



# Evidence-Based Practice and Research Methodologies: Challenges and Implications for the Nursing Profession

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## Introduction

The utilization of evidence-based practice in nursing is a relatively new phenomenon. Although the medical profession has worked toward evidence-based medicine for nearly two decades, the nursing profession has executed evidence-based practice only since the late 1990s (Jennings & Loan, 2001). The primary goal of evidence-based practice is to improve decision making about patient interventions in an effort to deliver quality care while limiting cost. This is an important process for nursing in an era of limited healthcare resources; however, evidence-based practice in nursing is more challenging than its use in the medical profession because of the multiple sources of nursing knowledge. The purpose of this article is to explore research methods for evidence-based practice and discuss their applications and implications for nursing research and evidence-based practice in nursing.

## “Evidence” for Evidence-Based Practice

Evidence refers to sources of data relevant to a particular clinical problem that are used to facilitate decision making about patient care (Oncology Nursing Society Evidence-Based Practice Online Resource Center, n.d.). Evidence from a medically oriented perspective emphasizes scientific literature and is defined as an integration of relevant research, clinical expertise, and patient preferences (Sackett & Rosenberg, 1995). After collection of the relevant scientific literature, the next process is to critically appraise the research for its merit and feasibility for implementing patient care interventions. Evidence then is ranked according to the strength or rigor of the research studies utilizing an evidence hierarchy. The evidence

hierarchy, also known as levels of evidence or grades of recommendations, categorizes the randomized clinical trial (RCT) as the “gold standard,” or the strongest evidence, and nonexperimental studies and expert opinions represent the weaker form of evidence to support a practice change. Although a variety of valid evidence-based hierarchies exist, a hierarchy that is used frequently was created by the Agency for Health Care Policy and Research (1994) (see Figure 1). The research methodologies typically presented in evidence hierarchies from a medical perspective become challenging and limiting for nursing because nursing knowledge historically has been derived from multiple disciplines and sources. Examples of other sources of nursing knowledge can include psychology, sociology, epidemiology, qualitative research data, nursing theory, and clinical experience. Stetler et al. (1998) proposed a modification of the evidence hierarchy that expands the allowable evidence to include qualitative studies, quality improvement program evaluation, and case report data. This is important particularly for nursing, as the RCT does not “fit” for all clinical practice and

nursing questions. To illustrate the challenges of evidence-based practice and nursing research and provide a better understanding of the controversial issues regarding evidence-based practice in nursing, a discussion of nursing research exploring complementary and alternative therapies will be presented.

## Complementary and Alternative Therapy Research

Researchers in the area of complementary and alternative therapies are confronted by many challenges. Funding agencies expect the same standards for research as other, more traditional areas of investigation—with the gold standard being the RCT. To design an RCT, a clear control group must be identified. The control group must receive a comparable, nonintervention application. This has been attempted in a variety of ways, such as a mimic group, a bedside chat, music, or no specific application (i.e., customary care). Each of these approaches to a control group has its limitations. With a mimic treatment, researchers may not be certain what interventions patients are receiving. Care must be taken to ensure that the person delivering the mimic treatment has not been trained in the specific therapy under investigation and preferably is not a nurse who has been taught compassionate caring for patients in general. Second, the

- Ia. Meta-analysis of randomized controlled trials
- Ib. One randomized controlled trial
- IIa. One well-designed controlled study without randomization
- IIb. One well-designed quasiexperimental study
- III. Well-designed nonexperimental studies (comparative, correlational, other descriptive studies)
- IV. Expert committee reports, expert opinions, consensus statements, expert judgment

### FIGURE 1. EVIDENCE HIERARCHY

Note. Based on information from the Agency for Health Care Policy and Research, 1994.

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