

# Medication adherence improves blood pressure control in chronic kidney disease

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Researchers at the University of Cincinnati (UC) and the Cincinnati Veterans Affairs (VA) Medical Center have found that about one-third of chronic kidney disease patients who are prescribed therapies for high blood pressure do not often adhere to treatments.

This report was published in the Nov. 2 online edition of the *American Journal of Nephrology*.

The study, led by researchers at UC and the Cincinnati VA, showed that treatment of hypertension in patients with [chronic kidney disease](#) continues to be a challenge in their care and that by simply improving medication adherence, outcomes would improve greatly.

Chronic kidney disease is the slow loss of kidney function over time. The main function of the kidneys is to remove wastes and excess water from the body. Ongoing hypertension is often associated with kidney disease.

"Hypertension, or [high blood pressure](#), is probably the most important modifiable risk factor in chronic kidney disease—a precursor to end-stage renal disease that is associated with increased risk of morbidity and mortality," says Charuhas Thakar, MD, associate professor in the division of nephrology and hypertension at UC and chief of the renal section at the Cincinnati VA. "In chronic conditions, such as hypertension, whether or not a patient takes the correct dosage and amount of their hypertension medication is critical in reaching treatment

goals.

"Patterns of medication adherence for these agents and their impact on blood pressure in practice settings were not previously well studied. We wanted to find out if medication adherence could make a difference on outcomes in kidney disease patients."

Using two years worth of data from patients seeking ambulatory care at the VA, researchers examined 7,227 chronic kidney disease patients who received at least one blood pressure medication prescription. Outpatient blood pressure measurements were averaged as high (more than 130/80 mm of Hg) versus normal, based on the national guidelines for hypertension management in kidney disease.

Medication adherence was calculated using medication possession ratio, meaning the actual treatment days divided by the total possible treatment days.

"Good versus poor medication adherence groups were compared for differences in demographic, co-morbid and laboratory variables," says Kristen Schmitt, chief of pharmacy at the Cincinnati VA and the lead author of the study. "Results showed that while 67 percent of patients took their medication properly, a total of 33 percent of patients had poor medication adherence. More importantly, those with poor adherence were 23 percent more likely to have sub-optimal blood pressure control during the entire two-year study period."

"With this data, we hope to develop a multidisciplinary approach to help kidney disease patients adhere to their prescribed [blood pressure](#) medications. This will not only improve their clinical outcomes but will also help in reducing costs of care," she continues.

"Although the results represent a large sample of patients, they are

derived from a single center," adds Thakar. "Further investigations are needed to accurately assess the impact of [medication adherence](#) on cardiovascular and renal outcomes in practice."

Provided by University of Cincinnati

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