

BP-lowering treatment for type 2 diabetes linked to longer survival

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Blood pressure-lowering treatment among patients with type 2 diabetes is associated with a lower risk of cardiovascular disease (CVD) and heart disease events and improved mortality, according to a study in the February 10 issue of *JAMA*.

By 2030, it is estimated that there will be at least 400 million individuals with [type 2 diabetes](#) mellitus worldwide. Type 2 diabetes is associated with a substantially increased risk of events such as heart attack and stroke. Blood pressure (BP) levels are on average higher among individuals with diabetes and increased BP is a well-established risk factor for people with diabetes. Lowering BP in individuals with diabetes is an area of current controversy, with particular debate surrounding who should be offered therapy and the BP targets to be achieved, according to background information in the article.

Kazem Rahimi, D.M., M.Sc., of the George Institute for Global Health, University of Oxford, Oxford, U.K., and colleagues conducted a review and meta-analysis of large-scale [randomized controlled trials](#) of BP-lowering treatment including patients with diabetes, published between January 1966 and October 2014. A search of the medical literature identified 40 trials judged to be of low risk of bias (100,354 participants), and were included in the analysis to examine the associations between BP-lowering treatment and vascular disease in type 2 diabetes.

The researchers found that each 10-mm Hg lower systolic BP was

associated with a lower risk of mortality, [cardiovascular disease](#) events, [coronary heart disease](#) events, stroke, albuminuria (the presence of excessive protein in the urine), and retinopathy (loss of vision related to diabetes). The associations between BP-lowering treatments and outcomes were not significantly different, irrespective of drug class, except for stroke and heart failure.

Although proportional associations of BP lowering treatment for most outcomes studied were diminished below a systolic BP level of 140 mm Hg, data indicated that further reduction below 130 mm Hg is associated with a lower risk of stroke, retinopathy, and albuminuria, potentially leading to net benefits for many individuals at high risk for those outcomes.

"Among patients with type 2 diabetes, BP lowering was associated with improved mortality and other clinical outcomes. These findings support the use of medications for BP lowering in these patients," the authors write.

"These findings are timely, clear, and important and lend support to current guideline recommendations to consider offering patients with type 2 [diabetes](#) antihypertensive therapy when their systolic BP is 140 mm Hg or greater, aiming for a target systolic BP toward 130 mm Hg but not usually lower than this," writes Bryan Williams, M.D., of University College London, in an accompanying editorial.

"However, the findings of the study by Emdin et al suggest that for some patients, these treatment thresholds and targets might be too conservative, especially for optimally reducing the risk of stroke and the development or progression of albuminuria. This conundrum highlights the problems with clinician overreliance on guidelines and guideline overdependence on an often, uncritical adoption of evidence, despite the limitations of the clinical trials. Guidelines are just that, and are

necessarily conservative in providing population-based recommendations that physicians must interpret in the context of the individual patient being treated."

More information: *JAMA*, [DOI: 10.1001/jama.2014.18574](https://doi.org/10.1001/jama.2014.18574)
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