

## Idiopathic Intracranial Hypertension and cognitive changes – new research summary

This summary is to explain new research in IIH. This research focus is on cognition which is the ability to perceive and react, process and understand, store and retrieve information, make decisions and produce appropriate responses. This research article can be downloaded for free at:

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From as early as 1986, cognition issues have been noted in Idiopathic Intracranial Hypertension (IIH), and people with IIH have commonly reported symptoms such as; brain fog and issues with slowness of thinking or problems with their memory. However, cognitive function is not widely recognised or addressed in IIH. Clinical screening tools used for other conditions are not sensitive enough to pick up these signs in the people with IIH. Although there are a few previous studies that have investigated issues associated with cognition, these have been small and they did not look at the underlying causes.

The researchers performed cognitive tests in a study of 66 people with IIH and compared their results to 25 body mass index (a measure of height and weight )matched control participants to identify impairments in reaction time, memory and executive function (decision making). The researchers compared cognitive performance between participants at the start of the study, after a lumbar puncture (in which brain pressure was reduced) and following 12-months of a weight loss intervention (either surgery or a community weight loss plan). The study also investigated the link between clinical measurements (such as vision, visual function and headaches) and cognitive performance.

The researchers demonstrated that executive function and attention is impaired in IIH participants compared to controls at baseline (start of the study with active disease). However, after a lumbar puncture (which temporarily reduced the brain pressure) the measure of attention improved in IIH participants.

The cognitive issues identified were reversible, as participants improved in their measures of executive function, sustained attention and memory over 12-months. These improvements were also linked to a reduction in brain pressure. Headache severity, obstructive sleep apnoea (a sleep related breathing disorder commonly seen in people with IIH), depression and serum cortisol were all linked with cognitive performance in people with IIH.

One important finding was that the ability to perform visual field tests reliably was linked to poor attention in participants, which is a significant finding since visual field testing is routinely done to monitor IIH.

Grech et al, propose that cognitive impairment should be accepted as a clinical feature of IIH and that cognitive deficits can improve over time and with reduction of intracranial pressure. Treating depression, obstructive sleep apnoea and headache could improve cognitive performance.