

# Menopause linked to changes in brain energy use

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Researchers from Weill Cornell Medicine and the University of Arizona



Health Sciences have found that women's brains use less energy during the menopause. The reduction in energy use by the brain was found to be similar to that seen in people with Alzheimer's disease in a previous small study. The results of the work were published in the journal *PLoS One* on 10 October.

Alzheimer's [disease](#) affects 500,000 people in the UK alone, with the single biggest risk factor being age. Alzheimer's is characterised by changes in the brain beyond those associated with normal ageing and current research shows that [women](#) are more likely to develop Alzheimer's than men.

Menopause can have widespread effects for women, including changes in behaviour, mood and sleep patterns. In this study, the research team looked at brain changes caused by [menopause](#).

Researchers studied changes in energy use in the brains of women before and during menopause. They studied 43 healthy women between the ages of 40 to 60 and used an imaging technique known as PET scanning to assess levels of glucose, one of the major energy sources for the brain. The team saw reductions in the use of energy in women during menopause. Women during menopause also scored lower on memory tests compared to those who had not gone through menopause, even after accounting for their slightly older age.

The researchers made the observation that those areas of the brain where energy use had dropped in menopause were similar to those seen in people with Alzheimer's in a small study they had carried out previously. However, the researchers did not look to see whether the women in this study went on to develop Alzheimer's.

Dr Rosa Sancho, Head of Research at Alzheimer's Research UK said:



"Alzheimer's is a complex disease with many [risk factors](#) involved, the most critical being ageing. There is a growing body of evidence indicating that there are differences between men and women when it comes to Alzheimer's risk, but research is continuing around exactly what drives this."

"Going through menopause has widespread impacts on a woman's life, and this study shows how it can lead to changes in the [brain](#). What we don't know is how many women in this study went on to develop Alzheimer's and much larger studies will be needed to determine this."

"Not all post-menopausal women will go on to develop Alzheimer's, so it is important for scientists to understand the variety of factors that come into play as we get older that could be driving our risk of developing the disease."

"Research into understanding the risk factors of developing Alzheimer's is crucial to developing better prevention strategies for the disease."

Provided by Alzheimer's Research UK

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