

Effect of Yoga on Reproductive Health in Women

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Abstract— The reproductive health of women is most likely affected by modern lifestyle patterns (like physical inactivity, stress, sleep pattern issues, obesity, and unhealthy dietary practices). This research assessed how a 12-week yoga program with structured sessions affected the reproductive health score among women aged 20 to 40 years. The participants were assigned to an experimental group (n=30) that received supervised yoga sessions for 60 minutes per day, 5 days per week. The other group (n=30) served as the control group and continued with their usual activities. The mean score for reproductive health of experimental subjects was 58.4 ± 8.2 (pre-test) and 81.6 ± 6.5 (post-test). While the control group mean score was 57.9 ± 7.9 (pre-test) and 59.3 ± 7.6 (post-test). The results show a significant descriptive improvement after yoga; however, inferences and objective hormonal measurements are needed before any causal or clinical conclusions can be drawn.

Keywords—*hormonal regulation, lifestyle, pranayama, reproductive health, women, yoga therapy.*

I. INTRODUCTION

Fast-paced life and rapid urbanization have affected dietary patterns, occupational activities, movement patterns, sleeping habits, and psychosocial stress a lot.

Changes in the environment may affect reproductive health in women through obesity, inactivity, smoking, alcohol drinking,

environmental exposure, and poor nutrition. Reported consequences comprise irregular menstrual cycles, infertility, polycystic ovarian syndrome (PCOS), complications during pregnancy, hormonal imbalance, and early menopause symptoms [1]– [6].

Through the hypothalamic-pituitary-gonadal axis, metabolic status and the autonomic nervous system and stress hormones regulate reproductive function. There may indeed be an effect of chronic stress and disturbed sleep on hormone regulation and reproductive health; however, the extent of this effect varies across individuals and clinical conditions.

Yoga is the practice that combines physical postures, breathing control, and relaxation. Earlier reports indicate that yoga is associated with lower perceived stress, improved quality of life, better menstrual health, and improved reproductive health. Numerous systematic reviews and clinical studies have looked at its use in menstrual disorders and stress reduction, and variations in protocols and methodological quality were highlighted. [10]– [17]

A number of specialists in the field have been examining the role of Hatha yoga as psychological support for women undergoing in vitro fertilization, holistic yoga for adolescents suffering from PCOS and integrated yoga for pregnant women. These studies provide a reason for investigating structured

II. OBJECTIVES OF THE STUDY

- 1) To evaluate the impact of yoga on reproductive health among women, a structured yoga program was implemented.
- 2) To characterize common lifestyle patterns that may affect women's reproductive health.
- 3) To study the impact of dietary habits on reproductive health outcomes.
- 4) To evaluate how exercise and sedentary lifestyle affect reproductive health.
- 5) To assess the impact of stress, sleep, and work on reproductive health.

III. METHODOLOGY

A. Study Design and Participants: A control-group design was used before and after the test. The sample consisted of 60 women of age 20-40 years. Of the participants selected for the study, thirty were in the experimental group and thirty were in the control group. The study utilized random sampling and random allocation methods. The experimental group underwent yoga training and the control group went about their daily life with no structured exercise program.

B. Training Protocol:

TABLE I
STRUCTURED YOGA TRAINING
PROTOCOL

Component	Description
Study duration	12 weeks
Session frequency	5 sessions per week
Session duration	60 minutes per session
Instructor	Certified yoga instructor
Warm-up	10 min: joint mobility exercises and stretching
Yoga asanas	30 min: Surya Namaskar (5 rounds), Baddha Konasana, Bhujangasana, Setu Bandhasana, Paschimottanasana, and Viparita Karani
Pranayama	10 min: Nadi Shodhana (5 min) and Bhramari (5 min)
Relaxation	10 min: Shavasana with guided relaxation

C. Procedure and Data Collection: Institutional Ethics and Written Consent Before Beginning the study was started after 12week. All subjects were recorded for reproductive health measurements. The experimental group went to supervised sessions of yoga for 60 minutes a day for five days a week; the control group followed its regular lifestyle. The post assesses were done after 12 weeks using the same measurement..

D. Statistical Analysis: The information was entered into a statistical software program Descriptive statistics for the pre-test and post-test scores of the two groups were calculated. The probability and p value of the supplied manuscript did not provide inferential test statistics, confidence intervals, or p value. Therefore, below results have been interpreted descriptively.

IV. RESULTS

TABLE II
DESCRIPTIVE STATISTICS FOR
REPRODUCTIVE HEALTH SCORES

Group	Assessment	n	Mean $\pm$ SD	Range
Experimental (yoga)	Pre-test	30	58.4 $\pm$ 8.2	45–72
Experimental (yoga)	Post-test	30	81.6 $\pm$ 6.5	68–92
Control	Pre-test	30	57.9 $\pm$ 7.9	46–71
Control	Post-test	30	59.3 $\pm$ 7.6	47–73

The experimental group increased by 23.2 points, equivalent to a 39.7% rise from baseline. The control group increased by 1.4 points, equivalent to 2.4%. Thus, the descriptive gain was markedly larger in the yoga group. This pattern is also visible in Fig. 1.

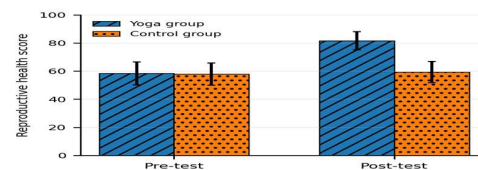


Fig. 1. Mean reproductive health scores (mean $\pm$ SD) before and after the 12-week intervention.

V. DISCUSSION

There is evidence from the observed score pattern to support the proposed utility of a structured 12-week yoga programme for reproductive health among women. The large descriptive improvement of the experimental group is consistent with the literature linking yoga to reduced stress and improved menstrual health and quality of life [10]–[17]. Research indicates that yoga may confer psychological and physiological relief through supportive clinical management to women receiving fertility treatment, adolescents with PCOS and pregnant women [18]–[22].

The available results, however, do not establish statistical significance or causality, because no inferential analysis, effect-size confidence interval or objective endocrine outcome is reported. The results should thus be interpreted as preliminary evidence for the need for further controlled investigation as opposed to clinical proof.

VI. LIMITATIONS AND FUTURE DIRECTIONS

The study sample was rather small and gathered from a single setting, restricting its generalizability. Due to the 12-week duration, we could not evaluate long-term adherence or sustained reproductive-health outcomes. The manuscript primarily used questionnaire scores for analysis and did not control for other factors, such as dietary intake and additional physical activity.

In future research, using a larger, more diverse sample, pre-registering primary outcomes, and reporting allocation procedures are recommended. Other recommendations include longer follow-up. Evidence can be further strengthened by the use of objective measures including hormonal profiles, menstrual-cycle tracking of metabolic indicators as well as use of clinically validated disorder-specific

instruments. Research that compares different things may also be undertaken to see which combination of asana, pranayama, relaxation, frequency, and intensity is the most beneficial for PCOS, Dysmenorrhea, Infertility-related stress, Endometriosis, pregnancy well-being, and menopausal symptoms.

VII. CONCLUSION

A structured yoga program was associated with a substantial descriptive improvement in reproductive health scores compared with usual activity. Yoga may be useful as a complementary strategy for stress management, menstrual well-being, psychological support for fertility, well-being during pregnancy and quality of life [16], [17]. This should be used along with appropriate medical assessment and treatment and not as a substitute of evidence-based clinical care. This study's findings need to be confirmed using larger controlled studies with inferential statistics and objective biological endpoints.

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