Abstract

OBJECTIVE: Biochemical processes in the brain affect mood. Minor dietary inadequacies, which are responsible for a small decline in an enzyme's efficiency, could cumulatively influence mood states. When diet does not provide an optimal intake of micronutrients, supplementation is expected to benefit mood. This meta-analysis evaluated the influence of diet supplementation on mood in nonclinical samples.

METHODS: Databases were evaluated and studies were included if they considered aspects of stress, mild psychiatric symptoms, or mood in the general population; were randomized and placebo-controlled; evaluated the influence of multivitamin/mineral supplements for at least 28 days. Eight studies that met the inclusion criteria were integrated using meta-analysis.

RESULTS: Supplementation reduced the levels of perceived stress (standard mean difference [SMD]=0.35; 95% confidence interval [CI]=0.47-0.22; p=.001), mild psychiatric symptoms (SMD=0.30; 95% CI=0.43-0.18; p=.001), and anxiety (SMD=0.32; 95% CI=0.48-0.16; p<.001), but not depression (SMD=0.20; 95% CI=0.42-0.030; p<.089). Fatigue (SMD=0.27; 95% CI=0.40-0.0146; p<.001) and confusion (SMD=0.225; 95% CI=0.38-0.07; p<.003) were also reduced.

CONCLUSIONS: Micronutrient supplementation has a beneficial effect on perceived stress, mild psychiatric symptoms, and aspects of everyday mood in apparently healthy individuals. Supplements containing high doses of B vitamins may be more effective in improving mood states. Questions about optimal levels of micronutrient intake, optimal doses, and active ingredients arise.