

ABSTRACT SCORING INSTRUCTIONS

Hypothesis/Objectives

- 0 No stated hypothesis, or no stated objectives
- 1 Stated hypothesis was difficult to test, or stated objectives were poorly chosen
- 2 Clearly stated and testable hypothesis, or well thought out study objectives

Study Design

- 0 Chosen study design did not test the stated hypothesis/objectives (*i.e.* an inappropriate design)
- 1 Chosen study design was sub-optimal but did test the stated hypothesis/objectives (*i.e.* an acceptable design)
- 2 Chosen study design was the best feasible method for testing the stated hypothesis/objectives (*i.e.* a robust design)

Methods I - Measures of Validity

- Score 0 for poor, 1 for satisfactory, 2 for very good.
- Use the following table as a guide toward arriving at these ratings.

General Criteria

Specific Examples

Score	ALL STUDY TYPES	Clinical Trial	Observational Study	Survey	Laboratory	Qualitative Research
0	Poorly controlled, vulnerable to bias, or poorly explained (poorly written)	Uncontrolled, or non-randomized for main outcome	Unclear methods, or poor control for bias/confounding, validity of data acquisition dubious	Survey depends on constructs (concepts, definition), or assumptions, of uncertain validity, or administration sloppy	Methods ambiguous, or poor experimental control	Analytic framework (e.g. discourse analysis, grounded theory) and coding process unspecified, interview guides not described, or inadequate session documentation
1	Protection against bias, experimental control, and explanation/writing, are all satisfactory	Randomized for main outcome, but faulty blinding or vulnerable to bias	Bias/confounding are generally controlled, but with some shortcomings, data acquisition reasonable	Assumptions and constructs appear valid, but applicability how to apply survey data to real world not obvious, reasonable survey administration conditions	Methods clear but flawed, experimental control weak, or conclusions may not follow from results	Analytic framework and coding process specified but application unclear, interview guides described but vaguely, or documentation limited to field notes or recording (not both)
2	Well-controlled, well protected from bias, and professionally written	Appropriately blinded, controlled, and randomized	Clear, robust methods. Good control of bias/confounding, robust data acquisition, with measurement of inter-rater reliability when relevant	Valid assumptions & constructs, clear relevant of survey data to real world, excellent survey administration methods	Clear methods, good experimental control, valid conclusions	Clear specification of analytic framework, clear description of coding process, clear description of interview guides & session management, documentation by field notes plus recording

Methods II-Sample Size and Reliability

- Score 0 for poor, 1 for satisfactory, 2 for very good.
- Use the following table as a guide toward arriving at these ratings.

General Criteria

Specific Examples

Score	Applies to all study types	Clinical Trial	Observational Study	Survey	Laboratory	Qualitative Research
0	Biased sampling, or inadequate sample size for conclusions	<i>Same as general criteria</i>	Wrong sampling frame or biased sampling	<70% response rate, or obvious bias in who responded	Experiment could not be replicated, or result could have been spurious	No stated or systematic sampling method, no demographic data collected, and rationale behind sample size not described
1	Subject selection and sample size reasonable, but generalizability/applicability unclear	<i>Same as general criteria</i>	Some vulnerability to bias or type II error, but good effort to control	>70-90% response rate, but some concern for response bias or other bias	Experiment reproducible but some lack of confidence in whether result trustworthy	Systematic sampling (purposive, consecutive, snowball), demographics described, but groups too small or surveys too few, unclear whether thematic saturation reached.
2	Conclusions appropriate for sample size, applicability of data clear and valid	<i>Same as general criteria</i>	Robust sampling methods, sample clearly adequate for conclusions	>70% response rate and good protection for response and other bias	Clearly reproducible experiment with good control, unlikely to be contradicted by future research	Systematic sampling (purposive, consecutive, snowball), demographics described, thematic saturation achieved

Statistics

Please note that the statistics score, unlike the methods score, is based upon appropriate descriptions of error rates, confidence intervals, null hypotheses, and significance level/p-value, and/or description of the coding process for qualitative studies.

- 0 Statistical methods inappropriate or poorly described
- 1 Statistical methods probably consistent with clinical conclusion, but not technically correct
- 2 Appropriate and well-described statistical methods; no significant shortcomings

Conclusions/Results Presentation

- 0 Data critical to the interpretation of the study are absent, and the conclusions are not supported by the results of the study
- 1 Data critical to the interpretation of the study are not clearly presented, or are incomplete, and the study’s conclusions are partially supported by its results
- 2 Data critical to the interpretation of the study are clearly and completely presented, and the study’s conclusions are fully supported by its results

Impact

- 0 Study will not change EM practice, and will make no meaningful contribution to the current fund of knowledge
- 1 Study will possibly change EM practice, or contribute modestly to the current fund of knowledge
- 2 Study is likely to change EM practice, or contribute substantially to the current fund of knowledge