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中國醫藥大學 101 學年度研究所碩士班暨碩士在職專班入學招生考試試題

所別：生物統計研究所碩士班、公共衛生學系碩士班

科目：流行病學 【不可攜帶電子計算機應試】

考生注意：答案不可寫在試題上，必須寫在答案卷上，否則不予計分



1. Please give the definitions of the following terminology. (60%)

- A. **Attack rate**
- B. **Case fatality rate**
- C. **Selection bias**
- D. **Attributable risk**
- E. **Attributable fraction among the exposed**
- F. **Attributable fraction among the population (population attributable risk)**
- G. **Berkson's bias**
- H. **Lead time bias**
- I. **Publication bias**
- J. **Competing risk**
- K. **Ecological fallacy**
- L. **Effect modifier**
- M. **Factorial design**
- N. **Framingham study**
- O. **Geometric mean**
- P. **Halo effect**
- Q. **Hawthorne effect**
- R. **Herd immunity**
- S. **Odds**
- T. **Quasi-experiment**

2. You have just conducted a case-control study on the relationship between meat products at a specific plant and *M. listeriosis*. Several results are below. (20%)

- A. Which ones are statistically significant at $\alpha=0.05$? α
- B. Which ones are statistically significant at $\alpha=0.01$? \cup
- C. Which ones are impossible?
- D. Which ones demonstrate an association that is protective in nature? \cup
- E. For each of the results that are possible, write an interpretation of the measure of association found.
 - a. OR 2.05 (95% CI 1.41-3.01), $p<0.0001$
 - b. OR 1.07 (95% CI 0.69-1.64), $p<0.77$
 - c. OR 0.51 (95% CI 0.30-0.86), $p<0.008$
 - d. OR 4.51 (95% CI 0.32-0.96), $p<0.01$
 - e. OR 0.59 (95% CI 0.36-0.98), $p<0.032$

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3. You are the investigator overseeing a large concurrent cohort study evaluating the association between drinking alcohol and likelihood of contracting a sexually transmitted disease (STD) over the course of a year. After data collection is complete, your 2x2 table looks like this:

| | STD | No STD | Total |
|------------|-----|--------|-------|
| Alcohol | 295 | 2116 | 2411 |
| No alcohol | 160 | 3929 | 4089 |
| Total | 455 | 6045 | 6500 |

- A. What is the appropriate measure to describe the association between alcohol consumption and STDs?(2%)
- OR
 - RR
 - Incidence density
 - Prevalence
 - Proportionate morbidity
- B. What is the measure of association between alcohol consumption and STD? (3%)
- C. How would you communicate the findings of your study if the p-value describing this measure of association was 0.01? (3%)
- D. How would you communicate the findings of your study if the p-value describing this measure of association was 0.21? (3%)
- E. Both alcohol and STDs are sensitive issues to someone. What if there was misclassification of exposure in the following way: 40% of people who had drunken alcohol stated they did not; what would the RR be? (3%)
- F. Both alcohol and STDs are sensitive issues to someone. What if there was misclassification of outcome in the following way: 20% of people who had an STD stated they did not; what would the RR be? (3%)
- G. Both alcohol and STDs are sensitive issues to someone. What if there was misclassification of exposure in the following way: 30% of people who had an STD stated they did not drink alcohol when they did; what would the RR be? (3%)