

Morbidity Rates

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Incidence

- It measures the new cases.
- It measures the force of infection or disease in the community.
- $IR = \frac{\text{No. of new cases during a year}}{\text{Population at risk /year/locality}} \times 10^n$



Example

- In 1426 the number of breast cancer cases reported to the cancer registry in Riyadh region was 200. The midyear population of Riyadh region was four million.

Calculate the incidence of breast cancer in Riyadh.



Attack rate

- Acute recurrent diseases e.g. ARTI, food poisoning.
- Person may catch the disease more than one time.

No. of episodes during specified period

- $$AR = \frac{\text{No. of episodes during specified period}}{\text{Population at risk/ period}} \times k$$



Example:

- In a village of 600 persons, 1200 visits to the PHCC were due to flu. What is the attack rate of flue in the village?



Factors affect incidence

1- New risk factor

Contraceptive pills & thromboembolism.

Food additives & cancer

New agent HIV & AIDS



2- Changing virulence

El-Tor vibrio & cholera.

Influenza virus mutation & influenza

Mycobacterial resistance & TB



3- Changing pattern of intervention

- Polio eradication & poliomyelitis
- Chemoprophylaxis & meningitis
- Environmental sanitation & filth diseases



4-Population pattern

- Aging & degenerative diseases & cancer



5- Reporting

- Increase in reporting & incidence
- Early stage of surveillance & incidence



6-Screening

Screening



early detection of cases



Increase in incidence



7-New diagnostics

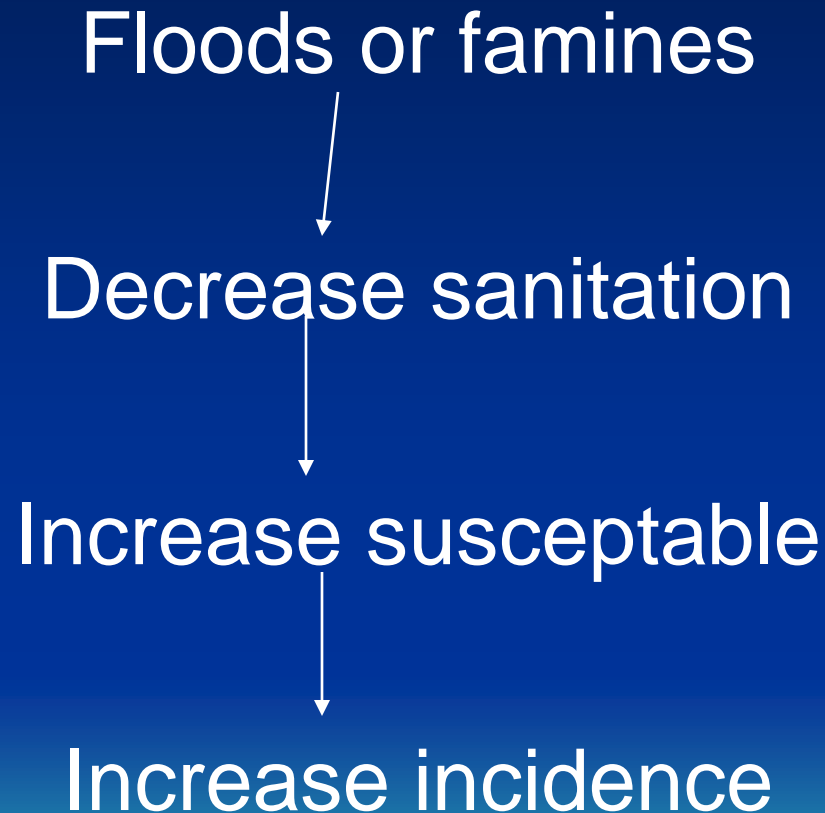
New diagnostic

Increase detection of cases

Increase in incidence



8-Selective migration



Prevalence

- It measures the status of the disease in the population.
- Point prevalence:

Total cases (old + new) at fixed point of time in place

$\times 10^n$

total population in the place



- Period prevalence

$$\frac{\text{Total cases (old + new) during a period of time in place}}{\text{total population in the place}} \times 10^n$$



example

- MOH conducted a survey for RVF among workers in slaughterhouses in Makkah. 224 seropositive workers were identified among 6000 workers.
- Calculate the prevalence of RVF.



Factors affecting prevalence

1- Incidence

Prevalence = incidence X duration

2- Disease duration

Chronic diseases are accumulating so increase the prevalence



3- management programs

- If successful and curative decrease the prevalence.
- If only increases the survival without complete cure increases the prevalence

