Epidemiology Essentials

Epidemiology · Answer Key · 10 Questions

1. Which term refers to the constant presence or usual prevalence of a disease within a given geographic area?

A) Pandemic
B) Endemic
C) Outbreak
D) Sporadic

2. In 1854, John Snow identified the source of a London cholera outbreak by mapping cases, a foundational study in which field?

A) Immunology
B) Molecular Biology
C) Spatial Epidemiology
D) Virology

3. What is the 'basic reproduction number' (R0) defined as in infectious disease epidemiology?

A) The duration of recovery
B) The average number of secondary cases produced by one case in a totally susceptible population
C) The mortality rate of a pathogen
D) The total number of vaccinated individuals in a population

4. In a retrospective cohort study, how is the 'relative risk' calculated?

A) Incidence in exposed group divided by incidence in unexposed group
B) Total population divided by cases
C) Number of deaths divided by total cases
D) Prevalence divided by time

5. Which phase of a clinical trial specifically evaluates the safety and dosage of a new vaccine or drug on a small group of healthy volunteers?

A) Phase I
B) Phase II
C) Phase III
D) Phase IV

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6. What does the term 'herd immunity' represent in public health?

A) The percentage of sick individuals in a hospital

B) The resistance to the spread of a contagious disease within a population due to pre-existing immunity

C) The process of eradicating a virus from the environment

D) The natural evolution of a pathogen

7. Which bias occurs when study participants behave differently simply because they are being observed?

A) Selection bias

B) Hawthorne effect

C) Recall bias

D) Confounding bias

8. What is the primary difference between incidence and prevalence?

A) Incidence measures new cases; prevalence measures total existing cases

B) Incidence measures total cases; prevalence measures new cases

C) There is no mathematical difference

D) Incidence only applies to viruses; prevalence only applies to bacteria

9. In epidemiology, what is the 'incubation period'?

A) The time from infection to the onset of clinical symptoms

B) The time from recovery to immunity

C) The time a pathogen survives on a surface

D) The time it takes for a vaccine to be produced

10. Which metric is calculated by dividing the number of deaths from a specific disease by the total number of cases of that disease?

A) Crude mortality rate

B) Case-fatality rate

C) Attack rate

D) Years of potential life lost

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