

*Essentials of*

# NURSING RESEARCH

*Methods, Appraisal, and Utilization*

Denise F. Polit

Bernadette P. Hungler

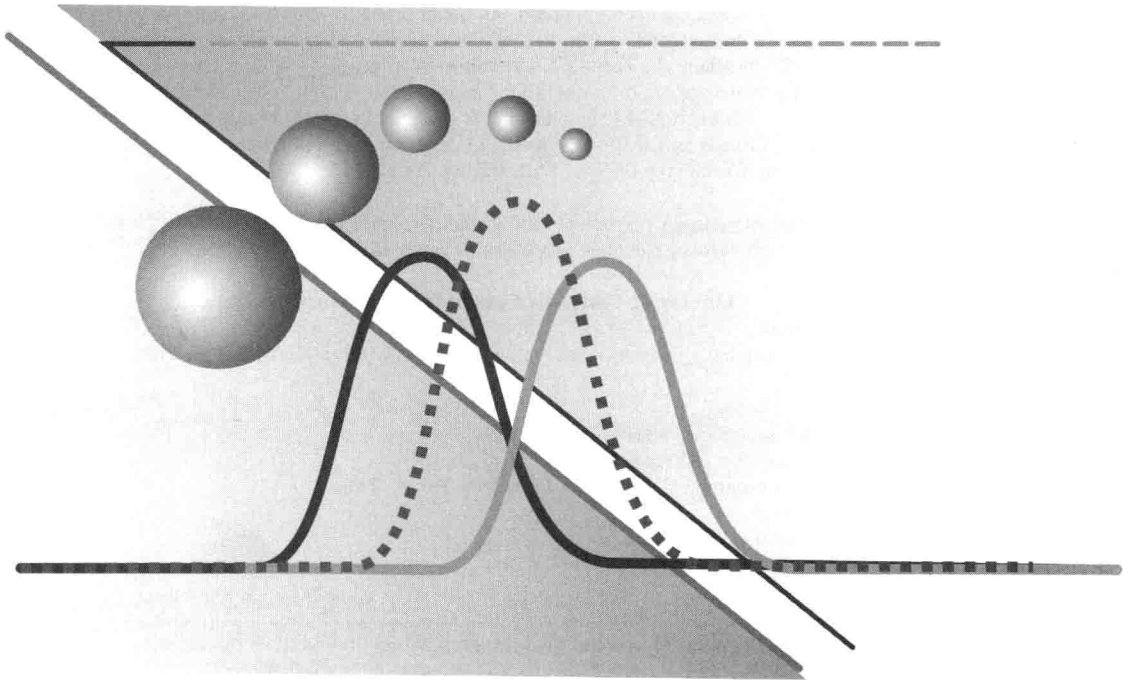
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*Fourth Edition*

# ***Essentials of Nursing Research***

Methods, Appraisals, and Utilization



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Fourth Edition

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*To Joanne—and to our past and future friendship*

# ***Preface***

The nursing profession is increasingly involved in the development of a scientific body of knowledge relating to its practice. Not all nurses will engage in research projects of their own, but there is a growing expectation that **all** nurses will be able to read, understand, and critically appraise research reports. Additionally, the past decade or so has given rise to the expectation that nurses—especially those in clinical practice—will utilize the results of scientific studies as a basis for making decisions in their work. A major purpose of this fourth edition of *Essentials of Nursing Research: Methods, Appraisal, and Utilization* is to assist consumers of nursing research in evaluating the adequacy of research findings in terms of their scientific merit and potential for utilization.

This outstanding AJN Book of the Year Award-winning text has been widely hailed for its clear, concise, and “user-friendly” presentation. Written in a style designed to be nonintimidating, this textbook offers a clearly written, thorough, and accurate presentation of critical research concepts, without including any detailed information on the “how-to’s” of conducting research.

## **New to This Edition**

- **Balanced presentation of both qualitative and quantitative research.** For the first time, equal attention is given to both research approaches. Chapters consistently compare and contrast qualitative and quantitative studies with regard to each aspect of a study—from the posing of a question to the analysis and interpretation of research information. Given the growth of qualitative studies among nurse researchers, this treatment represents an important innovation that is unprecedented in nursing research textbooks.
- **A new chapter entitled “Qualitative Research Design and Approaches.”** This chapter discusses major approaches to qualitative inquiry, the integration of qualitative and quantitative approaches, and examples of ethnographic, phenomenologic and grounded theory research.

- **Inclusion of two actual research studies.** Two complete research studies are presented for reading, analysis, and critiquing at the end of the textbook: one is qualitative and one is quantitative.

## **Organization of the Text**

The content of this edition is organized into six main parts.

- **Part I—Overview of Nursing Research** serves as the overall introduction to fundamental concepts in nursing research. Chapter 1 introduces and summarizes the history and future of nursing research, discusses the philosophical underpinnings of qualitative research versus quantitative research, and describes the major purposes of nursing research. Chapter 2 presents an overview of the steps in the research process for both qualitative and quantitative studies and defines some key research terms. The chapter also describes research reports—what they are and how to read them.
- **Part II—Preliminary Steps in the Research Process** includes three chapters and focuses on the steps that are taken in getting started on a research project. Chapter 3 focuses on the development of research questions and the formulation of research hypotheses. Chapter 4 discusses two types of contexts for research studies—literature reviews and theoretical/conceptual frameworks. Chapter 5 is devoted to a discussion of ethics in research studies.
- **Part III—Designs for Nursing Research** presents material relating to the design of qualitative and quantitative nursing research studies. Chapter 6 describes some fundamental principles of research design and presents many specific aspects of quantitative research design. Chapter 7 discusses the various research traditions that have contributed to the growth of naturalistic inquiry and qualitative research. Chapter 8 presents various strategies for selecting samples of study participants.
- **Part IV—Collection of Research Data** deals with the collection of research data. Chapter 9 discusses the full range of data collection options available to researchers, including both qualitative and quantitative approaches. The chapter focuses primarily on self-reports, observational techniques, and biophysiologic measures, but other techniques are also mentioned. Chapter 10 discusses methods of assessing data quality.
- **Part V—Analysis of Research Data** is devoted to the organization and analysis of research data. Chapter 11 reviews methods of quantitative analysis. The chapter assumes no prior instruction in statistics and focuses primarily on helping readers to understand why statistics are needed, what tests might be appropriate in a given research situation, and what statistical information in a research report means. Chapter 12 presents a discussion of qualitative analysis, greatly expanded in this edition.

- **Part VI—Critical Appraisal and Utilization of Nursing Research** is intended to sharpen the critical awareness of consumers with respect to several key issues. Chapter 13 discusses the interpretation and appraisal of research reports. Chapter 14, the final chapter, is a guide to utilization for clinical practitioners.

## Key Features

Many of the features successfully used in previous editions to assist consumers have been retained.

- **Assistance to Consumers of Nursing Research: What to Expect in the Research Literature:** Each chapter contains a section that includes numerous tips on what to expect in research reports vis-a-vis the topics that have been discussed in the chapter. In these sections, we have paid special attention to helping students *read* research reports, which are often daunting to those without specialized research training. These sections will enable students to translate the material presented in the textbook into meaningful concepts as they approach the research literature.
- **Guidelines for Critiquing Research Reports:** Each chapter has a section devoted to guidelines for conducting a critique. These sections provide a list of questions that walk the consumer through a study, drawing attention to aspects of the study that are amenable to appraisal by research consumers.
- **Research Examples:** Each chapter concludes with one or two actual research examples designed to sharpen the readers' critical skills. In most chapters, there is an example of both a quantitative and a qualitative study. Students are asked to evaluate features of these studies according to the chapter's critiquing guidelines. In addition, many real or fictitious research examples are used to illustrate key points in the text. The use of relevant examples is crucial to the development of both an understanding of and an interest in the research process. We also hope that the inclusion of many research ideas will stimulate an interest in further reading or pursuit of a utilization project of one's own.

## Features for Student Learning

To enhance and reinforce learning, several features are used to help focus the student's attention on specific areas of text content:

- **Chapter Objectives:** Learning objectives are identified on the chapter opener to focus the reader's attention on critical content.
- **New Terms:** Each chapter begins with a list of new terms that are defined in context when used for the first time.

- **Tables:** Each chapter contains numerous tables that provide examples to support the text discussion or provide a comparison of selected research.
- **Chapter Summaries:** A detailed, yet succinct, summary that incorporates new terms and provides focus on salient chapter content is included in each chapter.
- **Suggested Readings:** Two lists of suggested readings, methodologic and substantive resources, are provided in each chapter to direct the student's further inquiry.

## Teaching-Learning Package

**Essentials of Nursing Research: Methods, Appraisal, and Utilization fourth edition**, has an ancillary package designed with both the student and the instructor in mind.

- **The Study Guide** augments the text and provides the student with application exercises that correspond to each text chapter. This supports the learning of fundamental research terms that appear in research journals and provides the opportunity to practice the application of the concepts presented in the text and explore hundreds of research possibilities. This edition, for the first time, provides the answers to the application exercises at the end of the study guide.
- **The Instructor's Manual and Testbank** includes a chapter that corresponds to every chapter in the textbook. Each chapter of the instructor's manual contains the following: Statement of Intent, Comments on the Actual Research Examples in the Textbook, Answers to Selected Study Guide Exercises, and Test Questions and Answers.

It is our hope and expectation that the content, style, and organization of this fourth edition of *Essentials of Nursing Research* will be helpful to those students desiring to become intelligent and thoughtful readers of nursing research studies and to those wishing to improve their clinical performance based on research findings. We also hope that this textbook will help to develop an enthusiasm for the kinds of discoveries and knowledge that research can produce.

*Denise F. Polit*, PhD  
*Bernadette P. Hungler*, BSN, PhD



# ***Acknowledgments***

This fourth edition, like the previous three, depended on the contribution of many individuals. We are deeply appreciative of those who made all four editions possible. In addition to all those who assisted us with the earlier editions, the following individuals deserve special mention.

Many faculty and students who used this text (and our graduate-level text) have made invaluable suggestions for its improvement, and to all of you we are very grateful. In particular, we would like to acknowledge the continuing feedback from the nursing students and nursing faculty at Boston College.

This edition of the book involved many revisions to more specifically address the needs of beginning students and to expand the discussion of qualitative research. We are indebted to the insightful comments of several anonymous reviewers, who contributed to the overall conceptualization of this edition.

We would also like to extend our warmest thanks to those who helped to turn the manuscript into a finished product, including Sara Coulter and Darci Clark. The staff at Lippincott-Raven Publishers has given us ongoing support and understanding. We would like to express our gratitude to many individuals, including Margaret Zuccarini, Emily Cotlier, Susan Deitch, and all the others behind the scenes for their contributions.

Finally, we thank our friends and family, who were patient and supportive throughout this enterprise.

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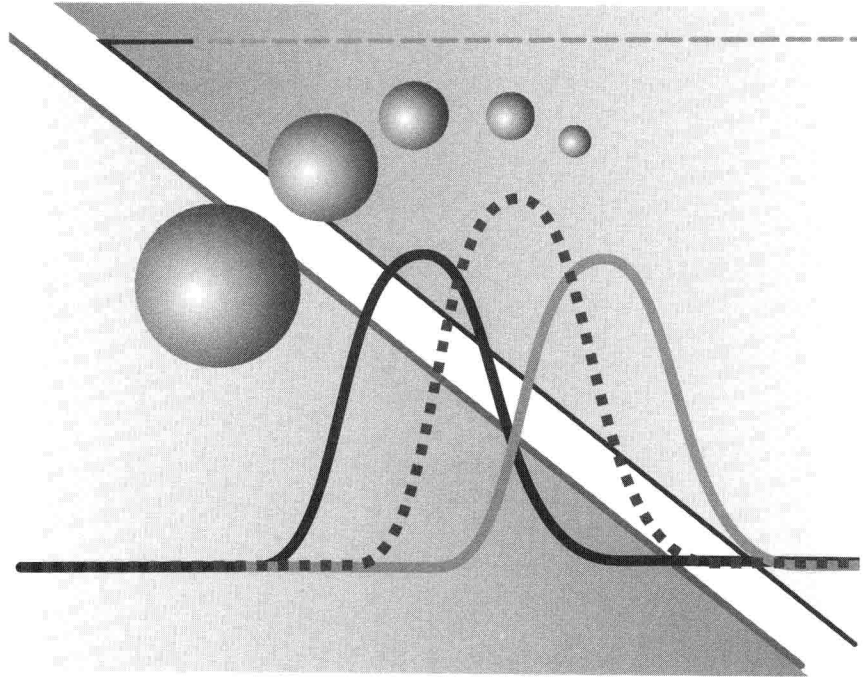
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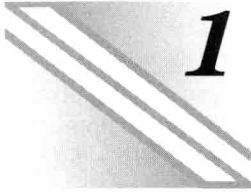
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# ***Overview of Nursing Research***

**PART I**







# ***Introduction to Nursing Research***

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## **Nursing Research in Perspective**

- The Importance of Research in Nursing
- Roles of Nurses in Nursing Research
- Historical Evolution and Future Directions of Nursing Research

## **Sources of Knowledge**

### **Paradigms for Nursing Research**

- The Positivist Paradigm
- The Naturalistic Paradigm
- Paradigms and Methods:
  - Quantitative and Qualitative Research
- The Scientific Method and Quantitative Research
- Naturalistic Methods and Qualitative Research
- Multiple Paradigms and Nursing Research

## **The Purposes of Nursing Research**

- Specific Aims of Quantitative and Qualitative Research
- Basic and Applied Research

### **Assistance to Consumers of Nursing Research**

- What to Expect in the Research Literature
- Guidelines for a Preliminary Overview of a Research Report

### **Research Examples**

- Research Example of a Quantitative Study
- Research Example of a Qualitative Study

### **Summary**

### **Suggested Readings**

- Methodologic and Theoretical References
- Substantive References

## ***Student Objectives***

On completion of this chapter, the student will be able to:

- describe ways in which research plays an important role in the nursing profession and discuss why learning about nursing research is important to practicing nurses
- describe general historical trends in the evolution of nursing research
- identify several areas of high priority for nurse researchers
- describe alternative paths to acquiring knowledge
- describe the major characteristics and assumptions of the two alternative paradigms used by nurse researchers
- identify similarities and differences between the traditional scientific method (quantitative research) and the naturalistic method (qualitative research)
- identify several purposes of qualitative and quantitative research
- distinguish basic and applied research
- define new terms in the chapter

## ***New Terms***

Applied research	National Institute of Nursing
Assumption	Research (NINR)
Basic research	Naturalistic paradigm
Biomedical model	Nursing research
Constructivist paradigm	Paradigm
Consumer of nursing research	Phenomenologic paradigm
Control	Positivist paradigm
Deductive reasoning	Producer of nursing research
Determinism	Qualitative research
Empirical evidence	Quantitative research
Field	Reductionist
Generalizability	Scientific approach
Inductive reasoning	Scientific research
Journal club	Systematic
Logical positivism	Theories

Humans are curious and investigative by nature. Curiosity has prompted scientists to search for knowledge, which has, in turn, led to many discoveries that aid us in our daily lives. Nurses are curious about a variety of phenomena and are increasingly engaged in disciplined inquiries that benefit both the profession and its clients.

**Nursing research** involves a systematic search for knowledge about issues of importance to nurses. Nursing research has experienced remarkable growth in the past three decades, providing nurses with an increasingly sound base of knowledge from which to practice. Yet many health-care questions remain to be answered by nurse researchers—and many answers remain to be used by practicing nurses.

The purpose of this book is to provide you with the skills to read, understand, evaluate, and use nursing research reports. In this introductory chapter, we discuss the important role that research plays in establishing a knowledge base for the practice of nursing, and present an overview of nursing research approaches.

## **NURSING RESEARCH IN PERSPECTIVE**

A consensus has emerged among nursing leaders that nurses at all levels should develop research skills. In this section, we discuss the rationale for this view and present a brief summary of the historical development of nursing research.

### **The Importance of Research in Nursing**

Practitioners in all professions need a base of knowledge from which to practice, and knowledge stemming from systematic research provides a particularly solid foundation. Many nurses are engaging in research to help develop, refine, and extend the base of knowledge fundamental to the practice of nursing. This expansion of knowledge is essential for continued improvement in patient care. Nurses who incorporate high-quality research evidence into their clinical decisions are being professionally accountable to their clients and are also helping nursing to achieve its own professional identity.

Nursing research also contributes to the profession by helping to define the parameters of nursing. Nursing is only one of several professions involved in the delivery of health care. Information from nursing investigations is beneficial in delineating the fairly distinct and unique role that nursing has in the delivery of health care.

The spiraling costs of health care and the cost-containment practices being instituted in health-care facilities represent another reason for nurses to engage in research. Nurses are being asked more than ever to document the social relevancy and the efficacy of their nursing practice to others, such as consumers of nursing care, administrators of health-care facilities, third-party payers, and government agencies. Nurses are increasingly focusing their research endeavors on the effectiveness of nursing interventions and activities for various groups of clients. Some research findings will help eliminate nursing actions that have no effect on the achievement of desired client outcomes. Other findings will help nurses identify the



nursing care practices that make a difference in the health-care status of individuals and are cost-effective.

Nursing research is essential if nurses are to understand the varied dimensions of their profession. Research enables nurses to describe the characteristics of a particular nursing situation about which little is known; explain phenomena that must be considered in planning nursing care; predict the probable outcomes of certain nursing decisions made in relation to client care; control the occurrence of undesired client outcomes; and initiate activities designed to promote desired client behavior.

## Roles of Nurses in Nursing Research

Nurses and nursing students have assumed a variety of roles in relation to research, forming a continuum that reflects their degree of active participation in the conduct of research. At one end of the continuum are those nurses whose involvement in research is indirect. **Consumers of nursing research** read reports of studies, typically to keep up to date on information that might be relevant to their practice or to develop new skills. Nurses are increasingly expected to maintain, at a minimum, this level of involvement with research.

At the other end of the continuum are the **producers of nursing research**: nurses who actively participate in the design and implementation of research studies. At one time, the majority of nurse researchers were academics who taught in schools of nursing, but research is increasingly being conducted by practicing nurses who want to find what works best for their patients.

Between these two extremes lie a variety of research-related activities in which nurses are engaging as a way of enriching their professional lives, including the following:

- Participation in a **journal club** in a practice setting, which involves regular meetings among nurses to discuss and critique research articles
- Attendance at research presentations at professional conferences
- Formal evaluation of completed research, for its possible utilization in the practice setting
- Discussions with clients about the implications and relevance of research findings
- Assistance in the collection of research information (*e.g.*, distributing questionnaires to patients or observing and recording patients' behaviors)
- Review of proposed methods for gathering research information with respect to their feasibility in a clinical setting
- Collaboration in the development of an idea for a research project
- Participation on an institutional committee whose mission is to review the ethical aspects of proposed research before it is undertaken
- Incorporation of research findings into nursing practice or nursing education