

Abstract

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Effect of a multivitamin and mineral supplement on infection and quality of life. A randomized, double-blind, placebo-controlled trial.

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BACKGROUND: Use of multivitamin and mineral supplements is common among U.S. adults, yet few well-designed trials have assessed the reputed benefits.

OBJECTIVE: To determine the effect of a daily multivitamin and mineral supplement on infection and well-being.

DESIGN: Randomized, double-blind, placebo-controlled trial.

SETTING: Primary care clinics at two medical centers in North Carolina.

PARTICIPANTS: 130 community-dwelling adults stratified by age (45 to 64 years or ≥ 65 years) and presence of type 2 diabetes mellitus.

INTERVENTION: Multivitamin and mineral supplement or placebo taken daily for 1 year.

MEASUREMENTS: Incidence of participant-reported symptoms of infection, incidence of infection-associated absenteeism, and scores on the physical and mental health subscales of the Medical Outcomes Study 12-Item Short Form.

RESULTS: More participants receiving placebo reported an infectious illness over the study year than did participants receiving multivitamin and mineral supplements (73% vs. 43%; $P < 0.001$). Infection-related absenteeism was also higher in the placebo group than in the treatment group (57% vs. 21%; $P < 0.001$). Participants with type 2 diabetes mellitus ($n = 51$) accounted for this finding. Among diabetic participants receiving placebo, 93% reported an infection compared with 17% of those receiving supplements ($P < 0.001$). Medical Outcomes Study 12-Item Short Form scores did not differ between the treatment and placebo groups.

CONCLUSIONS: A multivitamin and mineral supplement reduced the incidence of participant-reported infection and related absenteeism in a sample of participants with type 2 diabetes mellitus and a high prevalence of subclinical micronutrient deficiency. A larger clinical trial is needed to determine whether these findings can be replicated not only in diabetic persons but also in any population with a high rate of suboptimal nutrition or potential underlying disease impairment.

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