TEST YOURSELF: Multiple Choice 2
QUESTIONS

1. In the investigation of an epidemic of a fatal disease such as SARS, the most appropriate measure to describe the frequency of death from the disease is the:

    A. Mortality rate
    B. Case-fatality rate
    C. Attack rate
    D. Standardised mortality ratio
    E. Incidence rate

2. If the age-adjusted incidence rate of breast cancer among the grandchildren of Japanese immigrants to the USA is much closer to that of American women (high rates) than Japanese women (low rates) what does this tell us?

    A. The most important causes of breast cancer are genetic
    B. The most important causes of breast cancer are environmental (i.e. not genetic)
    C. Breast cancer is diagnosed more accurately in the USA
    D. Breast cancer is diagnosed more accurately in Japan
    E. Women who think they are at risk of breast cancer are more likely to move to the USA

3. Which of the following is/are true in the context of interpreting the results of a case-control study compared to a cohort study? (select all that are true)

    A. Exposure information has to be obtained after diagnosis of disease so is less accurate than in a cohort study
    B. Confounding is a bigger problem than in a cohort study
    C. Accuracy of disease diagnosis is a bigger problem in a case-control study
    D. Recall bias is a bigger problem than in a cohort study
    E. Confounding is less of a problem than in a cohort study

4. The strength of an association between exposure and disease is best measured by the:

    A. Incidence rate of disease in the exposed group
    B. Attributable risk
    C. Attributable fraction
    D. Population attributable risk
    E. Relative risk

5. In the first 12 years of follow-up of the Framingham Heart Study, the observed number of cases of angina was 1.6 times higher than the number expected based on population rates. What type of measure is this?

    A. Prevalence rate
    B. Incidence rate ratio
    C. Risk ratio
    D. Adjusted incidence rate
    E. Standardised incidence (or morbidity) ratio

6. In a study of alcohol and oral cancer the relative risk is 2.0 for men and 2.0 for women but 4.0 for both sexes combined. This suggests that:

    A. There is confounding by sex in these data
    B. There is confounding by some unknown or unmeasured factor in these data
    C. There is evidence of effect modification in these data
    D. The results have been adjusted for age and sex
    E. The results are due to bias

7. The following table shows data from an epidemiological study. What type of study was this most likely to be?

		Number of episodes	Person-years (py) at risk
Exposure	Present	700	1950
	Absent	300	2250
	Total	1000	4200

   A. Case-control
   B. Cohort
   C. Randomised controlled trial
   D. Cross-sectional
   E. Descriptive

8. What is the incidence rate among those who are exposed to the factor under study?

   A. 35.9 per 100 py
   B. 35.9 per 100,000 py
   C. 35.9 per 1000 py
   D. 13.3 per 100,000 py
   E. 23.8 per 100 py
   F. None of the above

9. What is the rate difference?

   A. 22.6 per 100 py
   B. 22.6 per 100,000 py
   C. 12.1 per 100,000 py
   D. 10.5 per 100 py
   E. 2.7
   F. 0.37

10. What is the population attributable risk?

   A. 22.6 per 100 py
   B. 22.6 per 100,000 py
   C. 2.7
   D. 12.1 per 100 py
   E. 10.5 per 100 py
   F. None of the above

11. Which two of the following methods cannot be used to prevent confounding from occurring in a study?

   A. Randomisation
   B. Restriction
   C. Stratification
   D. Matching
   E. Multivariable analysis

12. A randomized, placebo-controlled trial was conducted in Indonesia to study the effects of Vitamin A in preventing deaths among children with measles. The investigators reported a relative risk of 0.60 for the intervention versus control group. This means that

    A. Children receiving Vitamin A were 40% less likely to die from measles than children receiving placebo
    B. The chance of dying from measles in the placebo group was 60%
    C. The chance of the null hypothesis being true is 60%
    D. 60% of the children who died received Vitamin A; the other 40% received placebo
    E. None of the above statements are true

13. The defining characteristic of an active surveillance programme is that:

    A. Healthcare providers are required by law to notify the condition of interest
    B. The organisation conducting the surveillance contacts the healthcare providers to collect information about the condition of interest
    C. The organisation conducting the surveillance relies on the healthcare providers to provide the relevant information
    D. It is likely to be cheaper than other forms of surveillance
    E. It can be used to track risk factors as well as infectious and chronic diseases

14. To assess the association between Kawasaki syndrome (KS) and carpet shampoo, investigators conducted a case-control study with 100 cases (children with KS) and 100 controls (children without KS). Among the children with KS, 50 had a history of recent exposure to carpet shampoo. Among the controls, the number with a recent history of exposure to carpet shampoo was 25. For this study, the odds ratio was:

    A. 1.0
    B. 2.0
    C. 3.0
    D. Cannot be calculated from the information given

15. Which of the following measures traditionally use(s) the same denominator as the neonatal mortality rate?

    A. Infant mortality rate
    B. Maternal mortality rate
    C. Fetal death or stillbirth rate
    D. A and B
    E. A and C

16. A screening test of known sensitivity and specificity is applied to two populations. The prevalence of the disease being screened for is 10% in population A and 1% in population B. Which of the following is true?

    A. The percentage of all positive tests that are false positives will be lower in population A than in population B
    B. The percentage of all negative tests that are false negatives will be lower in population A than in population B
    C. The specificity will be lower in population A than B
    D. The sensitivity will be lower in population A than B
    E. None of the above

17. A controversy occurred between the proponents of drug therapy versus remedial reading for patients with dyslexia. To support their position, one group wrote: "Of 111 patients with dyslexia, 91 showed improvement following remedial reading courses." Their inference that in patients with dyslexia, remedial reading is the therapy of choice is:

    A. Correct
    B. Incorrect because it is not based on rates
    C. Incorrect because there is no comparison group
    D. None of the above

18. A new treatment is developed that prevents death but does not produce recovery from disease. Which of the following will occur?

    A. Prevalence will increase
    B. Prevalence will decrease
    C. Incidence will increase
    D. Incidence will decrease
    E. None of the above

19. In a cross-sectional study of peptic ulcer in the community, 80 in every 100,000 men aged 35 to 49 years and 90 in every 100,000 women aged 35 to 49 years met the criteria for having a peptic ulcer. The conclusion that, in this age group, women are more likely to develop peptic ulcer than men is:

    A. Correct
    B. Incorrect because of the failure to distinguish between incidence and prevalence
    C. Incorrect because rates were used to compare males and females
    D. Incorrect because there is no comparison or control group

20. When comparing randomized controlled trials (RCT) to cohort studies, which of the following is generally true?

    A. Both are prospective
    B. The results of the RCT are less likely to be generalisable than the results of the cohort study.
    C. The results of the RCT are less likely to be affected by confounding
    D. A, B and C are all true
    E. None of the above statements is true