THIRD EDITION

Advanced Nursing Research

from THEORY *to* PRACTICE

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Printing and Binding: LSC Communications

Library of Congress Cataloging-in-Publication Data
Names: Tappen, Ruth M., author.
Title: Advanced nursing research: from theory to practice/Ruth Tappen.
Description: Third edition. | Burlington, Massachusetts: Jones & Bartlett Learning, [2023] | Includes bibliographical references and index.
Identifiers: LCCN 2021026297 | ISBN 9781284231755 (paperback)
Subjects: MESH: Nursing Research--methods | Research Design | BISAC: MEDICAL/Nursing/Research & Theory
Classification: LCC RT81.5 | NLM WY 20.5 | DDC 610.73072--dc23
LC record available at https://lccn.loc.gov/2021026297

6048

Printed in the United States of America
25 24 23 22 21 10 9 8 7 6 5 4 3 2 1

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Dedication

With deep gratitude for all the comments, ideas, suggestions, and contributions from friends, colleagues, students, reviewers, and JBL editors. And I also want to express my appreciation for fellow researchers, whose efforts have done so much to improve our lives. Your work has greatly enriched the content of this book. Many, many thanks.

Special thanks to Jeaneen Muller for her assistance in preparing this manuscript.

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Preface

This third edition of *Advanced Nursing Research: From Theory to Practice* reflects the continuing increase in the complexity and sophistication of nursing research. New and expanded topics include the use of big data, mixed methods, increased emphasis on protected health information and data security, the Revised Common Rule, translational research, implementation science, predatory publishing, research priorities from the National Institutes for Health (NIH), and many other emerging topics. The addition of a new chapter on mixed-methods research reflects the growing interest in hearing the voice of the participant (often a patient), even in our most positivistic quantitative research.

The emphasis on learning how to conduct nursing research has not changed, nor has the perspective that engaging in nursing research is an exciting, challenging, and ultimately very rewarding endeavor. Mixed methods continue to emerge as a valuable approach, combining the best of both qualitative and quantitative methods.

Finally, a big thank-you to all of the readers of the first and second editions who have made suggestions for improving this book. I am especially grateful to the students who have said, "I keep your book by my side," as they worked on their research studies, although still a bit puzzled but appreciative of the student who told me, "I sleep with your book under my pillow." (Did that help?)

I hope that you will find this book useful for planning and conducting research and helping others learn how to do nursing research. Your comments and suggestions for future editions are always welcome. Please email me via the publisher at info@jblearning.com.

Ruth M. Tappen, EdD, RN, FAAN
June 2021

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Introduction

Does the idea of discovery appeal to you? Do you enjoy exploring new ideas? Solving problems? Finding new and better ways to care for people? This is what nursing research is all about.

A few more thoughts follow to introduce you to nursing research.

OUR RESEARCH TRADITION

Florence Nightingale, the founder of modern nursing, systematically collected data to demonstrate that the majority of British soldiers fighting in the Crimean War (in southern Ukraine) died of preventable problems such as cholera, dysentery, and scurvy, not of war wounds. She even invented diagrams similar to pie charts to better illustrate the data (Gill & Gill, 2005). Back in England, she also collated data comparing the death rate of nursing staff to that of all women living in London. She pointed out that "fever and cholera" were responsible for 50% of the nurses' deaths, as opposed to 16% of the general population, and that the nurses' mortality rate overall was 40% higher than that of other women. "These figures," she wrote, "prove the very great importance of hospital hygiene" (Nightingale, 1863, p. 21). Her analyses informed the healthcare reforms she promoted. In recognition of her work, she became the first woman elected to the Royal Statistical Society, a rare event in those times (Gilbert, 2020). We are still concerned with issues of "hygiene" (i.e., infection control) in acute and long-term-care facilities.

Although never abandoned, it took a long time for research to become a prominent activity in nursing. In the 1950s, the Division of Nursing Resources began providing federal grants for nursing research studies. Early centers of nursing research activity were located at Teachers College, Columbia University, in New York; Wayne State University in Detroit; and the Walter Reed Army Institute of Research in Silver Spring, Maryland. The *Nursing Research* journal began publication in 1952 (D'Antonio, 1997).

Many early studies focused on nurses and nursing education. Although always of interest, research on clinical questions received a needed boost when federal funding was transferred to the newly established National Center for Nursing Research within the National Institutes of Health (NIH) in 1985. The center became one of the Institutes of NIH in 1993 and continues to support nursing research and the training of nurse researchers today.

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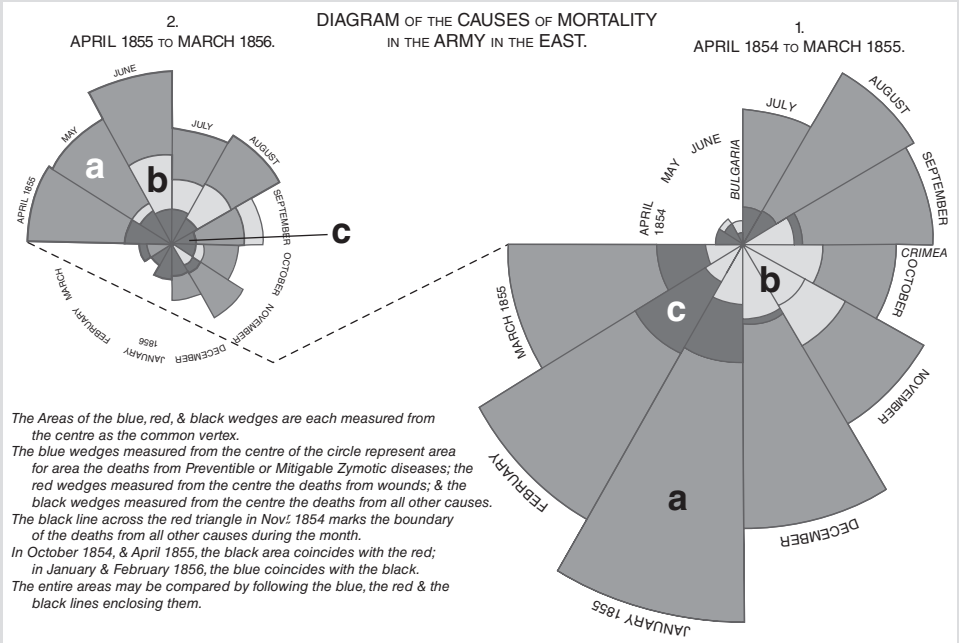

Example of polar area diagram by Florence Nightingale (1820–1910). This "Diagram of the causes of mortality in the army in the East" was published in *Notes on Matters Affecting the Health, Efficiency, and Hospital Administration of the British Army* and sent to Queen Victoria in 1858. This graphic indicates the number of deaths that occurred from preventable diseases (a), those that were the results of wounds (b), and those due to other causes (c).

Modified from Nightingale, F. (1858). Notes on matters affecting the health, efficiency and hospital administration of the British Army. London, UK: Harrison and Sons. As cited in Riddle, L. (2005). Polar-area diagram: Biographies of women mathematicians. http://www.agnesscott.edu/lriddle/women/nightpiechart.htm

DEFINING RESEARCH

Research is the systematic collection and analysis of information (data). It is planned, organized, and carefully thought out before being done. The information or data that you collect and analyze may be numeric (quantitative) or verbal (qualitative).

Research studies can be small, simple projects involving just a few participants. But they can also be complex, involving hundreds of thousands of people and lasting more than 5, 10, 20, or even 50 years.

WHAT DOES RESEARCH INVOLVE?

Research is a multidimensional activity that requires conscientiousness, logic, creativity, and active interaction with others.

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Logical. Research methods were developed to ensure that the results are based on reason and logic, not our impressions or assumptions. This is done to help us avoid coming to erroneous conclusions. Also for this reason, research reports are often structured as an argument with a conclusion, building fact upon fact to demonstrate how you reached your conclusions. To be persuasive, the argument is expected to be reasonable, rational, and logical. This does not mean, however, that it is cold and unemotional. Most nurse researchers are passionate about their work and deeply committed to it.

Creative. Research is also a voyage of discovery. The discoveries are often the result of a hunch or the researcher's intuitive feel for a possible solution to a problem. To advance knowledge, researchers need to be able to see new patterns, to put existing knowledge together in new ways, and to make leaps of understanding that lead to exciting new ideas. These are the "Aha!" moments that the media loves to write about. Flexibility, intuition, and innovation are as important to research as logic and reason.

Interactive. Much complex research is done by teams of people with a wide assortment of skills and experience. Even when a study is done by a single person, he or she will benefit from the feedback of fellow researchers, as well as the participants in the study and the nurses who might put the results into practice. These multiple perspectives are valuable in both designing and interpreting research.

Conscientious. There are rules to follow when conducting research. Some of these rules are related to the ethics of research, including protection of your participants, whether human or animal. There are also guidelines for collecting and analyzing data systematically. Mistakes, carelessness, and sloppy work are not acceptable when doing research. (They're not acceptable in practice, either.)

IMPORTANCE OF RESEARCH

Research brings us new knowledge that informs our practice. The ultimate goal is to improve the outcomes of care and people's lives. What is the best way to take a neonate's temperature? To prevent adolescent suicides? To reduce nausea and vomiting? To control pain? How do you reduce preoperative anxiety? Reduce obesity in diabetes? Prevent isolation and loneliness in older adults? How are we going to get hospital-acquired, drug-resistant infections under control? Prevent global pandemics? There is no end to the number of questions that we can ask and answer through nursing research.

There are some questions, however, for which research cannot provide an answer. These are questions of right and wrong. Is it right to withhold fluids? Is it wrong to perform an abortion? Should we tell a patient how long we project he or she has to live? Research studies can tell us how many people agree or disagree, why they disagree, and what the consequences of a decision might be, but research does not directly address questions of right and wrong.

PURPOSE OF THIS BOOK

This book is designed to prepare you to be a beginning researcher, to be able to conduct simple studies on your own, to be an informed member of a research team conducting

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more complex studies, and to be an informed consumer of research. Keep in mind, also, that research is an interactive process. Experienced researchers are happy to talk with you about their work and to help you along the way.

Nursing research is challenging, exciting, engaging, and rewarding. Welcome to the wonderful world of nursing research!

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