

Living Well with HIV: Nutrition, Health and Wellness



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Outline of this Unit

- Factors affecting nutritional status
- Asymptomatic & symptomatic infection
- Micronutrients and HIV
- Metabolic complications with HIV
- Food insecurity and HIV
- Role of nutrition in health and wellness



Factors Affecting Nutritional Status

- Malnutrition and wasting
- Loss of appetite
- Metabolic abnormalities
- Side effect of medications, such as gastrointestinal (GI) complications
- Dental issues and difficulties masticating and swallowing food
- Mental health challenges, addictions and other socio-economic factors that can lead to food insecurity
- Disordered eating
- Special needs groups: pregnancy, children, adolescents
- Different nutritional needs dependent on stage of HIV infection and if symptomatic and asymptomatic HIV infection



Symptomatic & Asymptomatic HIV Infection

Symptomatic HIV infection:

- Fever
- Opportunistic infections, e.g. *Pneumocystis jirovecipneumonia*, (PJP, formerly known as PCP), cytomegalovirus (CMV), and Mycobacterium avium complex (MAC), oral thrush
- Weight loss
- Usually CD₄+ T helper cells <200

Asymptomatic infection:

- A phase of chronic infection which the person does not display symptoms
- Usually CD₄+T helper cells >200

Symptomatic HIV Infection

HIV Wasting: Infection induced cachexia (weakness/ breakdown of the body) characterized by inappropriate loss of skeletal or other lean proteins



Centre for Disease Control definition: Involuntary weight loss >10% (of baseline body weight) associated with either chronic diarrhea (two or more loose stools per day for ≥ 1 month) or chronic weakness and documented fever for ≥ 1 month

Symptomatic HIV Infection

Caloric recommendations:

- 20 - 30% higher than non-infected person with same age, sex, physical activity to maintain weight
- Affected by age, activity level, HIV status, nutritional status, infection, comorbidities, etc.
- Initiation of anti-retroviral therapy may also increase energy needs as the individual transitions to an anabolic state (constructive synthesis of new tissues)

Protein recommendations:

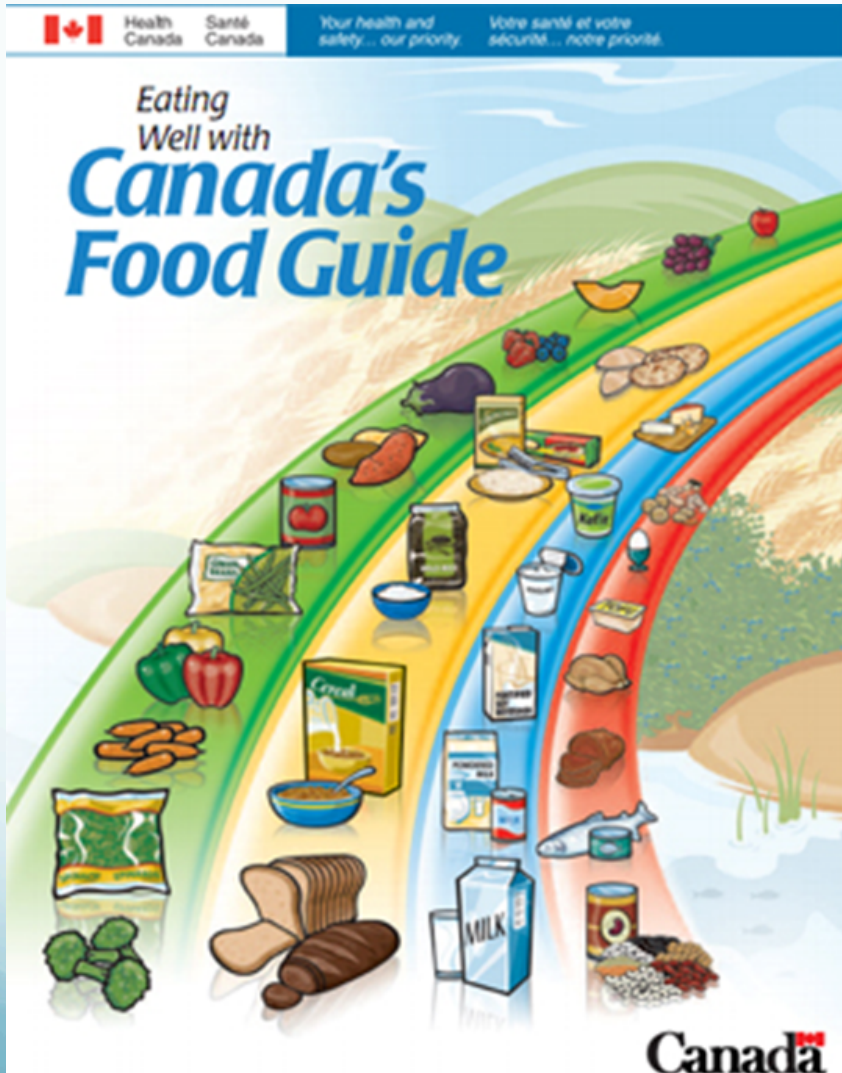
- 2-2.5 x times higher requirements to maintain lean skeletal tissue and immune function
- Needs to be individualized

Symptomatic HIV Infection

- Control HIV and treat concurrent infections
- Address psychosocial factors, depression, addictions, mental health challenges affecting nutritional status
- Dietitian's Role: Diet counseling
 - Symptom management of GI side effects
 - High calorie, high protein diet
 - Homemade/commercial nutrition supplements
 - Nutrition support (tube feeding) in hospital may be needed
 - Address food security, community resources, funding, connect with outpatient RD as needed (if in hospital)



Asymptomatic HIV Infection



- Ensure nutrient rich, balanced diet
- Review individual energy, protein, micronutrient needs
- Discuss food and water safety
- Encourage regular exercise
- Ensure food security
- Address any nutritional issues identified
- Consider social factors affecting healthy eating- boredom, loneliness, depression

Asymptomatic HIV Infection

Caloric recommendations:

- 10% higher than non-infected person with same age, sex, physical activity to maintain weight
- Affected by age, activity level, HIV status, nutritional status, infection, comorbidities, etc.



Protein recommendations:

- 1.25-1.5 times higher requirements to maintain lean skeletal tissue and immune function
- Needs to be individualized





Micronutrients and HIV Infection

- HIV is a chronic inflammatory condition that increases oxidative stress.
- Adequate vitamin and mineral intake is important in optimizing immune function and delaying HIV disease progression.
- Literature suggests micronutrient deficiencies still occur; commonly low include vitamin A, vitamin B6, vitamin B12, selenium, zinc, iron and thiamine.



Micronutrients and HIV Infection

- It is important that minimum micronutrient requirements are met for age, gender, special conditions.
- Low serum micronutrient levels are associated with increased risk of mortality.
- There is an increased risk for micronutrient deficiency with advanced disease, low CD₄, persistent diarrhea, unexplained weight loss.

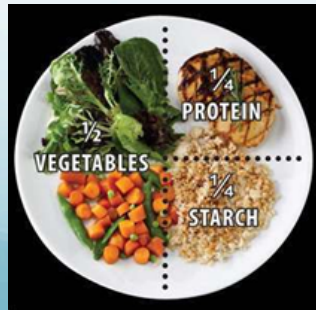
Metabolic Complications with HIV

- Overweight and obesity
- Dyslipidemia
- Insulin resistance
- Reduced bone density



Weight Management, Dyslipidemia and Insulin Resistance

- Clients living longer, developing medical conditions related to aging, medications, lifestyle
- In urban, outpatient clinic 48% of those living with HIV are overweight/obese
- Therapeutic lifestyle and diet are the first line strategy
- Traditional approaches to assist with weight management, dyslipidemia and hyperglycemia should be initiated
- Dietitian counseling works best if it is regular and sustained



Bone Health: Screening, Prevention & Treatment



HIV positive people are at a higher risk for osteopenia and osteoporosis. Cause is *multifactorial*.

Assessment

- Determine if risk further increased with traditional risk factors i.e. menopause, underweight/obese, medications, diet

Prevention

- Adequate calcium and vitamin D depends on age
- Maintain healthy body weight

Nutrient treatment

- 1000-1200 mg calcium
- 1000-2000 IU vitamin D

What is Food Insecurity?

There are many definitions:

“the limited or uncertain availability of nutritionally adequate, safe foods or the inability to acquire personally acceptable foods in socially acceptable ways”

A food insecure individual may have one or several characteristics

- Insufficient food quantity
- Limited diversity of food groups
- Poor food safety
- Feelings of hunger or anxiety regarding food access
- Procurement of food in socially unacceptable manners



Food Security in those with HIV/AIDS in B.C.

- Study in BC 1998-1999 found 48% of people on ART food insecure, 21% indicate food insecurity with hunger
- Recent study in BC 2007-2008 found 70% of people on ART food insecure
- Food insecurity affects only 8% of British Columbians
 - Food insecurity is 5-9x higher in people living with HIV than general population
- Food insecurity in the general population is associated with poor health outcomes: poor pregnancy outcomes, poor growth and development in children, poor mental health status, symptoms of depression, obesity, diabetes, and heart disease in North America, decreased life expectancy



Food Insecurity and HIV

In addition to negative health outcomes found in the general population, food insecurity in people living with HIV linked with:

- Increased behavioral risk of HIV disease transmission
- Poor antiretroviral therapy access, adherence, pharmacokinetic effectiveness
- Reduced baseline CD4 count, incomplete virologic suppression, and decreased survival



Role of Nutrition in Health and Wellness



EAT WELL. LIVE WELL.

- Good nutrition essential to optimize immune function and health
- Clients may have increased needs for energy and protein
- Critical that clients are meeting requirement for micronutrients
- Many people living with HIV struggle with multiple factors which may negatively affect their access to good quality, healthy food
- Refer to a Clinical Dietitian to address concerns with weight gain, weight loss, medication side effects, GI complaints, supplements, food insecurity, eating disorders, metabolic complications, food insecurity and more