Contingency Table - STAT110 Otago

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0 terms

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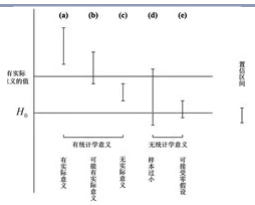
Terms in this set (14)

relative risk definition	**Ratio** of two **probabilities** **LARGE SAMPLE SIZE** Relative risk (RR) gives the **risk of an outcome relative to "exposure".** It is calculated as the ratio of the risk of an outcome for an exposed and an unexposed group **RR = [a/(a+b)] / [c/(c+d)]**
Meaning of the RR value	**RR = 1** there is **no association between outcome and exposure** (e.g. rugby position and injury). **RR < 1** first row happens **less likely** than the second row **RR > 1** first row happens **more likely** than the second row
Risk Difference definition	**Difference** between two **probabilities** **LARGE SAMPLE SIZE** The risk difference (RD) is given by the **difference in the risk** for the two groups **RD = a/(a + b) − c/(c + d)**

Odds Ratio definition	Ratio of two **odds** **SMALL SAMPLE SIZE** The odds ratio (OR) compares the **odds of an outcome for two groups** Ratio of the **odds** of the **outcome** for the exposed group to that for the **unexposed group** **OR = (a/b) / (c/d) = ad / bc** **OR = (a/b) / (c/d) = ad / bc** *There is no mathematical distinction between exposure and outcome variables -> makes it particularly useful for quantifying associations between binary variables where there is no "direction" e.g. alcohol consumption (Yes/No) and smoking (Yes/No)*
Why OR not RR if the sample size is small	1. it can **leads to a similar conclusion** as to when there were a larger number of controls 2. The relative risk **(RR) varies far more than the OR with changing the number of controls** selected. This means **RR is not an estimate of anything useful in a case-control study.**
when will the OR and the RR be very similar?	**if the outcome is rare**
Confidence interval for difference between two proportions	p1 = a / r1 p2 = c / r2 $-\frac{\alpha}{2})\sqrt{\frac{p_1(1-}{n_1}}$
steps to calculate the Confidence interval for relative risk	1. get the RR value 2. get the ln(RR) 3. calculate the SE of ln(RR) (with formula) 4. calculate the CI for **ln(RR)** (with formula) 5. calculate the CI for RR **(exp() function)**

standard error for *Confidence interval for relative risk*	$\sqrt{\frac{1}{a} - \frac{1}{r_1}}$
key formula for Confidence interval for relative risk	$\pm z_{(1-\frac{\alpha}{2}}$
steps to calculate the Confidence interval for odds ratio	1. get the OR value 2. get the ln(OR) 3. calculate the SE of ln(OR) (with formula) 4. calculate the CI for **ln(OR)** (with formula) 5. calculate the CI for OR **(exp() function)**
standard error for *Confidence interval for Odds Ratio*	$\sqrt{\frac{1}{a} + \frac{1}{b}}$
the meaning for range of CI	(photo in Chinese) 
To get the risk difference in terms of the number of cases per x people, we need to multiply this answer by x	e.g., Express your answer in terms of the extra number of cases of cancer among 1000 people who eat red or processed meat four or more times per week. RD = 2341/191678-277/68601=0.008175 To get the risk difference in terms of the number of cases per 1000 people, we need to multiply this answer by 1000 RD = (2341/191678-277/68601)∗1000=8.175