Nurses Reclaiming Ownership of Their Practice: Implementation of an Evidence-Based Practice Model and Process

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abstract

This article describes a new model and process to implement evidence-based practice. This model builds on concepts from the Iowa Model of Evidence-Based Practice, the Stetler model, and Rosswurm and Larrabee’s model. The new model focuses on the centrality and involvement of staff nurses in making evidence-based practice clinical changes. Two figures illustrate the model and the implementation process. A detailed case study based on the model is included. Barriers identified in the literature review are addressed in the case study. Implementation of this model creates opportunities for staff nurses to recognize ownership of their practice and their role in changing the practice setting to a culture of evidence-based practice. 


The principles of evidence-based practice provide a pathway to expert nursing. Evidence-based practice in nursing is defined as “integration of the best evidence available, nursing expertise, and the values and preferences of the individuals, families and communities who are served” (Sigma Theta Tau International, 2004, p. 69). All aspects of nursing, from education to management to direct patient care, should be based on the best evidence available at the time.

Transitioning this goal from theory to practice began with a partnership between a local university and a large regional medical center located in the northwest United States. A joint faculty appointment for nursing research at the medical center was established. The initial agenda was implementation of evidence-based practice to foster a cultural change in the medical center. This article describes a new theoretical model designed to guide change for evidence-based clinical nursing practice. Staff nurses are central to the model.

Beneficial outcomes of the implementation and use of evidence-based practice by staff nurses include increased ability to offer safe, cost-effective, and patient-specific interventions. Critical thinking skills and leadership abilities can also grow because of the use of evidence-based practice; it is a way for staff nurses to become involved in change and regain ownership of their practice. On the other hand, barriers exist inhibiting implementation of evidence-based practice at the level of staff nurse. Among those barriers are management styles and individual learning styles. It was a perceived lack of staff nurses’ involvement in the evidence-based practice process and their subsequent lack of ownership that provided the impetus for creating this theoretical model and evidence-based practice process.

The focus of this article, therefore, is on staff nurses and their involvement with the implementation and continued use of evidence-based practice in patient care. Specifically, this article presents a brief background from the literature on the status of staff nurses’ involvement with evidence-based practice, followed by a description of a new model and process. Finally, a case study based on the Evidence-Based Practice Model for Staff Nurses is presented.

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LITERATURE REVIEW

Is evidence-based practice valued by the staff nurse? One oncology nurse stated, “there is a lot of research out there, but it does not get used” (personal communication, 2003). A review of the literature validated the nurse’s statement that there is a lot of research, but the knowledge generated from the research generally is not used by staff nurses, and if it is implemented, it is done through a top-down hierarchy, with the staff nurse removed from the process (Kajermo, Nordstrom, Krusebrant, & Lutzen, 2001; Kitson, 2001; Pravikoff, Tanner, & Pierce, 2005; Retsas, 2000). The result is a general lack of commitment by staff nurses to consistently use evidence-based practice methods, embrace the concepts, or implement the findings.

Two concepts central to the issue of using evidence-based practice are ownership of a problem and involvement with the process to solve the problem (Kitson, 2001). Ownership implies rights, responsibilities, and the ability or inability to give a problem away (New Webster’s Dictionary, 1990). Yet staff nurses frequently allow others to step in and take over solving the problem.

Barriers have been identified that contribute to decreased use of evidence-based practice by staff nurses. These barriers include lack of interest in research and other scholarly writings, reading habits, personal experiences, heavy workloads, lack of time, confusing terminology, perceived or real lack of support, rapid pace of change, and organizational problems (Kajermo et al., 2001; Kitson, 2001; Pravikoff et al., 2005). Staff nurses, however, need to embrace evidence-based practice, because they directly influence patient care outcomes.

Additionally, today’s patient population demands more in terms of quality of care; patients expect to be partners in their health care decisions. Patients are more knowledgeable because of educational opportunities and access to the Internet (Marietti, 1998). Can evidence-based practice, then, be implemented in a way that involves the staff nurse? The answer is yes.

There are several models that have contributed conceptually to the implementation of evidence-based practice. The Iowa Model of Evidence-Based Practice to Promote Quality Care (Titler, Kleiber, Steelman, Rakel, Budreau, Everett, et al., 2001), the Stetler (2001) model, and Rosswurm and Larrabee’s (1999) model were guides for this article on using best available evidence to make clinical nursing decisions.

The Iowa Model (Titler et al., 2001) describes evidence-based practice as starting with an idea or a trigger and exploring for change. For a staff nurse, the trigger may be rooted in a clinical problem. The schematic of the Iowa Model illustrates a pathway to promote quality patient care and problem solving. It incorporates a team approach to assemble, critique, and evaluate the quality of published research for use in solving a problem. The purpose of the Iowa Model is to ensure a safe decision-making process on which to base change.

The Stetler model (1994, 2001) illustrates a sequential critical thinking pattern to assist in problem solving throughout the evidence-based practice process. The third model by Rosswurm and Larrabee (1999) employs change theory in its sequential layout. Change is difficult; the use of evidence-based practice takes effort and motivation.

The theoretical model created for this project was influenced by these theorists. The focus of this model is the centrality of staff nurses. Its intent is to encourage and increase staff nurses’ involvement with evidence-based practice.

DESCRIPTION OF THE PROJECT
Evidence-Based Practice Model for Staff Nurses

A model emphasizing the importance and centrality of the staff nurse (Fig. 1) was created to guide this process of implementing evidence-based practice. The model represents the relationship among clinical practice, dissemination of information, and use of research. Incorporated into the model is evidence-based practice terminology that describes the integration of best available evidence with clinical expertise and patient values (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Recognition of staff nurses’ expertise in patient care is a key element recognized in this model. The thread holding it all together is communication that flows in all directions. Communication is represented in Figure 1 with bidirectional arrows.

The concepts in Figure 1 represent the staff nurses’ ownership of evidence-based practice, because staff nurses are central to the process. Staff nurses “drive the machine” of evidence-based practice, because they observe, assess, ask questions, pass on ideas, and implement new knowledge into clinical practice. For example, in providing patient care, staff nurses observe, communicate, and teach the patient. Staff nurses use equipment and administer medications in the course of patient care. Then they observe the effect of their interventions. Staff nurses use supplies and implement new procedures often designed by sources outside their working units. Questions, ideas, frustrations, and appreciations arise from staff nurses as they work with patients. The Evidence-Based Practice Model for Staff Nurses addresses how these questions and ideas are communicated.

Within this model, the nurse researcher teaches, role models, and discusses the evidence-based practice
The nurse researcher assists staff nurses to identify a clinical problem and then form the problem into a question. The nurse researcher furthers the staff nurses’ involvement with best available evidence by demonstrating how to identify the variables from the question and use those variables to conduct a literature search and then read the journal articles. The nurse researcher must be cognizant of barriers to staff nurses’ use of research to solve clinical problems. The nurse researcher, therefore, might conduct the literature review and identify research articles that staff nurses can trust in answering a clinical question. Finally, the nurse researcher is available to conduct new research to evaluate the change once it is implemented.

If a nurse researcher is not available in the medical center, a clinical nurse specialist (CNS), advanced practice registered nurse (APRN), or nurse manager can support staff nurses in the evidence-based practice process. The concepts identified in the Evidence-Based Practice Model for Staff Nurses are detailed in Figure 2. Staff nurses’ experiences in patient care are recognized in the process. Communication is demonstrated with directional arrows.

Implementing the Model

A project using this model was undertaken because of a recognized need by the medical center’s nursing administrators to increase the use of evidence-based practice in patient care. The medical center’s Institutional Review Board (IRB) decided that this project was a quality improvement initiative and did not require full IRB approval. The rationale is that this project was a small-scale intervention linked to assessment, with the goal being improvement of a process, an outcome, or efficiency of a health care system (Cassarett, Karlawish, & Sugarman, 2005).
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<th>Step</th>
<th>Process for the use of the Evidence-Based Practice Model for Staff Nurses</th>
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| Assessment | **Patient Values and Preferences**: Give verbal and nonverbal communication.  
1. Receive verbal and nonverbal messages (collect data)  
2. Form a group  
3. Discuss potential problems |
| Identification and evaluation of problem | **Staff Nurse/Clinical Expert**:  
1. Identify problem(s)  
2. Discuss potential interventions and outcome  
3. Conduct literature search |
| Analysis and synthesis of best available evidence | **Nurse Researcher/Best Available Evidence**:  
Assist with literature search, as needed |
| Planning | **Staff Nurse/Clinical Expert**:  
1. Assess feasibility of change  
2. Define proposed change  
3. Identify resources  
4. Define desired outcome |
| Implementation and evaluation | **Staff Nurse/Clinical Expert**:  
1. Design and implement peer teaching strategies  
2. Implement change  
3. Conduct pilot study  
4. Evaluate findings  
5. Decide to adopt or reject change  
6. Communicate findings |
| Integration and maintenance | **Nurse Researcher/Best Available Evidence**:  
Receive communication related to ideas for research |

*Figure 2. Process for the use of the Evidence-Based Practice Model for Staff Nurses.*

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The inpatient oncology unit was selected as the setting for this project because registered nurse staff turnover was low, patient satisfaction evaluations were high, and an oncology clinical nurse specialist was assigned to the unit. Trust between nursing management and nursing staff was demonstrated, and open lines of communication were exhibited. The result was a positive reception from the oncology staff nurses to the idea of implementing an evidence-based practice project.

A group was formed for implementation of the evidence-based practice model. Four staff nurses volunteered as peer representatives to participate with the oncology unit nurse manager to form a unit-specific evidence-based practice team. The clinical nurse specialist and the nurse researcher were part of the team as experts to teach and assist with the process. An infection control nurse temporarily joined the team based on the need for her expert knowledge of sepsis and computerized data-tracking systems.

Communication from the team to the other staff nurses on the oncology unit occurred through friendly, informal channels. Formal explanations and education occurred a few weeks after the start of the evidence-based practice project, when change based on best available evidence was proposed. At that time, explanations and education by and for staff nurses began.

Working in groups was emphasized because group work offers staff nurses opportunities to develop leadership skills, which in turn leads to increased personal self-confidence (Eyler & Giles, 1999). Group work also has value as an integral part of making business decisions (Ward, 1998).

At the first meeting, the team identified a topic in which to apply the evidence-based practice process (Fig. 2). The following sections describe how the process was implemented.

Assessment. The staff nurses on the evidence-based practice team identified two clinical problems based on their observations, questions, and experiences working with patients. To illustrate the process, only one problem is identified in this article. The team reached a consensus that the frequency of central line dressing changes in severely neutropenic patients (i.e., absolute neutrophil count < 500) was the problem they wanted to address for potential change.

The oncology unit’s policy at that time required daily dressing changes for neutropenic patients. This practice had been in place for several years in an effort to prevent infections in this highly susceptible population. Daily dressing changes, however, were perceived by staff nurses to cause increased skin breakdown that increased the potential invasion of pathogens. Patients were dissatisfied with the practice due to the discomfort of the skin breakdown. The staff nurses wanted to know if this practice was supported by research.

Identification and Evaluation of the Problem. Based on the team’s discussions and debates, the topic of central line care was selected as the most pressing problem affecting the oncology staff nurses. The team wanted to know:

- Did current best evidence support daily dressing changes in oncology patients with severe neutropenia?
- Were neutropenic oncology patients treated differently (i.e., daily dressing changes) from other neutropenic patients?
- Did research support a change from the practice of daily central line dressing changes?

The team was eager to know what the best available evidence said.

The next step was to conduct a literature search. The nurse researcher offered assistance based on barriers identified by the staff nurses. Specifically, heavy workloads, inadequate time, and lack of knowledge regarding how to conduct an electronic literature search were identified; these barriers were similar to those identified in the literature (Kajermo et al., 2001; Kitson, 2001; Pravikoff et al., 2005; Retsas, 2000). Working with the clinical nurse specialist, the nurse researcher identified evidence and shared the process with the team.

Analysis and Synthesis of Best Available Evidence. Search results revealed few current publications specific to central line dressing changes for severely neutropenic oncology patients. Comparisons could not be made because of differing research designs, sample, focus, and paucity of current publications. The best available, relevant, and trustworthy evidence was found in Guidelines for Prevention of Intravascular Catheter-Related Infections (O’Grady, Masur, Alexander, Dellinger, Gerberding, Heard, et al., 2002). Garland, Henrickson, and Maki (2002) published similar guidelines. Although these guidelines provided little direct evidence, they offered a synthesis of the best available supportive evidence. Based on these guidelines, the team decided that change could be safely implemented. The next step in the process was planning unit implementation of the desired changes.

Planning. The team wrote the following statement to guide the proposed clinical change: As with non-neutropenic patients with central venous access devices (CVADs), neutropenic patients’ central line dressings will be changed every 7 days or prn, except gauze dressings, which need to be changed every 2 days.

Desired outcomes for the evidence-based practice project were improved patient care and reduced costs re-
lated to decreased use of supplies and decreased nursing time spent on CVAD dressing care. Other potential cost savings related to improved patient outcomes through equal or reduced episodes of infection and skin breakdown in neutropenic oncology patients.

Implementation and Evaluation. Staff nurses from the evidence-based practice team designed, organized, and conducted the educational sessions for all nurses who worked on the inpatient and outpatient oncology units. They created a Microsoft PowerPoint presentation and made posters highlighting the evidence and changes to the central line dressing change procedure. The posters were strategically placed to remind staff nurses of the changes in central line dressing change protocol and the importance of documentation.

The team next decided that before making a permanent change in the unit’s written policy, a pilot study should be conducted and the findings evaluated. A pilot study was designed to track topical and bloodstream infections (BSIs) after implementation of the proposed changes in central line care. Hospital databases, registered nurse documentation, and other established sources of information were used, with the help of the infection control nurse. Data were collected on the following variables:

- Number of CVADs inserted after the initiation of the pilot study.
- Number of insertion site infections (per 1,000 line days).
- Number of BSIs (per 1,000 line days).
- Neutropenic status of the patient at the time of infection.

During the 6-month period of monitoring CVADs placed during the pilot study, the BSI rate remained below the identified benchmark of four per 1,000 line days (Garland et al., 2002).

Integration and Maintenance. Based on initial analysis of the findings, changes in nursing care of CVADs became permanent and the unit policy was updated. Practice maintenance in nursing care of central lines continued based on changes implemented during the pilot study. Additional education for staff nurses was unnecessary because the change had been immediately accepted by the staff nurses at the completion of educational presentations from their peers.

EVALUATION OF THE PROJECT

Near the end of the evidence-based practice project, a short-answer questionnaire was distributed to team members. The staff nurses, oncology clinical nurse specialist, and oncology unit nurse manager received the short questionnaire.

The first question asked, “How would you describe your role with research?” One nurse described herself as “no longer an innocent bystander. I feel more confident to apply what I read.” A similar question asked, “Will you make any changes in your nursing practice as a result of this project?” The responding nurse reflected, “I might be more inclined to actually look for specific information when I have questions pertaining to practice.”

Responses were mixed regarding the question, “What were the positive and negative aspects of working in a group?” Scheduling meeting times into an already full day was seen as an unspoken conflict. Some irritation was expressed toward nurses who initially volunteered to be part of the team but then chose not to participate or attend any meetings. On the other hand, positive responses about group work addressed sharing and learning new ideas. One nurse responded, “The part of the process I felt was most enjoyable was being able to have some input into a subject or a practice that hasn’t seemed right to me for a long time.” Another nurse commented, “I like the prospect of change for the better.” The least enjoyable part of the process “seemed to be when the project wasn’t too exciting and people lost enthusiasm for ‘making it happen.’ ”

The last question asked respondents to “Describe how or if this experience influenced your leadership attitudes and abilities.” Staff nurses’ personal reflections about leadership did not correlate with reflections from the oncology unit nurse manager. One team member answered that the experience “reinforced what I knew about my manager’s attitude toward promoting nursing professionalism.” Her answer did not reflect personally on her abilities as a leader within the group, but reflected how she viewed the oncology unit nurse manager. The oncology unit nurse manager, on the other hand, stated, “I want to continue with projects led more by staff than by me.” She was “hoping for more ownership from other staff members.”

Reading answers to the questions about participation in this project contributed to understanding of a culture based on evidence-based practice. Further discussion about the project identified the following points:

- The staff nurse is a central component of evidence-based practice.
- Evidence-based practice is a process for staff nurses to validate their practice.
- Evidence-based practice is a process for individual and collective voices to be heard.
- Evidence-based practice incorporates the process of change into the culture of the staff nurse.
- Evidence-based practice experiences increase critical thinking in making clinical decisions.
key points

Evidence-Based Practice

1. Staff nurses’ involvement with evidence-based practice provides a pathway to expert nursing and a process to validate practice.

2. Communication that flows in all directions is the thread that holds together the process of evidence-based practice.

3. Potential outcomes of the participation of staff nurses in an evidence-based project include increased confidence in using research findings, peer leadership, individual and collective nursing voices, increased critical thinking skills in making clinical decisions, and validation of nursing practice.

KEYS TO MAINTAINING A CULTURE OF EVIDENCE-BASED PRACTICE

Continued use of evidence-based practice based on the model and process presented in this article is occurring at the medical center. Staff nurses are realizing that their decisions and input have weight and meaning in problem solving. Interest and involvement in using research and other best available evidence to make decisions continue to increase. For example, the oncology clinical nurse specialist subsequently held inservices for all oncology staff nurses to increase their knowledge about how to find best evidence and then evaluate it. The experience of learning with their peers to use best available evidence when problem solving, plus the success of the evidence-based practice project, have increased staff nurses’ awareness of the importance of evidence-based practice.

According to the oncology clinical nurse specialist, it is not unusual to hear a staff nurse respond to a question with, “What does the evidence say?” Finally, the oncology clinical nurse specialist is currently leading evidence-based practice projects in other units based on this theoretical model.

Gains related to the increased involvement of staff nurses in evidence-based practice projects included increased use of best evidence for patient care, increased opportunities for leadership by staff nurses, improved critical thinking skills, and improved communication skills. Providing opportunities to use this evidence-based practice model and process will help to maintain staff nurses’ enthusiasm for their profession. The predicted outcome is that staff nurses will recognize ownership of their practice and their role in the culture of evidence-based practice.

REFERENCES