

Effectiveness of Ayurvedic Yoga Practices in the Complementary Management of Adult Essential Hypertension

Tameshya D. Dockery, MEd
University of Maryland School of Nursing

Significance & Background

Essential or primary hypertension targets one in three U.S. adults and is defined as a systolic blood pressure of 140 mm Hg or higher and a diastolic blood pressure of 90 mm Hg or higher, unrelated to a known medical condition.^{17,8} The current practice for essential hypertension among adults involves reducing blood pressure to a target goal of 130/80 mmHg or lower, utilizing any combination of the diuretics, calcium channel blockers (CCBs), angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs), and a recommendation of lifestyle modification.^{16,3} Approximately 20-50% of individuals have their hypertension managed with their current medication treatment plan; however, adherence to the medication regimen is less than 50% after one year of initiation.²

Objectives

The objective of this literature review is to seek to answer the following question: Among adult patients diagnosed with hypertension, how effective is the incorporation of ayurvedic yoga practices as a complementary intervention to hypertensive medication compared to hypertensive medications alone, in reducing blood pressure over the course of three months?

Methods

Database: PubMed.Gov

Primary Search

Keywords: yoga AND hypertension

Inclusion criteria: Published between 2015-2023; Randomized controlled trial.

Yield: 24 total results; 10 abstracts reviewed titles matching the keywords; 4 studies selected.

Secondary Search

Keywords: om AND chanting AND yoga

Inclusion criteria: Published between 2015-2023; Randomized controlled trial.

Yield: 9 total results; 3 abstracts reviewed with titles matching the keywords; 1 study selected.

Key Terms

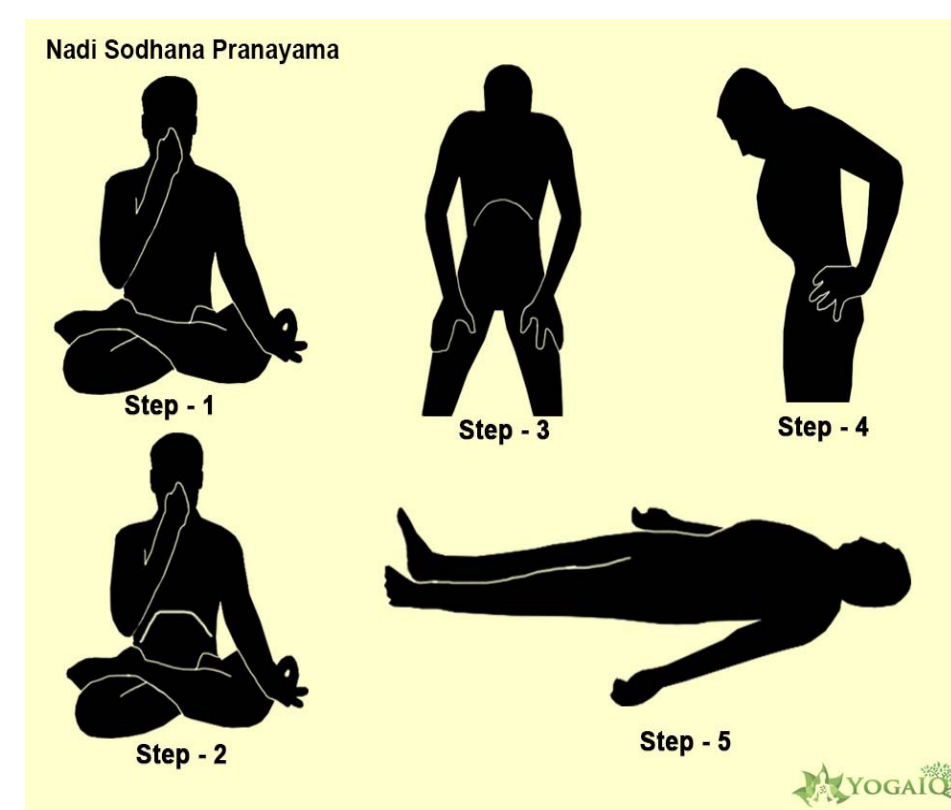
Asana: Ancient yoga poses or postures, which translates to the "seat" in Sanskrit.¹¹

Ayurveda: An ancient Indian medicine practice that utilizes natural and holistic approached and focuses on the imbalance in an individuals conscious.¹⁰

AYUSH: Acronym for the six Indian systems of medicine. Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy.¹³

Pranayama: Ancient breathing techniques used in yoga practices.

Shavasana: Corpse pose in yoga (Step 5 in the Yoga Pranayama).¹⁹



Yoga Asana (postures/poses)¹¹

Yoga Pranayama (breathing exercise)¹⁹

Literature Review

Author(s)	Interventions	Results	Level ⁹
			Quality ⁵
Anjana et al., 2022.	'Om' chanting and Yoga Nidra. 20 minutes per day; 5 days per week; 2 months in total.	A significant reduction in the SBP (137.53;129.93, p<0.001), DBP (86.13; 81.93, p<0.001) and a significant increase in HDL lipid profile (40.10; 44.53, p<0.001) of the intervention group at baseline, and 60 days, respectively. No statistically significant change in the control group at baseline or after 60 days.	2 1/B
Cramer et al., 2018.	Intervention group A: yoga with postures. 90 minutes; once per week; 12 weeks in total.	A significant reduction in systolic 24-hour blood pressure in intervention group B without yoga postures than in the control group (-3.8 mmHg, p=0.035) and intervention group A with yoga postures (-3.2 mmHg, p=0.045) respectively). There was no significant difference in diastolic 24-hour blood pressure.	2
	Intervention group B: Yoga without postures. 90 minutes; once per week; 12 weeks in total.		1/A
Dhugana et al., 2021.	Five-day yoga training camp for 2 hours per day including pranayamas, asanas and meditations. 30 minutes per day; 5 days per week; 90 days in total.	A significant reduction in systolic blood pressure of -7.41 mmHg (p<0.001) and diastolic blood pressure -3.49 mmHg (p<0.01) at baseline and follow up.	2
			1/A
Thanalakshmi et al., 2020.	Sheetali pranayama. 30 minutes per day; daily between 0700 and 0900 on an empty stomach; 3 months in total.	A statistically significant (p<0.05) reduction in resting blood pressure occurred in the intervention group. SBP reduced from 143.88 mmHg at baseline to 124.12 mmHg after the intervention p=0.04). DBP reduced from 87.12 to 76.16 mmHg, p=0.05 at baseline and after the study, respectively.	2 1/B
Tolbaños Roche et al., 2017.	HT Meditation Group: 50 minutes of yoga without moving, Shavasana/Shavayatra relaxation, body scan meditation, Nadi Suddhi breathing and mindfulness. Pranayama Group: 40 minutes of pranayamas. Yoga Practice Group: 75 minutes of yoga asanas, pranayama breathing, Shavasana relaxation, body scan meditation and mindfulness. Two days per week; 8 weeks in total.	A statistically significant reduction in systolic blood pressure in the 83.33% in the HT meditation group, p=0.035; however, there was no overall statistically significant difference between the groups. Statistically significant increase in the mindfulness factor of all intervention groups and decrease in emotional symptomatology.	2
			1/C

Acknowledgements

A special thank you to Dr. Joanne Reifsnnyder, PhD, MSN, MBA, RN, FAAN, for her unending guidance and support in this poster project and her consistent mentorship during my time at UMSO. Also, a special thank you to Dr. Joan Pittman, PhD, MSW, LCSW-C, and Dr. Debbie Gioia, PhD, LCSW-C, for the unique study abroad experience with the School of Social Work to Kerala, India, in which sparked the interest in this topic.

Implications for Practice and Role of the CNL

Implications

- ❖ Yoga pranayama and chanting has no major contradictions for most illnesses and is a non-pharmaceutical nursing-level intervention that can be adapted for all patients, including those with hypertension.
- ❖ Use of this intervention and patient-related education can decrease the dosage of medications used to treat hypertension or help to sustain normal systolic and diastolic blood pressures without the use of additional medications.
- ❖ This intervention increases nurses' skill set especially in situations where de-escalation or stress reducing interventions are needed. In addition to the beneficial effects for patients, when taught and used by nurses, yoga pranayama practices have been shown to increase morale and decrease nurse burnout.¹⁰

Role of the Clinical Nurse Leader

- ❖ **Lifelong Learner:** the clinical nurse leader identifies the need for new skills and knowledge as the health care system advances. ⁷ In relation to implementing the yoga pranayama as a nursing-level intervention, the clinical nurse leader is ideal for conducting research on best practices of yoga implementation among patients with hypertension
- ❖ **Educator:** The CNL is responsible for using appropriate teaching strategies and materials that will aid in educating the staff who will be implementing the program and patients who will be receiving the yoga intervention
- ❖ **Outcomes Manager:** The CNL will continuously analyze the data from the implementation of a yoga program and evaluate the program for the outcomes of patients related to modification of medication dosage, reduction of systolic and/or diastolic blood pressure and the overall attitude towards the program by both staff and patients.

Summary and Conclusions

Four of the five studies make a strong claim that yoga is effective when used to lower blood pressure in hypertensive individuals; however, there are still gaps in the specific type of yoga practices that are most effective. All studies included pranayama (breathing exercises) as a part of the interventions but were also linked with yoga postures, meditations and/or chanting.

Future studies should focus on the parameters associated with each type of yoga practice and identify the effectiveness of the individual practice on reduction of blood pressure. Isolation of practices and techniques and expansion of sample size in future studies can ensure an accurate effect of the intervention. Noting that all the studies were conducted in the eastern part of the world (Asia), future studies that originate under the practice of western medicine are needed to assess the true generalizability of the yoga practices among those with hypertension, worldwide.

Across multiple studies, AYUSH yoga practices have been found to reduce blood pressure, specifically systolic blood pressure by 10 points (mmHg) and diastolic by 6 points (mmHg) when used complementary to traditional pharmaceutical interventions.¹⁸ Introducing yoga practices to hypertensive patients as a non-pharmaceutical intervention can have a beneficial effect on the management of hypertension.

References

