



DESERVE: skills-based intervention to reduce risk of recurrent stroke



It is estimated that 11 percent of individuals who have had a stroke have a recurrent stroke within one year of their first stroke. The burden of stroke is largely attributed to lifestyle (smoking, poor diet) and metabolic risk factors (high plasma glucose, high cholesterol, high blood pressure). Currently, there is limited evidence for education and monitoring interventions to manage risk factors in patients who have had a stroke.

In an article in *JAMA Neurology*, Boden-Albala et al. describe a randomised clinical trial of their Discharge Educational Strategies for Reduction of Vascular Events intervention (DESERVE). DESERVE is a skills-based and culturally tailored education programme for stroke patients after discharge from hospital. Patients in the intervention arm were reminded and followed up about physician visits, while the education component aimed to enhance patient-physician contact. Those in the usual care arm received enhanced care that comprised standard discharge education and education on stroke preparedness.

At baseline, systolic blood pressure (BP) was almost 140 mm Hg, with little variation between race/ethnic groups. At 12-month follow-up, a difference in the change in systolic BP of almost 10 mm Hg was observed between intervention and enhanced usual care arms in Hispanic participants (decrease of 7.7 mm Hg in the intervention arm vs. increase of 2.1 mm Hg in the usual care arm), but no differences were observed in the overall cohort (decrease of 7.0 mm Hg in the intervention arm vs. decrease of 4.3mm Hg in the usual care arm), non-Hispanic white participants (decrease of 9.6mm Hg in the intervention arm vs. decrease of 6.6 mm Hg in the usual care arm), or non-Hispanic black participants (decrease of 5.8 mm Hg in the intervention arm vs. decrease of 6.7 mm Hg in the usual care arm).

The research team noted that such magnitude of difference in systolic BP that occurred in the Hispanic group is considerable and is associated with an approximate 40 percent reduction in the risk of stroke. Hard clinical end points are currently being collected in the trial.

In an accompanying editorial, Joosup Kim, PhD, and Amanda G. Thrift, PhD, both with the Stroke & Ageing Research, Department of Medicine, School of Clinical Sciences at Monash University, Clayton, Victoria, Australia, say the randomised trial provides promising findings that a culturally tailored and evidence- and needs-based intervention may be beneficial in managing risk of further strokes.

"We hypothesise that the intervention was beneficial for Hispanic participants because it was based on the needs of patients and was closely evidence based. The researchers specifically asked individuals about how the intervention should be designed, and the intervention was devised to be culturally relevant. The authors cite evidence of low stroke-specific health literacy and awareness of hypertension status among Hispanic

individuals and patient-physician communication barriers within this group," the editorialists write.

However, as the editorialists note, the trial was not powered to detect differences between the intervention and usual care arms within the different race/ethnic subgroups of participants. Specifically, an increase in systolic BP was observed in Hispanic participants in the usual care arm, while systolic BP decreased in the enhanced usual care and intervention arms of the other race/ethnic groups.

"It is possible that outlying cases may be responsible for the benefit observed in Hispanic participants and inspection of the distribution of changes to systolic blood pressure in these subgroups would assist identification of these cases," Drs. Kim and Thrift say. "Furthermore, demographic and clinical characteristics based on race/ethnicity were not reported, but differences in systolic blood pressure between subgroups may be attributable to differences in age and the presence of comorbidities."

The editorialists recommend that future trialists should investigate dose response of education to investigate the threshold for a positive effect and interrogate their data to identify potential reasons for disparities in effect according to age, sex, race/ethnic group, and/or presence of comorbidities.

Source: [JAMA Neurology](#)

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