

Abstract

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Clinical relevance of low serum vitamin B12 concentrations in older people: the Banbury B12 study.

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BACKGROUND: low vitamin B12 concentrations are common in older people, but the clinical relevance of biochemical evidence of vitamin B12 deficiency in the absence of anaemia is uncertain.

OBJECTIVE: to examine associations of cognitive impairment, depression and neuropathy with blood measurements of vitamin B12 and folate status in older people.

DESIGN: cross-sectional study in general practice in Banbury, England.

PARTICIPANTS: a total of 1,000 individuals aged 75 years or older living in the community.

RESULTS: low vitamin B12 concentrations were identified in 13% of older people and were associated with memory impairment and depression. After adjustment for age, sex and smoking, individuals with vitamin B12 or holotranscobalamin (holoTC) in the bottom compared with top quartiles had a 2-fold risk (OR = 2.17; 95% CI 1.11-4.27) and a 3-fold risk (OR = 3.02; 95% CI 1.31-6.98) of cognitive impairment, respectively. Low vitamin B12 status was also associated with missing ankle tendon jerks but not with depression. Treatment with vitamin B12 for 3 months corrected the biochemical abnormalities but had no effect on any of the clinical measurements.

CONCLUSIONS: low vitamin B12 concentrations are associated with cognitive impairment and missing ankle tendon jerks in older people in the absence of anaemia. Large-scale trials of vitamin B12 supplementation are required to assess the clinical significance of these associations.

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