A comparison of micronutrient inadequacy and risk of high micronutrient intakes among vitamin and mineral supplement users and nonusers in Canada.

Shakur YA, Tarasuk V, Corey P, O'Connor DL.

Department of Nutritional Sciences, University of Toronto, Canada.

OBJECTIVE: Although supplement use is prevalent in North America, there is little information on how supplements affect the prevalence of nutrient adequacy or risk of intakes greater than the tolerable upper intake level (UL). The objectives of this study were to compare the prevalence of nutrient adequacy and percent of intakes greater than the UL from diet alone between supplement users and nonusers and determine the contribution of supplements to nutrient intakes.

METHODS: Dietary intakes (24-h recall) and supplement use (previous 30 d) from respondents ≥1 y in the Canadian Community Health Survey 2.2 (n = 34,381) were used to estimate the prevalence of nutrient adequacy and intakes greater than the UL. Software for Intake Distribution Evaluation was used to estimate usual intakes.

RESULTS: The prevalence of nutrient adequacy from diet alone was not significantly higher among supplement users than nonusers for any nutrient. Based on diet alone, children 1-13 y had a low prevalence of nutrient adequacy (<30%) except for vitamin D and calcium. Among respondents ≥14 y, inadequacies of vitamins A and D, calcium, and magnesium were >30%. For other nutrients, there was a low prevalence of nutrient adequacy. There were no nutrient intakes greater than the UL from diet alone, except zinc in children. When supplements were included, ≥10% of users in some age/sex groups had intakes of vitamins A and C, niacin, folic acid, iron, zinc, and magnesium greater than the UL, reaching >80% for vitamin A and niacin in children.

CONCLUSIONS: In conclusion, from diet alone, the prevalence of nutrient adequacy was low for most nutrients except for calcium, magnesium, and vitamins A and D. For most nutrients, supplement users were not at greater risk of inadequacy than nonusers; supplement use sometimes led to intakes greater than the UL.

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