Fostering Rigorous Critique of the Evidence

The proliferation of research has resulted in the need to synthesize the evidence to better understand what is known about a topic. In fact, examples of this abound in the literature (Katapodi & Northouse, 2011; Mokkink et al., 2009; Nadimpali & Hutchinson, 2012). Although these efforts began in practice, nurse educators have recognized the need to provide syntheses of evidence about many teaching and learning strategies. For example, Pennington and Spurlock (2010) reported findings of a systematic review examining the effectiveness of interventions to improve licensure pass rates. Although the preceding is the desired outcome, as reviewers, we are often presented with manuscripts in which a precise methodological approach by which the literature is evaluated is illusive or absent. Thus, this editorial is a plea for increasing efforts to employ rigorous standards when evaluating the literature in nursing education and for explicating these efforts clearly when disseminating results.

Because semantics often enters into the conversation when evaluating the literature, nursing education scientists must be clear about which method they will use when conducting a review—an integrative or systematic review of the literature or a meta-analysis. Fortunately, nursing education scientists have access to resources that can help them determine which approach to use. For example, Whittemore and Knaff (2005) presented guidelines to use when evaluating the literature, based on a broader perspective of the type of literature to include. They argued that “The integrative review method is the only approach that allows for the combination of diverse methodologies (for example, experimental and non-experimental research), and has the potential to play a greater role in evidence-based practice for nursing” (Whittemore & Knaff, 2005, p. 546). Rew (2011), on the other hand, provided background information about existing confusion in the use of terms, highlighting that the term meta-analysis is often used interchangeably with the term systematic review and explicates the process by which to conduct a systematic review of the literature.

However, no discussion of increasing rigor in the evaluation of evidence would be complete without discussing the PRISMA statement (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009). This statement, developed by a panel of international experts, comprises a 27-item checklist for use as a guide to determine what to include in a systematic review, defined as “a review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies included in the review” (Moher et al., 2009, p. 264). This statement recognizes the contribution of new information to the “science of systematic reviews” (p. 264) and explicates conceptual issues that have arisen as systematic reviews have been undertaken: the iterative nature of conducting a systematic review; conceptual differentiation between conducting and reporting research; variability in risk of bias based on level of assessment (study versus outcome); and the need to address reporting biases.

What does the preceding mean to us as scientists and educators? Given that Gardner (2006) identified the ability to synthesize information from multiple disciplines as a key skill for the 21st century, we must increase the opportunities for students at all levels to develop these skills, especially for students at the graduate level. Opportunities to develop these skills should not be limited to the typical research courses. Rather, as educators, we should be incorporating learning activities that develop these skills into each course. As scientists, we are challenged to model the practice and to use accepted best practices when we critique the evidence. Ultimately, by undertaking a concerted effort to develop and refine these skills, we increase the influence we have on moving forward the science of nursing education.

References


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