

Nutrition Chapter 20 Outline

Hunger and the Global Environment

- Resolving the social issue of hunger depends on alleviating poverty and allocating resources wisely
- The issue of hunger is a global issue
 - 1 Child dies every 7 seconds
 - Hunger, poverty, population growth, and environmental degradation are all linked
- Hunger is an issue in the US
 - 34mil Us residents including 13mil children live in food poverty
 - Food poverty=hunger resulting from severe, inadequate access to resources, for various reasons (food insufficiency=less severe food poverty)
 - Food security/insecurity=certain/uncertain access to food to sustain quality life
 - Surveys exist to rate the degree of food insecurity in a family
- Programs to help food poverty in US
 - Federal programs
 - 1/6 Americans receive assistance
 - Programs include WIC (pregnant mother assistance), Food Stamps, Meals on Wheels, school food programs
 - Non-Federal programs
 - Food pantries
 - Emergency kitchens
 - Community efforts
- Global poverty is enormous
 - 1/5 of world population have zero \$ zero possession, intense food poverty
 - Poorest of poor = higher female proportion
- Encourage food insecure patients to PREplan health thrifty meals
 - Several resources exist to aid in planning (www.usda.gov/cnpp is one)
- Severe large scale hunger (famine) is often associated with turbulent events
 - Political instability, conflict, natural disasters

- Famine is more often acute (relatively short term)
- Malnutrition
 - Number of world population enduring malnutrition is more long term/persistent
 - Nutrient deficiency occurs
 - Iron, iodine Vit A are important examples
 - Leading cause of maternal death, low birth weight, premature death
 - Protein insufficiency
 - Kwashiorkor=low protein diet but adequate Kcal. Decreased protein synth, impaired epithelial regeneration, mal-absorption, distended abdomen
 - Marasmus=Diet deficient in both Kcal and protein eventual starvation and death
 - Diarrhea and dehydration accompany malnutrition
 - Treat w/ Oral rehydration therapy
 - Recipe for ORT=1cup hot h20, 2 tsp sugar, pinch of salt
- Poverty and Overpopulation
 - Annual global population increase is 70mil
 - Population growth leads to poverty and hunger
 - Hunger and poverty lead to population growth
 - Children needed as an economic resource for poor population, help with farming etc...
 - People change reproductive strategy, lots of children ensure some will survive to adulthood
 - Increased economic prosperity breaks the cycle
- Environmental degradation and Hunger
 - Contributes to the cycle of poverty/hunger and population growth
 - Environmental problems and reducing the worlds ability to feed its people
 - Currently total world agriculture output is enough to provide each person on the planet 2720Kcal/day, all other things being equal (which they aren't)
- Solutions
 - Poor countries need effective contraception
 - Rich nations need to be less wasteful and polluting

- Need sustainable growth and resources
- Encourage activism and simpler lifestyle at home
 - Vote for govt action
 - Support business involvement
 - Support education campaigns
 - Make smart individual choice to reduce consumption and waste
 - Several environmental resources exist to help people make choices

Progress Towards Sustainable Food Production

- Many agricultural enterprises and conservationists are working toward a more environmental friendly agricultural model
- Many current Food production methods are unsustainable
 - Total energy use – 20% of total energy output in US is spent on food production
 - Crops
 - Pesticide pollution
 - Erosion and soil run-off
 - Irrigation and evaporation causes salt accumulation – desert formation
 - Livestock
 - Soil erosion – desertification
 - Large water consumption to food produced ratio
 - Large amount of animal waste – pollution
 - Cows fart methane – global warming
 - Fishing
 - Massive reduction of wild fish stocks
 - Pollution causes toxin accumulation in fish
 - Collateral death, turtles dolphins
 - Water pollution is especially bad in agriculture
 - Non-point water pollution – pollution being caused from a general area, not a specific place (irrigation run-off vs. polluting factory)
- Decline of family farm and growth of Agribusiness industry linked to increased agricultural pollution
- Proposed Solutions/Sustainable Agriculture

- Low Input Agriculture
 - More Crop rotation, use of natural predators, less fertilizer, spot irrigation
- Precision agriculture
 - Computer monitored farms to increase efficiency
- Biotechnology
 - Engineered crops with higher nutritional value and resistant to pests
- Energy efficient agriculture
 - Grow crops that have high food/nutritional value
- Better Consumer choices
 - Animal food products require more energy to produce them when compared to plant.
 - A complete vegetarian diet requires 2/3 less energy to supply
 - Buying Locally is better than buying globally
 - Costs more to ship food from distant countries
 - Buying globally may support unjust social practices in production country
- All these actions will help lower the ecological footprint (negative impact)
 - The US has the highest ecological footprint