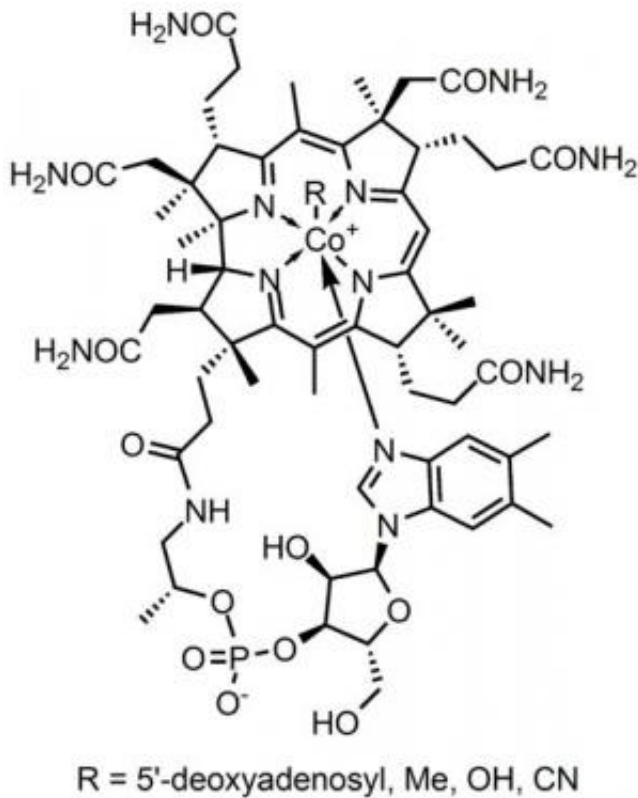


# Benefits of vitamin B12 supplements for older people questioned

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Chemical structure of vitamin B12. Credit: Wikipedia

Vitamin B12 supplements offer no benefits for neurological or cognitive function in older people with moderate vitamin B12 deficiency, according to a new study published in the *American Journal of Clinical Nutrition*.

Around one sixth of people in the UK aged over 75 have vitamin B12 deficiency, which when severe can lead to significant problems in the [nervous system](#) including muscle weakness, problems with walking, tiredness, and pins and needles, as well as depression and problems with memory and other important everyday cognitive functions. Vitamin B12 is found in everyday foods such as fish, meat, poultry, and dairy products.

There is clear evidence that individuals with severe vitamin B12 deficiency (with or without anaemia) benefit significantly from treatment. However, there is uncertainty about the relevance of vitamin B12 treatment in non-anaemic individuals with moderate vitamin B12 levels.

Previous studies have suggested that people with moderate vitamin B12 deficiency have poorer nerve and memory functions. The effects of daily supplementation with vitamin B12 to correct moderate deficiency on nervous system function were previously unknown.

Researchers led by Dr Alan Dangour at the London School of Hygiene & Tropical Medicine conducted a trial of 201 people aged over 75 years. Participants, who had moderate vitamin B12 deficiency and were not anaemic, received a tablet every day for one year containing either vitamin B12 or a placebo. At the end of the study after 12 months of supplementation, participants undertook clinical tests to assess their nervous system function including measures of muscle strength, coordination, mobility, tests of cognitive function including memory, and of psychological health.

The researchers found no evidence of improved neurological or cognitive function among people who received vitamin B12 compared to those who received the placebo tablets.

Dr Alan Dangour, Reader in Food and Nutrition for Global Health at the London School of Hygiene & Tropical Medicine, said: "This is the first trial of the effect of vitamin B12 supplementation on neurological and cognitive function in [older people](#) with moderate vitamin B12 deficiency. Many people may be taking vitamin B12 supplements on a regular basis and it has been thought they would enhance function in older people. Our study found no evidence of benefit for nervous system or cognitive function from 12 months of supplementation among older people with moderate vitamin B12 deficiency.

"We advise older people concerned about their health and cognitive function to eat a diverse and healthy diet, keep cognitively active and when possible take regular physical activity."

The study was conducted by a team of researchers from the London School of Hygiene & Tropical Medicine, King's College London, UCL, and Oxford University.

Although the number of participants in the study was relatively small, the researchers report that it was sufficiently large to detect clinically relevant effects. The supplements contained a safe recommended dose of vitamin B12, although it is possible that the dose may have been too low to affect neurological or cognitive function, or that the supplements might be needed for several years to have an impact.

**More information:** Alan D Dangour, Elizabeth Allen, Robert Clarke, Diana Elbourne, Astrid E Fletcher, Louise Letley, Marcus Richards, Ken Whyte, Ricardo Uauy, Kerry Mills. Effects of vitamin B12 supplementation on neurological and cognitive function in older people: a randomized controlled trial. *American Journal of Clinical Nutrition*. [DOI: 10.3945/ajcn.115.110775](https://doi.org/10.3945/ajcn.115.110775)

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