



Al-Mustaqbal University / Nursing College
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Epidemiology



Lecture 6


Epidemiology of Non Communicable Diseases

By

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Epidemiology and prevention of Non communicable diseases (NCD)

NCDs are the **major** cause of death in almost all countries. About 80% of chronic non communicable disease deaths occur in low- and middle-income countries – where most of the world's population live.

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- **The leading chronic diseases are:**
 - Cardiovascular disease (CVD)
 - Cancer
 - Chronic respiratory disease
 - Diabetes
 - Accidents

NCDs differ from communicable disease in the following important points:

- 1- They are not communicable.
2. They do not have a **defined** incubation period.
3. Agents are vague (multifactorial causation).
4. Natural history often uncertain/unpredictable.

NCDs differ from communicable disease in the following important points:

5. Slowly progressive .

6. Usually nonreversible and permanent pathology.

7. Leave some residual disability and rehabilitation is necessary.

Cardiovascular diseases :

- The present mortality rates from cardiovascular diseases are the consequences of previous (20–30 years ago) exposure to behavioral risk factors such as inappropriate nutrition, insufficient physical activity and increases tobacco consumption.

Ischemic heart diseases

- Ischemic heart diseases :Impairment of heart perfusion compared to its need, due to narrowing of vessels; it may take the form of **angina**, myocardial infarction, heart **failure** or **sudden cardiac death**.
- In most 30% of all deaths in men, 25% in women are caused by IHDs.

Ischemic heart diseases

- IHDs are a 'modern **epidemic**', not spread from person to person but due to a lifetime of **bad habits**. The ischemic heart diseases have a kind of 'incubation period' of 10 years, i.e. the lag period between behavioral change and onset of disease.

Risk factors of IHD

Risk factors : Of all lipids, LDL cholesterol is most directly related to IHD. Risk factors of IHD exclusive of LDL cholesterol:

- Smoking.
- Hypertension (BP > 140/90 or anybody on antihypertensive drugs) .
- Low HDL < 40 mg/dl.

Risk factors of IHD

- Diabetes mellitus.
- Age (men > 45, women > 55).
- Obesity (BMI > 30)
- physical inactivity.

Prevention of IHD

- Primary prevention (for everybody in population):
- Specific protection. healthy diet, abstinence from smoking and alcohol, control of stress and hypertension.

Prevention of IHD

- Secondary prevention (for those with risk factors)
- Screening for hypertension, hypercholesterolemia, diabetes.
- Screening is recommended each 5 years in all adults over 20 years.
- Tertiary prevention Lifelong β blockers and Aspirin.

Cancers

- A neoplasm is an abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of the normal tissues.
- Cancer is a public health problem, it is the second cause of deaths worldwide. 70% of cancer deaths are reported in developing countries including Iraq

Prevention of cancers

- **Primary prevention**

1. **Control of tobacco and alcohol:** through education, legislation against smoking, restriction of smoking in public places.

2. **Maintenance of personal hygiene and being in a monogamous relationship:** prevents (Human Papilloma Virus) HPV infection and carcinoma cervix

Prevention of cancers; **Primary** prevention of cancers :

3. Lessen radiation exposure: reduce unnecessary X-rays done (which exposes both the patient and the technician to radiation); provide personal protective equipment to workers in radiation.

Primary prevention of cancers

4. Immunization—

the human papilloma virus vaccine in some countries is now being used against HPV infection.

Secondary prevention of cancer :

1. Cancer registration ; Hospital base registry.
 2. Population based registry and Early detection by screening.

Cancer **screening** is possible because:

1. Precancerous lesions last for long periods before developing into cancer.
 2. All cancers begin as localized growth before spreading.
 3. Majority of cancer occur at accessible sites (skin and mucous membranes).



- **Tertiary prevention**

1. Analgesia—Considered the right of the dying patient.

2. Rehabilitation--- (after amputation/
laryngectomy /colostomy).

Big Thanks

