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Abstract

BACKGROUND: The recent dietary reference intakes publication provides updated information on the physiologic and dietary requirements for zinc and proposes new tolerable upper intake levels.

OBJECTIVE: We analyzed dietary intake data of US preschool children to determine the prevalence of inadequate and excessive intakes of zinc.

DESIGN: Diets of 7474 nonbreastfeeding preschool children in the Continuing Survey of Food Intakes by Individuals (1994-1996 and 1998) were analyzed for the intakes of zinc and other dietary components, and factors associated with zinc intake were examined.

RESULTS: The mean intakes of zinc by children aged < 1 y, 1-3 y, and 4-5 y were 6.6, 7.6, and 9.1 mg/d, respectively. Less than 1% of children had usual zinc intakes below the adequate intake or estimated average requirement. The percentages of children with intakes exceeding the tolerable upper intake level were 92% (0-6 mo), 86% (7-12 mo), 51% (1-3 y), and 3% (4-5 y). Controlling for age and energy intake, zinc intake was greater in 1998 than in 1994 (P < 0.0001) and was positively associated with participation in the Women, Infants, and Children Program (P < 0.001) and with the lowest income category (P < 0.001).

CONCLUSIONS: Preschool children in the United States have dietary zinc intakes that exceed the new dietary reference intakes. Zinc intakes increased during the 4 y of the study. The present level of intake does not seem to pose a health problem, but if zinc intake continues to increase because of the greater availability of zinc-fortified foods in the US food supply, the amount of zinc consumed by children may become excessive.
Zinc intake of US preschool children exceeds new dietary reference ...