

EVALUATION AND SYNTHESIS: FINAL STEPS IN CRITICAL APPRAISAL

Critical appraisal includes rapid critical appraisal, as described throughout the chapter, as well as digging deeper. Once studies have been defined as keepers, they should be melded together into a synthesis upon which to base practice and standards of care. Clinical decisions at the point of care may use already synthesized or synopsized resources, as described in Chapter 3; however, when sustainable practice changes are required, careful evaluation and synthesis of evidence are necessary. To provide best care, we must act on what we currently know and understand from what we synthesize as the best available evidence (Fineout-Overholt, 2008).

Each study should be evaluated using an evaluation table like the one found in Table 5.8. The essential elements are listed as headings for the table. There may be other headings that clinicians feel are important to their studies, which can be added. The PICOT question is the driver for the evaluation table and synthesis tables. For example, with data analysis, while many statistics may be reported in a study, only those statistics that assist you in answering your clinical question should be placed in the table. As well, only the findings that are relevant to the clinical question should be placed in the table. Keeping the order of information placed in the table clear and simple is imperative for comparisons across studies for synthesis. Some suggestions to make the table user-friendly are to (a) use abbreviations (e.g., RCT) with a legend for interpretation, (b) keep the order of the information the same in each study (e.g., MS would appear at the top of the variables section for each study), and (c) place similar statistics in the same order in each study for easy comparison (Fineout-Overholt, 2008). Appendix C contains templates for evaluation and synthesis tables for conducting an evidence review.

Synthesis occurs as clinicians enter the study data into the evaluation table (Fineout-Overholt, 2008). Each study is compared to the others for how it agrees or disagrees with the others in the table. Some examples of the columns that would be included in the table are study design, sample characteristics, and major variables studied. Using the last column to document the level of evidence as well as the quality assists the clinician to quickly peruse the strength of the evidence that leads to the confidence to act on that evidence to impact outcomes (Fineout-Overholt).

Table 5.8 Example of Headings for an Evaluation Table*

Citation of a Single Study	Theoretical or Conceptual Framework	Study Design and Method	Sample Characteristics and Setting	Names and Definitions of Major Variables	Outcomes Measures	Data Analysis	Findings	Level and Quality of Evidence
Jones and Smith (2009)	ARCC	RCT	EBPM ACC	IV = MS	WSI	t-Test	NSD	Level II
			EBPM M/S	DV = NrsS				
Smith and Jones (2007)	ARCC	RCT	EBPM Peds	MS	WSI	t-Test	EBPM SD	Level II
			NM	NrsS	JS		NM, $p < 0.001$	

*Example is hypothetical.

Notes: ACC, acute and critical care; ARCC, Advancing Research & Clinical practice through close collaboration; DV, dependent variable; EBPM, EBP mentors; IV, independent variable; JS, job satisfaction; M/S, Medical/Surgical; MS, managerial style; NM, nurse managers; NrsS, nurse satisfaction; NSD, no significant difference; Peds, Pediatrics; RCT, randomized controlled trial; SD, significantly different; WSI, Work Satisfaction Index.