**Birzeit University**

**PHAR(222)**

 

**Omar Taweel Homework 3. ID:1160150**

 **1. A 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 were 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.**

**Calculate absolute risk ( risk difference ) and calculate the AR% (EAF) and PAF.**

Absolute risk (difference) = Re – Ro = 40/500 – 15/500 = **0.05**

AR% = AR/ Re = 0.05/0.08 = **62.5%**

PAF = PAR / RT = (RT - Ro)/ RT = (55/ 945 – 15/500 ) / 0.0582 = **48.5%**

1. **Case-control study- pancreatic cancer and coffee drinking**

 **pancreatic cancer**

 **cases controls**

| **28** | **280** |
| --- | --- |
| **140** | **2600** |

 **168 2880**

1. **calculate the OR.**
2. **Calculate the prevalence of coffee drinking in this population (estimated from the prevalence in controls).**
3. **Calculate the population attributable fraction (PAF)**
4. **What does this result mean?**
5. OR= (28/140) ÷ (280/2600) = **1.857**
6. Pe = 280/2880 = **0.0972**
7. RR= (22/308) / (140/2740) = **1.39**

PAF (estimation) = Pe (RR-1) / Pe (RR-1) +1 = **79.1%**
8. If coffee is the direct cause of pancreatic cancer, restriction of coffee drinking would decrease the risk of getting pancreatic cancer by **79.1%** in the population.