

Q1: Case = 80 Death = 10

Q1 In an outbreak of food poison in a village of 4000 populations, 80 cases have occurred and 10 have died the Case fatality rate is?

$$\text{Case fatality rate} = \frac{\text{Total No. of Death from certain disease}}{\text{Total No. of those having the same disease}} \times 100$$

$$= \frac{10}{80} \times 100 = 12.5\%$$

Q2. The Incidence of 250 new cases of COVID-19 in a population of 50,000 is?

Q3. In a village having population of 1000, we found 200 patients with certain disease. The results of as new diagnostic test on that disease showed positive in 180 diseased and 400 un diseased persons What is the percent prevalence of disease?

Q2: New case = 250 Population at risk = 50,000

$$\text{Incidence} = \frac{\text{No. of new cases}}{\text{Total No. of Population at risk}} \times 1000 = \frac{250}{50,000} \times 1000 = 5 \text{ Per 1000 Population/year}$$

Q3: Population = 1000 ⇒ لقينا منهم 200 واحد مرضي

بعد ان جئنا الى Test (طباً Test مني) بي عن 200 كان عن 1000 كلبيت

Diseased = 180 ← طرح صحاح
un-Diseased = 400

	Diseased	Non-Diseased	Total
+ve	180	400	580
-ve	20	400	420
Total	200	800	1000

Percent Prevalence of Disease ??

$$\text{Prevalence} = \frac{\text{No. of existing case of Disease}}{\text{Total Population at risk at agiven Point in time}} \times 100 \Rightarrow = \frac{200}{1000} \times 100 = 20\%$$

صحت بتقدروا تحلوا جدول كتر تب معلوماً بي

1M population ⇒ under 16 yer ⇒ 30%

Q4. A district has total one Million populations, with under-16 years old population being 30%. The prevalence of blindness is 0.8/1000 among under-16 years old population. Calculate total number of blind among under-16 years old populations in the district?

prevalence of Blindness 0.8/1000
⇒ Total Number of blind among under 16 years 300,000

$$\text{Prevalence of Blindness} = \frac{\text{Total No. of blind}}{\text{Total Population at risk}} \times 1000$$

$$0.8 = \frac{N}{300,000} \times 1000 \Rightarrow N = 240$$

Q 5 :- Population = 5000 \Rightarrow already DM = 500 \Rightarrow SO Population at risk = 4500

\Rightarrow December 31, 2020 \Rightarrow New DM cases = 90

$$\text{Incidence \% of DM} = \frac{\text{New Cases}}{\text{Population at risk}} \times 1000 = \frac{90}{4500} \times 1000 = 20 \text{ per } 1000 \text{ population per year}$$

Q22. In a town of population 5000, 500 are already diabetics on January 1, 2020. Number of new DM cases is 90 till December 31, 2020. Calculate prevalence (%) of DM in the town in 2020

- A. 10%
- B. 1.8%
- C. 11.8%
- D. 18
- E. 13.1%

في نفس السؤال رقم 22

$$\text{Prevalence \%} = \frac{\text{Total case}}{\text{Population at risk}} \times 1000 = \frac{590}{5000} \times 100 = 11,8 \text{ per } 100 \text{ population}$$

طبياً ضربة الحزب ب 100 أو 1000 أودعة من مريضاتها بس لتكبي الأرقام عنان تسهل علينا

6:-
Family member 6 $\left\{ \begin{array}{l} 2 \text{ Parents} \\ 4 \text{ children} \end{array} \right.$

Q6. In a family of 6 membered, two parents and four children all aged between 2-6 years. One of the children (3 yr old) is completely immunized for his age, whereas other 3 siblings are totally unimmunized On 12 August 2021, one of the latter got measles. 2 other siblings also got measles by 18 August 2021 Secondary attack rate is?

1 children \Rightarrow Completely immunized
(3 yr old)
 \rightarrow Population at risk \Rightarrow هاد مع يطلع من كان الام، ولاي نفس الشيء
لانه هاد البري ما يصير متبريخيار

3 Childrens Unimmunized \rightarrow 1 \Rightarrow on 12 August 2021 \Rightarrow got measles \Rightarrow Primary Case \Rightarrow Population at risk
يعني بعد ما يطلع من اولي
 \rightarrow 2 \Rightarrow on 18 August 2021 \Rightarrow got measles \Rightarrow Secondary Case
لانه خيال هاد الاوسع يكون هاد immunize of

$$\text{Secondary attack rate} = \frac{\text{No. of secondary cases}}{\text{No. of susceptible Population at risk}} \times 100 = \frac{2}{2} \times 100 = 100 \%$$

Q7:

	L.C	No	Total
Beta Caroten	3	5997	6000
Not	2	3998	4000
Total	5	9995	10000

Q7. A prospective study comprising 10000 subjects, 6000 subjects were put on beta carotene and 4000 were not. 3 out of the first 6000 developed lung cancer and 2 out of the second 4000 developed lung cancer. What is the interpretation of the above result?
A. Beta carotene is not protective in lung cancer
B. The study design is not sufficient to draw any meaningful conclusions
C. Beta carotene is protective in lung cancer
D. Beta carotene is carcinogenic
E. More information need to draw inference

$$\text{Relative risk} = \frac{\text{Incidence of exposed}}{\text{Incidence of unexposed}} = \frac{0,5}{0,5} = 1 \Rightarrow \text{No effect} \Rightarrow \text{A}$$

Beta carotene is not protective in lung cancer

Q8:

Q8. In a randomized clinical trial testing a new drug designed to prevent breast cancer occurrence, 1000 healthy women between the ages of 60 and 65 were given the drug and 1000 were given the placebo for 5 years. Only 10 cases of breast cancer were detected among the new drug group, while 40 cases among the placebo group. What is the relative risk of breast cancer in patients exposed to drug?

	B.C	Non	Total
Drug	10	990	1000
Placebo	40	960	1000
Total	50	1950	2000

$$\text{Relative Risk} = \frac{\text{Incidence of Drug}}{\text{Incidence of Placebo}}$$

$$= \frac{1}{4} = 0,25 \Rightarrow \text{so The Drug is Protective}$$

	L.C	No L.C	Total
Smoker	70	6930	7000
non smoker	7	6993	7000
Total	77	13923	14000

Q9. Al Karaka hospital conducted a study on 7000 subjects who were smokers over a ten-year period & found 70 subjects developed lung cancer. Concurrent evaluation of general population in the catchment area of hospital, out of 7000 non-smoker subjects only 7 developed lung cancer. The RR for developing lung cancer is?

$$RR = \frac{\text{Incidence of smoker}}{\text{Incidence of non smoker}} = \frac{1}{0,1} = 10 \Rightarrow \text{smoking risk factor}$$

$$In_s = \frac{70}{7000} \times 100 = 1$$

$$In_n = \frac{7}{7000} \times 100 = 0,1$$

	Asthma	Asthma Free	Total
Smoking	75	75	150
Non smoking	75	225	300
Total	150	300	450

Q10. A study of 150 children with a childhood Asthma compared with 300 Asthma free children, to examine past experiences of smoking that may contribute to the development of the Asthma. History of smoking was found in 75 case of each group. What kind of study is this? Calculate the OR of smoking

$$OR = \frac{A \cdot D}{B \cdot C} = \frac{75 \times 225}{75 \times 75} = 3$$

Type of study \Rightarrow Case control.