Check out the study on smoking and cancer:

http://cancerres.aacrjournals.org/content/canres/48/11/3282.full.pdf

Answer the following questions:

1. What type of study was this? Retrospective, Prospective, Completely Observational or Randomized Experiment? **Retrospective**

2. What statistic is used as the response ("the measure of association")?

Table 2 ***Odds ratios for oropharyngeal cancer associated with smoking***

	Males				Females			
Exposure index	No. of cases	No. of controls	OR[a]	95% CI	No. of cases	No. of controls	OR[a]	95% CI
Never smoked	50	185	1.0		54	202	1.0	
Cigar or pipe only	52	56	1.9	1.1–3.4	0	0		
Cigarette smoker	659	593	1.9	1.3–2.9	298	229	3.0	2.0–4.5

What kind of smoker they were or exposure index.

3. Consider the table above from the paper. For males, find the odds ratio and 95% confidence interval for the odds of having cancer (being a "case") for someone who had never smoked versus the odds of having cancer for someone who smoked cigarettes.

Odds ratio (50*593)/(659*185)=0.243

Males never smoked 50/235=0.213

Males who smoked cigarettes 659/1252=0.526

CI= 0.1746 to 0.3388

4. Do the same for females and compare the results. Does there appear to be strong evidence that cigarettes increase the "risk" (as measured by the odds ratio) for females more than it does for males?

Odds ratio(54*229/(298*202)=0.205

Women never smoked 54/256=0.211

Women who smoked 298/527=0.565

CI = 0.1453 to 0.2904

5. Notice that the odds ratios and confidence intervals are different than the ones listed in the table. Why do you think that is? (You will need to see the original table from the paper.)

They adjusted for alcohol intake, age, race, study location and respondent status