CHAPTER 3

Overview of Research

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CHAPTER OBJECTIVES

At the conclusion of this chapter, the learner will be able to:
1. Discuss the evolution of evidence-based practice (EBP), nursing research, and current healthcare trends.
2. Identify the value of using models and frameworks in nursing research.
3. Differentiate between basic and applied research.
4. Delineate sources for nursing research.

KEY TERMS

Applied research
Basic research
Best practice
Bundling

National Center for Nursing Research (NCNR)
National Institute of Nursing Research
 (NINR)
National Institutes of Health (NIH)

▶ Introduction

The roots of research utilization can be traced back to the time of Florence Nightingale in the mid-1800s. Over the past 160 years, nursing research has encompassed a variety of models, settings, and foci. The following historical perspective illustrates the trajectory of nursing research.

▶ Historical Perspective

Evolution from Nightingale to the Present

Florence Nightingale's work on sanitation in the 1800s was one of the early efforts at linking environmental variables to clinical outcomes. In the early 1900s, the focal

point of nursing research was on nursing education. In the 1940s, the concentration shifted to the availability of and demand for nurses in time of war. A major milestone occurred in 1952 when the first edition of the journal *Nursing Research* was published. In the 1970s, clinical outcomes again reemerged as a focus for nursing research, and the *Nursing Studies Index* by Virginia Henderson was produced. Today, through evidence-based practice (EBP), the focus is on the application of research findings to clinical decision making in an effort to improve individual patient outcomes.

Florence Nightingale's (1858) *Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army* was one of the first published works that outlined the clinical application of nursing research (Florence Nightingale Museum Trust, 2003; Riddle, 2005). Florence Nightingale created a polar-area diagram (or coxcomb) to display data related to the causes of mortality in the British Army during the Crimean War (**FIGURE 3-1**). This early pie chart used color graphics to depict deaths secondary to preventable disease, war injuries, and all other causes. Using these data, Nightingale calculated the mortality rate for contagious diseases such as cholera and typhus. Her statistical analysis demonstrated the need for sanitary reform in military hospitals.

⬆ THINK OUTSIDE THE BOX

Explore the various approaches used to generate knowledge in your practice area. For example, which information has been used to determine the method of catheterizing a laboring mother? Which information serves as the basis for the range of blood sugars used in elderly patients who are newly diagnosed with diabetes?

⬆ THINK OUTSIDE THE BOX

What would Florence Nightingale say about nursing research and EBP today?

Federal support for nursing research began in 1946, with the creation of the Division of Nursing within the Office of the Surgeon General. In 1955, the **National Institutes of Health (NIH)** established the Nursing Research Study Section. At the same time in 1955, the American Nursing Foundation was established to promote nursing research (American Nurses Foundation, 2018). A 1983 study entitled *Nursing and Nursing Education: Public Policy and Private Actions*, published by the Institute of Medicine (IOM) (1983), recommended that nursing research be included in the mainstream of health-related research. With growing public support, the Health Research Extension Act of 1985 authorized the development of the **National Center for Nursing Research (NCNR)** at the NIH. The NIH Revitalization Act of 1993 elevated NCNR to an NIH Institute and established the **National Institute of Nursing Research (NINR)** (n.d.).

The National Institute of Nursing Research supports basic and clinical research to establish a scientific basis for the care of individuals across the lifespan—from the management of the patient during illness and recovery to the reduction of risks for disease and disability, and the promotion of healthy lifestyles. (NINR, 2013)

FIGURE 3-1 Polar-area diagram.

BOX 3-1 Areas of Focus for Nursing Research

Leading Reform in Nursing Education
Education-Practice Linkage
Domain-Specific Knowledge
Technology in Nursing Education

Advancing the Science of Nursing Education
Robust Research Designs
Educational Measurement and Evaluation
Research Scholar Development

Developing National and International Leaders in Nursing Education
Nursing Education Workforce Diversity
Building Capacity

The strategic planning process at NINR identified areas of focus for prospective nursing research (**BOX 3-1**). In April 1993, the board of directors of the American Nurses Association (ANA, 1993) adopted a position statement that acknowledged the following: "[R]esearch based practice is essential if the nursing profession is to meet its mandate to society for effective and efficient patient care" (p. 1). It went on to identify the role of nursing research for the associate degree in nursing (ADN), bachelor of science in nursing (BSN), master of science in nursing (MSN), and the doctoral-prepared practitioner. The position statement outlined a process whereby clinicians identify relevant clinical problems for investigation and researchers design studies to address these problems (**BOX 3-2**).

Early nursing research focused on the development of the profession of nursing, not the clinical practice of nursing. In 1970, a study conducted by Lysaught

> revealed that little nursing research has been conducted on the actual effect of nursing interventions and that nursing had few definitive guidelines for its practice. The study recommended that investigation of the impact of nursing care on the quality, effectiveness and economy of health care be conducted. (Polit & Hungler, 1978, p. 11)

Thus, began a new era in which clinical practice emerged as a priority for nursing research.

🔲 THINK OUTSIDE THE BOX

Discuss the barriers you might encounter when trying to implement EBP and research utilization in your area.

BOX 3-2 Research Roles at Various Levels of Nursing Education

Associate Degree

Helping to identify clinical problems in nursing practice
Assisting with the collection of data within a structured format
Using nursing research findings appropriately in clinical practice in conjunction with
nurses holding more advanced credentials

Baccalaureate Degree

Identifying clinical problems requiring investigation
Assisting experienced investigators to gain access to clinical sites
Influencing the selection of appropriate methods of data collection
Collecting data and implementing nursing research findings

Master's Degree

Collaborating with experienced investigators in proposal development, data collection,
data analysis, and interpretation
Appraising the clinical relevance of research findings
Creating a climate in the practice setting that promotes scholarly inquiry, scientific
integrity, and scientific investigation of clinical nursing problems
Providing leadership for integrating findings into clinical practice

Reproduced from American Nurses Association (ANA). (1993). Position statement: Education for participation in nursing research. Retrieved from http://nursingworld.org/MainMenuCategories/Policy-Advocacy/Positions-and-Resolutions /ANAPositionStatements/Archives/rseducat14484.html. Courtesy of American Nurses Association. This is a retired position statement and is no longer ANA's official position on the issue.

In the 1980s, clinical pathways were introduced into nursing practice. A clinical pathway is a plan of care developed by a multidisciplinary team that outlines the sequential care that should be provided to a predictable group of patients. Early clinical pathways focused on high-volume admissions in the acute care setting, such as elective surgeries and routine obstetrical care. Clinical pathways should incorporate the applicable research. However, the intent of a clinical pathway is to manage the progression of an individual patient through a clinical event. These pathways emerged in response to shifting payment methods for health care and focused on the critical path, whose steps must be accomplished for the patient to have a cost-effective and timely discharge. Measures of success generally were a reduction in the total cost to provide care and a reduction in the average length of stay for each patient. In the late 1990s, a growing concern arose that many hospitals had adopted clinical pathways without strong evidence that they were clinically or economically effective.

The emergence of EBP takes the application of research one step further to focus on outcomes-based practices. The emphasis is now on the assessment and evaluation of clinical practices that have demonstrated their ability to improve morbidity and mortality for patients. Frequently, multiple interventions have been identified that together enhance the clinical outcome; this practice has come to be known as **bundling**. A bundle is a group of interventions related to a disease or care process that, when executed together, result in better outcomes than when the interventions are implemented individually. Evidence suggests that consistently

implementing these practices with all patients who have a specific disease or procedure can improve patient outcomes (Institute for Healthcare Improvement, 2006). In 2005, the Institute for Healthcare Improvement introduced care bundles for the prevention of central-line infection and ventilator-acquired pneumonia as part of the 100,000 Lives Campaign. In this case, the outcomes-based practices focus on a single aspect of care that is known to have serious complications.

Blending evidence-based research and applying it to clinical practice and patient outcomes were goals of the work of the IOM (1999) in its landmark publication *To Err Is Human: Building a Safer Health System.* In the preparation of this report, research in human factors was applied to health care in an attempt to understand where and why systems or processes break down. Specifically, the report's authors looked at how practices in healthcare settings could be made safer to prevent adverse outcomes for patients.

In 2004, the IOM expanded its original work to look at the work environment of nurses in its publication *Keeping Patients Safe: Transforming the Work Environment of Nurses* (IOM, 2004). This report further described the need for bundles of mutually reinforcing patient safety defenses as part of the effort to reduce errors and increase patient safety. It described "bundles of changes" that are needed within four aspects of care to strengthen patient safety: (1) leadership and management, (2) the workforce, (3) the work process, and (4) organizational culture. The IOM in 2010 suggested major challenges in providing health care with an emphasis on primary care versus specialty care in the community instead of acute care facilities (IOM, 2010).

As EBP emerged, a major shift occurred beginning in 2010. National trends began to emphasize patient outcomes, cost containment, and reimbursement related to hospital readmissions. In addition, demand for patient involvement in healthcare decision making has been emphasized even more: No longer would health care be "doing for" the patient; rather, it would be "doing with" the patient. The importance of EBP and research is currently focused on patient-centered care. The recent establishment of the Patient-Centered Outcomes Research Institute (PCORI) is a result of the Affordable Care Act (ACA), which is a prime example of efforts to make the patient the center of care and to make the provision of outcomes specific to the patient (National Pharmaceutical Council, 2012). In addition, the IOM established 10 priorities for research that include specific diagnostic criteria and treatments for current and future health issues.

Along with recommendations of the IOM, the Agency for Healthcare Research and Quality (AHRQ) continues to provide extensive review of evidence for patient care (Bator, Taylor, & Catalano, 2015; Ciliska, DiCenso, Milnyk, & Stetler, 2005). AHRQ focuses on the quality and safety of patient care and designs processes to speed up the usage of EBP in practice (Bator et al., 2015).

Recent changes in Medicare/Medicaid reimbursement have also forced healthcare organizations to reexamine how services are provided. Gold (2014) indicates the ACA is also the impetus for the provision of accountable care organizations (ACOs), which are regulated by the Centers for Medicare and Medicaid Services (CMS). A major area of concern for CMS is quality reporting and performance of ACOs, which include: "(1) patient experience of care; (2) care coordination; (3) patient safety; (4) preventive health; and (5) at-risk population/frail elderly health" (Gordon, 2011, p. 2).

Obviously, research and EBP will play a significant role in patient-centered care and ACOs in the future. Quality assurance/quality improvement (QA/QI) initiatives

will provide the necessary evidence for generating knowledge about what does and does not work. Nursing EBP and research will be heavily involved in the years to come.

The major rationale for conducting research is to build a body of nursing knowledge, thereby promoting improvement in patient outcomes. This building of knowledge is accomplished by using results of research in the provision of nursing care that is based on scientific data rather than on a hunch, a gut feeling, or "the way I was taught." As a profession, nursing must hold its members accountable for providing safe, cost-effective, and efficient care. EBP that incorporates research findings is a model for nurses to use in their practice.

▶ Theory, Research, and Practice

Parker and Smith (2010) define theories as "organizing structures of our reflections, observations, projections and inferences" (p. 7). Fain (2009) defines research as "a systematic inquiry into a subject that uses various approaches (quantitative and qualitative methods) to answer questions and solves problems" (p. 5). Polit and Beck (2008) define research as "a systematic inquiry that uses disciplined methods to answer question or solve problems" (p. 3). Research can be more readily considered a specific explanation. Fawcett and Garity (2009) have an interesting approach to theories and EBP. They suggest, "theories can be thought of as evidence" (p. 6). The theory becomes evidence to guide practice. Research is therefore equal to theory development.

When considering the relationship between theory and research, one could conclude that theory gives direction to research, which in turn guides practice. As a result, many nursing research projects include a nursing theory/theoretical framework and concepts to guide the research and provide implications for nursing practice.

The evolution of the relationship of theory to research to practice has been ongoing since the days of Florence Nightingale. The current emphasis in research is on translational research and implementation science. These changes move theory into a new dimension for application to practice. If translational research is seen as a method to move a theory into another dimension, and if implementation science is perceived as supporting EBP and research utilization, then the relationship to practice is further enhanced and becomes stronger. Thus, implementing research (evidence) and theory into practice (translation) optimizes EBP.

It is beyond the scope of this text to examine theory in depth. Sometimes a theory is not identified for a research or evidence-based project; however, a theory is still important. The researcher or nurse using evidence to guide nursing care must, at the very least, incorporate a model, framework, plan, or system that gives direction to the project. Van Achterberg, Schoonhoven, and Grol (2008) connect models to research and theories for implementation of EBP.

⬆ THINK OUTSIDE THE BOX

Which model and/or theoretical frameworks do you think can be most appropriate for a medical/surgical unit?

Models and Frameworks

Nursing research is a way to explain and predict the care that nurses provide, including the underlying rationale. As a result, models of nursing care and their frameworks provide ample opportunities for the generation of new nursing knowledge. As Malloch and Porter-O'Grady (2006) indicate, "Professional Care Models give nurses responsibility and authority to provide patient care. In addition, nurses are accountable for coordinating care and ensuring that continuity of care is provided across the continuum. Patients' unique needs are addressed to achieve outcomes" (p. 236).

　　Merriam-Webster (2018b) defines a model as "a pattern that suggests a clear and detailed prototype" (p. 2 of 10). Many nursing care models and research models are prototypes of problem-solving processes that begin with a question. Nurses ask clinical questions on a daily basis and often conduct research on an informal basis. When a nurse observes the same phenomenon occurring with multiple patients having the same diagnosis, a pattern emerges. The nurse has validated, through experience, his or her observations, just not in a formal, structured research model. As Burns and Grove (2009) state, "A framework is an abstract, logical structure of meaning. It guides the development of the study and enables you to link the findings to the body of knowledge used in nursing" (p. 126). When a theory is not used, a care model, plan, or system is needed in EBP and research. A model, plan, or system then functions as a framework.

Validation of Best Practices

Best practice is a term used by many different types of professionals in many different settings. The definition of *best practices* varies depending on the meanings assigned to the words *best* and *practices*. Bator and colleagues (2015) suggest "best practice is defined as clinical nursing actions that are based on 'best evidence' available from nursing research" (p. 593). According to the College of Nursing Iowa (2018), best practice incorporates "core concepts, interventions and techniques that are grounded in research and know to promote higher quality care and living for older people" (p. 1 of 5). Merriam-Webster (2018a) defines *best practice* as "a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption" (p. 1). In this text, *best practices* is defined as those nursing actions that produce the most desirable patient outcomes through scientific data and are a standard for widespread adoption.

⬆ THINK OUTSIDE THE BOX

Most of the research projects associated with EBP tend to be examples of applied research. Brainstorm some possible projects that would be classified as basic research.

　　For best practices, research utilization supports decision making for nursing practice through a problem-solving process. Reaffirmation through scientific data validates the desired outcomes and reinforces best practices. This reaffirmation is an excellent example for reality testing. While a wealth of information is available,

nurses have little time to look for information and therefore often practice as they were taught. At times, a nurse thinks or feels that the result of an action is accurate when it actually is not. Burns and Grove (2001) cite an example related to patient consumption of oxygen. The nurse's sense might be that getting a patient up to the bedside commode results in more oxygen consumption than when the patient uses a bedpan. However, research has shown this is not accurate. Thus, reality can be tested through scientific inquiry, which leads to validated best practice.

Fineout-Overholt and Melnyk (2005) suggest that *best practice* is a term used by others, not just healthcare providers. According to these authors, "without well-designed research, best practices cannot claim universal application" (p. 27); consensus builds best practices that are achieved through evidence.

Simpson (2005) suggests that, through EBP, nurses could overlook the truth about nursing practice. Nurses need to look at what practice is and what is really done. Perhaps, research and practice need to merge to have a major impact on practice. Through this merger, practice and research would combine to become a validated best practice. Hopp and Rittenmeyer (2012) promote the term "best available research evidence" for making decisions based on the best evidence (p. 13).

Nelson (2014) conducted a concept analysis and postulates that best practice "represents quality care which is deemed optimal based on a prevailing standard or point of view" (p. 1).

Basic Versus Applied Research

Basic research can be defined as research to gain knowledge for knowledge's sake (Brockopp & Hastings-Tolsma, 2003; Burns & Grove, 2009; Fain, 2009). Another way to look at basic research is that it tests theories (Fawcett & Garity, 2009). Sometimes basic research is also called bench research, such as laboratory experiments intended to elucidate cell structure. Simply stated, basic research is often useful later when, for example, a researcher addresses how a new drug being tested affects a cell's structure. Fain (2009) indicates that basic research is conducted with little concern for how it might ultimately be applied to practice.

⬆ THINK OUTSIDE THE BOX

Apply Florence Nightingale's ideas about preventable diseases to research and EBP.

In contrast, **applied research** has a direct impact on practice and modifies current practice. Cherry (2018) suggests applied research solves practical problems. Most nursing research is applied research that assists in decision making related to nursing care. Applied research occurs in multiple settings and with diverse populations. This type of research can also include the development of new approaches for care. Modification, development, and evaluation of nursing care through best practice form the heart of EBP. Applied research builds a body of knowledge for nursing practice and guides the nurse in providing patient care. An example of applied research in nursing would be a study that generates new information about the use of soap and water versus hand-cleansing gels in preparation for a sterile dressing change. An applied research project might indicate that soap and water are more

effective in preventing potential wound infections. The nurse would then use the applied research results in preparation for doing a sterile dressing change.

Basic research differs from applied research primarily in terms of its focus and intent. Basic science (also known as bench science) is conducted in a laboratory and seeks to add to the knowledge base. Applied research is grounded in the practice area and its application to practice. Fain (2009) suggests that, while basic research and applied research are quite different, they can be considered on a continuum where basic research is required for interpretation of findings of applied studies. One might say that basic research in nursing is building a body of knowledge (theory) and that applied research is the application of the theory to the clinical arena (practice).

▶ Sources for Nursing Research

Most nursing research comes from two primary sources: academia and healthcare settings. One might expect that nurses doing research in academic settings would focus only on educational research and that those conducting research in health care would focus only on practice settings. Although that distinction may hold true in some cases, most often both areas produce research for both education and practice because they are closely aligned with each other.

Academia

A major thrust of research in education is the evaluation of programs, technologies, and instructional design. Research in education flourished from the mid-1980s until about 2001, when funding for nursing education withered. An act of Congress specified that no funding from the NCNR could be distributed for research in nursing education (Diekelmann, 2001). As a result, nurse educators had to seek funding outside the discipline, where the competition was intense. Consequently, little nursing education research was conducted. Nurse-educator researchers turned to research in clinical practice. Although that effort translated into some positive gains for clinical practice, it drastically affected the research needed to support innovative programs, teaching/learning activities, and other aspects of nursing education.

Since 2000, when the National League for Nursing (NLN) was reorganized, increased emphasis and financial support have been directed toward research in nursing education. In its reorganization, the NLN (n.d.) recognized the need for a "quality nursing education that prepares the nursing workforce to meet the needs of diverse populations in an ever changing healthcare environment . . . and [to] change the landscape related to funding for nursing education research . . . to lead in promoting evidence-based teaching in nursing" (p. 1). This commitment to nursing education research is also expressed in the NLN's mission and goal statements. Nurse educators have recognized the need to continue seeking external funds from outside the discipline. Grants have also come from several government agencies and foundations. The current impetus for obtaining funding from outside sources is a direct result of the nursing shortage and reports on health care generated by agencies such as the IOM. Due to the nursing shortage (which appears destined to last for years), research in nursing education has a promising future. The relationship with EBP will likely remain in the forefront when such research in nursing education is carried out.

Healthcare Settings

For healthcare settings to serve as a source for nursing practice, a process for research is necessary. In Chapter 2, Figure 2-3 is a flowchart detailing the steps to commonly follow when conducting quantitative or qualitative research in healthcare settings. The flowchart assists the nurse in identifying the best process for obtaining a sound conclusion for the best method to address the problem. Using the flowchart, the nurse can identify the problem and determine the research question and the research methodology (either quantitative or qualitative). It is important to note that outcomes of research and EBP determine what works and what doesn't work. In many ways, the research process is similar to the nursing process of assess, plan, implement, and evaluate. According to Cronenwett (2002), in 1999 Marita Titler observed that outcomes achieved in a research study might not be replicated with multiple caregivers in the natural clinical setting. The variable demands on the bedside nurse and multiple comorbidities that exist in the hospitalized patient can make it difficult to replicate findings. Cronenwett (2002) has noted, "evidence for practice mounts slowly over time, as scientists discover first what works in controlled environments and second what works in daily clinical practice" (p. 3).

Today, it is our challenge to move from a focus solely on research development to the use of valid and reliable evidence in clinical practice. Nurses have been identified as champions in the adoption of EBP. It is equally important that healthcare institutions implement mechanisms that diffuse available evidence into the practice environment.

⬆ THINK OUTSIDE THE BOX

Many nursing theories can be found in the literature. Conduct a search to find evidence of nursing research utilization of a selected theory.

Summary Points

1. Florence Nightingale's work emphasized clinical applications of nursing research through the creation of a polar-area diagram.
2. From 1900 to 1940, nursing research focused on nursing education.
3. The first issue of *Nursing Research* was published in the 1950s with the notion to share research information with colleagues. The American Nursing Foundation was also established in the 1950s to promote nursing research.
4. The 1960s focused on models and frameworks of nursing practice.
5. In the 1970s, Virginia Henderson introduced the *Nursing Studies Index*.
6. In the 1980s, the Institute of Medicine recommended that nursing research be included in health-related research. In addition, the National Center for Nursing Research was established.
7. In the 1990s and 2000, both the National League for Nursing and American Nurses Association developed position papers on research-based practice.
8. In 2004, the Institute of Medicine published *Keeping Patients Safe: Transforming the Work Environment for Nurses*, which focused on the need for

bundles of mutually reinforcing patient safety defenses as part of the effort to reduce errors and increase patient safety.

9. Recent national trends such as the ACA have had a major impact on the way care is delivered and emphasize the importance of QA/QI.
10. Models and frameworks of professional practice are validated through research.
11. EBP incorporates research as a professional care model.
12. Basic research is gaining knowledge for knowledge's sake.
13. Applied research has a direct impact on practice.
14. Sources for research in nursing can be found in academic and healthcare settings.
15. The research process can be defined by a series of detailed steps.

⚑ RED FLAGS

- Research projects should be grounded by a model or theoretical framework to anchor the concepts identified within the project.
- Assumptions about best practices must be based on scientific evidence rather than just on everyday consensus of opinion or intuition.

Case Scenario

Incorporation of EBP into bedside nursing generally requires a change in nursing practice. Change theory models point out that each change process inevitably has potential barriers to effective implementation of the desired change. To implement EBP more effectively, one must identify these barriers to implementation of change. Fink, Thompson, and Bonnes (2005) conducted a nursing research project in an attempt to better understand barriers to implementation of nursing research among inpatient nursing units at a large, university-affiliated Magnet hospital:

> The purpose of this study was to examine the effect of multifaceted organizational strategies on registered nurses' (RNs') use of research findings to change practice in an academic hospital. The specific aims were to (1) identify nurses' attitudes and perceptions about organizational culture and research utilization, (2) identify perceived barriers and facilitators to nurses' use of research in practice, and (3) determine which factors are correlated with research utilization. (Fink et al., 2005, p. 121)

Survey tools, including the BARRIERS to Research Utilization Scale and the Research Factor Questionnaire, were used to gather data. The majority of respondents (83%) were registered nurses who held a baccalaureate or advanced degree in nursing. The results demonstrated an improvement in nurses' perception after implementation of multifaceted interventions. The authors also identified journal club participation as a major strategy to facilitate the use of research in clinical nursing practice.

Case Scenario Questions

1. How might the findings vary in a(n):
   - academic teaching facility that was not a Magnet hospital?
   - community-based hospital setting?
   - outpatient or procedural-based nursing practice?
   - hospital setting that has primarily ADN graduates?
2. What do you anticipate would be the findings in your own clinical practice environment?
3. If you implemented a journal club, do you believe that it would increase the use of research findings in your clinical practice area? Why or why not?

Multiple-Choice Questions

1. The research role of the BSN nurse includes:
   A. identifying clinical problems that require investigation, assisting experienced investigators to gain access to clinical sites, and collecting data.
   B. creating a climate in the practice setting that promotes scholarly inquiry, scientific integrity, and scientific investigation of clinical nursing problems.
   C. collaborating with experienced investigators in proposal development, data collection, data analysis, and interpretation of results.
   D. providing leadership in integrating research into practice.

2. Potential areas of nursing research identified by the National Institute of Nursing Research include:
   A. stem cell research.
   B. application of pharmaceuticals in clinical practice.
   C. chronic illness, health promotion, disease prevention, and end-of-life care.
   D. healthcare literacy.

3. What year was the first issue of *Nursing Research* published?
   A. 1858
   B. 1952
   C. 1985
   D. 1992

4. The *Nursing Studies Index*, the first annotated index of nursing research, was the work of:
   A. Florence Nightingale.
   B. Virginia Henderson.
   C. Marita Titler.
   D. Dorothea Orem.

5. The American Nurses Association position statement acknowledges that:
   A. researchers identify clinical problems and study them.
   B. faculty members identify clinical problems and study them.
   C. clinicians identify clinical problems and researchers design them.
   D. faculty members and researchers identify clinical problems and study them.

6. Clinical pathways are developed by:
    A. nursing teams.
    B. physician teams.
    C. educator teams.
    D. multidisciplinary teams.

7. A bundle is a group of interventions related to a disease or care process that:
    A. results in better outcomes than when the interventions are implemented together.
    B. results in diverse outcomes when the interventions are implemented individually.
    C. results in confusing information about a single disease or care process.
    D. provides insufficient evidence to alter clinical practice related to individualized interventions.

8. Professional care models give nurses:
    A. accountability.
    B. authority.
    C. responsibility.
    D. all of these.

9. Best practice is an excellent example of which kind of testing?
    A. Cognitive
    B. Reality
    C. Didactic
    D. Evaluation

10. Basic research is also known as bench research and is defined as research to gain knowledge for:
    A. use in academia.
    B. use in clinical practice.
    C. knowledge's sake.
    D. use in biochemistry.

11. Applied research builds a body of knowledge for nursing practice because it is the basis of:
    A. EBP.
    B. clinical pathways.
    C. nursing processes.
    D. nursing diagnoses.

12. Sources for nursing research come primarily from two sources:
    A. business and occupational settings.
    B. academic and healthcare settings.
    C. urban and rural settings.
    D. pharmaceutical and business settings.

13. Best practices in nursing can be defined as:
    A. a well-written plan of nursing care.
    B. a systems approach to nursing care.
    C. nursing actions that produce desirable patient outcomes.
    D. a way for nurses to justify their care.

14. The Institute of Medicine's publication *Keeping Patients Safe* focuses on:
    A. building a safer health system.
    B. processes to report medication errors.
    C. transforming the work environment for nurses.
    D. healthcare reform.

15. Theories are:
    A. a guide for research and practice.
    B. considered to be a specific explanation of an idea.
    C. not essential to research or EBP.
    D. static and do not change over time.

16. QA/QI data are now considered:
    A. valid research to guide practice.
    B. valid evidence to guide practice.
    C. generalizable to all practice.
    D. unlimited to any practice.

17. The research process allows for:
    A. the best method to address the problems.
    B. little comparison of outcomes.
    C. limited measures of evaluation.
    D. extra time for the nurse at the bedside.

Discussion Questions

1. Identify potential opportunities for you to use EBP in your current clinical setting.
2. Identify barriers to implementing EBP in your clinical setting.
3. Identify three clinical problems requiring investigation in your nursing practice. What steps might you take to begin to explore these identified problem areas?
4. Compare your QA/QI data to national standards.

Suggested Readings

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