Risk

Concepts and Glossary

Cross-sectional study

The observation of a defined population at a single point in time or time interval. Exposure and outcome are determined simultaneously.

Cohort study

Involves identification of two groups (cohorts) of patients, one which received the exposure of interest, and one which did not, and following these cohorts forward for the outcome of interest.

Case–control study

A study which involves identifying patients who have the outcome of interest (cases) and control patients without the same outcome, and looking back to see if they had the exposure of interest.

Risk

The risk of target disorder is the probability of target disorder in a particular group of people.

Risk ratio (RR)

The ratio of risk in the Exposed (Experiment) group to risk in the Not exposed (Control) group.

Odds

A ratio of the number of people incurring an event to the number of people who have non-events

Odds ratio (OR)

- The ratio of the odds of having the target disorder in the experimental group relative to the odds in favor of having the target disorder in the control group

- in cohort studies or systematic reviews or the odds in favor of being exposed in subjects with the target disorder divided by the odds in favor of being exposed in control subjects (without the target disorder).

Example

	Disease Present	Disease Absent	Total
Exposure Yes	1 a	29 b	30 a+b
Exposure No	9 c	21 d	30 c+d
Total	10 a+c	50 b+d	60 a+b+c+d

Calculation

- **CER** = c/(c+d)= 0.30
- **EER** = a/(a+b)= 0.033
- **Control event odds** = c/d = 0.43
- **Experimental event odds** = a/b= 0.034
- **Relative risk** = EER/CER= 0.11
- **Relative odds** = odds ratio= (a/b)/(c/d) = ad/bc = 0.08