Epidemiology of Cardiovascular Diseases.

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Outlines

- What are the cardiovascular disorders
- Public health importance
- Tasks of CVD epidemiology
- Descriptive Epidemiology
- Analytic epidemiology
- CVD Risk Factors
- Prevention and Control of CVD

Major CVD

- Cardiovascular Disease (CVD) refers to the class of diseases that involve :

- Coronary artery disease/ Ischaemic heart disease
- Cerebrovascular disease/ Stroke
- Hypertensive HD
- Congenital HD
- Cardiomyopathies.
- Peripheral arterial disease
- Heart failure
- Rheumatic HD

Public health importance

- Public health significance:

- CVD is a leading cause of mortality in developed countries and rising significantly in developing countries

- A major impact on life expectancy

- Contributes significantly to the mortality and morbidity rates among people in middle age.

- Contribute to deterioration of quality of life

Tasks of CVD epidemiology

- Detection of the prevalence and distribution of CVD in populations, as well as its surveillance, monitoring, and change-trend analysis

- Study the natural history of CVD

- Formulation and evaluation of etiological hypotheses (risk factors)

- Participation in the development of programs to prevent CVD and evaluation of these programs

Parts of CVD epidemiology

- Descriptive : in terms of Person (age, gender, ethnicity), Time, Place

- Analytical: analyze the relationships with CVD risk factors

- Experimental/Intervention: strategies of CVD prevention (1ry, 2ry, 3ry) individual/community

Descriptive Epidemiology

World Health Organization Statistics

- In both developed and developing countries CVD is the major health problem.

- In developed countries, CVD kills 50% of the population.

- Every two minutes, a heart attack occurs (British Heart Foundation).

- According to estimates, 17.5 million deaths worldwide from cardiovascular disease occurred in 2005, which represents 30% of the total deaths.

- 7.6 million of these deaths were caused by heart attacks, and 5.7 million by strokes.

- Around 80% of these deaths occurred in low- and middle-income countries.

❑ Age

At age 20, atherosclerotic changes start to appear.

Lifestyle changes (such as smoking, diet) occur in childhood and youth.

CVD mortality and morbidity increase at age group 30-44 years.

Premature death (25–64 years); men:women, 32.7% vs. 31.3%

❑ Sex

- Common belief: middle-aged men's disease.

- The risk of fatal CVD is higher in men.

- CVD affects nearly as many women as men, especially in older age.

- Women who smoke and have high blood triglycerides are more likely to develop CVD.

- Risk factors that are specific to women (contraception, replacement therapy, polycystic ovary syndrome).

❑World trend

- Developed countries: a trend toward decline (US by 30% between 1988 and 1998, Sweden by 42%)

➢ Enhanced lifestyle considerations

➢ Better methods for diagnosis and treatment.

- Developing countries: increasing trend

➢ Increasing longevity, urbanization.

Analytic Epidemiology

- Around 300 risk factors

- Conventional risk factors are responsible for 75% of CVD.
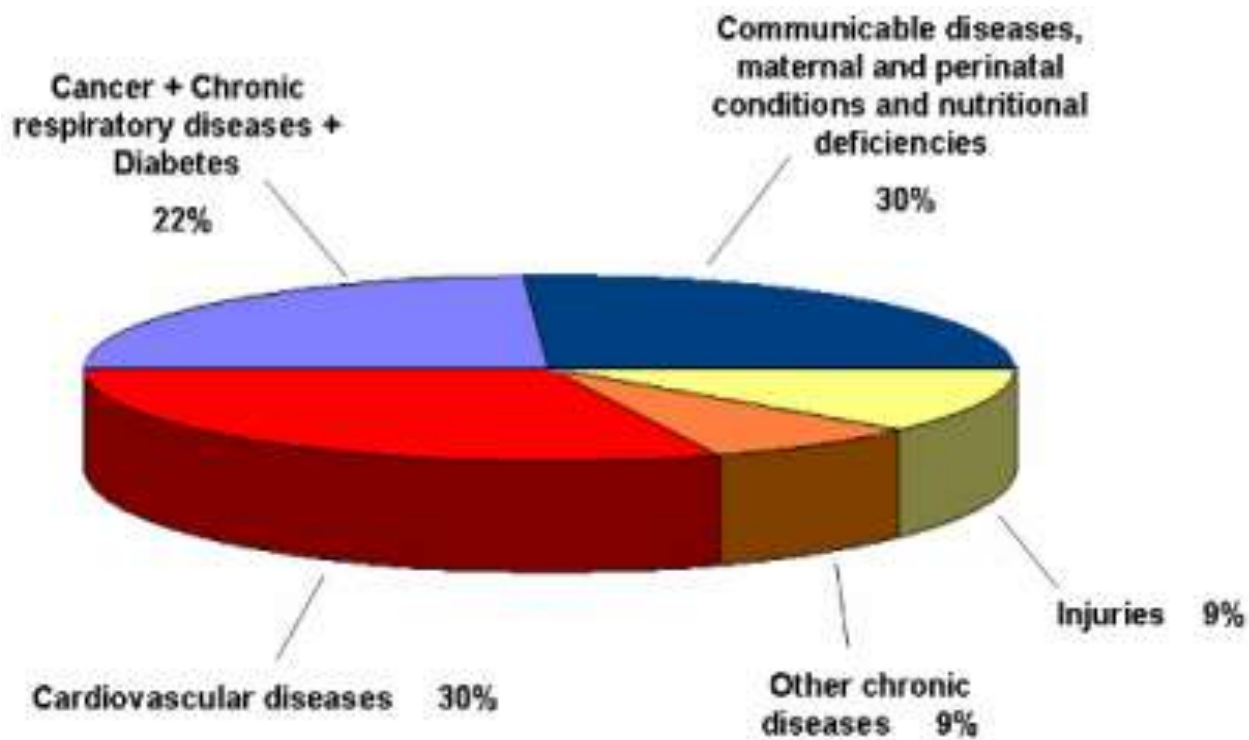
- US Cardiovascular Disease Statistics

- According to estimates, 80,000,000 Americans (about 40%) have one or more types of cardiovascular disease (CVD) in 2006.

- ✓ High blood pressure — 73,600,000.
- ✓ Coronary heart disease — 16,800,000.
- ✓ Myocardial infarction (acute heart attack) — 7,900,000.
- ✓ Stroke — 6,500,000.
- ✓ Heart Failure — 5,700,000

- Jordan Cardiovascular Disease Statistics

- According to Jordan's 2019 National STEP-wise Survey for Non-communicable Diseases Risk Factors, adults aged 45 to 69 had a considerable prevalence of 52%, 20% and 25% of hypertension, diabetes and CVD risk, respectively.

- Moreover, those currently suffering from cardiovascular diseases or at high risk of developing cardiovascular diseases in the next 10 years reach 24.5% of the survey population.

References

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Thank you ☺