

Nurs(232) homework 1

I. In a village of 10,000 population in 1/1/1998, 1000 people got infected with yellow fever. From the infected people, 800 died and the rest of the infected people remained infected carriers for their life. The age distribution of people, cases and deaths was as follows:

Age	Total population	Total infected	Total Deaths
Less than 1 yr	1500	750	700
1-4 years	2000	150	75
5+	6500	100	25
Total	10,000	1000	800

A. Answer the following:

- Can you conclude from this data that there is a disease outbreak (epidemic) occurring in the village? Justify your answer.

yes, because epidemic is a temporary increase in the incidence of a disease in a population. So 1000 from 10,000 have the disease and 800 died.

- What is the child (1-4 years old) mortality rate (risk of dying)?

$$\frac{\text{number of death during a specified period}}{\text{number of persons at risk of dying during the same period}} = \frac{75}{2000} = 0.0375 \times 100 = 37.5\%$$

- Which age group has the best prognosis (lowest case fatality)? Show in calculation.-----

= number of death from diagnosed cases in a given period / # of diagnosed cases of disease in the same time x 100
 • less than 1 year = $700/750 = 93\%$ • 1-4 years $75/150 = 50\%$
 • 5+ years $25/100 = 25\%$
 5+ years have the lowest case of fatality

11. 10,000 employees were screened for diabetes mellitus. Diabetes was detected in 1000 of these employees during the initial screening. 45 new diagnosis were detected at a subsequent annual screen 1 year later.

A. Calculate the prevalence of diabetes at the beginning of screening.

B. Calculate the annual risk of diabetes among these employees.

$$A. \text{ Prevalence} = \frac{\# \text{ persons with the condition}}{\text{total number of persons}} = \frac{1000}{10,000} = .1000$$

$$B. \text{ Annual risk} = \frac{45}{10,000 - 1000} = \frac{45}{9,000} = .005$$