric Scale: The Greene Climacteric Scale consists of 21 items measuring various menopausal symptoms across four domains: psychological (11 items), somatic/physical (7 items), vasomotor (2 items), and sexual (1 item). Each symptom is rated on a 4-point scale from 0 (not at all) to 3 (extremely). The psychological domain is further divided into anxiety (items 1-6) and depression (items 7-11) subscales. Total scores range from 0-63, with higher scores indicating more severe symptoms. Domain scores can be calculated separately: psychological (0-33), somatic (0-21), vasomotor (0-6), and sexual (0-3) (Greene, 2008).

Perceived Stress Scale (PSS): The Perceived Stress Scale is a 10-item instrument measuring the degree to which situations in one's life are appraised as stressful. Items are rated on a 5-point Likert scale from 0 (never) to 4 (very often). Four items (4, 5, 7, and 8) are positively stated and must be reverse scored. Total scores range from 0-40, with scores of 0-13 indicating low stress, 14-26 suggesting moderate stress, and 27-40 representing high perceived stress levels (Chan & La Greca, 2020).

WHO Quality of Life Questionnaire (WHOQOL-BREF): The WHOQOL-BREF contains 26 items, with 24 items across four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environment (8 items), plus 2 individual items assessing overall quality of life and general health. Each item is rated on a 5-point Likert scale from 1-5. Domain scores are scaled in a positive direction (higher scores indicate better quality of life) and are transformed to a 0-100 scale. Three items (3, 4, and 26) must be reverse scored before calculating domain scores (Krägeloh et al., 2011).

Rosenberg's Self Esteem Scale (RSES): The Rosenberg Self-Esteem Scale is a 10-item scale measuring global self-worth.

Items are answered on a 4-point Likert scale from strongly disagree (0) to strongly agree (3). Five items (2, 5, 6, 8, 9) are negatively worded and must be reverse scored. Total scores range from 0-30, with scores below 15 suggesting low self-esteem, 15-25 indicating normal self-esteem, and scores above 25 representing high self-esteem (Martín-Albo et al., 2007).

NEO's Big Five Inventory (BFI): The NEO's Big Five Inventory consists of 44 items measuring five personality dimensions: Extraversion (8 items), Agreeableness (9 items), Conscientiousness (9 items), Neuroticism (8 items), and Openness (10 items). Items are rated on a 5-point scale from 1 (disagree strongly) to 5 (agree strongly). Sixteen items are reverse scored. Each personality dimension is scored separately, with higher scores indicating stronger presence of that trait. Raw scores are converted to T-scores (mean = 50, SD = 10) for interpretation against population norms (Fossati et al., 2011).

Data Collection

Psychological assessments were conducted before and after the 12-week intervention period. Participants completed all questionnaires under supervision to ensure proper understanding and accurate responses. The research team maintained standardized testing conditions for all assessments to minimize variability.

Statistical Analysis

Data analysis was conducted using paired t-tests to evaluate within-group changes and independent t-tests for between-group comparisons of psychological parameters before and after the intervention. The mean differences (MD) were calculated to quantify the magnitude of changes for each parameter. Effect sizes (Cohen's *d*) were also computed to assess the practical significance of the observed differences, with thresholds of 0.2, 0.5, and 0.8 indicating small, medium, and large effects, respectively (Kumar et al., 2024). A significance level of 0.05 was set to determine statistical significance for all tests. Statistical analyses were performed using IBM SPSS Statistics software (version 25). Results are presented as mean $\pm$ standard deviation, along with mean differences and effect sizes to provide a comprehensive understanding of the intervention's impact.

Results

Baseline Characteristics

The baseline characteristics of the study participants in the yoga and control groups were comparable, with no statistically significant differences observed across demographic, anthropometric, or clinical parameters (Table 2). The mean age of participants was 46.5 ± 4.2 years in the yoga group and 47.1 ± 3.9 years in the control group ($p = 0.56$). Other variables, including BMI, symptom duration, blood pressure, resting heart rate, and menstrual cycle length, were also similar between groups ($p > 0.05$), indicating homogeneity in baseline profiles.

Changes in Psychological Variables

Significant improvements in psychological and quality-of-life parameters were observed in the yoga group

compared to the control group following the intervention (Table 3). Depression scores (Hamilton Depression Rating Scale) in the yoga group decreased by 6.3 points ($p = 0.001$, $d = 0.78$), while the control group showed minimal change. Anxiety scores (Hamilton Anxiety Rating Scale) were reduced by 6.8 points in the yoga group ($p < 0.001$, $d = 0.82$), with negligible change in the control group. The yoga group also demonstrated marked improvements in sleep quality (Pittsburgh Sleep Index, -5.4 - 5 ; $p < 0.01$, $d = 0.76$), climacteric symptoms (Greene Climacteric Scale, -9.4 ; $p < 0.001$, $d = 0.84$), and perceived stress (Perceived Stress Scale, -7.2 ; $p = 0.001$, $d = 0.75$). Notable gains were observed in self-esteem (Rosenberg's Self-Esteem Scale, $+5.6$; $p < 0.001$, $d = 0.77$) and quality of life (WHO Quality of Life Scale, $+14.4$; $p < 0.001$, $d = 0.86$), along with reduced neuroticism scores on the NEO Big Five Scale -9.6 ; $p < 0.001$, $d = 0.79$). Figures 2 and 3 provide the graphical representations of the effect size, mean, and standard deviation on outcome measures (psychological parameters).

Table 2. Baseline characteristics of perimenopausal women

Parameters	Yoga Group (n = 50)	Control Group (n = 50)	p-value
Age (years)	46.5 ± 4.2	47.1 ± 3.9	0.56
Height (cm)	158.3 ± 5.6	157.8 ± 5.9	0.73
Weight (kg)	65.4 ± 8.3	64.9 ± 7.8	0.81
BMI (kg/m ²)	26.1 ± 3.2	26.3 ± 3.4	0.82
Duration of symptoms (months)	18.5 ± 7.4	17.9 ± 8.1	0.77
Menstrual cycle length (days)	35.2 ± 6.8	34.8 ± 7.2	0.83
Systolic BP (mmHg)	126.5 ± 8.4	125.8 ± 9.1	0.75
Diastolic BP (mmHg)	82.3 ± 6.2	81.9 ± 6.5	0.8
Resting heart rate (bpm)	74.6 ± 5.8	75.2 ± 6.1	0.69

The control group showed negligible changes in all measured parameters, highlighting the efficacy of yoga therapy in improving psychological well-being and quality of life in perimenopausal women.

Discussion

The findings from this study provide compelling evidence of the significant psychological and physiological benefits of yoga therapy for perimenopausal women. Participants in the yoga group demonstrated substantial improvements across various psychological measures, including reductions in depression, anxiety, perceived stress, and climacteric symptoms. These improvements were accompanied by enhancements in sleep quality, self-esteem, and overall quality of life, all of which were statistically significant with moderate-to-large effect sizes. These results highlight the clinical relevance of yoga as a non-pharmacological intervention for alleviating the mental and emotional burdens commonly associated with the perimenopausal phase.

The observed reductions in depression and anxiety, as measured by the Hamilton scales, underscore yoga's potential

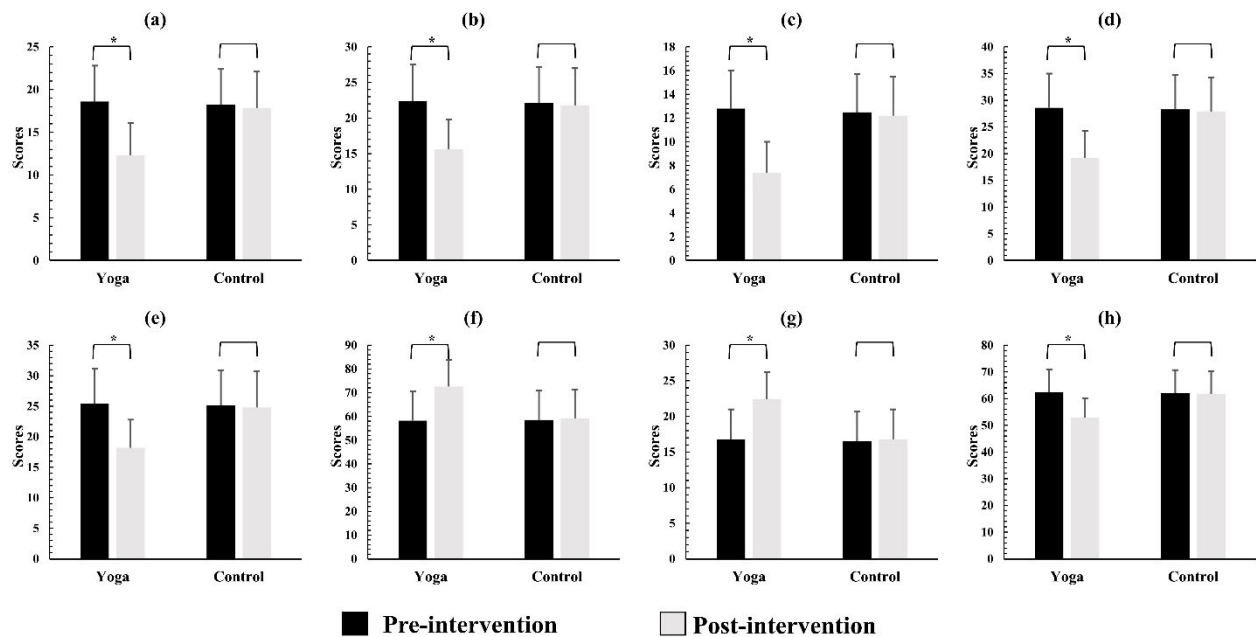


Fig 2. Graphical representation of means and SD on psychological parameters: (a) Hamilton Depression Rating Scale, (b) Hamilton Anxiety Rating Scale, (c) Pittsburgh Sleep Index, (e) Greene Climacteric Scale, (f) WHO Quality of Life, (g) Rosenberg's Self Esteem Scale, (h) NEO's Big Five (Neuroticism)

Table 3. Changes in the psychological variables before and after intervention

Outcome Measure	Group	Pre-intervention Mean (SD)	Post-intervention Mean (SD)	Mean Difference	t-value	p-value	Effect Size (Cohen's d)
Hamilton Depression Rating Scale	Yoga (n=50)	18.6 (4.2)	12.3 (3.8)	-6.3	4.82	0.001*	0.78
	Control (n=50)	18.2 (4.1)	17.8 (4.3)	-0.4	0.23	0.84	0.10
Hamilton Anxiety Rating Scale	Yoga (n=50)	22.4 (5.1)	15.6 (4.2)	-6.8	5.14	<0.001*	0.82
	Control (n=50)	22.1 (5.0)	21.8 (5.2)	-0.3	0.19	0.86	0.06
Pittsburgh Sleep Index	Yoga (n=50)	12.8 (3.2)	7.4 (2.6)	-5.4	4.96	<0.001*	0.76
	Control (n=50)	12.5 (3.1)	12.2 (3.3)	-0.3	0.21	0.83	0.09
Greene Climacteric Scale	Yoga (n=50)	28.6 (6.4)	19.2 (5.1)	-9.4	5.32	<0.001*	0.84
	Control (n=50)	28.3 (6.2)	27.9 (6.3)	-0.4	0.28	0.81	0.05
Perceived Stress Scale	Yoga (n=50)	25.4 (5.8)	18.2 (4.6)	-7.2	4.78	0.001*	0.75
	Control (n=50)	25.1 (5.7)	24.8 (5.9)	-0.3	0.20	0.85	0.05
WHO Quality of Life (Overall)	Yoga (n=50)	58.2 (12.4)	72.6 (11.2)	14.4	5.46	<0.001*	0.86
	Control (n=50)	58.5 (12.2)	59.1 (12.3)	0.6	0.28	0.81	0.05
Rosenberg's Self Esteem Scale	Yoga (n=50)	16.8 (4.2)	22.4 (3.8)	5.6	4.92	<0.001*	0.77
	Control (n=50)	16.5 (4.1)	16.8 (4.2)	0.3	0.22	0.84	0.07
NEO's Big Five (Neuroticism)	Yoga (n=50)	62.4 (8.6)	52.8 (7.4)	-9.6	4.88	<0.001*	0.79
	Control (n=50)	62.1 (8.4)	61.8 (8.5)	-0.3	0.18	0.87	0.04

in regulating mood and mitigating emotional distress during this life stage. Similarly, improvements in sleep quality, as measured by the Pittsburgh Sleep Quality Index, and self-esteem, assessed via the Rosenberg Self-Esteem Scale, suggest that yoga not only fosters a sense of well-being but also supports better sleep patterns, which are often disrupted during the menopausal transition. The significant reduction

in neuroticism scores further emphasizes yoga's role in enhancing emotional resilience during perimenopause.

In contrast, the control group showed negligible changes across all measured variables, reinforcing the notion that the positive effects observed in the yoga group were specific to the structured mind-body practice. This outcome aligns with previous research, which suggests that the multifaceted

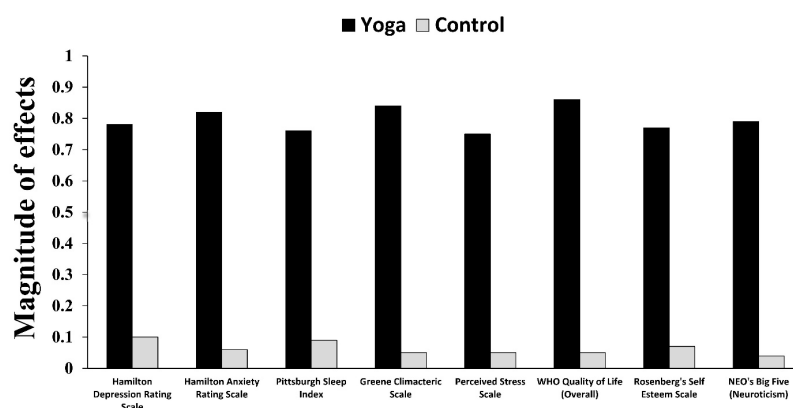


Fig 3. Magnitude of effect (Cohen's d) of pre to post-intervention on Psychological Parameters

nature of yoga—including physical postures, breathing exercises, meditation, and relaxation techniques—acts synergistically to regulate hormonal imbalances, improve autonomic nervous system functioning, and promote emotional well-being. The physiological changes observed in this study, such as reductions in stress and menopausal symptoms, support the idea that yoga may play a crucial role in managing the hormonal fluctuations and emotional challenges associated with perimenopause.

Further supporting the efficacy of yoga during menopause, a study by Nayak et al. (2014) found that a 12-week yoga program significantly improved physical, psychological, vasomotor, and sexual symptoms in perimenopausal women. In that study, yoga participants exhibited superior improvements in overall quality of life compared to those in an exercise group. The findings indicate that yoga is not only a safe and cost-effective intervention for managing menopausal symptoms but also provides a holistic approach to enhancing women's well-being during this transitional period (Nayak et al., 2014).

A study by Khadka et al. (2022) further examined the hormonal impact of yoga, revealing that yoga practice led to significant increases in serum estrogen and progesterone levels in perimenopausal women, suggesting that yoga may have a beneficial effect on hormonal regulation. Conversely, no significant changes in luteinizing hormone (LH) and follicle-stimulating hormone (FSH) levels were observed. These results suggest that yoga may help mitigate some of the hormonal fluctuations associated with menopause, particularly those that contribute to symptoms such as hot flashes, mood swings, and sleep disturbances (Khadka et al., 2022).

Additional evidence supporting the role of yoga in managing menopausal symptoms is provided by a randomized controlled trial by Susanti et al. (2022), which found that yoga significantly reduced menopausal symptoms and improved sleep quality in postmenopausal and perimenopausal women, with the most notable effects observed in the postmenopausal group. After 20 weeks of yoga practice, participants experienced improvements in sleep quality and menopausal symptoms, even after controlling for social support, depression, anxiety, and stress. Interestingly, no such improvements were noted in premenopausal women, highlighting the particular

relevance of yoga for women in the later stages of menopause (Pratima G. Suryawanshi et al., 2023).

Furthermore, the results of a study by Jorge et al. (2016) investigating Hatha Yoga in postmenopausal women found similar benefits, with yoga participants showing significant reductions in menopausal symptoms, stress, and depression, as well as improved quality of life when compared to control and exercise groups. Hormonal analysis revealed decreased levels of FSH and LH in the yoga and exercise groups, further suggesting that yoga may help balance hormonal fluctuations during menopause (Jorge et al., 2016).

In a broader systematic review of yoga interventions for menopausal women, Gangadharan et al. (2024) synthesized the findings from 10 randomized controlled trials involving 1463 participants. The review confirmed that yoga is a safe and effective intervention for managing menopausal symptoms, offering improvements in mood, sleep, and overall quality of life without significant adverse effects. The evidence supports the integration of yoga into clinical practice as a non-pharmacological strategy for enhancing the well-being of menopausal women (Gangadharan et al., 2024).

Collectively, these studies provide strong evidence that yoga is an effective, safe, and accessible intervention for managing both the psychological and physiological challenges of menopause. The evidence suggests that regular yoga practice can alleviate symptoms such as depression, anxiety, and stress, improve sleep quality, and enhance overall quality of life. Given its wide-ranging benefits, yoga presents a promising complementary therapy for menopausal women and should be considered an essential part of any holistic approach to managing this life stage. Healthcare providers are encouraged to incorporate yoga into care plans for menopausal women to optimize their physical and emotional well-being during this transitional phase.

Limitations

Despite its strengths, the study has several limitations. First, it relied on self-reported questionnaires for psychological assessments, which may introduce response bias. Second, the generalizability of the findings may be limited as participants were drawn from a single urban area.

Third, the lack of a placebo or active control group means that the observed benefits cannot be definitively attributed solely to the yoga intervention. Future studies could address these limitations by including larger, more diverse samples and incorporating objective measures of physiological and hormonal changes.

Conclusions

This study demonstrates that a 12-week structured yoga intervention is an effective non-pharmacological approach for improving psychological well-being and quality of life in perimenopausal women. The significant reductions in depression, anxiety, stress, and climacteric symptoms, coupled with enhanced sleep quality and self-esteem, suggest yoga's potential as a holistic therapy to address the multifactorial challenges of perimenopause.

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Conflict of Interest

The authors declare no conflict of interest.

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Розгляд впливу йоги на стан психологічного благополуччя та якість життя жінок у період перименопаузи: Рандомізоване контрольоване дослідження

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Історія питання. Початок менопаузи та перименопаузального періоду часто пов'язаний із проявом психологічних і фізичних симптомів, що можуть негативно вплинути на якість життя жінки. Йога визначається як перспективний нефармакологічний спосіб полегшення зазначених симптомів.

Матеріали та методи. В рамках цього рандомізованого контрольованого дослідження оцінювався вплив 12-тижневих занять хатха-йогою на стан психологічного благополуччя та якість життя 100 жінок у період перименопаузи (група занять йогою: n = 50; контрольна група: n = 50). Учасниці досліджуваної групи займалися практикою хатха-йоги, тоді як контрольна група не залучалася до жодних інтервенцій. Психологічні показники, включаючи депресію, тривогу, якість сну, стрес, клімактеричні симптоми та рівень самооцінки, вимірювалися за допомогою стандартизованих шкал на етапах перед початком та після завершення інтервенції. Крім того, проведено збір даних гормонального аналізу та антропометричних вимірювань.

Результати. Група, що займалась йогою, продемонструвала значні покращення за всіма психологічними параметрами порівняно із контрольною групою. Показники депресії та тривоги знизилися на 6,3 бала (p = 0,001, d = 0,78) та 6,8 бала (p < 0,001, d = 0,82) відповідно, тоді як сприйняття стресу, якість сну, клімактеричні симптоми та самооцінка суттєво поліпшилися (p < 0,01). Також дослідження виявило значне підвищення якості життя в групі занять йогою (p < 0,001, d = 0,86), а також зниження показників невротизму (p < 0,001, d = 0,79). Натомість у контрольній групі спостерігалися мінімальні зміни за всіма показниками.

Висновки. Отримані дані підкреслюють ефективність застосування йоги з метою полегшення психологічного дистресу та покращення якості життя серед жінок у період перименопаузи. Йога виступає в якості доступного і цілісного підходу до подолання менопаузальних симптомів і сприяння психічному благополуччю. Подальші дослідження рекомендують зосередити на вивченні потенційних довгострокових переваг та фізіологічних механізмів, що лежать в основі вказаних позитивних змін.

Ключові слова: тривога, клімактеричні симптоми, депресія, перименопаузальний, самооцінка, якість сну.

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