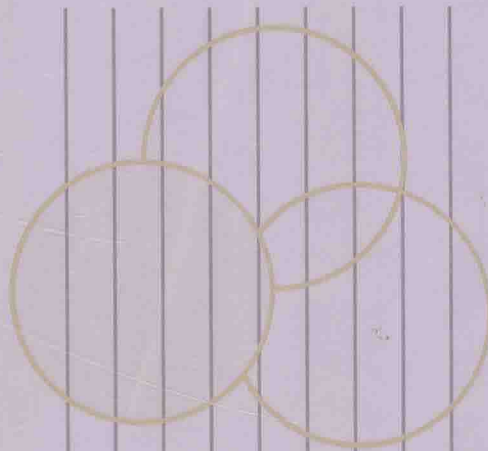


Third Edition

Essentials of
NURSING
RESEARCH

*Methods, Appraisal,
and Utilization*



Denise F. Polit
Bernadette P. Hungler

J. B. Lippincott Company

Third Edition

Essentials of Nursing Research

Methods, Appraisal, and Utilization

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Any procedure or practice described in this book should be applied by the healthcare practitioner under appropriate supervision in accordance with professional standards of care used with regard to the unique circumstances that apply in each practice situation. Care has been taken to confirm the accuracy of information presented and to describe generally accepted practices. However, the authors, editors, and publisher cannot accept any responsibility for errors or omissions or for any consequences from application of the information in this book and make no warranty express or implied, with respect to the contents of the book.

Every effort has been made to ensure drug selections and dosages are in accordance with current recommendations and practice. Because of ongoing research, changes in government regulations and the constant flow of information on drug therapy, reactions and interactions, the reader is cautioned to check the package insert for each drug for indications, dosages, warnings and precautions, particularly if the drug is new or infrequently used.

Third Edition

Essentials of Nursing Research

Methods, Appraisal, and Utilization

Denise F. Polit, PhD

Humanalysis, Inc.
Saratoga Springs, New York
Formerly of the Boston College School of Nursing
Chestnut Hill, Massachusetts

Bernadette P. Hungler, RN, PhD

Boston College School of Nursing
Chestnut Hill, Massachusetts



J. B. Lippincott Company
Philadelphia

In loving memory of
Bernard F. Roberts
1912–1992

and

Cecile J. Roberts
1918–1992

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 third edition of *Essentials of Nursing Research* is to assist consumers of nursing research in evaluating the adequacy of research findings in terms of their scientific merit and potential for utilization.

To a much greater extent than the first two editions, this textbook was written with the needs of the beginning consumer of nursing research in mind. In particular, we have paid much greater attention in this edition to helping students *read* research reports, which are often daunting to those without specialized research training. Each chapter contains a section that includes numerous tips on what to expect in research reports vis-à-vis the topics that have been discussed in the chapter. We believe that these sections will enable students to translate the material presented in the textbook into more meaningful concepts as they approach the research literature.

Many of the features successfully used in previous editions to assist consumers have been retained. First, this text does not include step-by-step information on the “how-to’s” of research. However, we have tried to be fairly comprehensive in including terms that are most likely to be encountered by the readers of nursing research and in providing definitions that are functional without being very detailed.

Second, 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.

Third, each chapter concludes with two types of research example designed to sharpen the readers’ critical skills. The first is a fictitious research example, con-

structured specifically to highlight several noteworthy methodologic or conceptual flaws. We have used fictitious rather than actual research examples specifically because we wanted to have the researchers “make mistakes”—mistakes that might not easily be found in published articles (or, if found, might cause embarrassment to the authors if they were brought so visibly to the attention of beginning students). Each fictitious example is accompanied by a critique that discusses the study’s strengths and weaknesses vis-à-vis the concepts covered in the chapter. The second example in each chapter is a synopsis of an actual research example, which students are asked to evaluate according to the chapter’s critiquing guidelines.

A fourth feature is a chapter on research utilization. This chapter discusses what some of the barriers to utilization are, strategies for overcoming those barriers, and criteria for undertaking a utilization project.

While we have tried to make our presentation succinct, we felt it important to illustrate many of our points with real or fictitious research examples. We believe that 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.

The content of this edition is organized into six main parts. Part I introduces the reader to some basic concepts relating to the scientific approach and its uses in the nursing profession. Chapter 1 discusses the history and future of nursing research and describes the purposes, powers, and limitations of the scientific approach. Chapter 2 presents an overview of the steps in the research process and defines some key research terms. Chapter 3 focuses on research reports—what they are, how to read them, and how to locate them. This chapter also discusses reviews of the research literature.

Part II focuses on the steps that are taken in getting started on a research project during the conceptualization phase. Chapter 4 focuses on the formulation of research problem statements and hypotheses. Chapter 5 discusses theories and conceptual frameworks and the role they play in research studies.

Part III discusses the design of scientific studies. Chapter 6 describes fundamental principles of research design, including a description of features that distinguish experimental, quasi-experimental, and nonexperimental research. This chapter also includes brief descriptions of several specific types of nursing research studies (surveys, field studies, evaluations, historical research, case studies, and methodological studies). Chapter 7 presents various strategies for selecting samples of research subjects.

Part IV deals with the collection of research data. Chapter 8 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 9 discusses methods of assessing data quality; substantially greater attention is paid in this edition to the assessment of the trustworthiness of qualitative data.

Part V is devoted to the analysis of research data. Chapter 10 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. Unlike the previous two editions, no computations are presented. Chapter 11 provides an overview of qualitative research and analysis, greatly expanded in this edition.

Part VI is intended to sharpen the critical awareness of consumers with respect to several key issues. Chapter 12 is devoted to a discussion of ethics in research studies. Chapter 13 discusses the interpretation and appraisal of research reports and concludes with a full fictitious research report and a critique. The final chapter is a guide to utilization for clinical practitioners.

It is our hope and expectation that the content, style, and organization of this third edition of *Essentials of Nursing Research* will be helpful to those students desiring to become intelligent and thoughtful readers of scientific 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, RN, PhD

Acknowledgments

This third edition, like the previous two, depended on the contribution of many individuals. We are deeply appreciative of those who made the three 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 other text, *Nursing Research*, Fourth Edition, 1991) 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. Several of the examples used in the textbook and in the accompanying study guide were developed from ideas provided by Sarah Cimino, Susan Kelly, and Jean Weyman.

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 three anonymous reviewers, who contributed to several of the changes.

We would also like to extend our warmest thanks to those who helped turn the manuscript into a finished product, including Cheryl Wippich, John Vick, Allison Vassallo, and, especially, Tabanee Koshgarian. Tab's cheerfulness and competence lightened our load immeasurably.

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Finally, we thank our friends and family, who were patient and supportive throughout this enterprise—with special love and appreciation to Joe and Nate O'Hara.

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Introduction to Nursing Research

Part I

Fundamentals of Nursing Research

Chapter 1

The Importance of Research in Nursing

- The Need for Nursing Research
- The Consumer–Producer
 - Continuum of Nursing Research
- Historical Evolution and Future
 - Directions of Nursing Research
- Current Topics of Interest to Nurse
Researchers

The Scientific Method

- Sources of Human Knowledge
- Characteristics of the Scientific
Approach
- Purposes of Scientific Research
- Limitations of Scientific Research

Methods for Nursing 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

- Fictitious Research Example and
Critique
- Actual Research Example

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
- discuss why learning about nursing research is important to practicing nurses
- discuss general trends in the evolution of nursing research
- identify several areas of high priority for nurse researchers currently and in the immediate future
- describe alternative paths to acquiring knowledge
- discuss the characteristics of the scientific approach
- identify several purposes of scientific research
- distinguish basic and applied research
- describe the limitations of the scientific approach
- distinguish qualitative and quantitative research
- define new terms in the chapter

New Terms

Applied research	Nursing research
Assumption	Paradigm
Basic research	Phenomenology
Consumer of nursing research	Producer of nursing research
Control	Qualitative research
Determinism	Quantitative research
Empirical evidence	Replication
Generalizability	Scientific approach
Logical positivism	Scientific research
National Center for Nursing Research	Systematic

Humans are curious by nature. Human curiosity has led to many discoveries that aid us in our daily lives. Nurses practicing today and their clients benefit from the questions asked and answered by nurses since the days of Florence Nightingale. Simple handwashing procedures currently used by nurses greatly reduce the spread of infection. Knowledge of the length of time required to determine accurately body temperature helps nurses to monitor client progress more effectively. Many health care questions remain to be answered by nurses.

Researchers seek answers to questions in an orderly and systematic way. The answers to nursing research questions help nurses to provide more effective nursing

care and to document the unique role nursing plays in the health care system. *Nursing research* extends the base of information not only for the nurse asking the question, but also for other nurses seeking answers to the same problem. This chapter discusses the importance of and need for nursing research and presents an overview of how scientific methods can be used to address problems of concern to nurses.

III THE IMPORTANCE OF RESEARCH IN NURSING

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 Need for Nursing Research

Practitioners in all professions need a base of knowledge from which to practice, and scientific knowledge provides a particularly solid base. Many nurses are engaging in research to help to develop, refine, and extend the scientific base of knowledge fundamental to the practice of nursing. This expansion of knowledge is essential for the continued growth of the nursing profession. Nurses who base as many of their clinical decisions as possible on scientifically documented information are being professionally accountable to their clientele and are helping nursing to achieve its own professional identity.

Nursing research also is helping to define the parameters of nursing. Nursing is only one of several professions involved in the delivery of health care. Currently, the scope of nursing is rather vaguely defined. Information from nursing investigations is beneficial in defining 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 currently 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 help to eliminate nursing actions that have no effect on the achievement of desired client outcomes. Other findings help nurses to identify the nursing care practices that make a difference in the health care status of clients and that are cost-effective.

Nursing research is essential if nurses are to understand the varied dimensions of their profession. Research enables nurses to (1) describe the characteristics of a