Essentials of Biostatistics for Public Health 3rd edition Sullivan Test Bank

SKU: 9781284185133-TEST-BANK

Chapter 1 eBook Graded Quiz

Multiple Choice
1. Why might the designers of a clinical trial to determine the relative risk of a drug-induced disease decide to recruit individuals with only one chronic disease instead of individuals with multiple chronic diseases?
[1] Individuals with multiple chronic diseases have more risk factors that may cause the disease of interest, making it harder to determine the relative risk of individuals developing the disease of interest from taking the drug alone.
[2] Individuals with multiple chronic diseases are more likely to have trouble understanding and abiding by the study's established protocols. They may also have difficulty accurately following their medication regimen.
[3] Individuals with one chronic disease are more likely to notice and report the development of medication side effects and drug-induced disease because they have fewer health problems than individuals with multiple chronic diseases.
[4] Individuals with one chronic disease are likely younger and more able to participate in a study than individuals with multiple chronic diseases because they are healthier and able to get to and from the site of the clinical trial more easily.

<Answer: 1>
<Complexity: Difficult>
<A-head: How Are Risk Factors or Characteristics That Might Be Related to the Development or Progression of Disease Identified?>
<Subject: Chapter 1>

Multiple Choice
2. In which of the following population groups being considered for a clinical trial is the use of a placebo for the comparator group most plausible?
[1] Research participants who have life-threatening illnesses and there is no known way to treat the illness in question
[2] Research participants who have a life-threatening illness that can already be treated with previously developed drugs
[3] Research participants who have a life-threatening illness that can be treated with using previously developed drugs that can have debilitating side effects
[4] Research participants with a non-life-threatening illness that can be treated using previously developed drugs

<Answer: 2>
<Complexity: Difficult>
<A-head: How Is the Effectiveness of a New Drug Determined?>
<Subject: Chapter 1>

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Multiple Choice
3. Which of the following statements about sample size is true?
[1] Small sample sizes are preferable because it is cheaper to obtain information from fewer individuals.
[2] Large sample sizes in a biostatistics study guarantee more accurate results because of the sheer number of individuals being sampled.
[3] Large sample sizes in a biostatics study are guaranteed to accurately represent the population as a whole, leading to more accurate results.
[4] Small sample sizes are more likely to inaccurately represent the population as a whole, leading to inaccurate results.

<Answer: 4>
<Complexity: Difficult>
<A-head: How Is the Extent of Disease in a Group or Region Quantified?>
<Subject: Chapter 1>

Multiple Choice
4. Randomization helps to alleviate which of the following limitations of biostatistics study?
[1] Selecting a representative sample
[2] Appropriately accounting for relationships among characteristics
[3] Limiting inferences to the appropriate population
[4] Quantifying uncertainty

<Answer: 2 >
<Complexity: Moderate >
<A-head: How Is the Effectiveness of a New Drug Determined?>
<Subject: Chapter 1>

Multiple Choice
5. A good understanding of biostatistical principles has led to all of the following except?
[1] The identification of smoking as risk factor for lung cancer
[2] The identification of high cholesterol as a risk factor for cardiovascular disease
[3] The identification of high blood pressure as a risk factor for cerebrovascular disease
[4] The identification of high stress as a risk factor for Crohn's disease

<Answer: 3>

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<Complexity: Moderate>
<A-head: Summary>
<Subject: Chapter 1>

True/False
6. Biostatistics is integral to the field of epidemiology, which is defined as study of health and illness in human populations, patterns of health or disease, and the factors that influence these patterns.

<Answer: True >
<Complexity: Easy>
<A-head: How Is the Rate of Development of a New Disease Estimated?>
<Subject: Chapter 1>

True/False
7. Because participants are randomly assigned to treatment groups in clinical trials, the groups should be comparable on all characteristics except the treatment received.

<Answer: True>
<Complexity: Easy>
<A-head: How Is the Effectiveness of a New Drug Determined?>
<Subject: Chapter 1>

True/False
8. The ratio of the number of new cases of disease to the total sample size reflects the proportion or cumulative incidence of new disease over the predetermined follow-up period.

<Answer: True >
<Complexity: Easy>
<A-head: How Is the Rate of Development of a New Disease Estimated?>
<Subject: Chapter 1>

True/False
9. Observing a variation between a newly developed drug's outcomes and the outcomes observed from the comparator group indicates the new drug was effective.

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<Answer: False>
<Complexity: Moderate>
<A-head: Application>
<Subject: Chapter 1>

True/False
10. Understanding biostatistical principles is critical to public health education.

<Answer: True>
<Complexity: Easy>
<A-head: Summary>
<Subject: Chapter 1>

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Import Settings:
Base Settings: Brownstone Default
Information Field: Complexity
Information Field: Ahead
Information Field: Subject
Highest Answer Letter: D
Multiple Keywords in Same Paragraph: No

Chapter: Chapter 01 - Quiz

Multiple Choice

1. A subset of the population of interest is often referred to by what statistical term?
A) A sample of individuals
B) A subculture of individuals
C) A class of individuals
D) A minority group

Ans: A
Complexity: Easy
Ahead: What is Biostatistics?
Subject: Chapter 1

2. The measure of uncertainty in a biostatistician's calculation of a particular outcome that may result from using a subset of the population to estimate the actual likelihood of the event occurring in the population as a whole is referred to by what statistical term?
A) A chance error
B) A systematic error
C) A standard error
D) A margin of error

Ans: D
Complexity: Easy
Ahead: How Is the Extent of Disease in a Group or Region Quantified?
Subject: Chapter 1

3. Which of the following most appropriately describes how the data from a cross-sectional study can be applied to a population?
A) The data generated from a cross-sectional study can be applied to new or changing populations regardless of the amount of time that has passed since the study was conducted.
B) The data generated from a cross-sectional study is only applicable to the original population of interest during the time that the study was conducted.
C) The data generated from a cross-sectional study is applicable to any group of individuals with similar characteristics to the original population of interest.
D) The data generated from a cross-sectional study is applicable to all individuals regardless of how much those individuals differ from the original population of interest.

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Ans: B
Complexity: Moderate
Ahead: How Is the Extent of Disease in a Group or Region Quantified?
Subject: Chapter 1

4. Researchers have conducted a study and determined that the relative risk for developing a cold for individuals taking vitamin C is 0.47 when compared to the number of participants in the study who developed a cold while not taking vitamin C. This is an indication of which of the following?
A) This indicates that people who took vitamin C were 47% more likely to catch a cold and that taking vitamin C makes people more susceptible to catching a cold.
B) This indicates that the individuals taking vitamin C were 47% less likely to catch a cold and that taking vitamin C has a protective effect, making them less likely to catch a cold.
C) This indicates that the individuals taking vitamin C were 53% less likely to catch a cold and that taking vitamin C has a protective effect, making them less likely to catch a cold.
D) Only relative risk ratios above one are statistically significant, a relative risk ratio below one indicates there is no difference between the individuals who take vitamin C and those individuals who do not.

Ans: C
Complexity: Difficult
Ahead: How Are Risk Factors or Characteristics That Might Be Related to the Development or Progression of Disease Identified?
Subject: Chapter 1

5. Which is the most important factor in determining which populations a well-designed study's results can be applied to?
A) The inclusion and exclusion criteria for the study
B) The randomization of participants for a study
C) The type of study being conducted
D) The presence of blinding throughout the study

Ans: A
Complexity: Difficult
Ahead: How Is the Effectiveness of a New Drug Determined?
Subject: Chapter 1

True/False

1. True or False? Biostatistics is defined as the application of statistical principles in medicine, public health, or biology.

Ans: True
Complexity: Easy
Ahead: What Is Biostatistics?
Subject: Chapter 1

2. True or False? The data collected in a biostatistics study can be applied to any population regardless of race, class, and socioeconomic status.

Ans: False
Complexity: Easy
Ahead: What Are the Issues?
Subject: Chapter 1

3. True or False? A relative risk of 5.67 indicates that the group of individuals in a study exposed to the particular variable of interest are 5.67 times more likely to experience the observed outcome being studied.

Ans: True
Complexity: Moderate
Ahead: How Are Risk Factors or Characteristics That Might Be Related to the Development or Progression of Disease Identified?
Subject: Chapter 1

4. True or False? Oftentimes it is more difficult to establish a relationship between a particular disease outcome and a risk factor among older adults because they also have other risk factors for disease.

Ans: True
Complexity: Moderate
Ahead: How Are Risk Factors or Characteristics That Might Be Related to the Development or Progression of Disease Identified?
Subject: Chapter 1

5. True or False? Randomization of clinical trial participants is important to ensure that clinical trial participants in the treatment group and comparator group allow the study's results to be generalized to the population as a whole, and not just the subgroup of individuals that participated in the study because of the balance promoted through the randomization process.

Ans: False
Complexity: Moderate
Ahead: How Is the Effectiveness of a New Drug Determined?
Subject: Chapter 1

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