

# Abstract

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## Changes in folate, vitamin B12 and homocysteine associated with incident dementia.

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**OBJECTIVES:** Prospective findings have not been consistent for folate, vitamin B(12) and homocysteine concentrations as predictors of dementia. This study aimed to investigate both baseline concentrations of folate, vitamin B(12) and homocysteine and changes in these concentrations as predictors/correlates of incident dementia.

**METHODS:** Of 625 elderly patients without dementia at baseline, 518 (83%) were followed over a 2.4 year period and were clinically assessed for incident dementia and Alzheimer's disease (AD). Serum concentrations of folate, vitamin B(12) and homocysteine were measured at the baseline and follow-up assessments. Covariates included age, sex, education, disability, depression, alcohol consumption, physical activity, vascular risk factors, serum creatinine concentration, vitamin intake and weight change.

**RESULTS:** Only baseline lower folate concentrations predicted incident dementia. The onset of dementia was significantly associated with an exaggerated decline in folate, a weaker increase in vitamin B(12) concentrations and an exaggerated increase in homocysteine concentrations over the follow-up period. These associations were reduced following adjustment for weight change over the same period.

**CONCLUSIONS:** Incident dementia is more strongly associated with changes in folate, vitamin B(12) and homocysteine than with previous concentrations. These changes may be linked to other somatic manifestations of early dementia, such as weight loss.

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