Background: Multiple micronutrient supplementation may result in negative interaction effects due to competing absorptive pathways of trace elements.

Objective: Our aim was to investigate the effect of multiple micronutrient supplementation with or without iron on serum zinc, selenium and copper concentrations in Cambodian women (18-45 y) over a 12-wk trial period.

Design: In a 2x2 factorial double-blind randomized trial, non-pregnant women received 60 mg of iron: 14 other micronutrients including zinc (15 mg), selenium (65 µg), and copper (2 mg), but no iron; iron plus MMN; or a placebo for 12-wk. Fasting morning blood was collected at baseline and 12-wk from women in 26 villages in Kampong Chhnang province.

Results: A total of 760 women completed the 12-wk trial. We observed a high prevalence of zinc deficiency at baseline, but no evidence of selenium or copper deficiency. At 12-wks predicted mean serum zinc concentrations in the Fe, MMN, Fe+MMN, and placebo groups were 11.0 (10.9, 11.1), 12.3 (12.2, 12.5), 11.6 (11.5, 11.7), and 11.3 (11.2, 11.4) µmol/L with a significant Fe x MMN interaction (P=0.02).

Conclusions: The inclusion of 60 mg iron in the MMN formulation may be interfering with the absorption and/or metabolism of zinc in Cambodian women. This is of particular concern when MMN supplementation is implemented in populations with a high risk of zinc deficiency and little or no iron deficiency.

Themes:

Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments: Overall this is an interesting study. The student could benefit from clarifying some points in relation to how the study was conducted. It would be helpful to also include a statement of research directions or future research.