

Critical Appraisal: Quick Guide

Critical appraisal assesses the validity of the research and statistical techniques employed in studies and generates clinically useful information from them (Gosall and Gosall, 2012).

First considerations when appraising

Title

Focus Does it clearly indicate what it is about?

Author/s

Credibility What are their qualifications, experience, affiliations?

Abstract

Summary Does it give a clear overview? Does it look relevant to your practice? Is it worth reading?
If not stop.

Other considerations:

Could there be a conflict of interest? (eg Funding from an organisation with a vested interest) Was ethical approval obtained, and were issues of consent, confidentiality, or anonymity addressed?

Next steps

Introduction

Relevance Is the research question/problem clearly stated? Why is the research being done? Is it original? Is the clinical relevance clear? Are the objectives and hypothesis appropriate to the question? Will it add to what is already known?

Methodology

Validity, Reliability, Accuracy

Were the methods used appropriate for the research question? Can they be transferred to other studies? Are the methods recorded accurately?

Use of references

Was a comprehensive literature search done for previous research indicating databases, registers, hand search, contacts used? Are the references up to date and correctly cited? Is the relevance effectively discussed?

Type of study design

Is it clearly identified? Is it quantitative or qualitative or mixed? Is it appropriate for the research question? What research tools were used: RCT, Cohort study, Survey, Focus Interview?

Sampling & Statistics

Were the participants sampled appropriately? Are the techniques explained? How were they selected

and allocated. Is the sample representative and large enough? How was bias avoided or minimised? Are statistical methods used, such as randomisation, blinding appropriate? Was any confounding identified? Did untoward events occur?

Results

Validity, Reliability, Accuracy

How are these presented? Is data described clearly? Are tables, figures, charts clear, appropriate and easy to interpret? Are all the studies listed? Does it measure what it is supposed to? Do numbers add up? Are discrepancies explained? (eg Size of sample, follow up, drop outs. Are reasons given?)

Discussion/ Interpretation/ Data Analysis

Have the objectives been fulfilled? Does it answer the question or address the original hypotheses? Are limitations/weaknesses identified? Were all clinically important outcomes considered? Has the significance of the findings been properly assessed? Do the inferences/conclusions make sense? Are they justified?

Reliability/ Applicability/ Transferability/ Generalisability

Would you be able to replicate the study (reliability), use it in your practice (applicability) or with other groups (generalisability)

Conclusion / Recommendations

Are the key findings stated? Are the implications and recommendations for clinical practice given? Have areas for possible future research been identified?

Do you agree? Can you use it?

Resources and Checklists

- **Centre for Evidence Based Medicine** www.cebm.net > EBM Tools
- **Critical Appraisal Skills Programme (CASP) (UK)** www.casp-uk.net > Checklists
- **Health Knowledge Course: Finding & Appraising Evidence** (Sponsored by the Department of health and the Public health Action Support Team) An interactive online course of several modules with short explanations of key concepts and exercises to test understanding based on CASP. www.healthknowledge.org.uk/interactive-learning/finding-and-appraising-the-evidence
- **BMJ PICO** www.bmj.com/content/337/bmj.a2946.full includes examples for research studies
- **Evidence based nursing** <http://ebn.bmj.com/>
- **The Doctor's Guide to Critical Appraisal** / Gosall, N.K. and Gossall, G.S. (2012)
- **Statistics for nursing research : a workbook for evidence-based practice** / Grove, S.K. and Ciper, D.J (2017)
- **Critical appraisal from papers to patient : a practical guide** / Bootland, D. *et al* (2017)

Further Assistance

Contact the Clinical Librarian team for further assistance or advice with Critical Appraisal:

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