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## The effect of yoga on pulmonary function in patients with asthma: A meta-analysis

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**Background:** Asthma is one of the most common non-communicable diseases. Yoga with physical postures, breathing exercises, meditation, and relaxation may play an essential role in the complementary management of lower respiratory diseases. The study aimed to evaluate the impact of yoga (posture, breathing exercises, and meditation) on pulmonary function tests, asthma control tests, and health-related quality of adult asthmatic patients.

Methods: MEDLINE, PubMed, Embase, Cochrane, Scopus, Google Scholar, ResearchGate, Clinical Key, and Academia electronic search engines were explored to search the relevant literature. The present study included adult asthmatic patients (age – 18 and 60 years) with mild to moderate asthma, per GINA (Global Initiative for Asthma) guidelines. The effect of yoga was assessed on the following outcomes; pulmonary function tests, including FeV1 (Forced expiratory volume 1 s), FVC (Forced vital capacity), FeV1/FVC, peak expiratory flow rate (PEFR), health-related quality of life, and asthma control test. A fixed-effect model was applied to compute significance for statistical heterogeneity. P-value <0.05 was considered for statistical significance.

Results: Finally, fifteen articles were included for meta-analysis. The forest plot for overall effect of yoga intervention and usual care favors the yoga intervention for improvement in pulmonary function as FeV1 (SMD = 0.96, CI = 0.77–1.14, I 2 = 54%), FVC (SMD = 0.35, CI = 0.14–0.55, p = 0.11, I 2 = 50%), FeV1/FVC (SMD = 0.18, CI = -0.38-0.02, p = 0.02, I 2 = 50%), PEFR (SMD = 0.38, CI = 0.18–0.58, p = 0.0003, I 2 = 0%), asthma control test (SMD = 0.16, CI = 0.15–0.48, p = 0.31, I 2 = 86%) and health-related quality of life (SMD = 0.26, CI = 0.18–0.34, p = 0.02, I 2 = 51%) of asthmatic patients. Conclusion: This meta-analysis provides a moderate level of evidence regarding yoga as a complementary therapy in managing mild to moderate asthmatic patients. It also adds to the current knowledge of the same.

### Biography

Anshu Arya works as an Assistant professor at Shri Guru Ram Rai University, Dehradun, India