* **Environmental Health (2)**
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* Objectives

**At the end of the session the student should be able to:**

* To assess the hazards from different environmental factors (cont)
* Describe special features of environmental epidemiology
* Explain the measures for environmental health protection, laws and regulations in KSA.
* Solid Waste
* It includes:
* Garbage (food waste)
* Rubbish (paper, plastic, wood, metal, glass,)
* Demolition products ( bricks, pipes)
* Dead animals, manure
* Solid products of sewage ( not night soil)
* Hazards of Solid Waste
* It decomposes and favours fly breeding
* Attract rodents
* Transmit pathogen back to man through flies or dust
* Pollution of soil and water
* Unsightly appearance and bad odours
* Management of Solid Waste
* Storage
* Collection
* Disposal
* Dumping
* Controlled tipping
* Incineration
* Composting
* Manure pits
* burial
* Excreta
* Hazards of improper excreta disposal:
* Soil pollution
* water pollution
* Food contamination
* Propagation of flies
* (eg of diseases: typhoid and paratyphoid, dysenteries, diarrheas, cholera, hookworms, ascariasis, viral hepatitis,
* Methods of Excreta Disposal
* Unsewered areas:
* Bore hole latrine
* Pit latrine
* Water seal latrines
* Septic tank
* Aqua privy
* Sewered areas:
* Water carriage system and sewage treatment
* Sea , river outfall
* Hospital Waste
* It is a waste that generated during the diagnosis, treatment or immunization of human beings or in research activity
* Classification of hospital waste
* Infectious waste
* Pathological waste
* Pharmaceutical waste
* Genotoxic waste
* Chemical waste
* Waste with heavy metals
* Pressurized containers
* Radioactive waste
* Hazards of hospital waste
* It contains infectious agents
* It contains toxic chemicals and pharmaceutical
* It contains sharps
* It is genotoxic
* It is radioactive
* Disposal of hospital waste
* Incineration
* Chemical disinfection
* Wet and dry thermal treatment
* Microwave irradiation
* Land disposal
* inertization
* Other different environmental factors
* Ventilation
* Light
* Noise
* Radiation
* Meteorological environment
* Housing
* Special features of environmental epidemiology
* Epidemiology is used in environmental field to establish:
* • etiology
* • natural history
* • the health status of a population
* • the value of interventions and health services.
* One special feature of environmental epidemiology is its geographic base.
* Air, water and soil pollution are generally related to sources with defined geographic locations.
* Mapping of environmental levels or exposures can therefore be useful tools in epidemiological
* studies.
* Environmental epidemiology studies often require approximations and modeling for quantification of exposures, because individual exposure measurements are very difficult to assemble.
* Air quality modeling combined with geographical information
* system (GIS) analysis has been used in several air pollution health effect studies.
* One example of exposure assessment is the number of days when nitrogen dioxide concentrations exceed different cut-off points, and the number of people exposed in different parts of a city based on census data.
* Setting safety standards
* Dose–effect and dose–response relationships are of particular importance in environmental epidemiology because they provide the foundation for setting safety standards.
* The dose–effect relationship can be used to decide which effect is most important to prevent.
* Setting safety standards
* Once a decision is made concerning an acceptable

response level, the dose–response relationship gives the maximum dose that would be acceptable.

* WHO has developed:
* a series of water quality guidelines,
* air quality guidelines
* the radioactive contamination of food
* measures for environmental health protection, laws and regulations in KSA.
* Presidency of Meteorology and Environment:
* General Environmental Law
* Rules for Implementation
* Environmental Protection Standards