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Abstract

Effects of Sheetali and Sheetkari Pranayamas on Blood Pressure and Autonomic Function in Hypertensive Patients.

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Abstract:

Context: Hypertension (HTN) is a chronic medical Context: Hypertension (HTN) is a chronic medical condition affecting nearly 1 billion people worldwide. Yoga, typically thought of as a series of physical postures, also includes breath practices and meditation. It has thepotential to reduce the blood pressure (BP) through a combination of stress reduction and modification of the physiology of the autonomic nervous system. Pranayamais the art of prolongation and control of breath and helps bring conscious awareness to breathing patterns.

Objectives: The study aimed to measure the effects of Sheetali and Sheetkari pranayamas on BP, the autonomic nervous system, and respiratory functions among hypertensive participants.

Design: The study design was a randomized controlled trial.

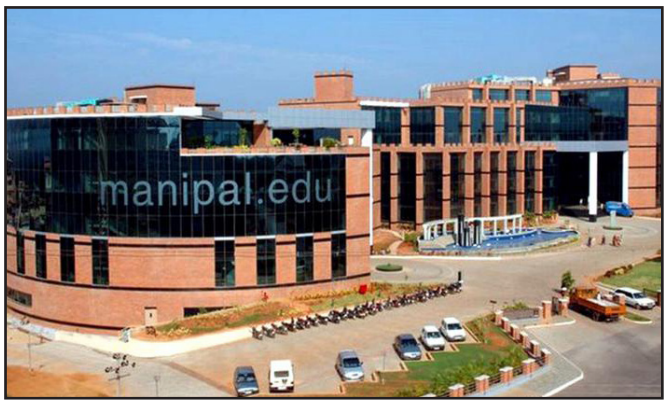
Setting: The study was carried out at a clinical research center at Sri Dharmasthala Manjunatheshwara Yoga and Nature Cure Hospital (Belthangady, India).

Participants: The participants were 60 hypertensive individuals, aged from 25 to 65 y, who were recruited from the general population located in and around Ujire, Belthangady, Karnataka, India.

Intervention: Participants were randomly assigned either to an intervention group (n = 30) or wait-list Yoga, typically thought of as a series of physical postures, control groups (n = 30). The intervention included also includes breath practices and meditation. It has the 2 types of pranayama breath practices (ie, Sheetali and potential to reduce of blood pressure (BP) through a Sheetkari) each practiced for 10 min/d.

Outcome Measures: BP and autonomic and respiratory physiology of the autonomic nervous system. Pranayama functions were measured at baseline and post intervention.

Results: Compared to control, the intervention group showed a significant mean decrease in (1) systolic blood pressure (SBP)—16.2 mm Hg (P≤.001), (2) respiratory rate—3.4 rpm (P < .001), and (3) heart rate—6.7 bpm (P≤.01). Heart rate variability parameters were improved in the intervention group, including high-frequency power (P = .01), the number of pairs of successive NN intervals that differ by more than 50 ms (ie, NN50, P = .01), and the proportion of NN50 divided by total number of NNs (ie, pNN50, P=.05).



Conclusions: Sheetali and Sheetkari pranayamas appear effective for lowering SBP in individuals with HTN. Within-group results suggest that the changes may be mediated through a modification in tone of the sympathovagal nervous system.

Biography:

Dr Sudhamshi Beeram holds a degree of Bachelor of Naturopathy and Yogic sciences and is a Lifestyle and Integrative physician. She is currently pursuing Masters of Public Health- Global specialization from Manipal Academy of Higher Education, India. She also visited Maastricht University, Netherlands as an exchange student in the year 2020. Sudhamshi has a working experience of an year and is currently involved in two research projects related to COVID-19. She also was invited as a guest speaker for Youth Leadership Model United Nations. Dr. Sudhamshi is passionate about Global health and aims to work for the United Nations organization someday.

Recent Publications:

- Primary prevention of hypertension
- Effect of slow and fast pranayamas on reaction time and cardio respiratory variables.
- effect of short term practice of breathing exercises on autonomic functions in normal human volunteers
- Immediate effect of Chandranadi pranayama (left unilateral forced nostril breathing) on cardiovascular parameters in hypertensive patients

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