

BIRZEIT UNIVERSITY

NURS(232)

Homework 2.

1. During a period of 5 years 100 new cases of obstructive lung disease were diagnosed among 1100 children 2 months of age at start of follow-up. The mean level of air pollution during the period was measured. The cases and the children with no lung disease showed the following distribution according to air pollution at their place of residence.

		Cases	Non-cases	Total
Pollution	Low	50	700	750
	Medium	20	150	170
	High	30	150	180

1. Please calculate the relative risk for obstructive lung disease for those exposed to medium and then to high level of pollution using those exposed to low level of air pollution as the reference category.

What are your conclusions from this result?????

Relative risk for medium level = probability of getting the disease on being exposed to medium level/ probability of getting the disease on being exposed to low level = $(20/170)/(50/750) = 1.7647$

Relative risk for high level = probability of getting the disease on being exposed to high level/ probability of getting the disease on being exposed to low level = $(30/180)/(50/750) = 2.5$

Relative risk >1 for medium and high level of pollution , which means that there is high risk of getting obstructive lung disease if it was exposed to pollution.

Another point is that relative risk for those who exposed to high level > relative risk for those who exposed to medium level, which means that pollution level increases and at the same time risk of having the disease increases.

2. Case-control study- pancreatic cancer and coffee drinking

		pancreatic cancer	
		cases	controls
Coffee	Yes	28	280
	no	140	2600
		168	2880

Please calculate the odds ratio(OR) what do you conclude?

$$\text{OR} = \frac{\text{odds of disease under coffee drinking}}{\text{odds of disease under control}} = \frac{(28/140)}{(280/2600)} = 1.857$$

OR>1 means that a coffee drinker have a high chance getting pancreatic cancer than people who don't drink coffee.