

Pranayamam: A comprehensive review of its therapeutic benefits and potential adverse effects

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Abstract

Pranayama is derived from the Sanskrit terms prana, meaning life force, and ayama, meaning control. It refers to a set of regulated breathing techniques that form an integral part of traditional yoga and Siddha medicine. Classical texts authored by revered sages such as Thirumoolar, Vaanmeegar, and Pathanjali describe various types of pranayama, including Naadishodhana, Ujjayi, Kapalabhati, Bhastrika, and Brahmari. These techniques are believed to regulate both physiological and psychological functions. Pranayama is widely practiced for health promotion and disease prevention however the improper practice may result in adverse effects. Therefore, it is essential to critically evaluate both the benefits and potential risks of pranayama by integrating traditional knowledge with modern scientific evidence. This study aims to discuss the therapeutic benefits and possible adverse effects associated with pranayama. Data were collected through a comprehensive review of traditional Siddha texts and scholarly articles available online. Clinical evidence, research findings, and classical descriptions were systematically analyzed to assess both the positive outcomes and potential complications of various pranayama techniques. The findings indicate that when practiced correctly and under proper guidance, pranayama enhances respiratory efficiency, improves cardiovascular function, reduces stress and anxiety, and promotes mental clarity. It also contributes to autonomic balance and may support increased longevity. However, improper practice such as excessive force, incorrect posture, or lack of supervision may lead to adverse effects, including dizziness, hyperventilation, fluctuations in blood pressure, and respiratory discomfort. In conclusion, pranayama offers substantial health benefits when performed appropriately under expert guidance. Nevertheless, awareness of correct techniques, individual capacity, and contraindications is essential to minimize risks. The integration of traditional wisdom with scientific validation can facilitate the safe and effective application of pranayama in contemporary healthcare systems.

Keywords: Pranayama, breathing techniques, prana, ayama, yoga

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