

**Title:** Challenges to early detection of cognitive decline in deaf signers: A new British Sign Language Cognitive Screening Test

## **Background**

Tests used to identify cognitive disorders in users of spoken languages are unsuitable for Deaf people who use signed languages. Establishing normal healthy ageing in the Deaf Community, including cognitive and linguistic functioning, is a necessary precursor to the development of assessment tools that can be used to detect unusual changes associated with dementia and other neurodegenerative conditions.

## **Method**

We established the parameters of normative cognitive ageing in Deaf people, using a newly devised test, the British Sign Language Cognitive Screening Test. This is the first screening test specifically developed in a signed language, rather than relying on translation of spoken language tests. This test is now being used to identify cognitive disorders in deaf patients at the National Hospital for Neurology and Neurosurgery in London.

The tests, with instructions entirely in BSL using standardized videoformat, were developed and piloted using a similar format to the Addenbrokes Cognitive Examination (ACER) (Mioshi et al., 2005) and the Mini Mental State Examination (Folstein et al., 1975), with test domains sampling memory, visuospatial, language and executive function abilities, as well as orientation to time and space. Items were carefully selected to ensure linguistic and cultural suitability for deaf signers. Naming items were developed using solely low-iconic targets and there is no English language requirement. Normative data was collected from 226 participants aged 50-89 years during an annual holiday for older Deaf people.

## **Results**

Details about test development will be presented with results showing changes in test performance across age cohorts and correlation with non-verbal intellectual ability in healthy signers; and early indicators of test sensitivity and specificity in identifying signers with a diagnosis of dementia.

## **Conclusions**

We conclude that for ethnologically valid assessment of cognitive disorder in deaf signers, it is vital to test function in deaf signers using tests and norms specifically devised for signed rather than spoken languages.