

p-values: Indicate how likely it would be for the observed measure (RR/OR) to occur by chance in absence of a true association

- Small p-values (> 0.05) indicate that the observed measure most likely was due to a true association between

95% Confidence Intervals (CI): A range of possible values for the measure of association (RR/OR) that has a 95% chance of containing the true measure

- For a true association, 95% CI should not include 1.0
- Range below 1.0 indicates less risk of outcome in exposed population
- Range above 1.0 indicates greater risk of outcome in exposed population

Tests of Significance Indicate the reliability of the association

Interpreting RR and OR:

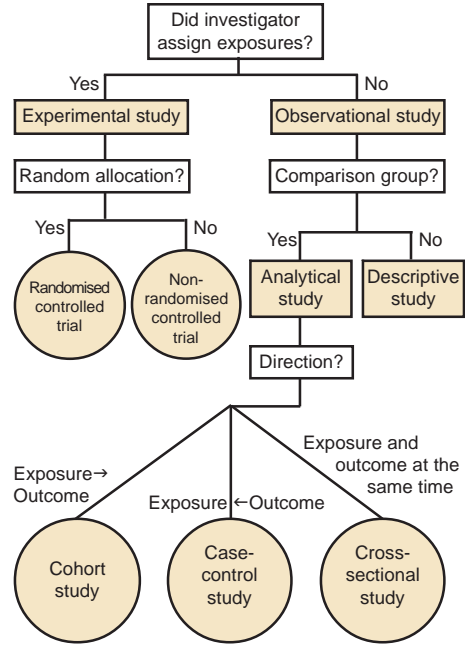
- = 1 indicates no association
- < 1 indicates a positive association
- > 1 indicates a negative association

$$\text{Relative Risk (RR)} = \frac{a+b}{a}$$

$$\text{Odds Ratio (OR)} = \frac{a*d}{b*c}$$

Measures of Association Assess the strength of association between an exposure and an outcome

Classification of Study Designs



Source: Grimes DA, Schulz KF. Lancet 2002;359:58.

For more information on epidemiology methods, view the entire *E is for Epi* training series online at: <http://nccphp.sph.unc.edu/eisforepi/>



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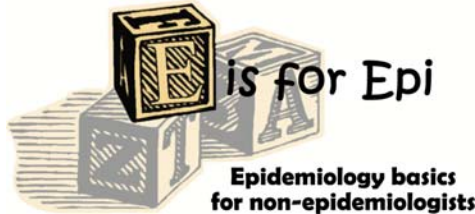
a + b = total number who are exposed
 c + d = total number who are not exposed
 a + c = total number who have the outcome
 b + d = total number who do not have the outcome
 a + b + c + d = total study population

Outcome	Yes	a	b	a + b
	No	c	d	c + d
Exposure	Yes			a + c
No	No			b + d
Total				a + b + c + d

2 x 2 Tables

a = number who are exposed and have the outcome
 b = number who are exposed and do not have the outcome
 c = number who are not exposed and have the outcome
 d = number who are not exposed and do not have the outcome

Epidemiology Pocket Guide



Basic epidemiology information at your fingertips

Measures of Disease Frequency

Prevalence: Measures what proportion of the population is affected

$$\text{Prevalence} = \frac{\text{\# of cases}}{\text{Total population}}$$

Incidence: Measures the frequency with which an event occurs in a population over a time period

$$\text{Incidence} = \frac{\text{\# of new cases over time}}{\text{Population at risk over the same time period}}$$