

## Impact of Nutrition on World Health

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### OBJECTIVES/RATIONALE

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Nutrition plays an important role in maintaining health and wellness. The student will research and describe the impact of nutrition on world health.

TEKS 121.24 1E

TAKS ELA 1, 2, 3, 4, 5, 6  
Social Studies 3, 4, 5

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### KEY POINTS

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- I. Globalization and its impact on nutrition patterns and diet related diseases
  - A. Causing rapid changes in diets and lifestyles
    - 1. industrialization
    - 2. urbanization
    - 3. economic development
    - 4. market globalization
  - B. Changes in the world food economy have contributed to shifting dietary patterns, an increased consumption of an energy-dense diet high in fat, particularly saturated fat, and low in carbohydrates
- II. World Health Organization view on nutrition
  - A. Aim: To prevent, reduce, and eliminate malnutrition worldwide and to promote sustainable health and nutritional well being of all people, thereby reinforcing and accelerating human and national development.
    - 1. Objective 1. To strengthen and support the capabilities and effectiveness of Member States for assessing and addressing nutrition, malnutrition, and diet-related problems primarily through the development and implementation of national nutrition policies, programs, and plans of action.
    - 2. Objective 2. To develop through consultation, research and collaboration, the scientific knowledge base, methodologies, authoritative standards, norms and criteria, guidelines and strategies for detecting, preventing and managing all forms of malnutrition, whether of deficiency or excess, for application of Member States.
    - 3. Objective 3. To promote optimal sustainable health and nutrition benefits of food assisted development projects targeted to the vulnerable food-insecure, particularly ensuring the relevance and effectiveness of WFP food aid policies and programs, both emergency and development contexts.
    - 4. Objective 4. To maintain global databases for monitoring, evaluating, and reporting on the world's major forms of malnutrition, the effectiveness of nutrition programs, and progress toward achieving targets at national, regional and global levels.
  - B. Vision

1. Our vision is of a world where people from everywhere, at every age, enjoy a level of nutritional well-being, free from all forms of hunger and malnutrition.
2. It is founded on the intrinsic value of human life and the dignity it commands, as reflected in the international human rights instruments adopted over the last half century. Everyone, without distinction of age, sex or race, has the right to nutritionally adequate and safe food and to be free from hunger and malnutrition.
3. It rests on the conviction that hunger and malnutrition are unacceptable in a world that has both the knowledge and the resources to end this widespread, continuing human catastrophe. It recognizes that hunger and malnutrition are rooted in poverty, deprivation and underdevelopment, and are the result of inadequate access to the basic requirements for nutritional well being including safe and adequate food, care, health, education, and a clean environment.
4. WHO, with its health sector focus, has a major responsibility for promoting healthy nutrition for all the world's people, through collaborative support for Member States, particularly in their national nutrition programs, in partnership with other intergovernmental and nongovernmental organizations, and their related sectoral approaches.

C. Sub-organizations

1. AFRO – WHO Regional Office for Africa - To contribute to the improvement of the food and nutritional status of populations of countries in the African Region
2. PAHO – Pan American Health Organization - Promotes health services for residents, migrants and refugees in Latin America and the Caribbean
3. EMRO- Eastern Mediterranean Regional Office
4. WHO Regional Office for Europe
  - a. NFS – Nutritional Food and Security Program
  - b. Encourages the development of national food and nutrition action plans
  - c. Supports the development of nutrition information systems that highlight the relationship between food, nutrition, and health
  - d. Supports the development of nutrition intervention strategies to improve health and reduce infant mortality rate through healthy food and nutrition
5. SEARO – South East Asia Regional Office
6. WPRO – Western Pacific Region

III. United Nations

A. SCN – Standing Committee on Nutrition

Statement. The mandate of the SCN is to raise awareness of nutrition problems and mobilize commitment to solve them at the global, regional, and national levels; to refine the direction, increase the scale and strengthen the coherence and impact of action against malnutrition worldwide; and to promote cooperation amongst United Nations agencies

and partner organizations in support of national efforts to end malnutrition in this generation.

- B. Nutrition: A Foundation for Development is a compilation of briefs of the latest research findings in nutrition as they relate to other development sectors.
- C. FAO – Food And Agriculture Organization of the UN
- D. ICN – International Conference on Nutrition
  1. Improve household food security
  2. Protecting consumers through improved food quality and safety
  3. Preventing specific micronutrient deficiencies
  4. Promoting breastfeeding
  5. Promoting appropriate diet and healthy lifestyles
  6. Preventing and managing infectious diseases
  7. Caring for the economically deprived and nutritionally vulnerable
  8. Assessing, analyzing and monitoring the nutrition situation
  9. Incorporating nutrition objectives into development policies and program

#### IV. Malnutrition Worldwide

- A. Risk factor for disease
- B. Called the “silent emergency”
- C. Kills, maims, cripples and blinds
- D. Affects one in every three people
- E. Related to half of the annual child deaths annually
- F. Economic and social ripple effects
- G. Compromises health, learning, productivity, and hope
- H. Major effects on infants, pre-school children, nursing mothers, and the elderly
- I. Complications of malnutrition
  1. Compromised immune systems
  2. Chronic diseases
  3. Dehydration associated with persistent diarrhea
  4. Death
- J. Types of malnutrition
  1. Deficiencies
    - a. Protein-energy
    - b. Micronutrient
    - c. Vitamins
    - d. Calories
  2. Over Consumption - Obesity
- K. Factors of malnutrition
  1. Poverty driven
  2. Limited education
  3. Disease
  4. Poor access to quality foods
  5. Poor access to health services
  6. Poor prenatal care

7. High population densities
8. Development-driven obesity
  - a. “Globesity” – malnutrition due to over consumption of fats, sugars, and nutrient poor foods
  - b. Causes
    1. Imbalance between energy intake and energy expenditures
    2. More calories
  - c. Affects all ages and socioeconomic groups in more affluent countries
  - d. Heredity
    1. Biological mother’s weight
    2. Abnormal protein or hormone
  - e. Leads to
    1. Diabetes
    2. Cardiovascular disease
    3. Hypertension
    4. Strokes
    5. Some cancers
    6. Sleep disorders
  - f. Treatment
    1. Exercise
    2. Medications
    3. Behavior modification

#### L. Nutrition in Adolescence

1. Adolescents face serious nutritional challenges during this time of intense growth, physical and psychological development
2. They gain up to 50% of their adult weight, more than 20% of their adult height and 50% of their adult skeletal mass
3. Caloric and protein requirements are maximal
4. Increased physical activity and poor eating habits contribute to poor nutrition
5. Worldwide problems include
  - a. Under nutrition in terms of stunting
  - b. Iron deficiency anemia
  - c. Iodine deficiency
  - d. Vitamin A deficiency
  - e. Calcium deficiency
  - f. Other micronutrient deficiencies
  - g. Obesity

#### M. Nutrition and the Elderly

1. Osteoporosis
2. Diet affected diseases
  - a. Coronary heart disease
  - b. Cardiovascular and cerebrovascular disease
  - c. Diabetes
  - d. Osteoporosis

- e. Cancer
  - f. Chronic diseases worsen with malnutrition
- V. Nutrition Across the World
- A. United States
1. Main foods
    - a. Fruits
    - b. Vegetables
    - c. Cheese
    - d. Meat
    - e. Fish
    - f. Shellfish
    - g. Poultry
    - h. Grains
  2. Food Illness
    - a. Contaminated food and water
    - b. E.Coli
    - c. Viruses
    - d. Parasites
  3. Social services available for food
  4. Nutritionally linked diseases
    - a. Cardiovascular disease
    - b. Some cancers
    - c. Obesity
  5. Technological advances
    - a. Processing techniques
    - b. Preservation techniques
    - c. Packaging techniques
- B. Mexico
1. Dietary makeup
    - a. Grains
    - b. Beans
    - c. Meats
    - d. Fewer fruits and vegetables
  2. Malnutrition in poor areas
    - a. Nearly ½ of child mortality rate can be linked to malnutrition
  3. Nutritionally linked diseases
    - a. Cardiovascular disease – one of the leading causes of death for adults
    - b. Nutritionally linked
    - c. Obesity
  4. Not “nutritionally minded” as a nation
  5. Development programs
    - a. Targeting community and school based nutrition programs
    - b. Food fortification programs
    - c. Food policy reforms
- C. Asia

1. Asian Food Groups
    - a. Plant based
    - b. Asian Diet Pyramid
      1. Emphasizes wide base of rice, rice products, noodles, breads and grains
      2. Large band of fruits, vegetables, legumes, nuts and seeds
  2. Encourages daily physical exercise
  3. Small amount of vegetable oil
  4. Moderate consumption of plant based beverages including black and green tea, sake, beer, and wine
  5. Small daily serving of low fat dairy products or fish oil
  6. Eggs and poultry no more than weekly
  7. Red meat no more than monthly
  8. Lowest rate of obesity
- D. Africa
1. Widespread malnutrition - More than 40% of people are undernourished
  2. Causes of famine in the country
    - a. Drought and other natural disasters
    - b. Poverty
    - c. Shortage of money, training, and appropriate technology to develop the land
    - d. Large families
  3. Effects on children
    - a. 2/3 of children are stunted
    - b. 20% die before 5 years of age
  4. Health needs
    - a. Deficiency diseases
    - b. Malaria outbreaks
    - c. Contaminated water
- E. Japan
1. Nutritional guidelines
    - a. Well-balanced nutrition
    - b. Avoid oils and fats
    - c. Avoid salt
  2. Konyaku
    - a. Traditional Japanese jelly-like health food
    - b. No fat, rich in nutrients, low in calories
    - c. Believe it helps control weight and helps physical and mental health
  3. Agricultural products
    - a. Rice
    - b. Sugar beets
    - c. Vegetables
    - d. Fruit
    - e. Pork

- f. Poultry
- g. Dairy products
- h. Eggs
- i. Fish
- 4. Nutritional problems
  - a. Protein calorie nutritional deficits in infants
  - b. Iodine deficiency
  - c. Nutritional anemia
  - d. Vitamin A deficiency
- 5. Improvements in nutrition programs
  - a. Increased production of cereals and rice
  - b. New varieties of seeds
  - c. Reduced malnutrition and increased nutritional awareness
- 6. Nutrition and health
  - a. Obesity
  - b. Hypertension
  - c. Cardiovascular problem
  - d. Diabetes
  - e. Arthritis
  - f. Osteoporosis
  - g. Cancer
- F. India
  - 1. Malnutrition
    - a. Climate
    - b. Overpopulation
    - c. Poverty
    - d. Lack of education
  - 2. Effects on health
    - a. Deficiency diseases
    - b. Communicable diseases from contaminated food and water
      - 1. Cholera
      - 2. Shigella Dystenteriae
- G. Russian Federation
  - 1. Inadequate water, sanitation systems, and hygiene causing deterioration living environment.
  - 2. Increased rates of smoking, alcohol, and drug abuse
  - 3. Poor diet – malnutrition, deficiency diseases
  - 4. Lack of access to health services
  - 5. Poverty

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## ACTIVITIES

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- I. Read and report on a brief included in the United Nations System, Standing Committee on Nutrition, Nutrition: A Foundation for Development compilation of briefs, <http://www.unsystem.org/scn>

- II. Research and report on specific nutrition related issues for specific age groups in various countries.
- III. Research and report on the different types of malnutrition.

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### **MATERIALS / RESOURCES**

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<http://www.who.int/nut>  
<http://www.who.int/nutrgrowthdb>  
<http://www.unsystem.org/scn>  
<http://www.worldwide.com/Fitness/nut.html>  
<http://www.usda.gov>  
<http://www.usda.gov/cnpp/center.htm>  
<http://www.fao.org>  
<http://www.sustaintech.org>  
<http://www.news.cornell.edu>  
<http://www.cdc.gov>  
<http://www.4women.gov>  
<http://www.worldbank.org>  
<http://www.imbiomed.com>  
<http://www.monarch.gsu.edu>  
<http://www.wrpo.who.int>  
<http://www.soe.nl/ntrepor.htm>

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### **ASSESSMENT**

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Oral report rubric

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### **ACCOMMODATIONS**

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For reinforcement, the student will outline the factors of worldwide malnutrition.

For enrichment, the student will research and report on international programs to combat world malnutrition.

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### **REFLECTIONS**

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