

Evidence-Based Practice: Issues, Paradigms, and Future Pathways

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Evidence-based practice (EBP) has become a real buzz word, not only in the discipline of nursing, but in all healthcare professions. EBP has been identified as the foundation of accountable, professional nursing practice and it would seem that few could argue with the apparent benefits; however, debate does exist in the literature about whether EBP can realistically be attained. As such, a critical discourse regarding the future of EBP for nursing needs to occur. One of the key questions to be addressed through this discourse is, “what counts as evidence?” A review of the nursing literature on the concept of EBP will be presented in this paper along with a discussion of several of the issues associated with EBP within the discipline of nursing. I will also present some ideas about the implications of the EBP movement in nursing and examine the future pathways for nursing.

One of the current buzz words, so to speak, in the discipline of nursing is “evidence-based practice” (EBP) (Ingersoll, 2000) and it has seemingly become a critical mandate to ensure that nursing interventions are indeed based on the most current and reliable evidence. In fact, **EBP has been identified as the foundation of accountable, professional nursing practice** (Avis & Freshwater, 2006). The Canadian Nurses Association (2002) notes that “evidence-based decision-making is essential to optimize outcomes for patients, improve clinical practice, achieve cost-effective nursing care and ensure accountability and transparency in decision-making” (p. 1). Similarly, the International Council of Nurses (2007) emphasizes the importance of “research based-practice” as the “hallmark of professional nursing,” and while they do not specifically refer to the term “evidence,” they acknowledge that both qualitative and quantitative nursing research is “critical for quality, cost-effective health care” (p. 1). Who could argue with such apparent benefits? While it may appear on the surface that EBP is a noble standard, debate exists in the literature

about whether such a goal can realistically be attained (Brown, 2009). As such, a critical discourse regarding the future of EBP for nursing needs to occur.

One of the key questions, **I believe, concerning the future of EBP for nursing is *what counts as evidence?***

When the movement began in the early 1990s, most of the literature referred to “evidence” as being derived from research, namely quantitative research (Avis & Freshwater, 2006). Indeed, it has been said that an evidence hierarchy exists, with the randomized control trial (RCT) being the goal standard; thus, other sources of knowledge such as nursing intuition, expertise, and clinical judgment have been discounted in relation to decision making (Mitchell, 1999). A review of the nursing literature on the concept of EBP reveals a very heated debate which will be explored throughout this paper. I will also address several of the issues associated with EBP and present some ideas about the future of EBP in nursing. It is prudent, however, to begin with an exploration of the concept of “evidence,” namely an examination of *what counts as evidence?*

What Constitutes Evidence?

Despite the ardent call for EBP in health care, there is significant confusion and debate in the literature about the notion of “evidence” (Romyn et al., 2003). Thorne (2009) posits that nursing’s credibility is becoming vulnerable as a result of conceptual confusion surrounding what constitutes an evidence claim. Evidence can be defined as “an outward sign; something that furnishes proof; something legally submitted to a tribunal to ascertain the truth of the matter” (Merriam-Webster, 2009). Words such as *truth* and *proof* stand out in this definition and these are concepts that have led to debates within nursing, as in other disciplines. *Truth and knowledge are terms that are often linked, and while both deal with understanding, knowledge falls into the realm of science, while truth falls into the sphere of philosophy and religion* (Guba, 1990). I would argue that evidence (as it relates to nursing) would more aptly be defined as that which *furnishes information and knowledge, rather than truth*. If we can assume that *evidence can be taken to mean the nature of knowledge* (Marks, 2002), then it is important to consider some ontological and epistemological questions before proceeding.

Ontological and epistemological questions about the nature of nursing knowledge and reality are highly dependent upon the particular paradigm to which one subscribes. Guba (1990) presents four paradigms which offer different responses to questions concerning the nature of reality, the relationship between the inquirer and the “knowable,” and how to generate knowledge. The four paradigms are: positivism, postpositivism, critical theory, and constructivism. Drawing from Guba’s text, *The Paradigm Dialog*, I will present a brief synopsis here of each of these four paradigms as these will help inform the debates surrounding EBP, which will be discussed in detail later in this paper.

First of all, let us examine the paradigm of positivism. If one’s beliefs are rooted in positivism, then one assumes a realist ontology, meaning that reality exists “out there” and is driven by undeniable “natural laws.” The *goal of science is to discover the “true” nature of reality with the aim being to “control and predict natural phenomena.”* From an epistemological standpoint then, one would adopt an objectivist view of knowledge and a researcher operating within this paradigm would *seek to generate knowledge by adopting a distant and noninteractive stance by choosing experimental, empirical, controlled methodologies to test hypotheses.*

Similar to the paradigm of positivism is that of post-positivism. If one’s basic belief system is based on the postpositivistic paradigm, then one assumes a critical realist ontology which acknowledges that *reality exists external to the mind*, yet it cannot be known because *as humans, we lack the ability to know*. In this case, a modified objectivist epistemology is espoused, meaning that while *objectivity is the ideal, it can only be approximated*. From a methodological standpoint, a researcher in this paradigm would *focus on critical multiplism and triangulation of approaches in order to compensate for biases inherent in individual research methods*. Here, the researcher would focus on conducting inquiry in more natural settings and on using more qualitative methods.

In relation to the third paradigm of critical theory, a critical realist ontology is espoused, again meaning that reality exists external to the mind, yet in this case, *reality is seen as influenced by societal structures*. In opposition to the previous paradigms, *a subjectivist epistemology is the focus here*. The goal is said to be to free participants from the effects of ideology and the inquiry is guided by societal values. To generate knowledge within the critical theory paradigm, a researcher would *employ methodologies that are dialogic and transformative and that are intended to eliminate false consciousness of participants and allow them to perceive the “real” world.*

Finally, the fourth paradigm described by Guba (1990) is that of constructivism. If one’s belief system is grounded in constructivism, then one purports a relativistic ontology which assumes that *multiple realities exist*. In other words, realities are local, specific, and mental constructions that are socially and experimentally based on the individuals who hold them. In direct contrast to the preceding paradigms, the constructivist view is that many interpretations of reality are possible. A subjectivist epistemology is evident in this paradigm and *knowledge is said to be “created” between the inquirer and the respondent*. The researcher operating within this paradigm chooses methodologies that are hermeneutic and dialectical and the goal is to identify the variety of constructions that exist and bring them to as much consensus as possible.

So then, *how does each of these paradigms “fit” with the EBP movement in the discipline of nursing?* Much of the debate in the literature seems to focus on the fact that only the positivist or postpositivistic paradigms can support “true” EBP. Marks (2002) notes that integrating research evidence from each paradigm in a

complementary rather than competitive manner should be the ideal goal of the EBP movement. This would require acceptance of quantitative research evidence derived from a realist perspective along with constructivist analysis of qualitative research evidence. Marks (2002) goes on to say that a pragmatic framework would allow for such an inclusive view of evidence. Before exploring the implications of EBP and future pathways for nursing, I will now briefly examine some of the issues inherent in the paradigm debate in more detail.

What are the Issues With the EBP Movement?

There are several issues identified in the literature concerning the EBP movement. These include: difficulty defining the concept of evidence based on competing paradigms, the nature of the evidence hierarchy, the destructive nature of the debates, as well as the question of whether EBP is even a realistic or attainable goal within the discipline of nursing.

One of the key problems noted in the literature regarding the concept of EBP relates to how we define "evidence." Should evidence be limited to research findings and, in particular, findings from quantitative research? Or can other forms of knowledge be considered as evidence in the discipline of nursing? In its position statement on evidence-based decision making and nursing practice, the Canadian Nurses Association (2002) (CNA) defines evidence as "information acquired through scientific evaluation of practice" (p. 1). In this document, the CNA lists the types of evidence important for professional nursing practice as including: "experimental studies such as randomized control trials and meta-analysis, non-experimental research studies that include quasi-experimental and observational studies, expert opinion in the form of consensus documents and commission reports and historical or experiential information" (p. 1). Clearly, the CNA has adopted a rather broad view of what constitutes evidence as it relates to nursing practice and decision making. Such a definition of evidence can be said to derive from the constructivist paradigm discussed earlier, which incorporates a relativistic ontology or, in other words, the existence of multiple realities based on individual contexts. While there are many proponents of this broad and inclusive view of evidence for the discipline of nursing (Estabrooks, 1998; Rycroft-Malone et al., 2004; Williamson, 2009), Tarlier (2005) raises an important question related to the diversity of definitions. She writes, "Is a definition

of evidence this broad any more useful to nursing practice than a too restrictive definition?" (p. 129).

Rycroft-Malone et al. (2004) posit that there are four types of evidence relevant for effective nursing practice, including: research, clinical experience, patient experience, as well as information from the local context. Several authors also advocate the use of qualitative research findings as an important source to guide clinical practice decisions in nursing (Ferguson & Day, 2005; Grace & Powers, 2009; Marks, 2002; Nelson, 2008; Thorne, 2009; Williamson, 2009). It is interesting to note that while there seems to be growing acceptance of the credibility of qualitative evidence, Marks (2002) reported that in a review of 900 items of the literature on EBP, only about 2% even discussed qualitative evidence. Thorne (2009) identifies the need to move away from debates about terminology and instead promote the use of both quantitative and qualitative research in the discipline of nursing. Furthermore, she proposes that some of the newer approaches to research synthesis and integration have the potential to develop assurance regarding "a qualitatively-derived evidentiary knowledge claim" and that these approaches may make it more comfortable for nurses to work within the EBP movement (p. 569).

While many agree that broad definitions of evidence are needed in nursing, when scholars take a more narrow view of evidence as meaning "conclusive statements from randomized control trials" (Mitchell, 1999, p. 30), it becomes very problematic and rather impossible for a practice discipline such as nursing to achieve. On the basis of this definition, Mitchell (1999) has made some very provocative arguments against EBP in nursing and instead has sought to advocate the use of nursing theory as the primary evidence base for the discipline of nursing. While I agree with many of her views about the usefulness of theory as a guide for nursing practice, I cannot agree with the harsh statements she makes about the proponents of EBP. For example, Mitchell writes that "many supporters of evidence-based practice fail to acknowledge that nursing practice requires thought and is therefore also guided by theory" (p. 31). She adds that she is "very concerned that nurses are being portrayed as empty (thoughtless) beings who must be directed when to speak, what to think, and when to listen—based on research evidence" (p. 31).

Others have expanded on Mitchell's viewpoints and add that nurses are ignoring the multiple patterns of knowing identified through Carper's seminal work

in 1978 and instead are reverting to a medical view of evidence (Fawcett, Watson, Neuman, Walker, & Fitzpatrick, 2001). Like Mitchell, Fawcett et al. (2001) advocate for “theory-guided, evidence-based nursing practice” (p. 115); however, they raise the notion of viewing each of the four patterns of knowing (empirics, esthetics, personal knowledge, and ethics) as a type of theory, and as such, different methods of inquiry can be used to generate evidence relevant to nursing practice. For example, scientific data can be generated through empirical research based on the empirical pattern of knowing, while standards of practice, codes of ethics, and philosophies of nursing are examples of evidence generated from the ethics pattern of knowing. This view of evidence is certainly more inclusive than some others noted in the nursing literature and Fawcett et al. (2001) suggest that their views regarding the “diversity of types of theories and the evidence needed for each type of theory, addresses, at least in part, current criticisms of the evidence-based practice movement” (p. 119). Fawcett et al.’s (2001) view of evidence is in keeping with a constructivist paradigm. It is important to acknowledge that within the conventional EBP agenda which promotes an evidence hierarchy, nurses struggle to reconcile their commitment to multiple ways of knowing (Thorne, 2009).

An even more critical view of EBP is espoused by Holmes, Perron, and O’Byrne (2006). These authors draw on the works of continental postmodern thinkers such as Baudrillard, Deleuze, Guattari, and Foucault to critically examine the pervasiveness of the evidence-based nursing (EBN) movement, and to that end, these authors seek to “deconstruct the ‘taken-for-granted’ assumption that EBN is in and of itself, the favoured path to the sound development of nursing knowledge” (p. 95). They specifically argue against the hierarchy of evidence and promote diversity of research methodologies to guide practice, but they go a step further in suggesting that current research agendas are subjugated by only one paradigm of knowledge development, that of postpositivism. The authors argue that within this paradigm, the RCT is considered the superior form of evidence, and as such, they posit that many other avenues to build nursing knowledge are being excluded from current discourses resulting in oversimplification of the complexity of clinical nursing practice and aligning nursing with a similar path as medicine.

A rather heated debate exists in the literature between the opponents of EBP who argue that the

limited empiricist view of evidence derived from positivist and postpositivistic paradigms is significantly problematic and the opponents of the movement who take a more inclusive view of evidence as being derived from the critical theory and constructivist paradigms, and argue that EBP is essential to safe, accountable, professional practice. Porter and O’Halloran (2009) specifically examine this “war of words” between the two sides. These authors note that the “acerbic style of engagement means that the important substantive issues have been obscured” (p. 740). They go on to say that “ad hominem” criticism is particularly destructive for the discipline because the result is that “the two sides in this war of words have talked past each other” (p. 741). Porter and O’Halloran are specifically referring to a series of papers by Holmes and colleagues which they say have “marshaled what seems like the entire battery of French postmodernist/poststructuralist heavy guns to pound the ramparts of EBP with metaphor upon metaphor” (p. 741). Furthermore, these authors suggest that papers such as those by Holmes and colleagues are not productive in resolving the issues inherent in EBP, but rather the metaphorical language tends to detract from the real arguments. Porter and O’Halloran conclude by acknowledging that EBP does indeed consist of a hierarchy of evidence that leads to valuing of some forms of evidence (i.e., empirical evidence) over other forms, but they raise a significant question for consideration, that being “whether this is a good or a bad thing” (p. 744). They go on to pose the question as to whether this type of devaluing of certain forms of evidence can be considered a case of hegemonic influence to distort knowledge in order to gain power (as suggested by Holmes and colleagues) or whether it is simply a matter of higher-quality evidence being preferred because it leads to better healthcare practice? The authors suggest that this is a more significant question to be considered by both sides in the EBP controversy.

The hierarchy of evidence and its resulting overreliance on results from RCTs is regarded by some as a key weakness in the EBP movement due to its exclusive nature (Avis & Freshwater, 2006; Ingersoll, 2000; Mitchell, 1999; Porter & O’Halloran, 2009). Avis and Freshwater (2006), for example, have argued against the positivist notion of science being regarded as the only credible means of generating evidence upon which to base nursing knowledge claims. These authors do not attempt to define what counts as evidence; however, they make it clear that critical reflection on evidence from arts and humanities, and

nursing practice experience, along with science, should be the foundation for nursing knowledge claims. There is little support in the literature for the notion that RCTs are superior in evaluating the effectiveness of nursing interventions (Porter & O'Halloran, 2009). Ferguson and Day (2005) note that **RCTs rarely provide the type of evidence required for complex nursing practice.** Additionally, the focus on empirical evidence in the EBP movement has been viewed as one factor that has widened rather than bridged the theory–practice gap in nursing (Upton, 1999).

One final issue noted in the literature regarding EBP relates to whether it can even be considered a realistic and attainable goal for the discipline of nursing. If we **take the commonly held view that evidence is indeed equal to research findings (both quantitative and qualitative), then we must consider whether nurses have adequate knowledge and skills to locate, critically appraise, and then incorporate the “best” evidence into clinical practice.** Some researchers have reported that practicing nurses lack such knowledge and skill (Brown, Wickline, Ecoff, & Glaser, 2009; Melnyk et al., 2004; Pravikoff, Tanner, & Pierce, 2005; Scott & McSherry, 2009; Tagney & Haines, 2009; Thiel & Ghosh, 2008). Melnyk et al. (2004) found that although nurses had positive beliefs about the benefits of EBP, their knowledge of it was low. Pravikoff et al. (2005) not only found that nurses' knowledge of EBP was low, but also reported that many did not value research and have had inadequate training to assist them in incorporating research evidence into clinical practice. Brown et al. (2009) reported that nurses' attitudes toward EBP were more positive than their associated knowledge and ability to apply evidence to their practice. Organizational barriers to EBP were also noted in this study, namely lack of time and lack of nursing autonomy. Moderate EBP culture scores were also noted in a study by Thiel and Ghosh (2008), and while positive attitudes toward EBP were also noted in this study, respondents perceived their knowledge of EBP as moderate.

Future Pathways for Nursing

In order to address the topic of future pathways for nursing in relation to EBP, it is relevant to consider the implications that can be drawn from issues discussed above. One important question stemming from how we define evidence relates to how we make decisions in the absence of evidence. In other words, if we define evidence narrowly as research findings, what

should nurses do when no research exists to address the context of their decision making? Not all nursing questions can be addressed through scientific research (Kikuchi, 1992), and to add to this, certainly not all nursing questions can be addressed through quantitative research. But the more important question that needs to be addressed is, “what do we do when the evidence does not exist?” Is it acceptable within the EBP movement for nurses to rely on other sources such as intuition, authority, tradition, and common sense? If we accept the broad definition of evidence outlined by the CNA (2002), then each of these sources is considered acceptable for EBP in nursing.

A related consideration is the undetermined nature of nursing practice. In other words, **the nature of nursing practice is such that it requires the nurse to respond to the unique, individual needs of clients, families, and/or communities and doing so can often prohibit the nurse from following strict intervention standards or guidelines derived from evidence.** Quality care is indeed fostered when nurses use their intuition and expertise in everyday practice (Christensen & Hewitt-Taylor, 2006). Day (2009) argues that “as a form of rule-following, practice based on research evidence is limited in its ability to capture essential domains of nursing practice and that reducing the practice to sets of rules to be followed precludes expertise” (p. 479). Furthermore, it can also be argued that a fully realized evidence world, that is, one in which all interventions are derived from evidence, is by nature not a reality for the discipline of nursing.

With regard to the confusion over what constitutes evidence, I posit that few nursing scholars today would support the rather limited, positivistic view of evidence as that relating only to the findings of RCTs. When evidence is defined in such narrow terms, it is not surprising that scholars such as Mitchell (1999) would purport that EBP “is not only a barren possibility, but also that evidence-based practice obstructs nursing process, human care, and professional accountability” (p. 30).

In relation to the heated nature of the debate over EBP in the discipline of nursing, several concerns need to be addressed. Mitchell (1999) has denigrated EBP in favor of nursing theory, but the question I ask is, **does it have to be one or the other?** Can we not accept a more inclusive view of evidence in nursing and acknowledge that we need to embrace both research and theory for what they each contribute to the discipline of nursing? These seem to be rather rhetorical questions, but the views espoused by Mitchell (1999)

as well as Holmes et al. (2006) behoove nursing scholars to respond to such questions.

To go even further down this path, I would argue that the debate over the EBP movement exemplifies the type of arduous debates which have occurred and continue to occur within the discipline of nursing. Furthermore, to use the terminology of Dewey (1985), I believe that this is an example of the type of binary thinking in which we often engage. In other words, opposites are identified, and yet, no intermediate ground can be seen as a possibility. I really do not believe that the proponents of EBP are attempting to dismiss all forms of knowledge or evidence in favor of findings from RCTs. Proponents do seem to admit that an evidence hierarchy exists, but it also appears in the literature that a shift is occurring in relation to accepting multiple forms of evidence as essential to safe, accountable, and professional nursing practice. Thorne (2009) purports that rather than continuing to debate the notion of EBP within nursing or trying to thwart it by clarifying the terminology, "nursing would be best served by embracing the intent of the evidence-based practice movement and applying its potential to full advantage" (p. 574).

In relation to the question of whether EBP is a realistic and attainable goal for the discipline of nursing, I would suggest that given a broad and inclusive definition of the concept of evidence, then EBP in nursing is indeed attainable; however, it is clear that efforts are needed to improve the EBP knowledge base of practicing nurses as well as student nurses. Despite the preponderance of available literature on the concept of EBN practice and the plethora of research literature available, nurses continue to struggle to incorporate evidence into practice. As mentioned previously in this paper, studies show that nurses have a lack of understanding about what EBN means, they lack the time to explore and apply the evidence, and they also lack direction from their leaders in doing so (Scott & McSherry, 2009; Tagney & Haines, 2009). Clearly, ongoing education and support of nursing staff is essential to develop the skills required to locate, appraise, and incorporate research findings into practice. Both nurse educators and nurse leaders have important roles to play in this regard. Nurse educators, in particular, have the dual responsibility of identifying creative and innovative approaches to teaching nursing students the skills required for EBP (Ferguson & Day, 2005; Kim, Brown, Fields, & Stichler, 2009; Ross, Noone, Luce, & Sideras, 2009) while at the same time ensuring that nursing pedagogy itself is evidence

based (Earle & Myrick, 2009; Ferguson & Day, 2005). Nurse leaders can play a significant role in creating a culture for EBP and empowering nurses to develop the skills needed for EBP.

Conclusion

The EBP movement attempts to encourage nurses to use the best available evidence to guide practice. Having reviewed the debate concerning the notion of evidence, the question can be raised as to whether we can indeed accept a more broad and inclusive view of evidence in the discipline of nursing. In order to promote a legitimate enhancement of healthcare, Marks (2002) notes that it will be essential to broaden the criteria for "evidence" and generate more comprehensive methods for evidence synthesis. "For evidence-based nursing to occur, nurses need to be aware of what evidence-based nursing means, what constitutes evidence, how evidence-based nursing differs from evidence-based medicine and evidence-based practice and what the process is to engage with and apply the evidence" (Scott & McSherry, 2009, p. 1,085). Despite the pervasiveness of EBP in the discipline of nursing, several issues have been identified in the literature, particularly the difficulty in defining the concept of evidence, the hierarchy of evidence and overreliance on RCTs, the heated nature of the dialog/debate over EBP, and finally the question of whether EBP is even a realistic goal for nursing. Clearly, we need to strengthen the discourse around what constitutes evidence and do so in a more supportive rather than competitive fashion. So for the future, I suggest that most importantly, we need to resist denigrating one form of knowledge or evidence in favor of another and strengthen the discourse regarding what constitutes evidence.

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