US youths in the early stages of HIV disease have low intakes of some micronutrients important for optimal immune function.

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Abstract

OBJECTIVE: We examined the association between micronutrient intakes and human immunodeficiency virus (HIV) infection in youths who were at increased nutritional risk because of the demands of growth and disease as well as poor dietary habits.

DESIGN: This was a cross-sectional study to collect dietary intake data using the Block Food Frequency Questionnaire (98.2). Anthropometric, biochemical, clinical, and sociodemographic data were available. Subjects/Setting Participants included 264 HIV-infected and 127 HIV-uninfected adolescents and young adults from the Reaching for Excellence in Adolescent Care and Health network, a multisite observational study on HIV progression. Statistical analyses CD4(+) T cells were stratified for HIV-infected youths: >/=500, 200 to 499, and <200 cells/microL. Micronutrient intakes were compared by presence of HIV infection, using two-sample Student’s t tests. Categoric analyses used chi(2) test. Generalized linear regression determined predictors of vitamins A, C, and E; iron; and zinc intakes.

RESULTS: Almost half (49.0%) of the HIV-infected participants had CD4(+) T cells >/=500 cells/microL. After controlling for other factors, HIV-infected participants with CD4(+) T cells >/=500 had decreased iron intake (P<.05) and
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Tended to be associated with lower intakes of vitamins C and E (P<.10) compared with those with more advanced disease and HIV-uninfected youths. Among those youths with CD4(+) T cells between 200 and 499 cells/microl, a high anxiety score was associated with a sixfold increase in vitamin A intake as compared with those with a low score. Applications/conclusions Given the increased micronutrient requirements, nutrition counseling with HIV-infected youths should focus on early increase of intake of foods rich in micronutrients to improve growth, slow disease progression, and increase survival.

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