# Visual problems may signal early signs of dementia, study finds



A recent study from Loughborough University has revealed significant insights into the early indicators of cognitive decline, suggesting that visual problems may precede dementia diagnoses by up to 12 years. Conducted with a cohort of 8,623 healthy individuals in Norfolk, England, the study monitored participants over a lengthy period, ultimately identifying 537 cases of dementia by its conclusion.

The research focused on assessing participants' visual sensitivity through a test that required them to press a button upon seeing a triangle formed among a field of moving dots. Those who later developed dementia showed markedly slower response times compared to their healthier counterparts. The researchers theorised that visual impairments could signal the onset of dementia, as the toxic amyloid plaques associated with Alzheimer's disease might first damage visual processing areas before impacting memory-related sections of the brain. The study highlighted that Alzheimer's can also impair contrast sensitivity, colour perception, and the ability to filter out distractions, indicating broader visual processing challenges associated with the disorder.

Moreover, the research uncovered that individuals with dementia often have difficulties processing unfamiliar faces, exhibiting an atypical scanning pattern when looking at facial features. Given these findings, there is a growing interest in further investigating whether enhancing eye movement could potentially improve memory function. However, the researchers acknowledged that current evidence on this approach is inconsistent and expressed that practical use of eye movements for early Alzheimer’s diagnosis remains constrained until more affordable eye-tracking technologies become widely accessible.

In a separate study conducted by researchers at King's College London in 2024, findings suggest that daily fibre supplementation could bolster brain function among older adults in just 12 weeks. This research involved individuals over the age of 60, who were administered either inulin or fructooligosaccharide (FOS) supplements to examine their effects on brain function and muscle health in relation to the gut microbiome.

TwinsUK, a prominent adult twin registry, facilitated this study, where 36 pairs of twins were randomly assigned to either the supplement or a placebo group, alongside participating in resistance exercises and consuming a protein supplement aimed at enhancing muscle performance. Results indicated that those who received the fibre supplement demonstrated notable enhancements in tests measuring brain function, including the Paired Associates Learning test, an early indicator of Alzheimer’s, as well as improvements in reaction time and processing speed. While there were no significant gains in muscle strength detected between the groups, the cognitive performance improvements are essential for everyday activities, underscoring the potential of gut health in supporting brain function.

Professor Claire Steves, a senior author of the study, highlighted that the plant fibres used in the study are inexpensive and readily available over the counter, representing a safe option that could have significant benefits for a diverse population. Mary Ni Lochlainn, a geriatric medicine researcher at King's, expressed enthusiasm regarding the results, noting their implications for enhancing brain health and memory in the aging demographic, and called attention to the importance of exploring the gut-brain connection further.

Both studies contribute to a growing body of research exploring the interplay between physical health, cognition, and dietary influences on aging, potentially paving the way for new approaches in preventative healthcare and management strategies for age-related cognitive decline.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://pmc.ncbi.nlm.nih.gov/articles/PMC10904745/> - This study supports the claim that visual processing speed deficits are associated with a higher risk of future dementia diagnosis. It highlights the potential of visual sensitivity tests in identifying early signs of dementia.
* <https://www.medicalnewstoday.com/articles/could-a-simple-eye-test-predict-alzheimers-12-years-before-symptoms-show> - This article discusses research from Loughborough University suggesting that a loss of visual sensitivity could predict Alzheimer's disease up to 12 years before symptoms appear, aligning with the study's findings on visual impairments preceding dementia.
* <https://m3globalresearch.blog/2024/08/22/dementia-visual-sensitivity/> - This blog post further explains how visual sensitivity tests could assist in early dementia detection by identifying changes in visual processing speed, which may occur before significant memory loss.
* <https://www.kcl.ac.uk/news/2024/feb/new-research-suggests-dietary-fibre-supplements-could-improve-brain-function-in-older-adults> - This article from King's College London discusses research on dietary fibre supplementation improving brain function in older adults, aligning with the study mentioned on fibre's cognitive benefits.
* <https://www.twinssuk.ac.uk/> - TwinsUK is a prominent adult twin registry that facilitated the fibre supplementation study, providing a platform for investigating genetic and environmental influences on health and disease.
* <https://www.kcl.ac.uk/research/divisions/health-sciences/departments/psychological-medicine/research/brain-health> - This webpage highlights King's College London's research focus on brain health, including studies on cognitive decline and potential interventions like dietary changes.