

## Insulin Resistance in Early Postmenopausal Women Can Be Attenuated by Regular Practice of 12 Weeks of Yoga Therapy

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**Abstract :** Context: Diabetes is a global public health burden, particularly affecting postmenopausal women. Insulin resistance (IR) is prevalent in this population, and it is associated with an increased risk of developing type 2 diabetes. Yoga therapy is gaining attention as a complementary intervention for diabetes due to its potential to address stress psychophysiology. This study focuses on the efficacy of a 12-week yoga practice in attenuating insulin resistance in early postmenopausal women. Research Aim: The aim of this research is to investigate the effect of a 3-month long yoga practice on insulin resistance in early postmenopausal women. Methodology: The study conducted a prospective longitudinal design with 67 women within five years of menopause. Participants were divided into two groups based on their willingness to join yoga. The Yoga group (n = 37) received routine gynecological management along with an integrated yoga module, while the Non-Yoga group (n = 30) received only routine management. Insulin resistance was measured using the homeostasis model assessment of insulin resistance (HOMA-IR) method before and after the intervention. Statistical analysis was performed using GraphPad Prism Version 5 software, with statistical significance set at  $P < 0.05$ . Findings: The results indicate a significant decrease in serum fasting insulin levels and HOMA-IR measurements in the Yoga group, although the decrease did not reach statistical significance. In contrast, the Non-Yoga group showed a significant rise in serum fasting insulin levels and HOMA-IR measurements after 3 months, suggesting a detrimental effect on insulin resistance in these postmenopausal women. Theoretical Importance: This study provides evidence that a 12-week yoga practice can attenuate the increase in insulin resistance in early postmenopausal women. It highlights the potential of yoga as a preventive measure against the early onset of insulin resistance and the development of type 2 diabetes mellitus. Regular yoga practice can be a valuable tool in addressing hormonal imbalances associated with early postmenopause, leading to a decrease in morbidity and mortality related to insulin resistance and type 2 diabetes mellitus in this population. Data Collection and Analysis Procedures: Data collection involved measuring serum fasting insulin levels and calculating HOMA-IR. Statistical analysis was performed using GraphPad Prism Version 5 software, and mean values with standard error of the mean were reported. The significance level was set at  $P < 0.05$ . Question Addressed: The study aimed to address whether a 3-month long yoga practice could attenuate insulin resistance in early postmenopausal women. Conclusion: The research findings support the efficacy of a 12-week yoga practice in attenuating insulin resistance in early postmenopausal women. Regular yoga practice has the potential to prevent the early onset of insulin resistance and the development of type 2 diabetes mellitus in this population. By addressing the hormonal imbalances associated with early post menopause, yoga could significantly decrease morbidity and mortality related to insulin resistance and type 2 diabetes mellitus in these subjects.

**Keywords :** post menopause, insulin resistance, HOMA-IR, yoga, type 2 diabetes mellitus

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