HIV and nutrition

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Why nutrition is important?

• Healthy and **balanced diet is important** for normal cell metabolism in human body
  – *right products in right amount in right time!* 😊

• PLWHA - **virus affects food intake, digestion and absorption.**
  – Often you can find inadequate fatness and food intake amount, decreased nutrients absorption, as well as metabolistic activity

• Healthy and balanced nutrition can’t cure of disease, although it provides HIV infected person’s body **with all essential and required nutrients**

• Balanced diet prolongs non-symptom HIV infection phase, increases resistance to opportunistic diseases and increases effectiveness of antiretroviral therapy
Problems caused (for💡&doc-s!)

• Changes in blood lipids and insulin resistance – could increase the risk for accelerated atherosclerosis
• Abnormal body composition changes as well as metabolic abnormalities, including dyslipidemia, increases in triglycerides, low high-density lipoprotein cholesterol levels, and abnormal carbohydrate metabolism, ranging from insulin resistance with and without glucose intolerance to frank diabetes
• Weight loss and muscle wasting (increase lean body mass)
• Food- and waterborne illnesses can cause diarrhea, nausea, and vomiting that can lead to weight loss;
• Lipid Abnormalities - increased cardiovascular disease (Cholesterol Education)
Challenges (for💡 & doc-s!)

• **Minimal nutritional assessment in HIV-positive persons:**
  - Premorbid weight ("usual weight" before HIV infection)
  - Weight history since developing HIV
  - Amount of regular exercise and/or weight training
  - Presence of opportunistic infections, fever, and diarrhea
  - History of eating disorders
  - Social and financial issues affecting food availability or preparation
  - Dietary history and intake (24-h recall; 3-d food record; food frequency questionnaire)
  - Use of alcohol, narcotics, and stimulants
Reality in practice – nutrition study

• 9 HIV+ filled in 24-h food intake questionnaire;
• Results showed eating and drinking habits;
• Acquired data - compared to recommendations for wholesome nutrition;
• Results: *more cereal, vegetables, fruits and liquid should be consumed.*
Results: carbohydrates and liquid

**Carbohydrates**
- Nutriment ration - 6,8 portiens. Recommendable - 6 - 11 portions.
- Carbohydrates amount should be increased, it has to reach 800g per day.
- Recommended – eating more cereals, esp. wholemeal, products.

- 1 portion carbohydrates (80kcal):
  - 2 thin slices of bread (30g)
  - 1 medium potato
  - 150-200 ml oatmeal boiled in water

**Liquid**
- Nutriment ration - 3,4 glasses per day, recommendable – 8.
- Usage of liquid is critical low.
- Recommended - drinking more water with low mineralization level, fresh squeezed fruit juices or tea without sugar.

- 1 glass is 250ml liquid
Results: fruits and vegetables

- 24 h nutriment ration - **2,7 portions of vegetables** (recommendable 3-5) and **1,2 portions vegetables** (recom. 2-4).
- 1 portion vegetables is ~ 100g.
- 1 portion fruits:
  - 1 apple
  - 1 orange
  - 2 tablespoons raisins
- **Recommended:**
  - eat **more both – vegetables and fruits**, advisable locally raised.
  - follow **variety**, accent on dark green and orange.
Results: protein and milk products

**Protein**
- *Consumption is satisfactory*, although recommended
  - more often usage of fish products
  - and choose lean meat.

- 1 portion proteins (60kcal):
  - 30g lean meat or smoked fish
  - 1 egg
  - 60g cottage cheese

**Milk and milk products**
- Nutriment ration per 24 h - avg *2,2 portions*. Recommendable 2-3 portions.
- *Consumption is normal*, Recommended:
  - to reduce milk products with high fat content.
  - To eat cultured products with lakto & bifido bacteria

- 1 portion milk produkts (90kcal):
  - 300ml buttermilk or 0,5% milk
  - 200ml 2,5% milk
Nutriment pyramid

Reduced consumption of sweets and limited fat

2-3 portions of milk products
2-3 portions of proteins (meat, fish, eggs, legumes)

2-3 portions fruit
3-4 portions vegetables

8-12 portions carbohydrates

6-8 glasses of water, juice
Conclusions from study

• **1.** Nutriment should *include more carbohydrates* from wholemeal cereals, and drink *more liquid* (critical low!).

• **2.** Locally raised *fruits and vegetables should be essential part* of dietry, esp when sick. The consumption is 40% below norm.

• **3.** *Protein and milk products are around recommendable,* althought more often cultured products and milk products with low fat content have to be chosen.

• **4.** *Healthy nutrition programs has to be part of HIV/AIDS NGOs* everyday activities supporting and caring of PLWHA.
Findings (for💡 & doc-s)

• **Nutritional assessment** in HIV-infected persons can identify those at risk for adverse outcomes, including death, from nutritional deficiencies.

• **Minimally invasive**, proven, and acceptable **methods** exist for accurate nutritional assessment.

• **National guidelines** for adults and children with HIV are needed to provide the information and impetus for appropriate nutritional screening and intervention in persons with HIV infection.
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