

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?	<input type="checkbox"/> Yes	<input type="checkbox"/> 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? 2. Was there a control group? 3. Were study participants randomly assigned to the intervention and control groups?		<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No
If Yes to all three, this is a Randomized Controlled Trial (RCT) or Experimental Study		→	<input type="checkbox"/> 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)		→	<input type="checkbox"/> 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)		→	<input type="checkbox"/> 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>		<input type="checkbox"/> Yes	<input type="checkbox"/> 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>		<input type="checkbox"/> Yes	<input type="checkbox"/> No
a. Does it combine and analyze results from the studies to generate a new statistic (effect size)? (Systematic review with meta-analysis)		<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Does it analyze and synthesize concepts from qualitative studies? (Systematic review with meta-synthesis)		<input type="checkbox"/> Yes	<input type="checkbox"/> 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?	→	<input type="checkbox"/> LEVEL I	
b. Are the studies a combination of RCTs and quasi-experimental or quasi-experimental only?	→	<input type="checkbox"/> LEVEL II	
c. Are the studies a combination of RCTs, quasi-experimental and non-experimental or non-experimental only?	→	<input type="checkbox"/> LEVEL III	
d. Are any or all of the included studies qualitative?	→	<input type="checkbox"/> 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

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