EVIDENCE-BASED PRACTICE

Our patients depend on us to do the best on their behalf. If we do not take accountability for our practice, continually examining what is the best way to deliver care, we are limiting our role to technical skills and not fully actualizing our professional role. [Evidence-based practice] is essential to practicing safely as nurses (p. 53).1

Evidence-based practice (EBP) informs caring and clinical practices with the best available knowledge, validating nursing as a profession grounded in science.2 During the past ten years, EBP has become the dominant theme of practice, education, and policy in health care.3 Getting research into practice is complex and greatly depends on the ability to effect change within our health care organizations. If nursing is to succeed in delivering care that is evidence based, nurse leaders need to find ways to engage staff nurses in the EBP movement. “Bringing together the new ideas of staff nurses with managers who can obtain the resources needed to pave the way for change is a formidable way to transform practice and improve patient care” (p. 27).4

Today, many Master of Science in Nursing (MSN) programs are incorporating EBP into their curricula and requiring students to be knowledgeable about this process. Although EBP has become the core of many graduate nursing programs, it is vital for students and faculty to integrate EBP into the clinical setting to enhance knowledge transfer. As more graduates of programs emphasizing EBP enter nursing leadership roles, the likelihood that these nurse leaders will be strong advocates for use of EBP at the bedside increases.

This column is based on an MSN student project researching the role of nurse leaders in the EBP process. The author synthesized content related to nursing theory, nursing research and evidence, and nursing leadership. She found that Carper’s fundamental patterns of knowing (a nursing theory) provide a useful guideline for viewing evidence, creating practice guidelines, and guiding nursing leadership in helping staff nurses succeed in translating evidence into their daily practice.5

LITERATURE REVIEW

EBP is a critical component of health care and nursing. The nursing evidence base can be found in both research, where knowledge is found, and practice, where knowledge is applied.6 EBP has been described as both a process and a product. “As a process, EBP requires a systematic series of activities to locate, critique, synthesize, translate, and evaluate evidence. As a product, EBP is the translation of evidence into an innovative practice change” (p. 3).7 Most health care facilities are requiring that nurses write policies and procedures backed by evidence while citing the sources of support in the policy. In spite of this mandate, however, there are still nurses who do not understand the implications of EBP for improving practice.8

TYPES OF EVIDENCE

EBP is at the forefront of nursing practice, yet debates continue over the types of evidence, or ways of knowing, that nursing should consider. In her identification of the ways of knowing in nursing, Carper differentiated between scientific knowledge, or empirical knowing, and knowledge that is not scientific, which she categorized as aesthetic, personal, and ethical knowing (Table 1).5 All the different ways of knowing are valuable and should be included in the concept of EBP.9 The nonscientific ways of knowing are the basis of an expert opinion and may incorporate patient values. Many questions nurses ask cannot be answered by empirical knowledge, but are better answered using qualitative research (e.g., determining the unstressors parents of a preterm infant experience, why women do not seek prenatal care, or gender differences in definitions of parenthood).10,11

BARRIERS TO IMPLEMENTATION OF EBP

Many barriers that inhibit nurses’ implementation of EBP have been identified. Limited time, heavy patient work loads, inadequate staffing, limited access to resources, lack of the knowledge needed to interpret statistical analyses, and lack of interest and support from nurse managers are some of these obstacles.12 Additional hurdles nurses may encounter as they begin to use evidence to change practice include the lack of knowledge and skills to confidently conduct computer-based literature searches and utilize the research process. Organizational support is critical to provide the time, skills, and knowledge to promote a supportive EBP culture.13

Time Constraints

Sigma Theta Tau International performed an online survey of 565 nurses that revealed several barriers they encountered when trying to implement EBP in their workplace. Of the nurses surveyed, 66 percent reported that their biggest
**TABLE 1** ■ Definition of Terms for Carper’s Patterns of Knowing

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Application to Neonatal Nursing Practice</th>
</tr>
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<tbody>
<tr>
<td><strong>Empirical Knowing:</strong></td>
<td>Treatment of hyaline membrane disease in the preterm infant with exogenous surfactant replacement therapy.</td>
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<tr>
<td>The science of nursing.</td>
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<tr>
<td>Factual, verifiable.</td>
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<tr>
<td>Primary focus of scientific data or evidence.</td>
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<tr>
<td><strong>Aesthetic Knowing:</strong></td>
<td>The use of experience and intuition to determine that two babies who are the same race, sex, and gestational age (e.g., black, male, 29 weeks EGA) need individualized care.</td>
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<tr>
<td>The art of nursing.</td>
<td></td>
</tr>
<tr>
<td>Encompasses intuition, understanding, valuing.</td>
<td></td>
</tr>
<tr>
<td>Empathy plays an important role.</td>
<td></td>
</tr>
<tr>
<td><strong>Personal Knowing:</strong></td>
<td>Being present and available for families who are experiencing the loss of a child.</td>
</tr>
<tr>
<td>The therapeutic interpersonal relationship between the patient and the nurse.</td>
<td></td>
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<tr>
<td>How nurses relate to and express their caring to others.</td>
<td></td>
</tr>
<tr>
<td><strong>Ethical Knowing:</strong></td>
<td>End-of-life decision making, palliative care.</td>
</tr>
<tr>
<td>The moral code that guides nursing conduct, based on a respect for human life.</td>
<td></td>
</tr>
<tr>
<td>Serves as the basis for nursing practice standards.</td>
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Lack of Nursing Leadership Support

In a survey of 300 nurses, researchers examined factors influencing achievement of EBP. They reported that nurses were confident about their ability to begin to effect change; however, a culture not receptive to change and a lack of authority were found to be barriers to changing practice. Several studies noted that unsupportive colleagues and managers were seen as barriers to changes in practice that would support EBP. One study specifically identified nurse managers as the least supportive in establishing a culture that encourages implementing and sustaining EBP.

Culture of Nursing

One of the most interesting yet subtle barriers to EBP may be the culture of nursing itself. As a profession, nursing does not appear to value advanced learning or to view it as critical to practice. Nursing is a task-oriented profession that emphasizes traditions, rituals, experiential knowledge, and expert opinion of colleagues over formal knowledge. The culture of nursing has traditionally valued “doing.” Nurses are constantly busy with multiple tasks and voice difficulty in finding the time to sit and critique a research study. Transitioning to a culture that supports EBP will require a change in practice from not only “doing” tasks but allowing time for reading evidence and keeping current with research. To overcome its cultural barriers to EBP, nursing must develop the knowledge and skills needed to search for and critically appraise the best evidence and apply it to practice, keeping the patients’ values in mind.

Poor Computer, Research, and Appraisal Skills

Lack of computer skills and lack of knowledge about how to search for, appraise, and evaluate evidence play a large part in keeping research inaccessible to the nurse at the bedside. This leads to selection of evidence based on accessibility and readability rather than quality. Lack of computer and research skills and knowledge appears to keep nurses from using scientific evidence as they perform nursing care. Age also plays a part in whether nurses have adequate computer skills. In a survey of registered nurses (RNs) in New Jersey, the level of computer skills tended to decrease as the age of the nurse increased. This phenomenon could have serious implications for nurse leaders who have an aging workforce.

The Sigma Theta Tau International survey stated that the greatest challenge nurses encounter in the EBP process is the appraisal and analysis of research data. According to 45 percent of the nurses surveyed, research was often written in a manner that made it difficult to analyze. Difficulty in analyzing research material is an issue that has also surfaced in other recent studies. In their study of 230 nurses in the U.K., McCaughan and colleagues stated that the perceived barrier of research products being “too complex, academic and overly statistical” (p. 46) may result from the language used, rather than the statistics themselves.

Education

Two-thirds of the RN workforce have associate degrees in nursing (ADN) or diplomas. This in itself may be one of the greatest barriers to bringing the staff nurse into the EBP arena. Typically, nursing research, statistics, and EBP courses are taught in the final years of baccalaureate education. These courses are usually not included in associate or diploma nursing education programs.

In a study examining nurses’ perceptions of EBP, researchers surveyed 422 nurses in an urban Midwestern hospital found a difference between the attitudes of diploma and ADN nurses toward EBP and the views of those with Bachelor of Science in Nursing (BSN) or MSN degrees. Stating that this attitudinal difference

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was understandable because the diploma and ADN programs do not offer courses in statistics or nursing research. Koehn and Lehman concluded that basic educational courses about EBP should be offered to these students. The findings from this study indicate that nurses with higher education have a greater tendency to value the best available evidence and use it in their practice.30

Age also is a factor in whether nurses have received education in EBP. In Koehn and Lehman’s survey of more than 400 nurses, respondents’ ages ranged from 41 to 50 years, and they had more than 20 years of experience. These nurses had completed their education more than 20–30 years ago, before EBP was included in nursing curricula.30 Even nurses who graduated from programs that included nursing research may not have utilized the research process recently and are therefore unable to incorporate it into their daily practice.31

A lack of information literacy and computer competency among students was identified in a recent survey of BSN programs in England. This survey also identified a lack of student knowledge about information management.32 It is possible that nurses fail to use research in their practice because they simply do not know how to apply it.19

As a nurse educator, Jutel notes that some nursing curricula emphasize adherence to clinical protocols and routine practices rather than development of critical thinking skills that would enable nurses to evaluate practices and question rationales. Jutel also notes that nurses rely mostly on experiential knowledge or expert opinion from colleagues instead of formal research evidence.33 Other studies echo this finding. In a study of 598 clinical nurses in England, communication with peers and personal experiences were greater sources of knowledge for most nurses than were formal knowledge sources.34

Taking this one step further, Melnyk and coworkers question whether graduate nursing faculty are knowledgeable in EBP and whether they have the skills to incorporate it into their curricula. These investigators recommend that all schools teach EBP at the undergraduate and graduate levels and that they teach students the skills necessary to competently integrate evidence into practice.35 An additional step would be adding courses to graduate nurse educator programs to train nurse educators in the most effective methods for teaching EBP courses to undergraduate and staff nurses.

THE ROLE OF STAFF NURSES

Shared governance, a component of the Magnet Nursing Services Recognition Program for Excellence in Nursing Service, promotes best practices by building on strengths and leadership throughout an organization.36 EBP should be an expectation at magnet hospitals that want to demonstrate practice excellence.4 Because staff nurses are frontline providers, they must be valued, must be recognized, and must share in decision-making responsibilities. Implementing EBP at the bedside can be a complex process for staff nurses, but it can offer great potential for professional growth.

Every nurse with an open mind and an open heart sees things that might be done better or thinks about changes that would improve patient care and outcomes. Staff nurse involvement in the structures and processes that advance research and EBP gives them opportunities for professional growth and development far beyond the day-to-day clinical skills required at the bedside (p. 325).37

Nurse leaders need to encourage and support staff nurse involvement in the EBP process because of bedside nurses’ ability to observe, assess, and ask questions based on first-hand experience with patients and families. EBP can foster collaboration among nurse practitioners, research nurses, and staff nurses. Combining the skills of staff nurses who perform direct patient care with those of nurses who do clinical research results in a teamwork approach, spreading the responsibility of implementing EBP change.13 If nursing is to successfully implement and sustain a research-based practice, then staff nurses need to be involved with research from the beginning.37

THE ROLE OF NURSING LEADERSHIP

Although there is agreement that nursing leadership plays a vital role in promoting EBP, there is little evidence to support this statement.80 Some studies have described nurse leaders as major barriers to EBP.12,17,20,25,26 Other studies say they are successful facilitators of it,19,29,42

Numerous authors offer advice to nurse leaders on how they can effect practice change by creating organizational infrastructures and a culture that supports EBP,7,34,43 becoming change agents,8,40 or fostering a practice environment for staff nurses.8,44,45 In an integrative review of 12 studies on nurse leaders’ activities promoting EBP, researchers described leadership activities that influence nurses’ use of research evidence and identified interventions aimed at supporting research in practice. This study highlights the strategic roles nurse managers have in research transfer and the need for them to facilitate and regulate the EBP process.38 Limited evidence exists to define specific leadership behaviors or interventions that successfully promote an EBP culture. Further research is needed on effective leadership behaviors to promote EBP.

In spite of the lack of clarity regarding the skills nursing leadership needs to implement and sustain EBP, nurse leaders at every level have an obligation to advance change in nursing practice by supporting EBP use. The nurse executive has an expected competency to “facilitate the conduct, dissemination, and utilization of research to ensure evidence-based nursing, healthcare, management, and administrative systems” (p. 6). The nurse manager is directed to “ensure evidence-based practice by participating in and involving the nursing staff in evaluative research activities” (p. 9).46 Udod and Care summarized a study of 117 nurse managers and profiled the skills needed by first-line nurse managers to effectively
implement EBP. Leaders who demonstrate a commitment to EBP by role modeling and being champions of EBP set an example and validate the importance of EBP for staff nurses. Staff nurses who are supported in both word and action by their nurse leaders will work to sustain EBP. The authors note that success at incorporating EBP at the unit level depends in part on how effectively staff is included in the organization’s change process.\(^{42}\)

If leadership is to transform the work environment of nursing, advancing EBP is crucial. The task requires leaders who are not easily intimidated.\(^{40,47}\) Chief nurse executives who are successful in providing building blocks for EBP do so by demonstrating its value through administrative behaviors and by incorporating EBP terminology into their organizations’ mission or vision statements.\(^{47}\)

In a study on leadership behavior, researchers compared the factors that lead to the continued use (or nonuse) of practice guidelines within an organization several years after implementation of those guidelines. They found a different pattern of leadership behaviors within organizations that were able to sustain the use of practice guidelines than within those that had not sustained its use. They further identified three strategies that nurse leaders implemented that made them successful in enabling and sustaining the use of research evidence: (1) facilitating the use of research by nursing staff, (2) creating a positive work environment that promotes best practices, and (3) influencing organizational policies and infrastructure to support evidence-based care.\(^{48}\)

**DEVELOPING NURSING LEADERSHIP SKILLS THAT PROMOTE AN EBP CULTURE**

EBP built on the framework of Carper’s seminal work about the fundamental patterns of knowing illustrates nursing best practices. These four patterns—empirical, aesthetic, personal, and ethical—are dimensions of a whole and are interdependent.\(^{5}\) Separately, they are incomplete, but together they represent a human-centered approach to nursing care and a holistic knowledge base.\(^{49}\) Nurse leaders who adopt these patterns as their guide in facilitating EBP implementation can provide insight into and understanding of the best use of evidence to direct nursing practice. This allows nurses to create their own distinct and caring approach to EBP. By defining their practice within the patterns of knowing, nurses can firmly place their stamp on EBP. Even more important, they can then proclaim an ownership within the EBP movement that thus far has been lacking.

EBP is at the forefront of nursing practice, and nurse leaders can be the champions for this innovative practice movement. Issues regarding education, barriers to EBP, and the nurse leader’s and staff nurse’s role in EBP facilitation were addressed in the literature review. Barriers to EBP include staff nurses’ knowledge gap and lack of skills for locating and applying research to their practice. Experienced staff nurses in clinical settings must not be forgotten as supporters of EBP. They should also receive innovative EBP education that will stimulate them toward improved practice. They must first believe that the change to EBP is important and then must be given the skills to make the change.\(^{6}\) Nursing students at every level need to learn and understand the language of EBP. Nurse leaders must also do their part by supporting and developing the quest for knowledge that serves as the basis for practice change.

Additionally, nurses identified time as a major barrier to EBP. Nurse leaders therefore need to ensure that staff nurses have time built into their schedules to participate on committees and councils that promote EBP. Research information must also be readily available to staff nurses in a form they can easily access, understand, and use in their practice. Nurses need time and resources devoted to advancing their knowledge and skills in evaluating, appraising, and synthesizing evidence.\(^{15}\)

To meet the excellence requirements of magnet designation, nurse leaders must understand the importance of EBP. Many health care organizations in the U.S. are seeking magnet status. To meet the 14 forces of magnetism, organizations must include EBP. “Because the practice setting is where the rubber meets the road . . . engaging nurse executives with nurse scientists and nurses at the point of care presents an ideal action research vehicle that can demystify EBP and more readily support its further adoption” (p. 262).\(^{40}\) Nurse leaders need to be innovative and to make a difference in practice by building the science of EBP and quantifying and showcasing the value of nursing knowledge.\(^{30}\)

To help facilitate the implementation of EBP, nurse leaders can create an EBP awareness campaign in their facility, integrate EBP activities as part of clinical ladder achievement or annual performance evaluations, and ensure that a staff nurse serves on the institutional review board.\(^{45}\) Also important is the establishment of an organizational infrastructure (Internet access; mentors; EBP councils; nursing policies substantiated by evidence, education, managerial support) that strongly champions EBP. By doing these things, nurse leaders can create and foster a practice environment where EBP is integrated into the delivery of nursing care as well as into administrative decision making. The most successful organizations are those that foster a collaborative relationship between nurse managers and staff.\(^{4}\) This collaborative relationship brings together new ideas from bedside nurses with those of managers who can lead the process for change to transform and improve patient outcomes.

Nursing leadership must encourage staff nurses to become involved in EBP. Under the guidance of nurse leaders, staff nurses can provide excellent care that incorporates credible evidence and client preferences.\(^{50}\) Staff nurses are continually challenged to use evidence in their everyday practice; but to integrate this evidence into their care delivery, they must receive formal education in EBP. Nurse educators and nurse leaders play vital roles in bringing nurses who received their
degree before EBP arrived on the practice scene into the EBP arena. Organizations must provide education that gives staff nurses the skills and resources necessary for success in applying evidence and gaining ownership of their practice.

On a similar note, if nurse leaders are to realize the value of advancing EBP in the workplace, they also must receive formal MSN education in nursing leadership that includes the nursing sciences: nursing theory, nursing research, and evidence-based nursing practice. Lack of education in nursing science becomes an issue when nurse leaders attend graduate business programs that do not include core nursing courses in the curriculum. Carper noted that “caring for another requires the achievements of nursing science” (p. 22). With the nursing science foundation of MSN programs, nurse leaders develop the language and skills needed to understand, implement, and support EBP. They can then lead by example and model the use of EBP, within a theoretical framework, on their units. Nurse leaders who cannot model research integration into their own practice shouldn’t have high expectations that their staff will incorporate research into daily decision making. Nurse leaders create the work environment for their staff. By using Carper’s ways of knowing as a framework, they can offer staff nurses the theoretical guidelines that encompass the scientific (or empirical) knowledge they need for evidence-based nursing practice. Staff nurses who are confident in the support of nursing leadership soon realize that their clinical decisions have weight and meaning, and their confidence in using evidence to inform practice increases. This in turn validates their practice and provides a pathway to excellence in nursing.

CONCLUSION
There is no doubt that EBP is becoming a more visible part of nursing, and rightly so. It is a problem-solving approach to health care, one grounded in science, that enhances nursing care and promotes patient safety. Health care consumers expect nurses to take responsibility for their care delivery by using a scientific method to continuously examine their daily practice. EBP is critical to this process. This scientific and systematic method gives nurses a tool for advancing their profession by taking accountability for providing safe care.

The role of nursing leaders in advancing this practice change is significant. They are in the position to secure resources for EBP by educating hospital administrators about the key role nurses have in translating research into practice. These resources are necessary for enhancing knowledge and skills in searching, evaluating, synthesizing, and implementing evidence. Nurse leaders can create a work environment that engages staff nurses in clinical decision making and encourages them to base their practice on the best evidence available. Nursing has a long tradition of advocating for patients. To assure the health, welfare, and safety of patients, nurse leaders must continue to support staff nurses in their pursuit of the evidence that leads to excellent patient care.

REFERENCES


