A vitamin found in meat, fish and milk may help stave off memory loss in old age, a study has suggested. Older people with lower than average vitamin B12 levels were more than six times more likely to experience brain shrinkage, researchers concluded.

The University of Oxford study, published in the journal Neurology, tested the 107 apparently healthy volunteers over a five-year period. Some studies suggest two out of five people are deficient in the vitamin.

The problem is even more common among the elderly, and recent moves to supplement bread with folic acid caused concern that this could mask B12 deficiency symptoms in older people. The Oxford study looked at a group of people between 61 and 87, splitting it into thirds depending on the participants' vitamin B12 levels. Even the third with the lowest levels were still above a threshold used by some scientists to define vitamin B12 deficiency. However, they were still much more likely to show signs of brain shrinkage over the five-year period.

Liver and shellfish

Professor David Smith, who directs the Oxford Project to Investigate Memory and Ageing, said he now planned a trial of B vitamins in the elderly to see if taking them could slow brain shrinkage. He said: "This study adds another dimension to our understanding of the effects of B vitamins on the brain - the rate of shrinkage of the brain as we age may be partly influenced by what we eat."

Shrinkage has been strongly linked with a higher risk of developing dementia at a later stage and Rebecca Wood, the chief executive of the Alzheimer's Research Trust, said further research was needed. "This study suggests that consuming more vitamin B12 through eating meat, fish, fortified cereals or milk as part of a balanced diet might help protect the brain. Liver and shellfish are particularly rich sources of B12."

"Vitamin B12 deficiency is a common problem among elderly people in the UK and has been linked to declining memory and dementia."

Dr Susanne Sorensen, from the Alzheimer's Society said: "Shrinkage is usually associated with the development of dementia."

"As vitamin B may be given as a food supplement, it may be useful to include tests of vitamin B levels in the general assessment of health of older individuals."

"This is another example of why it is crucial for people to lead a healthy lifestyle with a balanced diet rich in B vitamins and antioxidants."

"The best way to reduce your risk of developing dementia is to keep active, eat a balanced diet, don't smoke and visit your GP to get your blood pressure and cholesterol checked."