

Johns Hopkins Nursing Evidence-Based Practice

Appendix E: Research Evidence Appraisal Tool

Evidence Level and Quality: _____

Article Title:		Number:	
Author(s):		Publication Date:	
Journal:			
Setting:		Sample (Composition & size):	
Does this evidence address my EBP question?	☐ Yes	☐ No Do not proceed with appraisal of this evidence	
Level of Evidence (Study Design)			
A. Is this a report of a single research study? <i>If No, go to B.</i>			
1. Was there manipulation of an independent variable?		☐ Yes	☐ No
2. Was there a control group?		☐ Yes	☐ No
3. Were study participants randomly assigned to the intervention and control groups?		☐ Yes	☐ No
If Yes to all three, this is a Randomized Controlled Trial (RCT) or Experimental Study →		☐ LEVEL I	
If Yes to #1 and #2 and No to #3, OR Yes to #1 and No to #2 and #3, this is Quasi Experimental (some degree of investigator control, some manipulation of an independent variable, lacks random assignment to groups, may have a control group) →		☐ LEVEL II	
If No to #1, #2, and #3, this is Non-Experimental (no manipulation of independent variable, can be descriptive, comparative, or correlational, often uses secondary data) or Qualitative (exploratory in nature such as interviews or focus groups, a starting point for studies for which little research currently exists, has small sample sizes, may use results to design empirical studies) →		☐ LEVEL III	
NEXT, COMPLETE THE BOTTOM SECTION ON THE FOLLOWING PAGE, "STUDY FINDINGS THAT HELP YOU ANSWER THE EBP QUESTION"			

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B. Is this a summary of multiple research studies? <i>If No, go to Non-Research Evidence Appraisal Form.</i>		☐ Yes	☐ No
1. Does it employ a comprehensive search strategy and rigorous appraisal method (Systematic Review)? <i>If No, use Non-Research Evidence Appraisal Tool; if Yes:</i>		☐ Yes	☐ No
a. Does it combine and analyze results from the studies to generate a new statistic (effect size)? (Systematic review with meta-analysis)		☐ Yes	☐ No
b. Does it analyze and synthesize concepts from qualitative studies? (Systematic review with meta-synthesis)		☐ Yes	☐ No
<i>If Yes to either a or b, go to #2B below.</i>			
2. For Systematic Reviews and Systematic Reviews with meta-analysis or meta-synthesis:			
a. Are all studies included RCTs?	→	☐ LEVEL I	
b. Are the studies a combination of RCTs and quasi-experimental or quasi-experimental only?	→	☐ LEVEL II	
c. Are the studies a combination of RCTs, quasi-experimental and non-experimental or non-experimental only?	→	☐ LEVEL III	
d. Are any or all of the included studies qualitative?	→	☐ LEVEL III	
COMPLETE THE NEXT SECTION, "STUDY FINDINGS THAT HELP YOU ANSWER THE EBP QUESTION"			
STUDY FINDINGS THAT HELP YOU ANSWER THE EBP QUESTION:			

NOW COMPLETE THE FOLLOWING PAGE, “QUALITY APPRAISAL OF RESEARCH STUDIES”, AND ASSIGN A QUALITY SCORE TO YOUR ARTICLE

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Quality Appraisal of Research Studies

- | | | | |
|---|------------------------------|-----------------------------|-----------------------------|
| <ul style="list-style-type: none"> Does the researcher identify what is known and not known about the problem and how the study will address any gaps in knowledge? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> Was the purpose of the study clearly presented? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> Was the literature review current (most sources within last 5 years or classic)? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> Was sample size sufficient based on study design and rationale? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> If there is a control group: <ul style="list-style-type: none"> Were the characteristics and/or demographics similar in both the control and intervention groups? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> If multiple settings were used, were the settings similar? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> Were all groups equally treated except for the intervention group(s)? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> Are data collection methods described clearly? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> Were the instruments reliable (Cronbach's α [alpha] ≥ 0.70)? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> Was instrument validity discussed? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> If surveys/questionnaires were used, was the response rate $\geq 25\%$? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> Were the results presented clearly? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> If tables were presented, was the narrative consistent with the table content? | ☐ Yes | ☐ No | ☐ NA |
| <ul style="list-style-type: none"> Were study limitations identified and addressed? | ☐ Yes | ☐ No | |
| <ul style="list-style-type: none"> Were conclusions based on results? | ☐ Yes | ☐ No | |

Quality Appraisal of Systematic Review with or without Meta-Analysis or Meta-Synthesis

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Was the purpose of the systematic review clearly stated? | ☐ Yes | ☐ No |
| <ul style="list-style-type: none"> Were reports comprehensive, with reproducible search strategy? <ul style="list-style-type: none"> Key search terms stated Multiple databases searched and identified Inclusion and exclusion criteria stated | ☐ Yes
☐ Yes
☐ Yes | ☐ No
☐ No
☐ No |
| <ul style="list-style-type: none"> Was there a flow diagram showing the number of studies eliminated at each level of review? | ☐ Yes | ☐ No |
| <ul style="list-style-type: none"> Were details of included studies presented (design, sample, methods, results, outcomes, strengths and limitations)? | ☐ Yes | ☐ No |
| <ul style="list-style-type: none"> Were methods for appraising the strength of evidence (level and quality) described? | ☐ Yes | ☐ No |
| <ul style="list-style-type: none"> Were conclusions based on results? <ul style="list-style-type: none"> Results were interpreted Conclusions flowed logically from the interpretation and systematic review question | ☐ Yes
☐ Yes | ☐ No
☐ No |
| <ul style="list-style-type: none"> Did the systematic review include both a section addressing limitations and how they were addressed? | ☐ Yes | ☐ No |

QUALITY RATING BASED ON QUALITY APPRAISAL

- A High quality:** consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence
- B Good quality:** reasonably consistent results; sufficient sample size for the study design; some control, and fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence
- C Low quality or major flaws:** little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn