قائمة الاسئلة
الاحصاء الطبي - ()- المستوى الثالث -قسم مختبرات طبية - - الطب والعلوم الصحية - الفترة الأولى- درجة الامتحان (70)

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1) 1. Which of the following best describes medical statistics?
   1) + a. The application of statistical methods to analyze data in the field of medicine.
   2) - b. A system of diagnosing diseases based on statistical data.
   3) - c. The process of conducting clinical trials for new drugs.
   4) - d. The study of patient care methodologies.

2) 1. What is nominal data?
   1) - a. Data that can be ordered or ranked.
   2) + b. Data that represents categories without a specific order.
   3) - c. Data that has a true zero point.
   4) - d. Data measured on a continuous scale.

3) 1. Which of the following is an example of nominal data?
   1) + a. Gender of students
   2) - b. Education level.
   3) - c. Height of individuals.
   4) - d. Ranking of students.

4) 1. How nominal data is typically describe?
   1) - a. Using measures of central tendency.
   2) - b. Using correlation coefficients.
   3) - c. Using mean and standard deviation.
   4) + d. Using frequency and percentages.

5) 1. What defines ordinal data?
   1) - a. Data that can be measured on a continuous scale.
   2) - b. Data without any order or ranking.
   3) + c. Data that represents categories with a meaningful order
   4) - d. Data that has a true zero point.

6) 1. Which of the following is an example of ordinal data?
   1) - a. Age of individuals.
   2) + b. Satisfaction ratings (e.g., satisfied, neutral, dissatisfied).
   3) - c. Temperature in Fahrenheit.
   4) - d. Gender of respondents.

7) 1. One of the following is true about continues variable?
   1) - a. It takes only an integer number.
   2) - b. Gender is an example for the continues data.
   3) - c. It consists of categories without order.
   4) + d. It takes an integer or fraction. Fraction in Arabic = كسر

8) 1. Which of the following is not an example of continues data?
   1) - a. Weight of the child in KG.
   2) - b. Age of the students.
   3) - c. Temperature degree.
   4) + d. Race.

9) 1. Which statistical methods can be used to describe the numerical data?
   1) - a. Only mode and median.
   2) + b. Mean, median, mode.
   3) - c. Only frequency counts.
   4) - d. Only rankings.

10) 1. What is the mean of a dataset?
  1)   -   a.   The middle value when the data is ordered.
  2)   -   b.   The most frequently occurring value in the dataset.
  3)   +   c.   The average value calculated by summing all values and dividing by the number of values.
  4)   -   d.   The difference between the highest and lowest values.

11) 1. Which of the following is true about the mean?
  1)   -   a.   It is always less than the median.
  2)   +   b.   It is affected by extreme values (outliers).
  3)   -   c.   It cannot be calculated for categorical data.
  4)   -   d.   All of the above.

12) 1. Following is the age of five children in months: 8, 4, 12, 20, and 10, what is the mean?
  1)   -   a.   10
  2)   -   b.   10.2
  3)   -   c.   10.6
  4)   +   d.   10.8

13) 1. In which scenario is the mean not a good measure of central tendency?
  1)   -   a.   When the data is symmetrically distributed.
  2)   +   b.   When the data contains extreme values (outliers).
  3)   -   c.   When there are no extreme values.
  4)   -   d.   When the data is normally distributed.

14) 1. The median is?
  1)   -   a.   The most frequently occurring value.
  2)   -   b.   The average of the highest and lowest values.
  3)   +   c.   The middle value when the data is ordered.
  4)   -   d.   The sum of all values divided by the number of values.

15) 1. How is the median calculated for an even number of observations?
  1)   +   a.   Take the average (mean) of the two middle values.
  2)   -   b.   Select the lower middle value.
  3)   -   c.   Select the higher middle value.
  4)   -   d.   Sum all values and divide by the number of values.

16) 1. Which of the following is true about the median?
  1)   -   a.   It cannot be used with numerical data.
  2)   -   b.   It can be calculated for categorical data.
  3)   -   c.   It is always equal to the mean.
  4)   +   d.   It is not affected by extreme values

17) 1. Following is the HB level for seven patients: 10, 10, 14, 12, 15, 16, 17, what is the median?
  1)   -   a.   10
  2)   -   b.   12
  3)   +   c.   14
  4)   -   d.   16

18) 1. Following is the HB level for seven patients: 10, 10, 14, 12, 15, 16, 17, what is the mode?
  1)   +   a.   10
  2)   -   b.   12
  3)   -   c.   14
  4)   -   d.   16

19) 1. What is the Mode?
  1)   +   a.   The most frequently occurring value.
  2)   -   b.   The average of the highest and lowest values.
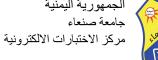 3)   -   c.   The middle value when the data is ordered.

4)   -   d.   The sum of all values divided by the number of values.

20)   1.   What does the term "dispersion" refer to in statistics?
1)   -   a.   The average of a dataset.
2)   +   b.   The spread or variability of data.
3)   -   c.   The midpoint of a dataset.
4)   -   d.   The most frequently occurring value in a dataset.

21)   1. Which of the following is NOT a measure of dispersion?
1)   -   a.   Range
2)   -   b.   IQR
3)   -   c.   Standard deviation
4)   +   d.   Median

22)   Standard deviation is the measure of:
1)   -   a.   Chance
2)   -   b.   Central tendency
3)   +   c.   Deviation from mean value
4)   -   d.   None of the above

23)   1. How much population falls between mean ± one standard deviation in a normal distribution?
1)   -   a.   34%
2)   +   b.   68%
3)   -   c.   96%
4)   -   d.   99

24)   1. Z. is 1.96, the confidence limit is
1)   -   a.   34%
2)   -   b.   68%
3)   +   c.   95%
4)   -   d.   99%

25)   1. In hypothesis testing, what does the null hypothesis (H0) generally represent?
1)   -   a.   The effect or difference being tested.
2)   -   b.   The alternative hypothesis.
3)   +   c.   No difference between the variables.
4)   -   d.   A statistically significant result.

26)   1.   What does a 95% confidence interval indicate?
1)   -   a.   There is a 95% chance the parameter lies within the interval for a single sample.
2)   -   b.   The null hypothesis is rejected 95% of the time.
3)   -   c.   The sample mean is exactly 95% accurate.
4)   +   d.   If you were to take 100 samples, approximately 95 of their confidence intervals would contain the true parameter of the population.

27)   1. Not required for Chi-square test is:
1)   +   a.   Mean & SD of the groups
2)   -   b.   Each expected cell frequency > 5
3)   -   c.   Large sample
4)   -   d.   Contingency Table

28)   You analyze a study and you find the following results for Cholesterol Level (Mean=30 mg/DL, Median= 15 mg/DL, Standard Deviation=5 mg/DL, Interquartile Range (IQR) =8 mg/DL): Which appropriate measure should be used to describe Cholesterol Level?
1)   -   a.   Mode
2)   -   b.   Range
3)   +   c.   Median
4)   -   d.   Mean

29) You analyze a study and you find the following results for Systolic Blood Pressure (Mean=90 mmhg, Median= 90 mmHg, Standard Deviation=10 mmHg, Interquartile Range (IQR) =15 mmHg):): Which appropriate measure should be used to describe Systolic Blood Pressure?

1)   -   a.   Mode
2)   -   b.   Range
3)   -   c.   Median
4)   +   d.   Mean

30) You analyze a study and you find the following results for Systolic Blood Pressure (Mean=90 mmhg, Median= 90 mmHg, Standard Deviation=10 mmHg, Interquartile Range (IQR) =15 mmHg):): Which appropriate measure of dispersion should be used to describe Systolic Blood Pressure?

1)   -   a.   Range
2)   -   b.   Percentage
3)   +   c.   Standard Deviation
4)   -   d.   Interquartile Range

31) You analyze a study and you find the following results for Systolic Blood Pressure (Mean=90 mmhg, Median= 90 mmHg, Standard Deviation=10 mmHg, Interquartile Range (IQR) =15 mmHg): Where do approximately 95% of the values of Systolic Blood Pressure lie, assuming a normal distribution?

1)   +   a.   Between 70 mmHg and 110 mmHg
2)   -   b.   Between 60 mmHg and 90 mmHg
3)   -   c.   Between 80 mmHg and 100 mmHg
4)   -   d.   Between 80 mmHg and 120 mmHg

32) 1. What is the appropriate test to measure the deference in the mean of Systolic Blood Pressure among smokers and none smokers?

1)   -   a.   Chi-squared test
2)   -   b.   ANOVA
3)   +   c.   T-test
4)   -   d.   Pearson correlation

33) 1. If the p-value is 0.03 when testing the association between Systolic Blood Pressure (continues variable) and Smoking Status (nominal variable), what can be said about the relationship?

1)   -   a.   Not statistically significant (no relationship)
2)   +   b.   Statistically significant (there is relationship)
3)   -   c.   Strong positive correlation
4)   -   d.   Weak negative correlation

34) 1. What is the appropriate test to measure the relationship between Smoking Status (Yes/No) and Diabetes Status (Yes/No)?

1)   -   a.   T-test
2)   +   b.   Chi-squared test
3)   -   c.   ANOVA
4)   -   d.   Pearson correlation

35) 1. If the p-value is 0.11 when testing the relationship between Smoking Status and Diabetes Status, what can be concluded?

1)   +   a.   Not statistically significant (no relationship)
2)   -   b.   Statistically significant (there is relationship)
3)   -   c.   Strong positive correlation
4)   -   d.   Weak negative correlation