

Critical appraisal

Critical appraisal is the process of carefully and systematically assessing the outcome of scientific research (evidence) to judge its trustworthiness, value and relevance in a particular context.

Critical appraisal looks at the way a study is conducted and examines factors such as internal validity, generalisability and relevance.

What questions should we ask?



3

General comments and Introduction

Comment on author, journal, recent?

Is the study objective clear?

Is the study important?

Is the study relevant?



4

Methods

- Setting
- Subjects
 - Pop/n choice, sampling, controls, inclusion/exclusion criteria?
- Design
 - Appropriate? Sample size calculation/statistical power?
- Intervention / data collection
 - Quality control, reproducible?
- Data analysis
 - Appropriate stats? Managing gaps in data?
 - Ethical issues?



5

Results

- Clearly presented?
- Missing data?
- Interpreted correctly?
- Statistically significant?
- Clinically significant?
- Did the final cohort number meet the power calculation?



6

Internal validity of the study

- Could the results be explained by chance? (e.g., Bonferonni corrected)?
- Risk of bias
 - Selection bias
 - Information bias (recall, observer...)
- Confounding
 - Age, sex, SES etc etc...



7

Discussion

- Are the objectives covered?
- Are the limitations discussed?
- Are the conclusions justified?
- Are the results important?
- Are the results important to us/generalisable?
- What would you have done differently?



8