

LEGEND: Evidence Appraisal of a Single Study Intervention Cross-Sectional Study

Reviewer:

Today's Date:

Final Evidence Level:

Project/Topic of your Clinical Question:

Article Title:

Year:

First Author:

Journal:

Do the study aim/purpose/objectives and inclusion/exclusion criteria assist in answering your clinical question?

☐ Yes ☐ No ☐ Unknown

- Study Aim/Purpose/Objectives:

- Inclusion Criteria:

- Exclusion Criteria:

Is a cross-sectional study congruent with the author's study aim, purpose, or objectives above?

☐ Yes ☐ No ☐ Unknown

When reading the bolded questions, consider the bulleted questions to help answer the main question.

If you are uncertain of your skills in evidence evaluation, please consult a local evidence expert for assistance:

- [CCHMC Evidence Experts](#)

Unfamiliar terms can be found in the [LEGEND Glossary](#).

Validity

Are the results of the Cross-Sectional Study valid?

- | | | | |
|---|------------------------------|-----------------------------|----------------------------------|
| 1. Were the study methods appropriate for the question? <ul style="list-style-type: none">• Were the study methods clearly described (e.g., setting, sample population)?• Were the instruments clearly described?• Were the data collected at one point in time? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 2. Were instruments used to measure the outcomes valid and reliable? <ul style="list-style-type: none">• Were the instruments tested to be valid and reliable? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 3. Were all appropriate variables (e.g., potential confounders, exposures, predictors) and interventions clearly described? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 4. Were all appropriate outcomes clearly described? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 5. Were all participants accounted for at the conclusion of the study? <ul style="list-style-type: none">• Were withdrawals from the study explained?• Was the rate of attrition acceptable? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 6. Was there freedom from conflict of interest? <ul style="list-style-type: none">• Sponsors, Funding Agency, Investigators | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |

Comments on Study Validity:

Reliability

Are these valid study results important?

- | | | | |
|---|------------------------------|-----------------------------|----------------------------------|
| 7. Were the statistical analysis methods appropriate? <ul style="list-style-type: none">• Were the statistical analysis methods clearly described? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 8. Did the study have a sufficiently large sample size? <ul style="list-style-type: none">• Was a power analysis described?• Did the sample size achieve or exceed that resulting from the power analysis?• Did each subgroup also have sufficient sample size (e.g., at least 6 to 12 participants)? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| 9. What were the main results of the study? (e.g., Helpful data: Page #, Table #, Figures, Graphs) <ul style="list-style-type: none">• What was the effect size? (How large was the treatment effect?)• What were the measures of statistical uncertainty (e.g., precision)?
(Were the results presented with Confidence Intervals or Standard Deviations?) | | | |

LEGEND: Evidence Appraisal of a Single Study

Intervention

Cross-Sectional Study

10. Were the results statistically significant?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
11. Were the results clinically significant? • If potential confounders were identified, were they discussed in relationship to the results?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
12. Were adverse events assessed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown

Comments on Study Reliability:

Applicability

Can I apply these valid, important study results to my patients?

13. Can the results be applied to my population of interest? • Is the treatment feasible in my care setting? • Do the patient outcomes apply to my population or question of interest? • Are the likely benefits worth the potential harm and costs? • Are the patients in this study similar to my population of interest?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
14. Are my patient's and family's values and preferences satisfied by the treatment and its consequences?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
15. Would you include this study/article in development of a care recommendation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown

Comments on Study Applicability:

Additional Comments or Conclusions ("Take-Home Points")

Quality Level / Evidence Level

- Consider each "No" answer and the degree to which this limitation is a threat to the validity of the results, then check the appropriate box to assign the level of quality for this study/article.
- Consider an "Unknown" answer to one or more questions as a similar limitation to answering "No," if the information is not available in the article.

The Evidence Level is:

- ☐ Good Quality Cross-Sectional Study [4a]
☐ Lesser Quality Cross-Sectional Study [4b]
☐ Not Valid, Reliable, or Applicable

Table of Evidence Levels																		
DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN																	
	Systematic Review Meta-Analysis	RCT +	CCT +	Qualitative Study	Cohort – Prospective	Cohort – Retrospective	Case – Control	Longitudinal (Before/After, Time Series)	Cross – Sectional	Descriptive Study Epidemiology Case Series	Quality Improvement (PDSA)	Mixed Methods Study	Decision Analysis Economic Analysis Computer Simulation	Guidelines	Case Reports N-of-1 Study	Bench Study	Published Expert Opinion	Local Consensus Published Abstracts
Intervention	1a	2a	3a	4a	3a	4a	4a	4a	4a	4a	4a	2/3/4 a/b	5a	5a	5a	5a	5a	5
Treatment, Therapy, Prevention, Harm, Quality Improvement	1b	2b	3b	4b	3b	4b	4b	4b	4b	4b	4b	a/b	5b	5b	5b	5b	5b	

+ RCT = Randomized Controlled Trial; CCT = Controlled Clinical Trial

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Intervention

Cross-Sectional Study



Development for this appraisal form is based on:

1. Guyatt, G.; Rennie, D.; Evidence-Based Medicine Working Group.; and American Medical Association.: Users' guides to the medical literature : a manual for evidence-based clinical practice. *Users' guides to the medical literature : a manual for evidence-based clinical practice*: "JAMA & archives journals." Chicago, IL, 2002
2. Melnyk, B. M. and E. Fineout-Overholt (2005). Evidence-based practice in nursing & healthcare : a guide to best practice. Philadelphia, Lippincott Williams & Wilkins.
3. Lohr, K. N. and T. S. Carey (1999). "Assessing "best evidence": issues in grading the quality of studies for systematic reviews." Joint Commission Journal on Quality Improvement 25(9): 470-9.
4. Fineout-Overholt, E. and L. Johnston (2005). "Teaching EBP: asking searchable, answerable clinical questions." *Worldviews Evid Based Nurs* 2(3): 157-60.
5. Jerosch-Herold, C. (2005). "An evidence-based approach to choosing outcome measures: a checklist for the critical appraisal of validity, reliability and responsiveness studies." *British Journal of Occupational Therapy* 68(8): 347-53.
6. Phillips, et al: Oxford Centre for Evidence-based Medicine Levels of Evidence, 2001. Last accessed Nov 14, 2007 from <http://www.cebm.net/index.aspx?o=1025>.
7. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. *Worldviews Evid Based Nurs*, 2(3): 157-60, 2005.
8. Clark, E., Burkett, K., & Stanko-Lopp, D. (2009, Dec). Let Evidence Guide Every New Decision (LEGEND): an evidence evaluation system for point-of-care clinicians and guideline development teams [CCHMC LEGEND development]. *J Eval Clin Pract*, 15(6), 1054-1060.