

Summary for the Moodfood website

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Vitamin B₁₂, homocysteine and depressive symptoms: a longitudinal study among older adults

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In older age, vitamin B₁₂ deficiency is a common health problem. This vitamin might be linked to mental health as it is needed in the brain to synthesize neurotransmitters, like dopamine. For this synthesis, the amino acid homocysteine is also needed. Previous studies on the relationship between vitamin B₁₂ and depression showed inconsistent results. We aimed to study cross-sectional and prospective associations of serum vitamin B₁₂ and plasma homocysteine concentration with depressive symptoms in Dutch older adults.

We used data from 1,205 participants (≥65 years) of the Longitudinal Aging Study Amsterdam (LASA). They had given a blood sample at the start of the study (baseline), in which serum vitamin B₁₂ and plasma total homocysteine levels were measured. In addition, they filled in a questionnaire about depressive symptoms at baseline and each following 3 years up to 16 years.

The results showed that serum vitamin B₁₂ concentration at baseline was not associated with depressive symptoms at baseline, nor with depressive symptoms over the 16 years. For plasma homocysteine, we also found no associations.

In conclusion, our study did not confirm earlier shown associations of serum vitamin B₁₂ and plasma homocysteine with depressive symptoms in older men and women. Further research into the influence of B vitamins on mental health is needed.