

Abstract

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Oral folic acid and vitamin B-12 supplementation to prevent cognitive decline in community-dwelling older adults with depressive symptoms--the Beyond Ageing Project: a randomized controlled trial.

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BACKGROUND: Evidence remains unclear as to whether folic acid (FA) and vitamin B-12 supplementation is effective in reducing depressive symptoms.

OBJECTIVE: The objective was to determine whether oral FA + vitamin B-12 supplementation prevented cognitive decline in a cohort of community-dwelling older adults with elevated psychological distress.

DESIGN: A randomized controlled trial (RCT) with a completely crossed $2 \times 2 \times 2$ factorial design comprising daily oral 400 µg FA + 100 µg vitamin B-12 supplementation (compared with placebo), physical activity promotion, and depression literacy with comparator control interventions for reducing depressive symptoms was conducted in 900 adults aged 60-74 y with elevated psychological distress (Kessler Distress 10-Scale; scores >15). The 2-y intervention was delivered in 10 modules via mail with concurrent telephone tracking calls. Main outcome measures examined change in cognitive functioning at 12 and 24 mo by using the Telephone Interview for Cognitive Status-Modified (TICS-M) and the Brief Test of Adult Cognition by Telephone (processing speed); the Informant Questionnaire on Cognitive Decline in the Elderly was administered at 24 mo.

RESULTS: FA + vitamin B-12 improved the TICS-M total ($P = 0.032$; effect size $d = 0.17$), TICS-M immediate ($P = 0.046$; $d = 0.15$), and TICS-M delayed recall ($P = 0.013$; effect size $d = 0.18$) scores at 24 mo in comparison with placebo. No significant changes were evident in orientation, attention, semantic memory, processing speed, or informant reports.

CONCLUSION: Long-term supplementation of daily oral 400 µg FA + 100 µg vitamin B-12 promotes improvement in cognitive functioning after 24 mo, particularly in immediate and delayed memory performance. This trial was registered at clinicaltrials.gov as NCT00214682.

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