



Department of Family Medicine Residency Program Systematic Review Critical Appraisal Worksheet

Modified from the "PEARLS for Residents Critical Appraisal Worksheet" from the College of Family Physicians of Canada.

Resident Name: _____

Faculty Supervisor: _____

Systematic Review: _____

Date: _____

Links connect to JMAEvidence User's Guide to the medical literature. You will need to sign in to the University of Manitoba Library to access them.

Section A. Are the results valid?

1. How was the systematic review identified? Was there a search strategy? *(Why should we believe that this is the best current evidence?)* ([how a systematic review should be done](#))

2. Did the systematic review address a clear PICO question? What was that question?

(PICO = Population/Intervention/Control/Outcome) ([how to pose a clear PICO question](#))

3. Was a careful and thorough search strategy for relevant primary literature described?

(Are the search terms reasonable? Are the sources searched reasonable and appropriate?)

4. Was the validity of the included studies appraised?

- Was this process described? ([how to appraise a therapy trial](#))
- Was this appraisal done by more than one reviewer?
- Did blinded reviewers agree on the validity appraisals?

(Did the studies included in the review all utilize, & describe the processes of; randomization, blinding, and allocation concealment? Did these studies have adequate follow-up? Is there a clear description of the process used by the reviewers to resolve any differing opinions reviewers may have had about the validity of primary studies?)



5. Among the primary studies this review identified as being of high quality, were the results/outcomes similar? (Explain your answer.)

Section B. What were the results?

6. What is the answer to the PICO question posed by this systematic review?

- What is the magnitude of the effect of the intervention?
- How precise were the results?

(Provided that the result is statistically significant the magnitude of effect will be a number needed to treat or equivalent. Precision is measured by confidence intervals.)[\(definition of number needed to treat and confidence interval\)](#) [\(how to calculate, use, and interpret a number needed to treat\)](#)

7. How many studies were considered in the conclusion?

- Which of these are most valuable in answering the original PICO question?

(Consider relevance to the original question, quality/validity as discussed in question three, and quantity/confidence intervals as discussed in question five. You should use a valuable study (usually the one that seems to be most valuable) for your PEARLS assessment of a therapeutic effectiveness paper.)

Section C. Can the results be applied to your patients?

8. How does the author's PICO question compare with the clinical question you would like to answer?

*(Are the Populations in the studies reasonable given your clinical situation?
Is the Intervention similar to what you were considering? Was the control reasonable?
Was the Outcome measure reasonable? Was it the outcome of most interest or was it a substitute end-point that is difficult to translate into a clear clinical benefit? Would a patient be likely to notice and value the improved outcome described in the review? Was the outcome measured at a reasonable time considering the known course of the disease?)*



9. Were the patients and interventions in the review similar enough to your patient(s) that you can generalize the likely magnitude of benefit to your patient(s) situation? (Explain your answer.)

10. Are the benefits worth the harms and costs?

(Are the harms and costs discussed? Considering what you know about this intervention what are the harms and costs and how large are they – can a number needed to harm be calculated?)

11. Was this systematic review identified via a guideline? If so, did that guideline reasonably reflect the strength and applicability of the evidence from this systematic review in its recommendation?

Further information on how to evaluate a systematic review can be found in JMAEvidence Users' Guide to the Medical Literature: A Manual for Evidence Based Clinical Practice chapters 22 and 23 in the EBM tab of the University of Manitoba Medical Library.

<http://libguides.lib.umanitoba.ca/ebm>