Developing a Robust Evidence Base for Nursing

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KEYWORDS

• Systematic review • Joanna Briggs Institute • Cochrane Collaboration • PRISMA
• Best available evidence

KEY POINTS

- Systematic reviews are ideal best evidence because they are based on an exhaustive search and transparent rigorous methods.
- Systematic reviews are inconsistently identified in bibliographic databases and knowledge users need critically appraise them using standard criteria.
- More nurses need to be prepared to conduct systematic reviews using internationally developed standard practices.

Over the last 2 decades, nursing care has begun to transform toward clinical decisions informed by the best available evidence and clinical expertise, and made by engaging patients to illuminate and incorporate their circumstances, preferences, and values. However, the transformation is in its early days. It is a steep challenge to live up to the "best available evidence" element in the definition of evidence-based practice. This paper will address initiatives in the United States and internationally to systematically develop an evidence base for nursing care and critically evaluate progress and strategies to enhance it through systematic reviews focused on nursing care.

ROBUST EVIDENCE BASE

The Oxford dictionary defines robust as "strong, health and vigorous." Synonyms include "sturdy in construction," "strong," and "able to withstand or overcome adverse conditions."[1] This definition indicates that robust evidence can withstand criticism, is defensible and of sufficient magnitude (ie, vigorous) to make a difference. Currently, a wide assortment of evidence sources within the discipline of nursing and among other disciplines exists to inform nursing practice, but not all of them are robust. Knowledge users need to ask fundamental questions of these sources of evidence to judge whether or not the source should inform their decisions. Most importantly they need to ask, "How does the source achieve the qualification of being

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best available?" Whether the source is a system of evidence, a practice guideline, a systematic review, or a single study, it can only be defensible if it can be judged for how it is the best of available evidence.

Increasingly, vendors and publishers are marketing sources as being evidence based. They need to be able to respond to the users who ask, "How does your knowledge source represent the best available evidence?" If they respond with answers like "there are references," "we have an expert editorial board," or "many organizations use our system," but do not support how they developed the system, guideline, and so on, to meet the standard of best available, it cannot be judged as robust or even defended as "evidence based."

Implications of "Best Available Evidence"

Definitions of evidence-based health care consistently include reference to "best evidence"[2] and publications about searching include finding the "best available evidence."[3,4] Both words, best and available, have important implications for finding and selecting evidence for making clinical decisions. To determine the best evidence, clinicians need to have methods to judge the quality of the evidence using criteria to benchmark it relative to ideal evidence. Finding available evidence implies that the search process is comprehensive and exhaustive, but that ideal evidence may not be available. Then clinicians need to use other sources of evidence to inform decisions while understanding that the evidence may be more vulnerable to biases.

Many authors and organizations have proposed hierarchies of evidence quality and other hierarchies that qualify the strength of the recommendations that stem from the evidence. These hierarchies assist knowledge users in weighing the strength of the evidence and their confidence in the information gained from it. Many hierarchies relate only to questions of effect, so the study designs logically relate to those that would appropriately address comparative effectiveness, like randomized controlled trials. Knowledge users need other hierarchy systems for other kinds of questions like those of diagnosis, prognosis, etiology, risk, and meaning of experience. For example, it is not logical or appropriate to study the meaning of a lived experience using a quantitative design like a randomized controlled trial. Therefore, for questions like, "What is the experience of dyspnea in patients in an acute exacerbation of heart failure?", need an appropriate hierarchy where the strongest evidence uncovers that experience through a systematic review of qualitative evidence. On the other hand, questions of effectiveness cannot be answered with qualitative evidence; rather, a systematic review of well-conducted, randomized, controlled trials is the ideal source of evidence.

Systematic reviews rise to the top of evidence hierarchies because they are designed to systematically search all available studies (published, unpublished, all languages), and critically appraise and synthesize the world's evidence on a particular question.[5,6] They must be transparent in their methods to be accountable and explicit.[7] A systematic review of quantitative evidence may or may not include a meta-analysis (statistical pooling) of data extracted from the included studies. Although metaanalyses provide parameters to judge the precision of the pooled effect, they do not necessarily ensure additional rigor of a systematic review and are just 1 component of a systematic review of quantitative evidence. Systematic reviews of qualitative evidence use the same steps as a quantitative systematic review and produce meta-aggregations and synthetic statements. These statements can guide practice and understanding of patients' experiences through the metasynthesis of findings from qualitative studies.[8]

Systematic review methods have developed over the past 2 decades and represent international consensus about how to properly conduct a rigorous systematic review.