

Abstract

Nutrients. 2017 Jun 24;9(7).

Risk of Deficiency in Multiple Concurrent Micronutrients in Children and Adults in the United States.

Bird JK, Murphy RA, Ciappio ED, McBurney MI.

Nutrition Innovation Center, Human Nutrition and Health, DSM Nutritional Products, Kaiseraugst CH-4303, Switzerland; School of Population and Public Health, University of British Columbia, Vancouver, BC V6T 1Z3, Canada; Scientific Affairs, DSM Nutritional Products, Parsippany, NJ 07054, USA.

OBJECTIVE: Certain population sub-groups in the United States are vulnerable to micronutrient malnutrition. Nationally representative data from the National Health and Nutrition Examination Survey (NHANES) describing the biochemical status of vitamins A, B6, B12, C, D, E, folate, and anemia, were aggregated to determine the overall risk of multiple concurrent deficiencies in U.S. children and adults ($n = 15,030$) aged >9 years. The prevalence of deficiency risk according to socio-demographic, life-stage, dietary supplement use, and dietary adequacy categories was investigated.

FINDINGS: Thirty-one percent of the U.S. population was at risk of at least one vitamin deficiency or anemia, with 23%, 6.3%, and 1.7% of the U.S. population at risk of deficiency in 1, 2, or 3-5 vitamins or anemia, respectively. A significantly higher deficiency risk was seen in women (37%), non-Hispanic blacks (55%), individuals from low income households (40%), or without a high school diploma (42%), and underweight (42%) or obese individuals (39%). A deficiency risk was most common in women 19-50 years (41%), and pregnant or breastfeeding women (47%). Dietary supplement non-users had the highest risk of any deficiency (40%), compared to users of full-spectrum multivitamin-multimineral supplements (14%) and other dietary supplement users (28%). Individuals consuming an adequate diet based on the Estimated Average Requirement had a lower risk of any deficiency (16%) than those with an inadequate diet (57%).

CONCLUSION: Nearly one-third of the U.S. population is at risk of deficiency in at least one vitamin, or has anemia.

PMID: 28672791

FREE FULL TEXT