

# Smoking associated with lower rates of blood pressure control, even for patients taking medication

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Smoking and high blood pressure are independent cardiovascular risk factors that frequently coexist within patients. While the exact effect of

smoking on blood pressure control is not fully understood, smoking is associated with lower rates of blood pressure control in patients taking medication for high blood pressure, according to a poster presented at the ACC Latin America 2021 Virtual conference.

"Because the pathophysiological relationship between [arterial hypertension](#) and smoking is not clear, it is important for clinicians to have a better understanding of blood pressure control in [smokers](#). Prior studies in men have shown an association, but in women there is little evidence so far," said Márcio Gonçalves de Sousa, MD, MIntMed, Ph.D., chief of the hypertension, smoking cessation and nephrology department at the Dante Pazzanese Institute of Cardiology in São Paulo, Brazil, and the study's lead author. "In addition, there is synergy between these two [risk factors](#): hypertension exponentially increases the smoker's cardiovascular risk and smoking increases the risk of hypertension, thus worsening their control."

Researchers performed a retrospective evaluation of a database of adult hypertension patients who were seen and treated between 2018 to 2019. Data from 710 patients (255 men, 455 women) with an average age of 66 years was analyzed. The study classified blood pressure measurements as controlled (180 and/or over >100 mmHg). Researchers also recorded information on tobacco use and classified patients as never smokers, current smokers or former smokers.

Overall, blood pressure control rates were similar between men and women (36.1% versus 32.5%, respectively), as was the prevalence of Stage 1, Stage 2 and Stage 3 blood pressure. Among never smokers, blood pressure categorization did not differ by gender. Among male never smokers, 37.1% fell into the controlled blood pressure category compared to 34.9% of female never smokers. Current smokers were associated with lower rates of blood pressure control among men and women, with only 9.1% of male current smokers categorized as having

controlled blood pressure and 25% of female current smokers categorized as having controlled blood pressure. Male former smokers had 37.6% blood [pressure](#) control, which is a similar rate to male never smokers, while female former smokers had 23.8% [blood pressure](#) control, demonstrating a residual risk even with smoking cessation, said Gonçalves de Sousa.

"Middle-aged men are known to have lower adherence to treatment. When associated with a disease that neglects their own health, such as smoking, this association becomes easier to understand," he said

Behavioral factors and poor adherence to treatment are mechanisms that deserve further study, according to the researchers.

"Undoubtedly, addressing smoking cessation will be the biggest lever in achieving full health, thus reinforcing the need for better adherence to treatment," Gonçalves de Sousa said. "Although studies have not proven smoking cessation improves [blood pressure control](#), we have found in clinical practice of resistant hypertensive patients that both smoking cessation and greater adherence to treatment are observed."

**More information:** ACC's patient education platform, CardioSmart, has resources related to smoking cessation. Learn more at [CardioSmart.org/StopSmoking](https://www.cardiosmart.org/StopSmoking).

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