

# Yoga reduces blood pressure in patients with prehypertension

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Credit: Anna Langova/public domain

Yoga reduces blood pressure in patients with prehypertension, according to a study presented at the 68th Annual Conference of the Cardiological Society of India (CSI).

The congress is being held in Kochi, India, from 8 to 11 December. Experts from the European Society of Cardiology (ESC) will present a special programme.

"Patients with prehypertension (slightly elevated [blood pressure](#)) are likely to develop hypertension ([high blood pressure](#)) unless they improve their lifestyle," said lead author Dr Ashutosh Angrish, a cardiologist at Sir Gangaram Hospital in Delhi, India. "Both prehypertension and high blood pressure increase the risk of heart attack, stroke and heart failure."

Hypertension is defined as a [systolic blood pressure](#) (BP)  $\geq 140$  mmHg and/or diastolic BP  $\geq 90$  mmHg, while prehypertension is a systolic BP 120-139 mmHg or a diastolic BP 80-89 mmHg.

This study investigated the impact of hatha [yoga](#) on blood pressure in 60 patients with prehypertension who were otherwise healthy. The details of [yoga practice](#) have been published previously. Briefly, patients were randomised to two groups of 30 each to assess the effect of three months of yoga plus conventional lifestyle changes versus conventional lifestyle changes alone (control group) on 24 hour ambulatory blood pressure.

Yoga included stretching exercises (asanas), breath control (pranayam) and meditation. It was taught by a yoga instructor for one month and then patients subsequently followed it at home. Yoga practice was for one hour every day. Conventional lifestyle changes consisted of moderate aerobic exercise, diet, and smoking cessation.

The average age of participants was 56 years in the yoga group and 52 years in the control group. In the yoga group there were 16 women and 14 men, while in the control group there were 17 women and 13 men. The 24 hour mean BP at baseline was 130/80 mmHg in the yoga group and 127/80 mmHg in the control group.

The investigators found that in the yoga group, both 24 hour diastolic BP and night diastolic BP significantly decreased by approximately 4.5 mmHg and 24 hour mean arterial pressure significantly decreased by around 4.9 mmHg. The [control group](#) did not show any significant change in blood pressure.

Dr Angrish said: "Although the reduction in blood pressure was modest, it could be clinically very meaningful because even a 2 mmHg decrease in diastolic BP has the potential to decrease the risk of coronary heart disease by 6% and the risk of stroke and transient ischaemic attack by 15%."

Regarding the way yoga may reduce blood pressure, Dr Angrish said: "The exact mechanism is not clear from our study but it has been postulated that yoga may decrease the sympathetic drive, reset the baroreceptors and cause neurohumoral effects. The findings suggest that a combination of all three components of yoga (asanas, pranayam and meditation) is helpful but our study is unable to pinpoint their individual contribution."

He concluded: "Our research suggests that patients with prehypertension should be advised to practice hatha yoga (a combination of asanas, pranayam and meditation) for one hour daily. It may prevent the development of hypertension and in addition give a sense of well-being."

Dr Shirish Hiremath, CSI President Elect and Chairman of the CSI 2016 Scientific Committee, said: "Yoga is a part of traditional Indian culture, and has shown clear benefit in cases of prehypertension. Easy to practice and can be adapted by masses and is also very economical, yoga can go a long way in improving the overall health of the country, as hypertension is affecting a large number of young Indians. Yoga can turn out to be just the correct answer for people at risk."

Professor Roberto Ferrari, a Past President of the ESC and course director of the ESC programme in India, said: "Cardiovascular disease can be prevented by adopting a healthy lifestyle and controlling blood pressure and cholesterol. Exercise, including yoga, a good quality diet, and not smoking are all steps in the right direction."

Provided by European Society of Cardiology

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