

Measures of Association

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1. Introduction

- Measures of association quantify the relationship between an exposure and a health outcome.
- They help determine whether and how strongly a factor relates to disease.

2. Risk-Based Measures

- **Relative risk (risk ratio):** ratio of disease risk in exposed versus unexposed groups, used in cohort studies.
- **Risk difference:** absolute difference in risk between groups, indicating excess risk.

3. Odds-Based Measures

- **Odds ratio:** ratio of the odds of exposure in cases versus controls, used in case-control studies.
- The odds ratio approximates relative risk when disease is rare.

4. Interpretation

- A value of 1 indicates no association.
- Values above 1 suggest increased risk; values below 1 suggest a protective effect.

5. Precision and Validity

- **Confidence intervals:** indicate the precision of an estimate; intervals excluding 1 suggest statistical significance.
- Confounding and bias must be addressed before inferring causation.