FANTA·2
FOOD AND NUTRITION TECHNICAL ASSISTANCE

USAID
FROM THE AMERICAN PEOPLE

"Triple trouble": Malnutrition, TB and HIV

Camila Chaparro, Serigne Diene
FANTA-2/AED

HIV and TB: What's the Latest and Greatest?
CORE Group SOTA session, October 6, 2009

AED

Overview

- Nutrition and HIV
- Nutrition and TB
- WHO Consultation on Nutrition and TB
- Discussion: your input!

Links between Nutrition and HIV

Malnutrition's Effect on HIV

- Weakened immune system
- Increased susceptibility to OI
- Increased mortality risk
- Slower healing
- Poorer response to treatment
- Possibly more rapid disease progression

HIV's Effect on Nutrition

- Reduced food intake
- Increased nutrient needs
  - Asymptomatic: + 10% energy
  - Symptomatic adults: + 20-30% energy
- Altered nutrient absorption and metabolism

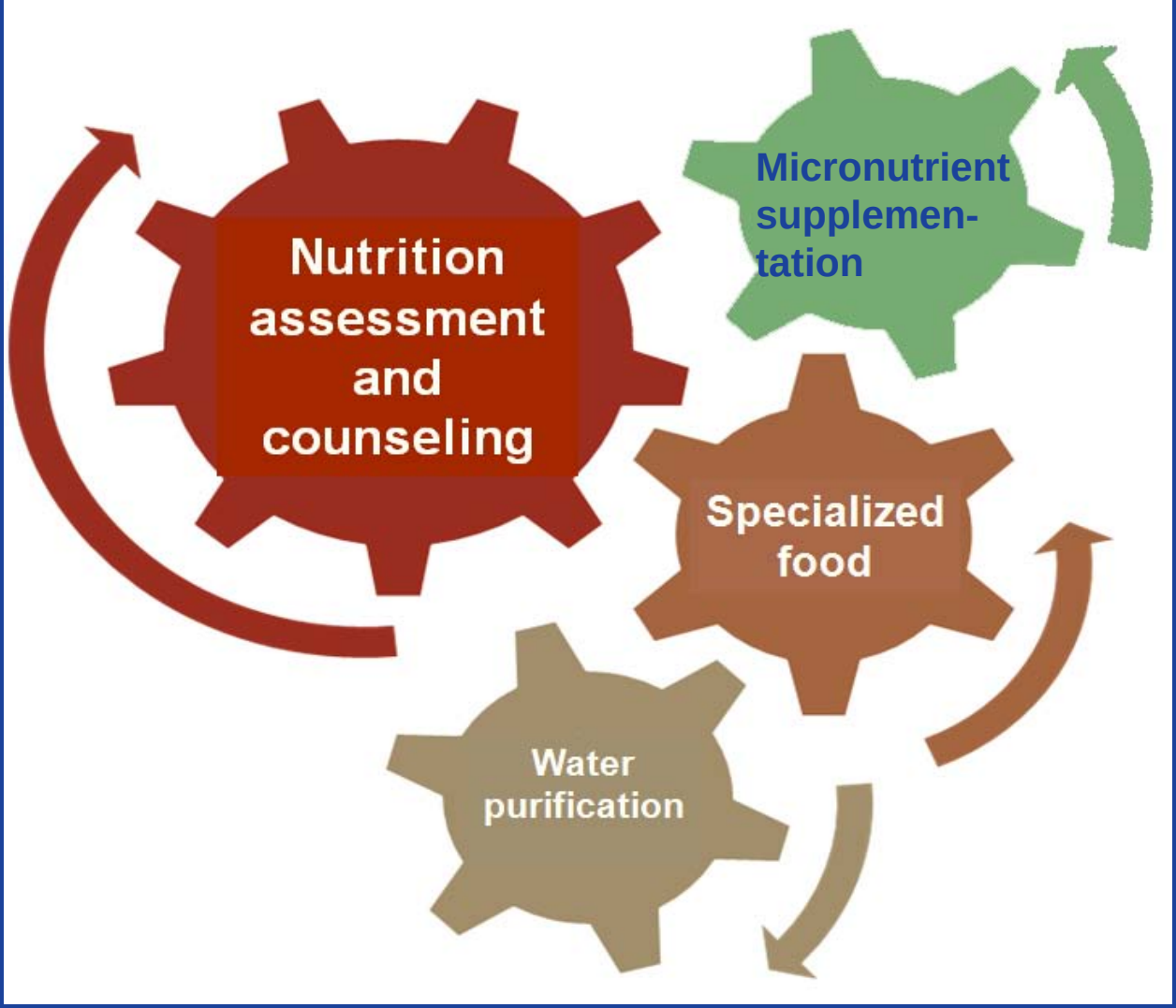
Integration of Nutrition into National HIV Responses

- Training of health care workers (in-service, pre-service)
- Job aids, IEC materials, anthropometric equipment
- Mentoring, QA/QI, supervision, M&E

Integration of Nutrition into National HIV Responses

- Nutrition assessment
- Nutrition education and counseling
- Specialized food products
- Micronutrient supplementation
- Water purification and hygiene
- Food security support

Package of Nutrition Services at Clinical HIV Care and Tx Sites



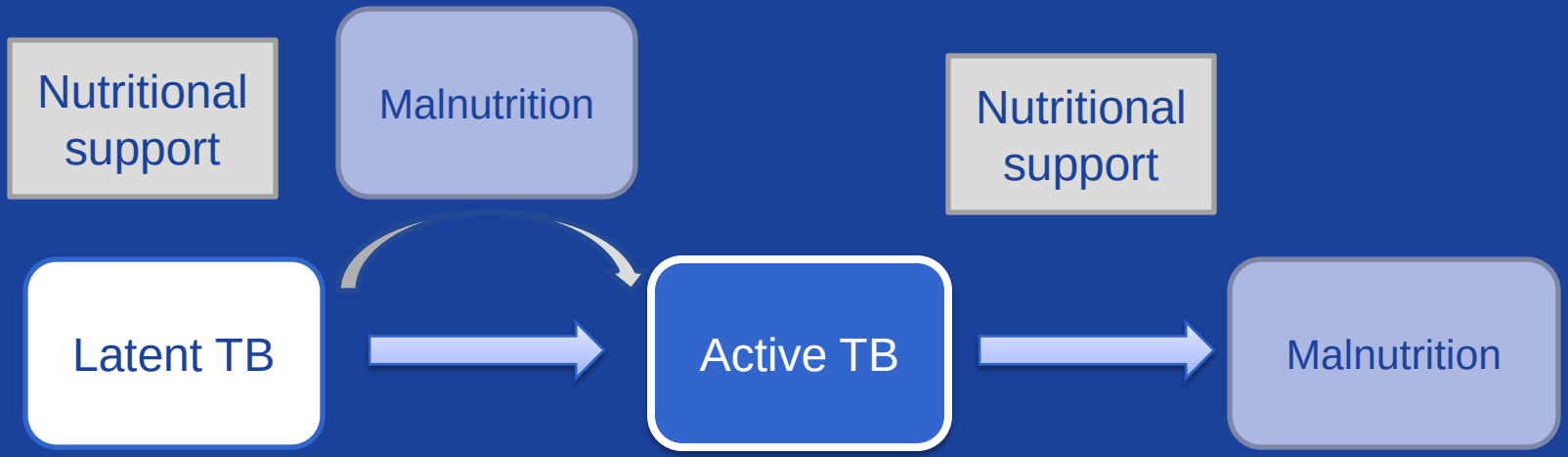
Food-by-Prescription Approach

- Provision of set of nutrition services at clinical facilities as part of HIV care and Tx
- Clearly defined entry and graduation criteria for specialized food products
- Prescriptions used for take-home food packages
- Food packaged in daily consumption “doses” and aimed at improving individual nutrition and health status

Lessons

- Clinical facilities a good entry point for PLHIV nutrition services. But also need to integrate into community services and establish two-way referral mechanisms between facility and community services.
- Importance of *integration* into existing system – patient flow, information flow, etc. Ownership by medical stakeholders.

Nutrition and TB



Malnutrition as a risk factor for TB

- General malnutrition reduces expression of mycobactericidal substances → may compromise cell-mediated immunity leading to active TB
  - Intervention: Nutritional support to at-risk populations (where latent TB is common)?
- Challenging to study relationship between malnutrition and incidence of TB—limited data

Malnutrition as a consequence of TB

- Active TB associated with:
  - Wasting: both fat and fat-free mass reduced
    - Multiple factors involved: poor appetite, increased energy expenditure (due to infection), altered protein metabolism
  - Micronutrient deficiencies (retinol, vitamins C and E, zinc, iron and selenium)
  - Anemia

TB treatment and nutritional status

- TB treatment improves nutritional status, but limited to gains in fat mass
  - Alterations in protein metabolism may continue during treatment
  - Typical diet may be inadequate to support lean mass repletion
    - Randomized controlled trial that provided an energy-protein supplement to TB patients receiving treatment showed gains in lean mass, and greater grip strength (Paton et al, 2004)
- Role for nutritional support during and after TB treatment, but limited data exist on most effective (and cost-effective) approach and needed duration of support

Incorporating nutrition into TB programs (1)

- Limited programmatic evidence of nutritional support for TB prevents firm recommendations
- Limited documentation on the role of nutritional support in TB programs
- Some recommendations* include:
  - Nutritional assessment for determination of nutritional status and referrals
  - Nutritional counseling/education on symptom management and improved dietary intake during/after TB treatment

*Source: Africa's Health in 2010, *Nutrition and Tuberculosis: A review of the literature and considerations for TB control programs.* 2008

Incorporating nutrition into TB programs (2)

- Recommendations (cont'd)
  - Targeted micronutrient supplementation: vitamin B6, vitamin D
  - Food support for treatment of malnutrition in TB and TB/HIV co-infected patients
  - Food support to increase treatment adherence

WHO Consultation

- “Scoping meeting for the development of guidelines on nutritional/food support to prevent TB and improve health status among TB patients”
  - Nov. 2-4 2009
  - Convened by WHO Nutrition department, in collaboration with WHO Stop TB, UNAIDS and the World Food Programme
  - Invited participants: scientists, partner organizations with experience in food support to TB patients, selected countries with TB/food support experience, WHO guideline review committee

WHO Consultation: Objectives

- Review evidence base on TB and nutrition
- Review potential for collaboration between TB and HIV programs and nutrition
- Identify knowledge and research gaps and identify questions to be answered with systematic reviews of existing research
- Agree on a scope of guidelines on nutrition and TB, and establish a guideline group

WHO Consultation: Review of evidence

- Undernutrition as a risk factor for TB infection and active TB disease
- Effectiveness, cost and cost-effectiveness of nutritional support for:
  - improvement of TB treatment outcomes
  - improvement of TB treatment adherence
  - nutritional rehabilitation of TB patients
  - reducing TB incidence
- Special considerations for TB patients with HIV, MDR-TB, diabetes, and children
- Lessons learned from Nutrition-HIV

Discussion (1)

- Drawing on your own experience…
  - What nutritional/food support are being provided to TB patients? What is the objective of the nutritional/food support (e.g., treatment adherence, rehabilitation)?
  - What challenges and opportunities exist to integrating nutrition support into TB programs? Or integrating nutrition, TB and HIV programs?

Discussion (2)

- What key research questions related to TB and nutrition are needed to improve programming?
- What lessons from nutrition and HIV programs can be transferred to the development of nutrition support in TB programs?
- What about using nutrition to *prevent* active TB? Is that feasible? A priority? What are the program platforms for doing this?

Discussion (3)

– What type of guidance, or for which special groups of TB patients (e.g., TB/HIV co-infected, children) is guidance most critical?

This presentation is made possible by the generous support of the American people through the support of the Office of Health, Infectious Disease, and Nutrition, Bureau for Global Health, and the Sub-Saharan Africa Bureau, United States Agency for International Development (USAID) , under terms of Cooperative Agreement No. GHN-A-00-08-00001-00, through the Food and Nutrition Technical Assistance II Project (FANTA-2), managed by the Academy for Educational Development (AED). The contents are the responsibility of AED and do not necessarily reflect the views of USAID or the United States Government.

Food and Nutrition Technical Assistance II Project (FANTA-2)
Academy for Educational Development 1825 Connecticut Ave., NW Washington, DC 20009
Tel: 202-884-8000 Fax: 202-884-8432 E-mail: fanta@aed.org Website: www.fanta-2.org