

 STROKE

# Bilingualism is associated with better cognitive outcomes after stroke

“India offers a unique opportunity to study bilingualism and its influence on cognition”



Bilingualism could protect against cognitive impairment after stroke, according to a new report published in *Stroke*. The study, which was conducted in Hyderabad, India, found a substantially reduced incidence of poststroke cognitive impairment in people who were able to communicate in two or more languages.

“Research so far has mainly focused on the relationship between bilingualism and Alzheimer disease, the leading cause of dementia,” explains Suvarna Alladi, who led the new study. “However, stroke is the second most common cause of dementia, and more than half of stroke patients have some form of cognitive problems during their phase of recovery.”

Hyderabad is a multilingual city, and the languages most commonly spoken include Telugu, Hindi, Urdu and English. Bilingualism is widespread among the city’s native inhabitants, irrespective of literacy levels,

so its influence on cognition can be studied independently from the effects of potential confounding factors such as education and immigration.

The study included 608 patients with ischaemic stroke, 353 (58.1%) of whom were bilingual. Cognitive assessments, which were performed a minimum of 3 months after stroke, revealed normal cognition in 40.5% of the bilingual patients, compared with only 19.6% of monolingual patients. Vascular cognitive impairment was observed in 77.7% of monolingual and 49.0% of bilingual

individuals. The two groups were comparable, however, with regard to the incidence of aphasia.

The researchers suggest that bilingualism could enhance cognitive reserve, thereby mitigating the effects of stroke on cognition. The lack of a protective effect on aphasia is consistent with evidence that bilingual individuals have improved executive rather than linguistic functions.

“The existing notions as to how cognition and language is represented in the brain, and how it breaks down, come from studies of predominantly monolingual populations,” says Alladi. “India offers a unique opportunity to study bilingualism and its influence on cognition, as well as the relationships between education, language and cognition.”

Heather Wood



**ORIGINAL ARTICLE** Alladi, S. *et al.* Impact of bilingualism on cognitive outcome after stroke. *Stroke* <http://dx.doi.org/10.1161/STROKEAHA.115.010418>