
Review II: Bivariable associations

Biometry 755

Spring 2009

Question 1

“Age was significantly associated with disease status ($P = 0.001$).”

If age is measured continuously and disease status is binary, what statistical test(s) is(are) appropriate to assess this association?

- A. t-test
- B. chi-square test
- C. Wilcoxon rank-sum test
- D. A and B
- E. A and C

Question 2

“Age was significantly associated with disease status ($P = 0.001$).”

If age is measured continuously with a distribution that is approximately unimodal and symmetric, and disease status is binary, what statistical test(s) is(are) appropriate to assess this association?

- A. t-test
- B. chi-square test
- C. Wilcoxon rank-sum test
- D. A and B
- E. A and C

Question 3

“Age was significantly associated with disease status ($P = 0.001$).”

If age is measured continuously with a distribution that is positively skewed, and disease status is binary, what statistical test(s) is(are) appropriate to assess this association?

- A. t-test
- B. chi-square test
- C. Wilcoxon rank-sum test
- D. A and B
- E. A and C

Question 4

“Age was significantly associated with disease status ($P = 0.001$).”

If age is measured continuously with a distribution that is approximately unimodal and symmetric, and disease status is a three-level ordinal variable, what statistical test(s) is(are) appropriate to assess this association?

- A. t-test
- B. Wilcoxon rank-sum test
- C. Kruskal-Wallis test
- D. Fisher’s exact test
- E. one-way ANOVA

Question 5

“Age was significantly associated with disease status ($P = 0.001$).”

If age is measured continuously with a distribution that is positively skewed, and disease status is a three-level ordinal variable, what statistical test(s) is(are) appropriate to assess this association?

- A. t-test
- B. Wilcoxon rank-sum test
- C. Kruskal-Wallis test
- D. Fisher’s exact test
- E. one-way ANOVA

Question 6

“Age was significantly associated with disease status ($P = 0.001$).”

If age is a three-level ordinal variable and disease status is binary, what statistical test(s) is(are) appropriate to assess this association?

- A. Fisher’s exact test
- B. chi-square test
- C. one-way ANOVA
- D. A and B
- E. A and C

Question 7

“Age was significantly associated with disease status ($P = 0.001$).”

If age is a three-level ordinal variable, disease status is binary, and the expected cell frequency for at least one cell of the 3×2 contingency table is less than 5, what statistical test(s) is(are) appropriate to assess this association?

- A. Fisher's exact test
- B. chi-square test
- C. one-way ANOVA
- D. A and B
- E. A and C

Question 8

“Serum creatinine levels were significantly higher in subjects after treatment relative to baseline ($P = 0.001$).”

If serum creatinine levels were measured on subjects at baseline and again after an intervention, then the reported p-value most likely is the result of _____.

- A. Fisher’s exact test
- B. a t-test
- C. a paired t-test
- D. Wilcoxon signed-rank test
- E. McNemar’s test

Question 9

“Serum creatinine levels were significantly higher in subjects after treatment relative to baseline ($P = 0.001$).”

If serum creatinine levels were measured on subjects at baseline and again after an intervention, and its distribution is approximately unimodal and symmetric, then the reported p-value most likely is the result of _____.

- A. Fisher’s exact test
- B. a t-test
- C. a paired t-test
- D. Wilcoxon signed-rank test
- E. McNemar’s test

Question 10

“Serum creatinine levels were significantly higher in subjects after treatment relative to baseline ($P = 0.001$).”

If serum creatinine levels were measured on subjects at baseline and again after an intervention, and its distribution is positively skewed, then the reported p-value most likely is the result of _____.

- A. Fisher’s exact test
- B. a t-test
- C. a paired t-test
- D. Wilcoxon signed-rank test
- E. McNemar’s test

Question 11

“Serum creatinine levels were significantly higher in subjects after treatment relative to baseline ($P = 0.001$).”

If serum creatinine is dichotomized as high or low and measured on subjects at baseline and again after an intervention, then the reported p-value most likely is the result of _____.

- A. Fisher’s exact test
- B. a chi-square test
- C. a t-test
- D. a paired t-test
- E. McNemar’s test

Question 12

“Serum creatinine levels were significantly correlated with elevated HbA1c ($P = 0.001$).”

If both serum creatinine and HbA1c are measured continuously, then the reported p-value most likely is the result of _____.

- A. a t-test
- B. a paired t-test
- C. a chi-square test
- D. a test of the significance of a Pearson correlation coefficient
- E. a test of the significance of a Spearman correlation coefficient

Question 13

“Serum creatinine levels were significantly correlated with elevated HbA1c ($P = 0.001$).”

If both serum creatinine and HbA1c are measured continuously, but at least one has a distribution that is positively skewed, then the reported p-value most likely is the result of _____.

- A. a t-test
- B. a paired t-test
- C. a chi-square test
- D. a test of the significance of a Pearson correlation coefficient
- E. a test of the significance of a Spearman correlation coefficient