

The Role of Soy Foods in Nutritional Management of HIV/AIDS
Presented by Cade Fields-Gardner, MS, RD, HIV-Specialist Nutritionist

Abstract

Nutritional security is an important feature of maintaining and improving health. Adequate nutritional status is also important to the prevention of disease, especially opportunistic infections, and the effectiveness of medications. HIV infection presents its own challenges to nutritional status. As with any other infection, important lean body tissues are reduced and illness and death are more likely to happen. In HIV infection, the primary reason for weight loss includes a reduced food intake and an increase in energy and protein needs. Food intake is often reduced because of loss of appetite or other symptoms that prevent adequate food intake. Strategies to improve food intake and prevent weight loss and other forms of malnutrition include fortifying usual foods to improve the nutritional value without significantly changing the volume or acceptability of the food.

Soy foods present a unique solution to some of the nutritional problems faced in HIV infection. The addition of soyfoods to usual dishes can improve the calorie and protein content without significantly changing the taste or other characteristics of the food. Soy provides additional health benefits important to long-term survival with chronic HIV infection. Chronic infection of any kind, but especially HIV, increases risk for diabetes, heart disease, and bone loss. The inclusion of soyfoods in the diet may help to reduce these effects and improve health.

Links between Nutrition and HIV Infection

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Summary

Nutrition and HIV infection are linked in several ways, including nutritional security and adequate nutritional status in the prevention of exposure, conversion to HIV-positive after exposure, and disease progression. Conversely, HIV infection has an especially detrimental effect on nutritional and health status leading to disease progression and higher risk for illness and death.

Nutritional security is an important feature of both disease prevention and economic, political, and social stability. Nutritional insecurity can lead to undernutrition is the most lethal form of malnutrition today. Lack of calories and protein in particular can lead to immune suppression and is currently the primary reason for immune suppression in the world today. And while there are an estimated 18,000 new HIV infections daily and an estimated 14,000 die from complications of HIV infections every day, undernutrition continues to claim even more lives. An estimated 24,000 people die daily from starvation.

After exposure to HIV, conversion to HIV-infection depends on the amount of virus during exposure, immune status, and nutritional well-being. Well-nourished individuals may be less likely to seroconvert after limited exposure. If a person converts to HIV-positive, then there are additional nutrition challenges. Infection causes the body to break down muscle stores to give it the protein it needs to build new protective proteins and to activate the immune system. Two important side effects of this process is that the proteins responsible for initiating an immune response also causes loss of appetite and an inflammatory response that makes it difficult to hold onto lean tissues.

While stopping this process may seem like a good way to prevent body wasting, it would also prevent the body from protecting itself from other infections and allowing HIV disease to progress. However, it is possible to blunt this response by consuming adequate calories and protein. It may require fortifying foods eaten to overcome the problems of appetite loss and to boost protein to replace that lost during infection and fever.

Lastly, anti-HIV medicines (antiretrovirals) are slowly becoming available to more of the infected population. These and other medications require an adequate amount of lean body tissues to be processed and to limit toxicities. In addition, protein undernutrition can mask opportunistic infections and leading to problems with an overactive immune response with the use of antiretrovirals and potential for further complications. It is essential to the success of the medications to maintain a minimum level in the blood and many of the medication combinations require adequate food to be absorbed.

Thus, nutrition considerations are important to the success of efforts to prevent HIV infection, to lessen the effect of chronic HIV infection, and to effectively provide care and treatment including medication strategies.