

Challenge continues in developing effective drug treatment for Alzheimer's disease

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The results of a large-scale international study involving the treatment of Alzheimer's disease, which was led and coordinated by researchers at Trinity College Dublin, have just been published this week in a major medical journal, *PLOS Medicine*.

Alzheimer's [disease](#), the commonest form of dementia, currently affects approximately 34 million people worldwide, with 10.5 million people living with dementia in Europe. In Ireland, 55,000 people have dementia and approximately 40,000 of these will have Alzheimer's disease. Currently there is no medication that can delay the onset or slow the progression of this disease.

The study involved a clinical trial testing a new [treatment](#) against a placebo. The trial, called NILVAD, tested 511 people with mild and moderate Alzheimer's disease in Ireland and across Europe using a single dose of a medication called Nilvadipine to see if it could slow progression in this condition. Nilvadipine is licensed to treat [high blood pressure](#), and studies in animals showed that it lowered brain amyloid, the toxic protein associated with Alzheimer's disease. It was therefore considered to be a possible effective treatment for Alzheimer's disease in patients.

The results of this large-scale clinical trial showed that while Nilvadipine was well tolerated in people with Alzheimer's disease, there was no benefit from the drug treatment on memory or functioning in the overall group of patients with mild and moderate Alzheimer's disease. When looked at separately, a smaller sub-group of people at the milder stage of the disease appeared to benefit from Nilvadipine treatment, but these results need further study and exploration.

Commenting on the research findings, lead author and coordinator of the study, Professor of Old Age Psychiatry at Trinity College Dublin and St James's

Hospital, Dublin, Brian Lawlor said: "The outcome of the trial for the overall combined group of people with mild and moderate Alzheimer's disease was negative; however, when we broke it down according to severity, those with mild disease appeared to benefit from Nilvadipine whereas those with moderate disease seemed to do worse on the medication. These findings will need to be followed up and teased apart in future studies. It may be that to be successful, we would need to target [people](#) at the earliest phase of the disease process."

A series of additional studies on blood flow effects using MRI scanning were also carried out. Professor Marcel Olde Rikkert, NILVAD's Principal Investigator in the Netherlands commented: "The possible dual action of Nilvadipine both on amyloid and blood flow to the brain paves the way for further important studies in this area."

Provided by Trinity College Dublin

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