Research and Theory for Nursing Practice: An International Journal, Vol. 35, No. 1, 2021

Knowledge for Nursing Practice: Beyond Evidence Alone

Marlaine C. Smith, RN, PhD, AHN-BC, HWNC-BC, FAAN

Florida Atlantic University, Christine E. Lynn College of Nursing, Boca Raton, FL

Peggy L. Chinn, RN, PhD, DSc(Hon), FAAN

University of Connecticut

Leslie H. Nicoll, PhD, MBA, RN, FAAN

President and Owner, Maine Desk LLC, Portland, ME

Objective: For the past 30 years there has been a growing emphasis on evidence as the primary or exclusive basis for nursing practice. **Methods:** Critical examination of literature related to evidence-based practice from the 1990s to the present. **Results:** This review of the nursing literature from the 1990s to the present reveals that in the midst of the movement to promote evidence-based practice as the gold standard, there have been persistent expressions of concern. These concerns are (a) lack of alignment of evidence-based practice with nursing's disciplinary perspective; (b) wrongful privileging of empirical knowledge over other sources of knowledge; (c) underappreciation of the complexity of practice and practice wisdom; (d) possibilities of evidence-based practice thwarting innovation and creativity; (e) vulnerabilities of empirical evidence to be flawed, inconsistent, and influenced by competing interests; (f) situational realities that limit access to and critical appraisal of evidence that access to and critical appraisal of evidence is not feasible or practical; and (g) lack of relationship of evidence-based practice to theory. **Conclusions:** We call for a recalibrated practice epistemology that promotes a greater appreciation for the myriad sources of knowledge for nursing practice, and offer recommendations for international change in education, literature, scholarship, and public media.

Keywords: evidence-based practice; nursing theory; nursing knowledge; epistemology; nursing theory-guided practice; nursing practice

The knowledge needed for the practice of nursing is as complex as the nature of nursing practice itself. In part, this complexity arises from the nature of human beings, the intricacy of socially-situated experience, and the elusive nature of health and illness. Practicing nurses are constantly admonished to base their nursing practice on evidence, only to realize that there is a lack of empirical evidence that is generally viewed as adequate or sufficient for practice.

http://dx.doi.org/10.1891/RTNP-D-20-00095

Further, there are many challenges in nursing that simply cannot be fully guided by empirical facts. Nurses facing this dilemma are left feeling inadequate and at a loss to know what to do. The purpose of this article is to address the limitations of empirical evidence and to provide ways to justify and explain sound nursing practice that includes consideration of empirical evidence, but that also incorporates best practices that lie beyond empirical evidence alone.

For decades, nurses have retained a dedicated commitment to the wholeness and complexity of human experience when health is threatened or compromised. In practice, nurses attend to the human experience and consider context, culture, and values when making care decisions. In order to advocate for each person and family, nurses must know what the patient needs and wants and balance those desires with the demands of the treatments available to them. Nurses consistently look to the wholeness of the situation in order to provide nursing care. Nurse scholars have set their sights on the essential nature of the human health experience, and projected the nature of nursing approaches to assure the best possible passage through these complex experiences. However, once nursing's theoretical ideas are placed into empirical structures designed to produce evidence of the validity of those ideas, the challenges in doing so are immense. Human health events and circumstances can certainly be empirically recorded and documented, but each experience and encounter is ultimately filtered through the meanings that humans make of the specifics of a situation.

We are not alone in raising concerns related to the continuing trend to value empirical evidence as the measure by which to judge the quality of nursing practice and pointing out the limitations of this standard (Burgoyne, 2019; O'Halloran et al., 2010; Wall, 2008). Yet this sustained focus continues to bypass the complex issues involved, and evidence-based practice remains a shortcut for empirical evidence and a mantra throughout the nursing world as the foundation for nursing practice. Even the common use of the acronym EBP implies a certain fundamental value placed on what can be justified as "evidence." It is for this reason we have decided not to use the acronym in this article.

We join with many others to argue that while the demands for nursing evidence-based practice have merit and cannot be ignored, empirical evidence alone is not sufficient as a reliable and worthy basis on which to determine good or even adequate practice. We also maintain that adherence to empirical evidence as the primary and most valued justification for sound practice leaves a vast realm of human health experience outside the boundaries of what can be viewed as that which concerns nursing practice. We do not advocate abandoning the project of producing evidence relevant to nursing practice, nor do we advocate substituting something in place of empirical evidence. However, we do advocate for a judicious pursuit of empirical evidence in a focused and intentional manner, alongside equal valuing of other capacities arising from human judgment that are essential in forming "good" nursing practice. We believe there are various reasons why, despite widespread recognition of the limits of empirical evidence, the abiding allegiance to evidence-based practice persists without due consideration of its limitations and possibilities beyond evidence alone.

EVIDENCE-BASED PRACTICE

The movement of evidence-based medicine was started by Archibald (Archie) Cochrane, a Scottish physician and epidemiologist, whose 1972 publication, *Effectiveness and Efficiency*, called for the medical profession to use evidence from rigorous research for treatment decisions, rather than tradition or beliefs. This idea was a contrast to authority-based medical practice, and a way to engender greater trust in physician practice, decrease the rising cost of healthcare, and to provide the best outcomes for efficient, effective, quality, and safe medical care (Holmes et al., 2006). The Cochrane Collaboration, established in 1993 and named posthumously for Dr. Cochrane, develops, maintains, and updates systematic reviews of a variety of healthcare interventions. *Evidence-based medicine* was adapted as *evidence-based practice* and adopted by nursing and other healthcare professions in the 1990s (Melnyk & Fineout-Overholt, 2015). Even with the change in name, the evidence-based practice movement's gaze is directed toward disease, markers of mortality and morbidity, and clinical interventions. The most reliable evidence is deemed to be randomized controlled trials (RCTs), meta-analyses, and systematic reviews (Kitson, 1997). Like evidence-based medicine, evidence-based practice exists to serve goals of efficiency, cost-effectiveness, and measurable outcomes (Wall, 2008, p. 49).

There are a number of definitions of evidence-based medicine in the literature. Some examples are:

- "Conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients . . . (by) integrating clinical expertise with best possible evidence from systematic research" (Sackett et al., 1996, p. 71);
- "Systematic interconnecting of scientifically generated evidence with the tacit knowledge of the expert practitioner to achieve a change in a particular practice for the benefit of a well-defined client/patient group" (French, 1999, p. 74); and
- "Drawing on the results of systematic, rigorous, critical appraisal of research related to important practice questions" (Gambrill, 1999, p. 346).

For nursing, Melnyk and Fineout-Overholt (2015) define evidence-based practice as:

> A lifelong problem-solving approach to clinical practice that integrates: 1) a systematic search for as well as critical appraisal and synthesis of the most relevant and best research (external evidence); 2) clinical expertise that includes internal evidence generated from outcomes management or quality improvement projects, a thorough patient assessment and evaluation and use of available resources; and 3) patient preferences and values. (p. 3–4)

This and other more recent definitions are intentionally broad to accommodate sources of knowledge that may not have been considered in earlier or

more conventional and empirically-focused definitions of evidence-based practice. These authors assert that besides evidence from systematic reviews and RCTs, other sources are factored into decision-making. But, even with these caveats, the authors claim that the sources at the top of the evidence pyramid from systematic reviews and RCTs are the best evidence. They maintain that knowledge from descriptive and qualitative research and opinion leaders are relevant to guide practice only when the higher level empirical knowledge is not available (Melnyk & Fineout-Overholt, 2015, p. 5).

While this inclusive approach to define evidence more broadly acknowledges and respects the diverse forms of knowledge needed for nursing practice, it still privileges empirical evidence. Even though this is one way to come to terms with the limitations of evidence-based practice within the discipline of nursing, it bypasses important concerns that persist in relation to the nature of evidence and the nature of human judgment. Thorne and Sawatzky (2014) argue that a common understanding of the meaning of *evidence* in needed. Broader definitions of evidence are not aligned with the common understanding of evidence in the prevailing literature creating confusion and uncertainty in the search for adequate evidence (Thorne & Sawatzky, 2014). Thorne and Sawatzky (2014) defined evidence as "that for which a certain level of scientific proof exists against the inherent unreliability of everything else, including clinical knowledge and wisdom" (p. 10). This definition is truer to the more general understanding of evidence and the origins of the movement toward evidence in practice. Given this understanding, clinical judgment, philosophical assertions, and personal values are not evidence. The idea that all forms of knowledge are evidence misrepresents nonempirical forms of knowing and justification, and creates conceptual confusion.

LIMITATIONS OF EVIDENCE FOR PRACTICE

A review of the nursing literature from the 1990s to the present reveals that in the midst of the movement to promote evidence-based practice as a gold standard, there have been persistent expressions of doubt that this is the only, or best, approach to assure accountability and quality in nursing practice. Like any other bandwagon movement, there are serious concerns that need to be addressed, perhaps even pointing to a recalibration of the movement in a different direction. These limitations include the following:

- Lack of alignment of evidence-based practice with nursing's disciplinary perspective;
- Wrongful privileging of empirical knowledge over other sources of knowledge;
- Underappreciation of the complexity of practice and the value of practice wisdom;
- Possibilities of evidence-based practice thwarting innovation and creativity;

- Vulnerabilities of empirical evidence to be flawed, inconsistent, and influenced by competing interests;
- Situational realities that development, access, and critical appraisal of evidence is often not feasible or practical; and
- Lack of relationship of evidence-based practice to theory or theoretical ration-ale.

The following sections address each of these, followed by a discussion of what these limitations reveal for future directions in nursing.

Lack of Alignment With the Disciplinary Perspective of Nursing

Lack of alignment is perhaps the most compelling limitation of evidence-based practice. Evidence-based practice in nursing originated from evidence-based medicine, not from the underlying focus of the discipline of nursing. In general, evidence-based practice focuses on evaluating treatments or interventions that produce specific, measurable outcomes, often related to indicators of morbidity or mortality. This is certainly relevant to medical practice, and is a factor nurses necessarily take into account, but it is not the central concern on which nursing practice is based. Nursing has a history of following the lead of medicine to legitimize itself; however, instead of legitimizing nursing practice, taking this lead all-too-often diminishes nursing as similar to, but less than, rather than staying true to the disciplinary uniqueness that is nursing. White (1995) suggested that evidence-based practice is an example of how nurses embrace what they think will liberate them, when in reality their embrace ensures subservience to the interests of another discipline. Holmes et al. (2006) offered a convincing argument on this point:

> In a tireless search for ontological and epistemological legitimacy, nursing uses strategies that replicate the characteristics of medicine . . . (including) similar terminology such as nursing diagnosis, and evidence-based practice. The contradiction between this flirtation with medicine and nursing's 50 year quest for independence from it is evident. (p. 100)

These authors further point out that joining the evidence-based practice movement is a form of conformity with, or submission to, a dominant ideology or dogma dictated by medicine, and that it is the rejection of an entire body of knowledge acquired by nursing over many years. Clegg (2005) stated that the biomedical agenda has both hijacked and diminished the distinguishing discourses of other disciplines through the evidence-based practice movement. Chinn (2019) reminded participants at the Nursing Theory Conference in March 2019 that:

> We get ourselves into situations in practice, education and research where we find ourselves erased, serving the interests of other disciplines (sometimes without realizing it) with our own interests as nurses ignored or placed at the bottom of the barrel; we become handmaidens to another discipline's objectives. (p. 20)

While evidence is necessary for determining the best pharmacological, surgical, or other treatment approaches in medicine or in establishing sound public health policies to prevent disease as we witness with the COVID-19 pandemic, it is less central to the focus of nursing-qua-nursing practice.

So what knowledge is needed for a practice firmly grounded in nursing's disciplinary perspective? In Smith's (2019) review of literature related to the focus of the discipline, the four concepts that surfaced as characterizing nursing's disciplinary perspective were human wholeness; health/healing/well-being; human–environment–health relationship; and caring. *Human wholeness* referred to the complexity of bio-psycho-social-spiritual or unitary human nature, and therefore, the knowledge needed for care is beyond empirical evidence alone. From nursing's disciplinary perspective, *health/healing/well-being* are different from models that limit health to external indicators or outcomes, but instead recognize the subjective, individually-constructed and dynamic experiences of health, healing and well-being; therefore, the related evidence or outcomes may not be captured by empirical evidence alone. The *human–environment–health interrelationship* refers to how health is influenced by the multidimensional environmental context; prescriptive single-focused interventions to affect a specific health outcome may have limited value based on the complex environmental tapestry that affects health. Finally, *caring* includes the moral-ethical-spiritual actions that "nurture humanization, health, healing, and well-being" (Smith, 2019, p. 11); compassionate, creative responses to preserve humanity, promote connection, and comfort are more likely to be based on knowledge from philosophical and theoretical guidance as opposed to evidence. These foci form the ontology of the discipline, its fundamental nature. The grand, middle range, and practice/situation-specific theories elaborate and specify this ontology. The epistemology, or knowledge forms of the discipline, needs to be consistent with this ontology, a fact that leaves empirical evidence as only one part, and perhaps not the most significant part, of the knowledge that is required for nursing practice.

An example that Mitchell (1999) provided shows how the values that are embedded in the philosophies and theories of nursing may conflict with evidence, and the importance of fundamentally relying on disciplinary values to guide practice. Mitchell's example focuses on the empirical evidence that supports using a behavior modification program for smoking cessation. The behavior modification is based on reward and punishment meant to be enacted on the person who needs to stop smoking, without regard for the nursing values of offering and honoring choice and respecting personhood. Patient-centeredness, individual choice, humanism and holism, and values that guide nursing practice are principles that are grounded in nursing's disciplinary perspective. Mitchell (1999) stated: "The nurse-person process isn't data-based; it is human-based and must be guided by values and theoretical principles" (p. 32) and then further elaborated:

> Biomedical, intervention-based, technical research evidence does not serve nurses well in their goal of caring and does not provide any foundational knowledge or direction on how nurses can understand or support persons living with loss, despair, struggle, concern fear, uncertainty, anticipation, restriction or suffering. (p. 44)

Thorne and Sawatzky (2014), in their critical analysis of the evidence-based practice agenda, called for a recognition of the essential conflict between the generalizability that underpins empirical evidence, and the primacy of the uniqueness and particularities of human life situations which is the focus of the discipline of nursing. The purpose of evidence-based practice and clinical guidelines is to promote standardization of approaches to care, rather than individualization. For this reason, applying general evidence to a particular situation may be inappropriate, and at times might even be harmful. For example, consider the complexity involved in deciding what, when, and how to explain the details of a cancer diagnosis and prognosis for a particular person who has been recently diagnosed. A nurse, practicing from the fundamental perspective where the ultimate goal is this particular person's well-being, and taking into account the whole of the situation, may approach the person in a way that defies the evidence-based guidelines about providing this information. Knowing all the complexities of the particular situation guides the application of the general evidence-based practice guidelines.

The knowledge that guides nurses to be present to people, listen to their story, find out what matters to them in relation to their health experience, and support their choices comes from the philosophies, values, and theories of the discipline, not from empirical evidence. Practice that is based on empirical evidence certainly can be useful, but it is not the sole or even the most important source of knowledge based on the ontology of the discipline.

Patterns of Knowing Used in Nursing Practice

Evidence-based practice wrongfully privileges empirical evidence over other patterns of knowing used by nurses in practice. This has been the most widely asserted limitation of evidence-based practice in the literature. Many argue that the praxis of nursing demands a diverse epistemology. In 1978, Carper published what is arguably the most important and most cited article in nursing, *Fundamental Patterns of Knowing in Nursing*, identifying empirics as the science of nursing, aesthetics as the art of nursing, ethics as moral knowledge for nursing, and personal as knowledge gained from experience and being-in-the world (Carper, 1978). Other authors such as White (1995), Chinn and Kramer (2018), Willis and Leone-Sheehan (2019), and Munhall (1993) expanded this schema, adding new patterns and dimensions such as sociopolitical, emancipatory, spiritual, and unknowing. Chinn and Kramer (2018), in concert with Carper's initial assertion, noted that each pattern of knowing is important in the integrated knowledge base for professional nursing practice, and no one pattern should be viewed in isolation or favored above others. Chinn and Kramer (2018) identified the danger of privileging one pattern over another, stating:

> When knowledge within any one pattern is not critically examined and integrated with the whole of knowing, distortion, instead of understanding, is produced. Failure to develop knowledge integrated within all of the patterns of knowing leads to uncritical acceptance, narrow interpretation and partial utilization of knowledge. We call this

> "patterns gone wild." When this occurs the patterns are used in isolation from one another, and the potential for synthesis of the whole is lost. (p. 12)

Wall (2008) provided a post-structural analysis of nurses' use of evidence in practice, arguing that nurses' positions in healthcare have been at the margins. Knowledge important to nursing (intuition, spiritual sources, trusted people) or any nonresearch form, is thus marginalized in the evidence-based practice discourse. She stated, "The historical tension and differentiation between nursing knowledge and medical knowledge, and the longstanding marginalization of nursing on the basis of knowledge and gender, is perpetuated in the evidence-based practice discourse" (Wall, 2008, p. 49).

Practice Wisdom and the Complexity of Nursing Practice

Evidence-based practice under-appreciates the complexity of practice and diminishes the value of practice wisdom. The concept of evidence-based practice was born in part from a motivation to gain efficiency, and to diminish the decision-making power of individual nurses by privileging evidence over professional judgment. While practitioner expertise is identified within the definition of evidence-based practice, reflecting on, evaluating and applying evidence within practice is emphasized in the process. Giving evidence greater weight in the gestalt of practice knowledge implies that clinicians bring results from research or systematic reviews about a specific intervention seamlessly into the world of clinical engagement. The current movements related to reflective practice and implementation science can offer some perspective on the complexity of a practice epistemology that belies the simple application of evidence. Schön (1983) defined reflective practice as the process by which professionals become aware of their implicit knowledge base and learn from their experience, situating practice knowledge within the context in which practice occurs. Reflective practice involves both reflection-in-action, which is reflecting on behavior as it happens, and reflection-on-action, the process of reflecting after the event, to review, analyze, and evaluate the situation. Through this reflective process there is an inner discernment arising from reflection on all sources of knowledge including empirical evidence.

The relatively new field of implementation science is the study of how to best apply and integrate research evidence to inform practice and policy toward the goal of improving health (Eccles et al., 2012). This science acknowledges the complex orchestration of variables such as system characteristics, partnerships with other practitioners, and patient values and preferences in the process of making a difference in health outcomes through applying evidence. Practitioners take empirical evidence and consider it in the context of the individual's unique life situation and values. This integration of evidence may seem tacit or intuitive, but it emerges from a synthesis of embedded knowledge from experience. How evidence is woven with clinical experience, contextual factors, and the experiences and preferences of the one cared for has not yet been explicated, and is the frontier of understanding the complexities of practice, and suggests that this involves "artistry that includes

critical appreciation, synchronicity, balance and interplay" (Rycroft-Malone et al., 2004, pp. 86–88). This is a "fine-tuned capacity" to use evidence in combination with clinical expertise and patient preferences (Thorne & Sawatzky, 2014, p. 10).

Cody (2011) contrasts evidence-based practice with evidence-based care. Care is the product, that which would be received as treatment or intervention, and it is based on a synthesis of the available evidence. Practice is a complex constellation of actions guided by the knowledge and values of the discipline and exercised with personal artistry within a professional context directed toward the well-being of the recipient of care. Cody (2011) also uses the term "praxis," defined by Aristotle, as "a human situation requiring practical reasoning to inform action . . . unfolding in a context that is profoundly interpersonal and relatively unpredictable" (Cody, 2011, p. 8). Praxis is informed by more than scientific evidence. On the other hand, care is received by the person (individual, family, or community) and is delivered by professionals. Patients or clients receive care that is based on best evidence and the decision to select this care is their choice. Cody asked the question, "What guides practice . . . evidence or values?" and asserts that "evidence-based care is based on a synthesis of available evidence; however, there may be no evidence for any number of interventions or acts during caregiving" (Cody, 2011, p. 7).

Table 1 shows the difference between practice and care. Practice is driven by the knowledge base of the professional. "It is highly contextual and situational and no external resources can be absorbed rapidly enough to inform all action or inaction. Values drive one's practice; they inspire action" (Cody, 2011, p. 11). On the other hand, care is in the hands of the consumer and is structured by evidence. The consumer, patient, or client selects care or can accept or reject it even though it is often prescribed by others. The professional facilitates an informed choice by the care recipient (Cody, 2011). This model is helpful in that it shifts evidence from practice to care; patients, clients, or consumers receive evidence-based care; professionals engage in values-based, theory-guided practice.

TABLE 1. Differentiating Practice from Care

Practice	Care
Belongs to the practitioner	Belongs to the consumer
Controlled by practitioner, profession, and society	Controlled by consumer, rules/laws, and society
More discipline-specific because it is practitioner-driven	More interdisciplinary because it is consumer-driven
Values-based	Evidence-based

From: Cody, W. K. (2011). Values-based practice and evidence-based care: Pursuing fundamental questions in nursing philosophy and theory. In W. K. Cody (Ed.), *Philosophical and theoretical perspectives for advanced practice nursing*, (5th ed., pp. 5–12). Jones & Bartlett. Reprinted with permission.

Creativity and Innovation in Care

Some authors warn that there is a danger in uncritically following evidence-based clinical practice guidelines because this discourages the discovery of innovative approaches to care. These criticisms may be more related to evidence-based medicine and implementation of clinical guidelines that more or less direct treatment decisions. Timmermans and Mauck (2005) observed that implementing these standards may diminish the motivation for considering individualized approaches and thinking outside the box, leading to untailored uniformity or what is commonly referred to as "cookbook medicine." Evidence-based medicine may actually result in a lower standard of safety by de-skilling practitioners (Timmermans & Mauck, 2005). Instead of using clinical judgment, practitioners follow protocols which may result in treating all patients the same way. Holmes et al. (2006) added a slightly different rationale for concern related to the effect of evidence-based practice on innovation: relying on only one form of knowledge becomes dogma; it thwarts critical thinking, limiting new thinking and alternative ideas. They refer to this as microfascism (Holmes et al., 2006). Traynor (2002) drew parallels of strict adherence to evidence-based medicine guidelines to evangelical religious discourse that discredits those that do not promote the cause. Mykhalovskiy et al. (2008) concluded that the tendencies to follow evidence-based practice ideals religiously have colonized the health sciences, restricted creativity, and excluded the possibilities that might emerge by embracing alternative approaches to treatment. While the above authors express their concerns about the lack of innovation that may result from evidence-based medicine or even evidence-based practice, it is clear that evidence-based practice requires creative synthesis and interpretation of large bodies of information in the process of developing practice interventions. The desire to develop and test practice approaches is in itself a creative process born from a deep commitment to provide the best care possible.

Limitations of and Pressures on Evidence

Empirical evidence can be inconclusive, flawed, unnecessary, and influenced by economic, social, and political pressures. Prasad and Cifu, in their book *Ending Medical Reversal*, discussed a number of examples of how evidence that has been adopted to guide practice has been overturned by new evidence (Prasad & Cifu, 2015). They used these examples to show how medical practitioners place a certainty and faith in evidence that is not warranted. As Nutley et al. (2003) pointed out almost two decades ago: "There is no such thing as 'the' evidence; evidence is a contested domain and is in a constant state of becoming" (p. 133). Even the most rigorous RCTs are fraught with biases and weaknesses. Prasad and Cifu (2015) reported that their research revealed that 40% of established interventions by testing were found to be ineffective. Only 38% reaffirmed the established practice, and 22% were inconclusive. They cited another study of 3,000 medical practices in which 35% of interventions were effective, 50% had unknown effectiveness, and 15% were harmful or unlikely to be beneficial (Prasad & Cifu, 2015). Quoting

Ioannidis (2005) they reminded readers of his observation: "A finding from a well-conducted, adequately powered RCT starting with a 50% pre-study chance that the intervention is effective is eventually true about 85% of the time" (Ioannidis, 2005, p. 0699). Studies sponsored by the pharmaceutical or medical device industry are four times more likely to reach positive conclusions regarding benefits or cost-effectiveness of a treatment, probably due to economic incentives (Prasad & Cifu, 2015, p. 138).

The authors of a recent blog on "Time to Acknowledge the Dark Side of the Impact Agenda" Derrick and Benneworth (2019) stated that there is growing public and political pressure for research to quantify and justify its existence through the contributions it makes to society. There is a focus on new findings that will gain publicity from their ability to impact practice. This rush to publish is what the authors called "grimpact." They provided the example of the study linking the measles-mumps-rubella (MMR) vaccine to autism published in the *Lancet* in 1998. While the study was found to be based on biased selection of participants and was in part funded by attorneys representing parents seeking damages after immunizations, the article's 2010 retraction 12 years later has never received the publicity that the original publication received (Eggertson, 2010). This failure to adequately publicize the flawed "evidence" has undoubtedly contributed to persistent anti-vaccine sentiments and the resulting increase cases of measles and other infectious diseases (Patel et al., 2019). Note that because of this, we have opted not to include the citation to the original, but now retracted, study in this article.

The process of investigating and developing sound evidence is a time-consuming, costly, and complex process. In most cases these inputs of time and money are warranted, resulting in reasonable decisions or guides to action. But, at times, the link between action and outcome is obvious and we might question if the costs of the inquiry are justified. Common sense is the ability to intuitively discard avenues of inquiry that are unlikely to be fruitful and to not pursue those that are self-evidently useful (Prasad & Cifu 2015). We do not need evidence for everything. If an action is not based on evidence from research and systematic reviews, but works 95% of the time, it is common sense, and this has value for people who live in the real world (Prasad & Cifu, 2015).

Practicality and Feasibility of Appraising Evidence

Some authors question whether or not evidence-based practice is practical in the current healthcare environment where nurses are practicing. Mitchell (1999) stated, "The idea that nurses in practice can access relevant literature, make judgments about the credibility of findings, interpret the significance in light of relevant theory and implement changes in practice is inconsistent with current realities" (p. 30). While nurses in current practice environments have easier access to evidence through technology, the demanding, hectic nature of the practice environment continues to present challenges. Multiple surveys of practitioners indicate that they do not consistently know of, read, or apply clinical practice guidelines.

A meta-analysis of the use of clinical guidelines for treating various medical conditions reported mean adherence rates ranging from 50% to 67% (Timmermans & Mauck, 2005, p. 23).

Estabrooks et al. (2005) reported findings from two large ethnographic studies that revealed sources of nurses' practice knowledge and identified four broad groupings: social interactions, experiential knowledge, documents, and *apriori* knowledge. Social interactions were most prevalent and included interactions with peers, other professionals, patients, and more formal interactions such as in-service training, meetings, or workshops. Experiential knowledge was knowledge gained through observations by themselves and colleagues, what worked (or did not work), and intuition. Documentary sources included the patient record, books, and journals; however, their use was limited. *Apriori* knowledge referred to personal beliefs, basic education, and common sense. The most prevalent sources were from social interactions and *apriori* knowledge. The use of research was limited, with nurses arguing that usability of research was "low" and findings needed to be presented in a more understandable format. (Estabrooks et al., 2005, p. 470). The authors determined that the nature and structure of nurses' work cause a heavy reliance on knowledge through interactions and experience, and noted that research designed to produce evidence for practice was assumed to remove the biases inherent in *apriori* knowledge and personal beliefs, but that the intended outcomes are compromised by the structure of nurses' work. They concluded that more research is needed on the legitimacy of social interactions and experience as epistemic forms for nursing practice. "The insights gained add new understanding about sources of knowledge used by nurses and challenge the disproportionate weight that proponents of the evidence-based movement ascribe to research knowledge" (Estabrooks et al., 2005, p. 460).

Evidence-Based Practice and Nursing Theory

Evidence-based practice often tests interventions without any theoretical rationale underpinning the possibility of their effectiveness. The acronym PICOT: **P**opulation, **I**ntervention, **C**omparison group, **O**utcome, **T**imeframe describes a process that is frequently used to create research questions to generate and test evidence. While particular interventions may be supported by theories, there is no explicit connection to a theory required for evidence-based practice. This disconnect defies the fundamental premise that scientific advancement includes theory testing or development. Without this, there is a lack of organization and coherence to scientific knowledge. For evidence-based practice the focus is on "if it works," bypassing the theoretically relevant concern with "how it works." Theories provide descriptive and explanatory frameworks for understanding why a treatment or intervention might be effective. Without a theoretical rationale for an intervention, the findings are isolated, limiting the value and power for future lines of inquiry related to practice. If an intervention is determined to be effective (or not) for a particular outcome, the results can be related to the theory to support, refute, or modify it.

Fawcett et al. (2001) asserted that theory is more important in nursing practice than evidence and suggested the adoption of the phrase "theory-guided, evidence-based practice," first introduced by Walker and Redman (1999). They stated that "the current emphasis on the technical-rational model of empirical evidence denies or ignores the existence of a theory lens" (Fawcett et al., 2001, p. 117) and "advances a conventional, atheoretical, medically-dominated, empirical model of evidence, which threatens the foundation of nursing's disciplinary perspective on theory-guided practice" (p. 115).

Nursing philosophy and theory is the foundation of nursing practice upon which any practice is based. Theories in all professional disciplines guide the practice in that discipline. Theories are empirically tested or informally "tried out" in practice, and what comes from that "testing" informs the continuing development of the theory. Values are embodied in the assumptions and propositional statements of theories; examples of these values are honoring personal choice, seeing beyond the labels of disease to the person, and a mutual relationship between nurse and patient to guide decision-making. Thorne and Sawatzky (2014) described the need for philosophy and theory as a foundation for nursing practice and stated:

> The nursing models and frameworks that have been all too often regarded as if they were inconvenient remnants of an immature disciplinary science can instead serve as a strong philosophical foundation for expanding our understanding of the complexity and contexts within which nursing enacts a particular role in the healthcare spectrum. (pp. 14–15)

MOVING BEYOND

The fundamental and critical first challenge in moving beyond evidence-based practice alone is a clear, unwavering conviction as to the defining nature of the discipline of nursing. The specific ways in which each individual or group might express the defining nature of the discipline can vary, but the essential elements of wholeness, health/healing/well-being, human-environment-health relationship, and caring must be clearly discernible. These broad statements of focus are crucial, but in addition, certain characteristics that are essential to the nature of nursing practice give these broad statements a clearer focus and context.

Fundamentally moving beyond the limitations of evidence-based practice requires recognizing the danger in not doing so. As Chambliss (1996) asserted, "For nursing as a profession, the great moral danger would be for nursing to lose its own center . . . If nurses want to be heard they will have to speak with their own authority, based on their own experience, their own knowledge, and their own values" (p. 184). Thorne and Sawatzky (2014) echoed this warning, stating:

> Our disciplinary credibility in a context of increasingly vigilant accountability depends upon our collective skill at interpreting and explaining the sources of knowledge upon which we rely and the manner in which we translate those knowledge sources into

> action. Unless nursing is prepared to abandon its unique contribution to the particular, it will continue to need strength in disciplinary theorizing and philosophizing to steer its way through the landmines of an evidence-based practice agenda that inevitably privileges the general. (p. 17)

RECOMMENDATIONS

Based on this discussion of the privileging of evidence-based practice and its limitations in general and the search for explicit practice knowledge, beyond evidence alone, that is grounded in nursing's disciplinary perspective, we offer these recommendations:

- **Education:** If nurse educators shift the focus of their curriculum, teaching strategies, learning activities—all of these—to clearly reflect nursing's disciplinary focus, then the ways in which nursing practice is taught will be fundamentally reformed to move beyond the limitations of empirical evidence alone. The new direction will certainly include empirical evidence and knowledge, but all sources of knowing will be equally valued, and nursing knowledge and practice will become the center.
- **Literature:** The production, review, critique, and application in nursing literature needs a renewed focus on the value and centrality of nursing perspectives and nursing knowledge. As Chinn and her colleagues recently revealed, in a sample of articles from 71 nursing journals, only 28% of the citations used were from nursing sources (Chinn et al., 2019). They called on authors to increasingly build nursing's disciplinary focus by citing nursing literature, on journal editors to use criteria related to the development of nursing as a discipline in selecting journal content, and on readers to become increasingly aware of the focus on the discipline in their critique and application of the nursing literature.
- **Scholarship:** All nursing scholarship, from the earliest assigned papers in undergraduate programs to the largest funded nursing research grants, need to be clearly focused on nursing's own disciplinary perspective in order to build and develop the discipline and develop the kinds of knowledge needed, beyond empirical knowledge, for the practice of nursing. This clarity of focus will serve not only the vital purpose of strengthening the discipline, it will provide material to communicate with those outside of nursing the importance of who we are, and what we provide, in service to those in our care.
- **Public Media:** If we are to overcome the damaging images of nurses and nursing in the public media and gain a meaningful "voice," we need to have a firm dedication to the fundamental values on which nursing rests. The specific, individualized, caring, nature of our service, our advocacy, our connections with those we serve, our ability to ease the passage that people take when they experience a health crisis—these are the things that the public

wants and needs. We can take significant steps to make our fundamental essence visible in the public eye. The findings of Mason et al. (2018) which noted that nurses were identified as the source of only 2% of quotes in health news articles and were never sourced in stories on health policy have to change. Perhaps a silver lining of the COVID-19 pandemic is the increased visibility of nurses in the media and recognition of our important roles in practice, research, and advocacy within the healthcare system.

CONCLUSION

In this review of 30 years of discourse on the limitations of privileging evidence as the necessary knowledge for nursing practice, we sought to reignite reflection and debate on this important topic. We call for a greater appreciation for the myriad sources of knowledge that are necessary for practice and assert the primacy of the philosophies and theories of the discipline for guiding nursing practice.

REFERENCES

Burgoyne, J. (2019, September 23). Tale of the converted: how complex social problems have made me question the use of data in driving impact. *Impact of Social Sciences*. https://blogs.lse.ac.uk/impactofsocialsciences/2019/09/23/tale-of-the-converted-how-complex-social-problems-have-made-me-question-the-use-of-data-in-driving-impact/

Carper, B. A. (1978). Fundamental patterns of knowing in nursing. Advances in Nursing Science, *1*, 13–23. https://doi.org/10.1097/00012272-197810000-00004

Chambliss, D. F. (1996). *Beyond Caring: Hospitals, nurses, and the social organization of ethics*. University of Chicago Press. https://play.google.com/store/books/details?id=faxJAQAAQBAJ

Chinn, P. L. (2019, March 21). *The discipline of nursing: Moving forward boldly*. Paper presented at Nursing Theory: A 50 Year Perspective, Past and Future, Case Western Reserve University Frances Payne Bolton School of Nursing, Cleveland, OH, United States. https://nursologycom.files.wordpress.com/2019/03/2019-03-21-case-keynote-7.pdf

Chinn, P. L., & Kramer, M. (2018). *Knowledge development in nursing: Theory and process* (10th ed.). Elsevier.

Chinn, P. L., Nicoll, L. H., Carter-Templeton, H. D., & Oermann, M. H. (2019). An analysis of nursing citations and disciplinary characteristics in 79 articles that represent excellence in nursing publication. *Nursing Inquiry*, *26*(3), e12296. https://doi.org/10.1111/nin.12296

Clegg, S. (2005). Evidence-based practice in educational research: A critical realist critique of systematic review. *British Journal of Sociology of Education*, *26*(3), 415–428. https://doi.org/10.1080/01425690500128932

Cochrane, A. L. (1972). *Effectiveness and efficiency: Random reflections on health services*. The Nuffield Provincial Hospitals Trust.

Cody, W. K. (2011). Values-based practice and evidence-based care: Pursuing fundamental questions in nursing philosophy and theory. In W. K. Cody (Ed.), *Philosophical and theoretical perspectives for advanced practice nursing* (5th ed., pp. 5–12). Jones & Bartlett.

Derrick, G., & Benneworth, P. (2019, May 28). Grimpact–time to acknowledge the dark side of the impact agenda. *Impact of Social Sciences*. https://blogs.lse.ac.uk/impactofsocialsciences/2019/05/28/grimpact-time-to-acknowledge-the-dark-side-of-the-impact-agenda/

Eccles, M. P., Foy, R., Sales, A., Wensing, M., & Mittman, B. (2012). Implementation Science six years on—our evolving scope and common reasons for rejection without review. *Implementation Science*, *7*(1), 71. https://doi.org/10.1186/1748-5908-7-71

Eggertson, L. (2010). Lancet retracts 12-year-old article linking autism to MMR vaccines. *CMAJ: Canadian Medical Association Journal = Journal de l'Association Medicale Canadienne*, *182*(4), E199–E200. https://doi.org/10.1503/cmaj.109-3179

Estabrooks, C. A., Rutakumwa, W., O'Leary, K. A., Profetto-McGrath, J., Milner, M., Levers, M. J., & Scott-Findlay, S. (2005). Sources of practice knowledge among nurses. *Qualitative Health Research*, *15*(4), 460–476. https://doi.org/10.1177/1049732304273702

Fawcett, J., Watson, J., Neuman, B., Walker, P. H., & Fitzpatrick, J. J. (2001). On nursing theories and evidence. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing/Sigma Theta Tau*, *33*, 115–119. https://doi.org/10.1111/j.1547-5069.2001.00115.x

French, P. (1999). The development of evidence-based nursing. *Journal of Advanced Nursing*, *29*(1), 72–78. https://doi.org/10.1046/j.1365-2648.1999.00865.x

Gambrill, E. (1999). Evidence-based practice: An alternative to authority-based practice. *Families in Society: The Journal of Contemporary Social Services*, *80*(4), 341–350. https://doi.org/10.1606/1044-3894.1214

Holmes, D., Perron, A., & O'Byrne, P. (2006). Evidence, virulence, and the disappearance of nursing knowledge: A critique of the evidence-based dogma. *Worldviews on Evidence-Based Nursing/Sigma Theta Tau International, Honor Society of Nursing*, *3*(3), 95–102. https://sigmapubs.onlinelibrary.wiley.com/doi/abs/10.1111/j.1741-6787.2006.00058.x

Ioannidis, J. P. A. (2005). Why most published research findings are false. *PLoS Medicine*, *2*(8), e124. https://doi.org/10.1371/journal.pmed.0020124

Kitson, A. (1997). Using evidence to demonstrate the value of nursing. *Nursing Standard: Official Newspaper of the Royal College of Nursing*, *11*(28), 34–39. https://doi.org/10.7748/ns.11.28.34.s47

Mason, D. J., Nixon, L., Glickstein, B., Han, S., Westphaln, K., & Carter, L. (2018). The Woodhull Study revisited: Nurses' representation in health news media 20 years later. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing/Sigma Theta Tau*, *50*(6), 695–704. https://doi.org/10.1111/jnu.12429

Melnyk, B. M., & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & healthcare: A guide to best practice*. Wolters Kluwer Health. https://play.google.com/store/books/details?id=EudAnQEACAAJ

Mitchell, G. J. (1999). Evidence-based practice: Critique and alternative view. *Nursing Science Quarterly*, *12*(1), 30–35. https://doi.org/10.1177/08943189922106387

Munhall, P. L. (1993). "Unknowing": Toward another pattern of knowing in nursing. *Nursing Outlook*, *41*, 125–128.

Mykhalovskiy, E., Armstrong, P., Armstrong, H., Bourgeault, I., Choiniere, J., Lexchin, J., Peters, S., & White, J. (2008). Qualitative research and the politics of knowledge in an age of evidence: Developing a research-based practice of immanent critique. *Social Science & Medicine*, *67*(1), 195–203. https://doi.org/10.1016/j.socscimed.2008.03.002

Nutley, S., Walter, I., & Davies, H. T. O. (2003). From knowing to doing: A framework for understanding the evidence-into-practice agenda. *Evaluation*, *9*(2), 125–148. https://doi.org/10.1177/1356389003009002002

O'Halloran, P., Porter, S. A. M., & Blackwood, B. (2010). Evidence based practice and its critics: What is a nurse manager to do? *Journal of Nursing Management*, *18*(1), 90–95. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2834.2009.01068.x

Patel, M., Lee, A. D., Redd, S. B., Clemmons, N. S., McNall, R. J., Cohn, A. C., & Gastañaduy, P. A. (2019). Increase in measles cases—United States, January 1-April 26, 2019. *MMWR. Morbidity and Mortality Weekly Report*, *68*(17), 402–404. https://doi.org/10.15585/mmwr.mm6817e1

Prasad, V. K., & Cifu, A. (2015). *Ending medical reversal: Improving outcomes, saving lives*. Johns Hopkins University Press.

Rycroft-Malone, J., Seers, K., Titchen, A., Harvey, G., Kitson, A., & McCormack, B. (2004). What counts as evidence in evidence-based practice? *Journal of Advanced Nursing*, *80*(1), 81–90. https://doi.org/10.1111/j.1365-2648.2004.03068.x

Sackett, D. L., Rosenberg, W. M., Gray, J. A., Haynes, R. B., & Richardson, W. S. (1996). Evidence based medicine: What it is and what it isn't. *BMJ*, *312*(7023), 71–72. https://doi.org/10.1136/bmj.312.7023.71

Schön, D. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

Smith, M. C. (2019). Regenerating nursing's disciplinary perspective. *Advances in Nursing Science*, *42*(1), 3–16. https://doi.org/10.1097/ANS.0000000000000241

Thorne, S., & Sawatzky, R. (2014). Particularizing the general: Sustaining theoretical integrity in the context of an evidence-based practice agenda. *Advances in Nursing Science*, *37*(1), 5–18. https://doi.org/10.1097/ANS.0000000000000011

Timmermans, S., & Mauck, A. (2005). The promises and pitfalls of evidence-based medicine. *Health Affairs (Millwood)*, *24*(1), 18–28. https://doi.org/10.1377/hlthaff.24.1.18

Traynor, M. (2002). The oil crisis, risk and evidence-based practice. *Nursing Inquiry*, *9*(3), 162–169. https://doi.org/10.1046/j.1440-1800.2002.00153.x

Walker, P. H., & Redman, R. (1999). Theory-guided, evidence-based reflective practice. *Nursing Science Quarterly*, *12*(4), 298–303. https://doi.org/10.1177/08943189922107223

Wall, S. (2008). A critique of evidence-based practice in nursing: Challenging the assumptions. *Social Theory & Health*, *6*(1), 37–53. https://doi.org/10.1057/palgrave.sth.8700113

White, J. (1995). Patterns of knowing: Review, critique, and update. Advances in Nursing Science, *17*, 73–86. https://doi.org/10.1097/00012272-199506000-00007

Willis, D. G., & Leone-Sheehan, D. M. (2019). Spiritual knowing: Another pattern of knowing in the discipline. *Advances in Nursing Science*, *42*(1), 58–68. https://doi.org/10.1097/ANS.0000000000000236

Disclosure. The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Funding. The author(s) received no specific grant or financial support for the research, authorship, and/or publication of this article.

Correspondence regarding this article should be directed to Marlaine C. Smith, RN, PhD, AHN-BC, HWNC-BC, FAAN, Helen K. Persson Eminent Scholar, Florida Atlantic University, Christine E. Lynn College of Nursing, 777 Glades Road, Boca Raton, FL 33487. E-mail: msmit230@health.fau.edu