

ENVIRONMENTAL HEALTH

LEARNING OBJECTIVES

- Understand the basic relationship between environmental factors and health
- Describe the basic requirements for a healthy environment
- Discuss the importance of water quality and quantity, air quality and food quality as determinants of health
- Discuss the major sources and types of water and food contamination
- Outline the various approaches to prevention of environment related health problems

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TEACHING STRATEGIES

- Use lecture-discussion to present major points
- Use small group workshop for Group Exercise

MATERIALS AND EQUIPMENT NEEDED

- Whiteboard and markers
- Flipchart for small groups and markers
- Overhead projector and transparencies

LEARNING POINTS

- **Health and environment:**
 - Definition of health
 - The state of being whole in body, mind, and spirit, especially being free from physical disease or pain. The state of being well.
 - Definition of environment
 - The sum total of all the conditions and elements which make up the surroundings and influence the development and actions of an individual.
 - Human interaction with the environment
 - Causes continual pressure on environment with modification, pollution
 - Elements of the environments that are supportive of health
 - Clean air
 - absence of excessive particles, smoke, carbon monoxide, allergens
 - smokers do not injure others with effects of second-hand tobacco smoke
 - Safe and sufficient water
 - absence of pathogenic bacteria and harmful minerals or chemicals
 - adequate volume for drinking, cooking, bathing and washing
 - Adequate and safe food
 - absence of pathogenic bacteria or harmful chemicals
 - healthful nutritional content
 - Stable environment

- not subject to constant change
- not subject to the pressures of war or neglect
- appropriate and adequate trash collection and disposal
- Safe physical environment
 - absence of things that could increase risk of accidental injury, such as broken glass, abandoned buildings or machinery, open pits or areas where one could fall, etc.
- Beauty
 - elements of the environment that promote transcendental values and lift the spirits, such as flowers, grass, trees, parks, public sculptures
- Major sources and types of water and food contamination
 - Parasites
 - Bacteria from animal and human feces
 - Chemicals and waste products from cities and industries
- Approaches to prevention of environmental related health problems
 - Education of public officials and the general public, especially children who then educate their parents
 - Protection of existing environment
 - Regulations that protect the existing environment and promote improvement in current environmental hazards.

• Current major environmental risks in Jordan

- Unsafe and inadequate supply of water
 - Can lead to increased incidence of parasitic and bacterial gastrointestinal infections, especially in children
 - May be indirect cause of skin infections, fungal infections, and lice because of infrequent bathing or poor hygiene secondary to inadequate water supply
 - Supply inadequate because of climactic changes and increased population
 - Because of inadequate supply, many populations forced to use surface water supplies (shallow wells, streams, etc.) which are more easily contaminated
 - Distribution system (pipes) is old or leaking in some areas, which allows entry of bacteria and contaminants.
- Unsafe sewage and trash disposal
 - Can lead to increased gastrointestinal infections because of increased number of flies carrying bacteria
 - Can be source of injury and infection to children who play around uncollected garbage or leaking sewage
 - Sewage piping in some areas is old and leaking, or not connected to sewage treatment facility
 - Public trash collection and disposal may be uncertain in some areas
- Vehicle exhaust pollution
 - Leads to increased incidence of respiratory illnesses because of pollution effect on defense mechanisms of the lung
 - Can cause increased respiratory difficulty in those with COPD or asthma
 - Is especially a problem for those who live in crowded cities, or near public highways
 - Currently no public control of diesel or automobile exhaust
 - Cold air climate inversions in some areas (ie, valleys) could concentrate air pollutants in cold weather

1. One environmental hazard that you as a health care provider may be able to influence is second hand smoke. Discuss the health risks of second hand smoke. As a health care provider, what can you do to decrease those risks?
2. In a small group, discuss the health risks caused by the following environmental hazards, and what the staff in your Health Center can do to decrease those risks, or improve the situation.
 - a. Heavy automobile and truck traffic through the residential area of your town
 - b. Frequent episodes of diarrhea and vomiting (apparent food poisoning) in certain families that attend your health center
 - c. Accumulated garbage on street corners because of improper collection