

# COMMENTS

## Nutrition and Acquired Immunodeficiency Syndrome

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In a previous issue of *Experimental Biology and Medicine*, we published a Minireview (1) on the role of nutrition in infectious disease and related problems in acquired immunodeficiency syndrome (AIDS). We summarized our experience and previous publications. We pointed out that both caloric and micronutrient deficiency increased the severity of AIDS in patients. We made similar observations in relation to an animal model of AIDS. It was suggested that improving nutrition, particularly micronutrition (vitamins, minerals) may be the most efficient contribution to infectious disease-related morbidity and mortality in developing countries; it may also increase the efficacy of vaccination programs. This may have special

value in treating AIDS. Since this Minireview was submitted, an article by Fawzi *et al.* (2) and an editorial by Marston and De Cock (3) have appeared in the *New England Journal of Medicine* indicating that, in a study of 1078 pregnant women in Tanzania, multivitamin supplementation significantly decreased progression of HIV infection-induced disease in more than 1000 pregnant patients. More detailed studies, particularly in other tropical diseases, appear to be well justified.

Another report, by Foster (4), which has appeared since the submission of our Minireview, pointed out that HIV-1 encodes the homologue of one of the human glutathione peroxidases at the expense of the host; this results in deprivation of its four basic components: selenium, cysteine, glutamine, and tryptophan. In a preliminary study in Botswana, supplementation with these components resulted in improvement of the status of AIDS patients, as quoted by the report (without giving actual data).

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1. Ambrus JL, Sr., Ambrus JL, Jr. Nutrition and infectious disease in developing countries and problems of acquired immunodeficiency syndrome. *Exp Biol Med* 229:464–472, 2004.
2. Fawzi WW, Msamanga GI, Spiegelman D, Wei R, Kapiga S, Villamor E, Mwakagile D, Mugusi F, Hertzmark E, Essex M, Hunter DJ. A randomized trial of multivitamin supplements and HIV disease progression and mortality. *N Engl J Med* 351:23–32, 2004.
3. Marston B, De Cock KM. Multivitamins, nutrition, and antiretroviral therapy for HIV disease in Africa. *N Engl J Med* 351:78–80, 2004.
4. Foster HD. How HIV-1 causes AIDS: implications for prevention and treatment. *Med Hypotheses* 62:549–553, 2004.