

Evidence-Based Practice: Why Does It Matter?

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Disclosures:

Requirements for successful completion: read the entire study, complete the post-test with a score of 80% or higher, complete and submit the evaluation form, and complete registration information, including full name and credentials.

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Purpose: This study is designed to provide the learner with information to facilitate the use of evidence-based practice to enhance quality nursing care. The purpose of this study is educational in nature. It is not intended to provide clinical or legal advice or to be a comprehensive compendium on evidence-based practice. For specific implementation information, please contact an appropriate professional, organization, legal resource, or facility policy.

Objectives

1. Define evidence-based practice.

2. Describe the importance of using evidence-based practice to ensure safe patient care.

Introduction

Evidence-based practice has become a commonly used term in health care in the past few years. It is important for nurses to know what it means, how to use it, and how important it is in protecting patient safety. This study will define evidence-based practice and provide examples of how evidence based practice questions can be used to guide delivery of safe patient care. The purpose of the study is to empower nurses to engage in evidence-based practice to strengthen their own professional roles.

Significance

In 2002, Sigma Theta Tau International, the honor society of nursing, developed a position statement on evidence-based practice. This paper describes how important it is for nurses to be able to access, evaluate, integrate, and use “best practices” to promote patient safety.

The National Council of State Boards of Nursing (NCSBN) has stated that evidence based practice is not just another buzz-word or fad, but that it is an expected standard of ensuring safe patient care that is “here to stay” (Spector, 2007).

The Ohio Board of Nursing has rules that relate to competent practice for registered and licensed practical nurses (4723-4-03 OAC and 4723-4-04 OAC, respectively). One aspect of competence is that “a registered nurse shall maintain current knowledge of the duties, responsibilities, and accountabilities for safe nursing practice.” (4723-4-03(B) OAC). Similar language exists in rule 4723-4-04 OAC for the licensed practical nurse. The term *current* means that the nurse is expected to keep abreast of new knowledge, research, and evidence that supports nursing interventions, keeps patients safe, and contributes to quality patient care. The purpose of the Ohio Board of Nursing, and boards of nursing in all other states as well, is to protect the public. Implementation of evidence-based practice is one strategy for the nurse to use to make sure that the public is protected when nursing care is provided.

Over the past ten years, the Institute of Medicine (IOM) has published a series of reports related to patient safety in the United States health care system. Their 2001 report, *Crossing the Quality Chasm: A New Health System for the 21st Century*, states that the attributes of quality care are safety, effectiveness and efficiency, patient-centeredness, timeliness, and equity. Evidence-based practice provides the foundation for safe care, leading to increased effectiveness and efficiency, timeliness, and more appropriate focus of research-based data within

the framework of the patient's current situation and needs. This in turn leads to equity in utilization of resources and assurance that each patient receives the most appropriate individualized care, according to his/her presenting needs.

In 2004, the IOM published a seminal work focused on improving the work environment for nurses as a key strategy in keeping patients safe. Key components of improving the work environment for nurses are stimulating nurses to seek evidence to support practice, providing the resources and tools nurses need to collect and evaluate that evidence, challenging them to assess the evidence in relation to a specific patient's need, and empowering them to take the initiative to implement best practices.

It is clearly understood that nurses do not work in a vacuum; they must work effectively as members of the healthcare team. The Joint Commission has emphasized the need for all healthcare providers to work together more effectively in the best interests of quality patient care. Their Sentinel Event Alert issued in July of 2008, for example, states that "safety and quality of patient care is dependent on teamwork, communication, and a collaborative work environment". Use of evidence based practice tools provides a common framework for discussion, shared involvement, and decision making. The SBAR example included later in this study is one example of an evidence-based practice that has contributed to more effective team interaction.

Definition

Evidence-based practice, in its simplest form, means using evidence to guide practice. This is an alternative to "flying by the seat of your pants", doing things "because we've always done them that way", or doing things "because I don't know what else to do, so I'll try this and see how it works". Nurses enter practice with a knowledge base that has been acquired through formal education, including opportunities for both didactic learning and clinical practice. This education forms the basis for beginning practice and serves as a springboard for future professional development. This is NOT the end of the learning process!

New evidence comes into play every day as research is completed, technology advances, and patients present with unique challenges and personal experiences. The nurse who bases practice solely on what was learned in basic nursing education soon becomes outdated, then becomes dangerous. Patients are not safe if they do not receive care that is based on the best evidence available to assist them at the time their needs arise.

Titler (2008, p. 1-113) defines evidence-based practice as "the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions". Evidence comes from several sources, including research, our past experiences, the knowledge and

experience of colleagues, and the patient/family. One of these alone does not constitute a solid frame of reference for determining a plan of care.

Similarly, Sigma Theta Tau International (2002), in its position paper, defines evidence-based nursing as “an integration of the best evidence available, nursing expertise, and the values and preferences of the individuals, families and communities who are served.” This takes into account not only the research-based evidence, but the unique situations nurses face when implementing best practices with people of various cultures, needs, and health care preferences. Sigma Theta Tau considers evidence based nursing as a foundation for nursing practice.

Using Research

When available, research studies that have been conducted in controlled circumstances provide strong evidence to support practice decisions. For example, research has been done to determine various types of wound care dressings that are most appropriate for different kinds of wounds. The nurse caring for a patient with a decubitus ulcer needs to thoroughly assess the patient and the wound, then review the research to determine the best option to aid wound healing. As the nurse and the physician review the patient’s situation, they can develop a plan that incorporates recommendations based on research findings, the specific characteristics of the wound, and the patient’s situation – lifestyle, current self-care capability, availability of resources, and other factors that will determine how the treatment plan is carried out.

There are many areas of nursing practice, however, in which structured qualitative and/or quantitative research has not yet been done. There may be anecdotal evidence from others' experiences, or there may be some "soft" data generated by one or two research studies with small populations or with a different focus than the area of current concern. New research is being conducted in a variety of areas of nursing practice and is disseminated through resources such as the National Institute of Nursing Research (NINR) at the National Institutes of Health, the Agency for Healthcare Research and Quality (AHRQ), and Sigma Theta Tau International.

The following information is provided in the "frequently asked questions" of the NINR, found at <http://www.ninr.nih.gov/Footer/NINR+FAQ.htm>.

Q: What is Nursing Research?

A: Nursing research develops knowledge to:

- Build the scientific foundation for clinical practice,
- Prevent disease and disability,

- Manage and eliminate symptoms caused by illness,
- Enhance end-of-life and palliative care.

Many nurses cringe at the topic of “research”. They are unsure of how to read research articles and how to discern the “take home” points from lengthy descriptions of statistical data collection and analysis. Several sources, including the University of Southern California (Guide to Reading Research Articles, 2010), have published tools to aid in reviewing this literature. Key questions they suggest include:

- What is the purpose of the research and how does it relate to the problem?
- How was the investigation done? Was the study conducted in accordance with sound principles and without bias?
- What are the findings and conclusions, and how do they relate to the problem?
- How are the findings applicable to my practice?

Other factors the reader might want to consider when reviewing published research data include:

- ✓ How big was the data base in the study? A study that only looked at responses of 10 patients to a nursing intervention may not yield data that is as beneficial as a study in which 100,000 patients were assessed. After all, if six out of ten patients responded positively to a nursing intervention, the response rate would be 60%. That number isn't nearly as impressive, however, if six out of 100,000 patients had the same response - then it would only be .006%!
- ✓ What was the population in the study? If the study looked at the effects of an antidepressant medication on adults and your patients are children, the results of the study will not benefit your current practice.
- ✓ Who funded the study? Publishers and authors disclose the sources of funding for their research. If a study comparing the effectiveness of two antihypertensives was conducted by a pharmaceutical company that makes one of the medications, what steps were taken during the design, implementation, and analysis of the study to ensure that the study was factual? Please note that it is not unethical or illegal for a pharmaceutical company to fund research about its medications. In fact, this is a critical tool for evaluating the effectiveness of a medication. What is critical is to ensure that (1) bias is prevented in the conduct of the study, and (2) readers of the study have full disclosure about funding.
- ✓ Who conducted the study? What were the qualifications of the people who carried out the work? Did they have a particular "vested interest" in the

outcome? Unfortunately, there have been situations where researchers have had a particular desire to see a particular outcome of a study, so data are manipulated in such a way to make the desired outcome a reality. To protect integrity and try to prevent misuse of subjects and data related to them, facilities in which research is conducted have institutional review boards (IRBs). Prospective researchers submit their proposals to IRBs to get approval prior to conducting their research if human subjects are involved. There may be situations where a researcher is receiving funding from a product manufacturer, or the researcher serves on the speakers' bureau for the company that makes the product - in these cases, the researcher has to be sure that his/her involvement with the company does not introduce bias into the research process. Some organizations allow this researcher to continue with the research as long as disclosure is provided and integrity is maintained; other organizations disallow the researcher to participate in that particular research project. Publishers are required to disclose any potential "conflicts of interest" of authors and to indicate how these potential conflicts were resolved.

- ✓ What were the outcomes of the study? Do they make sense in relation to the original research question that was asked? Do they have any relevance to your practice or your population of patients? If so, you will want to look further into the statistical analysis of the data to see how the researchers arrived at their conclusions. If not, consider the review of this study as an adventure in new learning, and move on to something else!

While research is an important component of evidence-based practice, an important factor to remember is that one research study does not generally provide "evidence". A nurse can search databases for individual articles. These include CINAHL, MEDLINE, and others. More valuable is a compendium of research studies that have resulted in publication of evidence that comes from several sources. Three notable sources of this type of data are the Cochrane Collaboration, the National Guideline Clearinghouse, and the Agency for Healthcare Research and Quality. All three of these sources provide searchable databases that enable the user to collect evidence compiled from a number of sources in relation to a specific clinical problem. In some cases, such as the National Guideline Clearinghouse, the evidence has been used to formulate a guideline that is then considered to be a "standard" of practice, based on best-available evidence at the time the standard was written.

Spector (2007) states in the NCSBN paper that it is important for nurses to recognize the difference between "research utilization" and "evidence-based practice". While research utilization suggests that one adopt the findings of a research study as "standard practice", evidence-based practice indicates that findings from multiple studies, in conjunction with thorough assessment of the current patient situation, forms the basis for nursing plans and interventions. She states that goals of this process are to give nurses tools to provide excellent

care, provide a valid and reliable way to solve clinical problems, and encourage innovation and creativity in how evidence-based data is implemented to meet specific patient needs. As additional clinical problems and challenges are identified, there is opportunity for more innovation as new opportunities are created for ongoing quality improvement initiatives.

Tools and Resources

Policies and procedures of facilities should be based on evidence, not on tradition. One recommendation is to include a footnote with each policy, stipulating the foundational documents that were used in formulating the policy. Regularly scheduled policy reviews can then be conducted by referring to the original sources of data to look for updates and changes.

One example of an evidence-based practice standard that has been shown to increase patient safety is the SBAR tool for interprofessional communication (IHI, 2010). Numerous studies over the past several years have indicated that a major cause of patient safety lapses in acute care settings has been poor communication among members of the healthcare team. As noted earlier, The Joint Commission issued a sentinel event alert in July of 2008, indicating that hospitals must take a more active approach in ensuring respectful, appropriate communication that fosters a culture of teamwork and trust. The SBAR communication tool has proven to be an effective resource to assist healthcare team members in addressing that concern.

The model uses the acronym SBAR to stand for situation, background, assessment, and recommendations. When one member of the team is giving report to another or calling a colleague for guidance, use of this framework provides a consistently reliable way of collecting, analyzing, and organizing data to share with the other person. It is a particularly valuable tool for new members of the team, as they are learning strategies for effective communication. The process is more intuitive for more proficient practitioners. Regardless of whether use of the standard is formal or informal, it provides a way to share data that is understood by both parties, includes relevant information, and excludes extraneous information that might “muddy the water” in making sure the patient’s needs are appropriately addressed. Evidence has shown that integration of this technique in shift-to-shift reports, transfer of a patient from one department to another, or call to a prescriber regarding a change in plan of care has resulted in clearer communication and better patient outcomes.

Several models have been developed to assist people in using evidence to guide their practice. One is the ACE Star Model of Knowledge Transformation[®], developed at the University of Texas Health Science Center at San Antonio (Stevens, 2004). According to this model, the five points of a star represent key points in development of evidence-based practice: discovery, evidence summary, translation, integration, and evaluation. New data is discovered, but only as

evidence from several studies supporting that finding are accumulated can the data be summarized into a framework that then can be translated into expectations for practice. At that point, nurses need to be educated and system-wide adjustments have to be made in order for those expectations to be incorporated into practice. For example, evidence could show that providing report at the patient's bedside is an effective tool to promote patient safety and enhance staff functional ability, but if staff are not educated about how to do this new process effectively, it will not be utilized appropriately. Similarly, if staff are educated, but policies and procedures are in place that dictate how report is to be given in the conference room with certain people present at each change of shift, the new practice still will not be able to be implemented. Changes in policy/procedure, sometimes technology, and sometimes the culture of the unit or organization are needed in order for new evidence to be incorporated into practice.

Many healthcare organizations have implemented quality improvement or process improvement initiatives, such as the PDCA (plan/do/check/act) process, lean, and Six Sigma. These are examples of use of evidence-based practice, starting from the premise that organizations need to work toward quality, cost-effectiveness, and efficiency. While the onset of quality improvement initiatives has taken place in the manufacturing and industrial sectors of the economy, hospitals and other healthcare organizations have embraced their value. In light of the IOM reports referenced earlier in this study that indicate hospitals have issues that affect safety for patients and preclude effectiveness and efficiency providers of care, healthcare providers are now realizing the need to be more accountable in both the services they provide and the infrastructure that supports provision of those services. According to the American Society for Quality (2009), hospitals have reported success rates in both clinical and non-clinical services as a result of using quality improvement processes.

Another model is that suggested by The University of Minnesota (2010). In this model, there are five key processes one uses to collect, use, and evaluate evidence based data. First, the nurse must frame the correct question in order to search databases for appropriate supportive literature. Second, from the literature resources available, find those which are most appropriate to your particular situation, patient need, or clinical challenge. Next, review those articles using some of the questions and suggestions in the "Using Research" section above. After finding supportive evidence of the initiative to be implemented, develop and use the evidence. The final step in the process is then to re-evaluate - did the process work as intended? Did the generalized evidence support the particular need in this case? Is this something that could be used by this facility in similar situations in the future?

Megel (2009) suggests a framework similar to the University of Minnesota process to develop processes staff nurses can use to frame research questions, collect and analyze relevant data, and implement the findings to improve quality of care. She suggests that formulation of the question is a key to the process of

data mining. Since there is so much data available, strategically framing the question to be asked significantly reduces the amount of material that is retrieved by the search engine and aids in focusing on the most helpful information. A well-designed question is thought to include the following:

P: the patient or population

I: the intervention that is being considered

C: comparison interventions, if available (is "A" better than "B"?)

O: desired outcome

For example, a question might be posed as "for a normal-weight newborn, is breast-feeding or bottle-feeding more effective in protecting the immune system?" The population under consideration is the normal-weight newborn, so you can immediately rule out any articles that discuss breast feeding benefits for premature babies. The intervention being considered is breast feeding, and the desire is to compare the relative benefits of breast feeding and bottle feeding to achieve the desired outcome of protecting the newborn's immune system. Data from the evidence retrieved will guide the nurse in education of new mothers. Nursing interventions are thus based on evidence, rather than on "usual" practice at the hospital or the personal preference of the nurse who happens to be caring for the patient that day.

The National Database of Nursing Quality Indicators[®] was established in the late 1990's as a vehicle for collecting data about nurse-sensitive indicators - those variables that reflect the structures, processes, and outcomes that affect the quality of nursing care that is provided to patients in hospitals. The database has grown significantly in its ten-year history and has contributed substantially to the evidence supporting nursing's critical role in patient safety. Data are collected from member hospitals and benchmarked with other facilities and quality standards. Reports are provided to the members, which can be used for internal quality improvement initiatives, reporting requirements, staff education, and recruitment/retention efforts. Evidence of quality nursing practice is substantiated through controlled data bases such as that maintained by NDNQI[®].

Professional nursing associations also have a wide variety of activities currently underway to investigate and support evidence-based practice in particular areas of nursing. Just as two examples, the Oncology Nursing Society has substantial evidence-based practice information available in regard to nursing care of patients with cancer. The Emergency Nurses Association has practice standards, publications, and guidelines based on best practices in emergency nursing. Contact a professional association of interest to you to learn about the resources, education, and data bases they currently have available.

Other Sources of Evidence

Clinical Expertise

With all of this discussion surrounding research and data bases, don't lose sight of the fact that collecting evidence from the literature is only one step in implementing evidence-based practice. Going back to the definition of evidence-based practice, remember that there are three key components: the evidence, clinical expertise, and the patient. Clinical expertise a required element of evidence based practice - and that might be the expertise you have, or that of a colleague or mentor.

Clinical expertise comes with clinical experience. The novice nurse is very focused on policy and procedure and "how to do", rather than "what to do" or "why to do", let alone "how and when to modify" based on a patient's need at any given point in time.

Critical thinking, while taught in nursing schools, is more of a theoretical exercise until there is a practice framework to guide the thinking. The more experience the student has, the better the critical thinking ability will be. Critical thinking derives from the ability to look at the big picture, ask relevant questions, seek additional information, and challenge the "usual". It includes the nurse's ability to not only collect data, but to analyze that data in context with the patient situation. Critical thinking requires that the nurse be present in the moment and not act reflexively in providing what may be perceived as "routine" care. According to Benner and colleagues (2008, p. 1-88), "critical thinking involves the application of knowledge and experience to identify patient problems and to direct clinical judgments and actions that result in positive patient outcomes".

You may have a significant amount of clinical expertise, based on years of practice and continued learning. It is a misjudgment, however, to assume that expertise and length of practice are equivalencies. Many nurses have practiced for a significant number of years but have not continued their professional development, either formally or informally. This often leads to ineffective inefficient, and ultimately dangerous practice, as this nurse is not able to keep up with new advances in knowledge and technology.

Because of the increased specialization of nursing, no one nurse can be expected to be knowledgeable about every aspect of the profession. Therefore, it is most helpful to have trusted resources who can be called upon to provide expert guidance. For example, a patient with chronic depression is admitted to a medical-surgical unit after having a stroke. The med-surg nurse might feel quite capable of handling the post-CVA needs of her patient but is not sure of the right approach in dealing with the co-morbidity of chronic depression. A phone call to the psychiatric unit can elicit the support of a mental health nurse to provide guidance and support.

Expertise can be gained in a number of ways. Certainly, years of experience helps. Continuing education, both formal advanced academic education and

continuing professional development, helps to keep the nurse updated and aware of new developments in his/her area of practice. Attending activities such as the hospital's "grand rounds" or other in-service opportunities helps the nurse continue to learn and grow. Membership in a professional association expands the nurse's horizons in a particular practice area of interest.

The Patient

As important as critical thinking is, by itself, it is not enough. Critical thinking forms the foundation for applying clinical judgment (sometimes called clinical reasoning) to a specific situation. Clinical reasoning is defined (Benner, 2008, p. 1-90) as occurring "within social relationships or situations involving patient, family, community, and a team of health care providers." In other words, clinical judgment takes the ability to critically think and applies it to a particular patient with a particular need at a particular point in time. All of the evidence in the world is not going to matter if it is not relevant in this specific instance.

True understanding of the patient includes many facets and is based on the nurse's knowledge of biological and social sciences in general and an assessment of the patient/family situation in particular. Knowledge of the patient's spiritual frame of reference, cultural background, decision-making processes, and health-related values is just as important in planning appropriate care as knowing the person's HgA1C or triglyceride levels.

Another factor to keep in mind is that the patient's condition is not static. A nursing assessment is only valid for the moment of time in which it was conducted. The nurse must be continually vigilant to changing conditions, which call into play new "evidence" that must be considered in adjusting the plan of care. Additionally, the nurse must always be thinking forward - anticipating what is probably going to happen next, while at the same time being prepared to respond if things don't go as planned. Nurses have often been called a hospital's "first-responders" because they are typically the ones who first recognize that a hospitalized patient is in need of emergent assistance based on changing condition. In fact, the rise of rapid-response teams in healthcare facilities has been brought about by evidence suggesting that the nurse at the bedside is in the best position to recognize a patient's need and call for the appropriate resources to aid in care of the patient.

Summary

Evidence based practice is a reality, and a critical component, of today's health care practice. The nurse must be aware of and able to use evidence based practice in order to promote patient safety. Effective utilization of evidence based practice depends on the ability to find and analyze data, critically examine a patient's current condition and needs, and apply the appropriate interventions to achieve the desired outcome. Patient safety and quality of care are at stake.

Evidence based practice provides an efficient, effective, and cost-beneficial way to provide care.

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Selected Resources

Agency for Healthcare Research and Quality: www.ahrq.gov

National Guideline Clearinghouse: www.guideline.gov

National Institute for Nursing Research: <http://www.ninr.nih.gov/>

The Cochrane Collaboration: www.cochrane.org