<Clinical Epidemiology> Quiz 1

Directions: For each question, select the single best answer.

Questions 1-5: A cohort study is conducted to evaluate the relationship between dietary fat intake and the development of prostate cancer in men. In the study, 100 men with a high fat diet are compared with 100 men who are on a low fat diet. Both groups start at age 65 and are followed for 10 years. During the follow-up period, 10 men in the high fat intake group are diagnosed with prostate cancer and 5 men in the low fat intake group develop prostate cancer.

1. What is the risk of developing the high fat group?
   A. 0.05. B. 0.10 C. 0.15 D. 0.20 E. 0.25

2. What is the risk of developing prostate cancer the low fat group?
   A. 0.05 B. 0.10 C. 0.15 D. 0.20 E. 0.25

3. What is the risk ratio (high fat consumers compared to low fat consumers) for the occurrence of prostate cancer?
   A. 0.05 B. 0.75 C. 1.0 D. 1.5 E. 2.0

4. The point estimate for the risk ratio in question 3 suggests that the risk of prostate cancer associated with consumption of a high fat diet is
   A. Decreased
   B. Increased
   C. Not affected
   D. Cannot be determined from the information provided

5. The 95% confidence interval is 0.95 to 3.5. For statistical significance at an alpha level of 0.05, the correct interpretation of these results is that
A. A statistically significant association exists between high dietary fat intake and an increased risk for prostate cancer.
B. A statistically significant association exists between high dietary fat intake and a decreased risk for prostate cancer.
C. It can be concluded with 95% confidence that high dietary fat intake protects against prostate cancer.
D. It can be concluded with 95% confidence that high dietary fat intake increases the risk of prostate cancer.
E. The risk of prostate cancer is not statistically significantly different between men with high fat intake and men with low fat intake.

Questions 6--10: A cohort study is conducted to evaluate the relationship between serum cholesterol level and the occurrence of myocardial infarction in women. In the study, 500 women with high serum cholesterol levels and 500 women without high serum cholesterol levels are followed over a 10-year period. During the study, 40 of the women with high serum cholesterol levels and 15 of the women with normal serum cholesterol levels develop a newly diagnosed myocardial infarction.

6. The incidence rate (per 10,000 person-years) for a myocardial infarction among women with high serum cholesterol is

A. 30 B. 50 C. 60 D. 80 E. 100

7. The incidence rate (per 10,000 person-years) for a myocardial infarction for women with normal serum cholesterol is

A. 30 B. 50 C. 60 D. 80 E. 100

8. The (incidence) rate ratio for myocardial infarction is

A. 0.37 B. 1.33 C. 2.67 D. 3.15 E. 3.75

9. The risk difference is

A. 0.002 B. 0.005 C. 0.006 D. 0.01 E. 0.05

10. The attributable risk percent is

A. 25.5% B. 35.0% C. 47.5% D. 55.5% E. 62.5%