

Power of speech could improve dementia diagnosis

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Dr Daniel Blackburn at the memory clinic at the Royal Hallamshire Hospital

New research from the University of Sheffield and Sheffield Teaching Hospitals NHS Foundation Trust found that only half of patients seen at neurology-led memory clinics at the Royal Hallamshire Hospital suffered with dementia.

Many patients are referred to the [memory](#) clinic because they have concerns about their memory although they do not show any signs of dementia. Using a research method called 'Conversation Analysis', whereby audio or video recordings of talk between patients, carers and doctors are examined very closely, the research team looked for subtle differences in the use of language which can be tell-tale signs of early

dementia.

The research could help doctors distinguish between people with early stage dementia and those with memory concerns related to mood or anxiety-related problems.

The study, led by Markus Reuber, Professor of Clinical Neurology at the University of Sheffield and Honorary Consultant Neurologist at Sheffield Teaching Hospitals NHS Foundation Trust, is the first in the world to use 'Conversation Analysis' as a diagnostic tool in the memory clinic.

Professor Reuber and his team, along with Professor Paul Drew at Loughborough University, had used a similar technique to demonstrate that the way in which patients speak about their symptoms can help doctors distinguish between descriptions of epileptic fits and seizure-like attacks caused by distress.

Around 800,000 people have been diagnosed with dementia in the UK, but it is believed many others remain undiagnosed – especially in the early stages. The Alzheimer's Society predicts the number of [dementia sufferers](#) is to increase to one million by 2021 and 1.7 million by 2051.

Dr Daniel Blackburn, Honorary Senior Lecturer at the University of Sheffield and Consultant Neurologist at Sheffield Teaching Hospitals NHS Foundation Trust, said: "This research is very important because such a high proportion of the people referred to the neurology-led specialist memory clinic are not found to have any signs of dementia at present.

"Six years ago one in five patients seen in the memory clinic did not have dementia, but recently this ratio has been closer to one in two. The increase in referrals of people memory concerns but no dementia may be

related to recent UK government initiatives to identify more people with dementia early on in their illness, so these are quite startling findings.

"Not only could these findings allow GPs and other primary care health professionals to identify which patients need to be referred to specialist memory clinics, but they could also help minimise the distress of patients who do not suffer with dementia while they seek support and reassurance for memory problems as they navigate through a complex system."

Patients experiencing memory concerns unlikely to develop into dementia often suffer with low mood, anxiety and depression leading to further memory problems. But these are all treatable when identified, and simple interventions such as reassurance, talking treatments or medication for anxiety and depression may help.

Video recordings were made of the patient's initial visit to the memory clinic. The analysis focused especially on the opening conversation between the neurologist and the patient, and any family or friends who accompanied them. The close examination of the recordings revealed that there are two distinct conversational profiles for patients with dementia and those with memory concerns unrelated to dementia.

These profiles are based on such features as who is most concerned about their memory (patient or family), [patients'](#) ability to respond to complex questions (i.e. two questions in one), how much they elaborate their answers, repetitiveness and hesitancy in answering, and the frequency with which they respond that they 'don't know.' These features, for instance, the patient's ability to answer complex questions fully by answering all parts of the question, can show the doctor whether the patient's memory system is working well or not.

The findings of the study allow doctors to use their conversation with the

patient as a kind of examination in which they look for signs of disease. Whereas a stroke might cause weakness in a leg evident on physical examination, [dementia](#) is likely to cause particular difficulties with ordinary conversation which doctors will now be able to look out for.

Provided by University of Sheffield

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