

A Step-by-Step Guide to Conducting an Integrative Review

Coleen E. Toronto
Ruth Remington
Editors



Springer

A Step-by-Step Guide to Conducting an Integrative Review

Coleen E. Toronto • Ruth Remington
Editors

A Step-by-Step Guide to Conducting an Integrative Review

Editors

Coleen E. Toronto
School of Nursing
Curry College
Milton, MA
USA

Ruth Remington
Department of Nursing
Framingham State University
Framingham, MA
USA

ISBN 978-3-030-37503-4

ISBN 978-3-030-37504-1 (eBook)

<https://doi.org/10.1007/978-3-030-37504-1>

© Springer Nature Switzerland AG 2020

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

In nursing, we rely on integrative and other types of reviews for evidence to guide practice and reveal gaps in our knowledge that suggest further studies to be done. Reviews are critical to answer our questions about practice and how to care for patients. To make these important decisions, however, we need rigorous reviews that carefully and systematically search the literature, appraise studies, and synthesize findings. Without a strong methodology, the value of a review is questionable. Very few nurses and other health care providers are prepared to conduct an integrative review. Compounding this lack of preparation and understanding is the variety of terms used for reviews. There is no consistency in our definitions of the different types of reviews.

The focus of this book is on integrative reviews. These reviews are particularly valuable to nursing because they answer questions we have about practice, which guide the review, and involve a comprehensive search of the literature. In contrast to some types of reviews, in an integrative review, the quality of each of the studies is evaluated, and individual studies are then interpreted and synthesized into some meaningful conclusions to answer the questions and share new knowledge about the topic. This is what we need in nursing.

This is a must-read book for any nurse who is involved in evidence-based practice. It should be a required text for graduate students in nursing who need to develop skills in conducting integrative reviews as a basis for their scholarly projects and research. As prelicensure students learn about reviews, the book would be valuable for them too because it leads readers through each step of a review in a clear manner with examples. To move forward in nursing and health care, we need to understand how to conduct rigorous integrative reviews. This book explains the process, beginning with formulating questions to guide the review through the dissemination of the findings. There are no other books that focus on integrative reviews and provide the reader with a step-by-step process to use. This book by Drs. Toronto and Remington is a valuable resource for nurses, other health care providers, and nursing students at all levels.

Marilyn H. Oermann
Duke University School of Nursing
Durham, NC, USA

Preface

The integrative review is a frequent capstone project for graduate students and the basis for many doctoral projects. As educators, we have taught graduate students to conduct integrative reviews using book chapters and articles that covered integrative review methodology. These resources were limited and/or outdated and did not provide clear and practical advice on how to complete each step in the integrative review process. Due to this lack of resources, we would direct our students to look to the literature for published integrative reviews to help guide them when conducting their reviews; however, many reviews did not follow a consistent format and instead confused our students. These educational experiences were the impetus for our need to explore, in depth, the characteristics of published nurse-led reviews. We conducted a review to gain a better understanding of what a well-done review should look like and help us guide our students. Our review findings confirmed what we had been witnessing in the classroom with our students. There was much variation on how this type of review is conducted and published. Reviews often missed essential systematic steps to ensure rigor and decrease bias. An important implication from our published review was that there is a need for clear guidelines of what an integrative review is, and how it should be performed and reported. Research synthesis is difficult and time consuming. Because an integrative review is considered as actual research, it should be approached following established research methods involving well-defined steps. In this book, we provide the level of detail needed to systematically conduct an integrative review.

Milton, MA
Framingham, MA

Coleen E. Toronto
Ruth Remington

Contents

1 Overview of the Integrative Review	1
Coleen E. Toronto	
1.1 Introduction to Reviews	1
1.2 Overview of Review Types	2
1.3 Define Integrative Review Method	4
1.4 Barriers to Conducting an Integrative Review	5
1.5 Systematic Approach	5
1.5.1 Formulate Purpose and/or Review Question(s)	6
1.5.2 Search and Select Literature Systematically	6
1.5.3 Quality Appraisal	7
1.5.4 Analysis and Synthesis	7
1.5.5 Discussion and Conclusion	8
1.5.6 Dissemination	8
1.6 Conclusion	8
References	8
2 Formulating Review Question	11
Karen Devereaux Melillo	
2.1 The Introduction Section of the IR	12
2.2 Defining Concepts and Variables	14
2.3 Rationale for Conducting the Review	15
2.4 Identify Purpose and/or Review Question(s)	16
2.5 Formulate Inclusion and Exclusion Criteria	17
2.6 Identification of a Theoretical Framework	18
2.7 Summary	19
References	19
3 Searching Systematically and Comprehensively	21
Jane Lawless and Margaret J. Foster	
3.1 Librarian Support	22
3.2 Search Organization and Reporting Strategies	23
3.3 Searching Considerations to Increase Rigor	24
3.3.1 Choosing Databases	24
3.3.2 Terminology	25

3.3.3	Nursing, Allied Health, and Medical Databases	25
3.3.4	Interdisciplinary Databases	27
3.4	Searching Systematically	27
3.4.1	Natural and Controlled Language	28
3.4.2	Combining Search Terms Using Boolean Logic	29
3.4.3	Advanced Search Techniques	30
3.5	Defining the Search Strategy	31
3.5.1	Choosing Search Terms: Identifying Concepts	32
3.5.2	Document the Search Process	33
3.5.3	When Is the Database Search Process Complete?	34
3.6	Screening for Study Selection	34
3.7	Beyond Database Searching	36
3.7.1	Gray Literature	37
3.7.2	Conference Proceedings	37
3.7.3	Dissertations/Theses	37
3.8	Additional Methods of Searching	38
3.8.1	Handsearching	38
3.8.2	Citation/Related Article Searching	38
3.8.3	Subject Experts	39
3.8.4	Overall Gray Literature Resources	39
3.9	Reporting the Search Strategy	39
3.9.1	Managing the Collected Data	40
3.9.2	Screening, Selecting, and Sorting	41
3.9.3	Reporting Results of Screening and Selection	42
3.10	Conclusion	42
	References	43
4	Quality Appraisal	45
	Ruth Remington	
4.1	Applying Inclusion Criteria	45
4.2	Identifying Methodological Rigor	46
4.3	Sources of Bias	46
4.4	Validity	48
4.5	Critical Appraisal Tools	48
4.5.1	Design Specific Versus Generic	50
4.5.2	Appraisal of Theoretical Literature	51
4.5.3	Appraisal of Gray Literature	51
4.6	Applicability of Results	52
4.6.1	Reporting Guideline Versus Appraisal Tool	53
4.7	Conclusion	53
	References	53
5	Analysis and Synthesis	57
	Patricia A. Dwyer	
5.1	Data Analysis and Synthesis	57

5.2	Strategies for Data Analysis	58
5.2.1	Creating a Data Matrix	58
5.2.2	Data Analysis Methods	60
5.3	Descriptive Results	68
5.4	Synthesis	68
	References	69
6	Discussion and Conclusion	71
	Coleen E. Toronto and Ruth Remington	
6.1	Writing the Discussion Section	72
6.1.1	Audience	73
6.1.2	Fundamental Structure	73
6.1.3	Beginning the Discussion Section	73
6.2	Interpretation of Findings	75
6.2.1	Comparison to Background Literature	75
6.2.2	Comparison to Theoretical Framework	76
6.2.3	Comparison to Similar Research	77
6.2.4	Unexpected Findings	77
6.3	Implications	77
6.3.1	Research	78
6.3.2	Practice	78
6.3.3	Education	79
6.3.4	Policy	79
6.4	Limitations	79
6.4.1	Limitations of the Review	80
6.4.2	Limitations of Literature Included in Reviews	80
6.5	Conclusion	82
6.6	Summary Points	82
6.7	Conclusion	83
	References	83
7	Dissemination of the Integrative Review	85
	Kristen A. Sethares	
7.1	The Integrative Review to Inform Practice, Program Planning, and Policy	85
7.2	Writing Up the Integrative Review	86
7.2.1	Manuscript Features	86
7.3	Conference Presentation	91
7.3.1	Submitting an Abstract	91
7.3.2	Podium Presentation	91
7.3.3	Poster Presentation	94
7.4	Submitting the Integrative Review for Publication	96
7.4.1	Selecting a Journal	96
7.4.2	Preparing the Manuscript for Submission	100
7.4.3	Manuscript Submission and Review	101

7.5	New Approaches for Dissemination of Reviews	103
7.5.1	News Media	103
7.5.2	Social Media	104
7.6	Future Needs to Update the Integrative Review	104
	References	105



Overview of the Integrative Review

1

Coleen E. Toronto

Contents

1.1	Introduction to Reviews.....	1
1.2	Overview of Review Types.....	2
1.3	Define Integrative Review Method.....	4
1.4	Barriers to Conducting an Integrative Review.....	5
1.5	Systematic Approach.....	5
1.5.1	Formulate Purpose and/or Review Question(s).....	6
1.5.2	Search and Select Literature Systematically.....	6
1.5.3	Quality Appraisal.....	7
1.5.4	Analysis and Synthesis.....	7
1.5.5	Discussion and Conclusion.....	8
1.5.6	Dissemination.....	8
1.6	Conclusion.....	8
	References.....	8

1.1 Introduction to Reviews

The purpose of a review is to summarize what is known about a topic and communicate the synthesis of literature to a targeted community. Before the advent of evidence-based practice, reviews were unsystematic, and there was no formal guidance on how to produce quality-synthesized evidence (Grant and Booth 2009). Conducting a review should parallel the steps a researcher undertakes when conducting a research study: formulation of a question(s) and collection and analysis of data (Polit and Beck 2018). In order for a review to be considered rigorous, a comprehensive method needs to be followed and reported.

C. E. Toronto (✉)
School of Nursing, Curry College, Milton, MA, USA
e-mail: ctoronto0712@curry.edu

This allows readers the ability to evaluate the reviewer's attempt to mitigate bias and, if desired, replicate the same review procedure and draw similar conclusions.

1.2 Overview of Review Types

With the expansion of evidence-based practice (EBP), the evolution of methods used in reviews has resulted in a wide spectrum of review types (Grant and Booth 2009; Whittemore et al. 2014). Due to the overlapping characteristics of the various review methods, confusion exists related to terminology and descriptions of each type (Aveyard and Bradbury-Jones 2019). The continuum for reviews begins with the most basic type, a narrative review, which summarizes selected literature on a topic and concludes with the most complex type; a systematic review of randomized control trials with meta-analysis, which collects; analyzes; appraises; and synthesizes randomized control studies to answer a single narrowly focused clinical question. To assist readers to understand the differences between the three most common types of reviews—narrative review, integrative review, and systematic review—descriptive summaries of each are presented in the following section and Table 1.1.

A *narrative review* does not follow a systematic method for locating and analyzing selected studies. It captures a “snapshot” of a clinical issue. Selected evidence found on a given topic often supports a reviewer's opinions or *a priori* assumptions of an issue (Conner 2014). Before systematic reviews emerged, this was how summarized evidence was presented (Coughlan and Cronin 2017).

The term *integrative review* is often used interchangeably with *systematic review*; however, there are distinct differences between them. The major differences are their purpose and scope, types of literature included, and time and resources needed to execute. An *integrative review* looks more broadly at a phenomenon of interest than a systematic review and allows for diverse research, which may contain theoretical and methodological literature to address the aim of the review. This approach supports a wide range of inquiry, such as defining concepts, reviewing theories, or analyzing methodological issues. Similar to the systematic review, it uses a systematic process to identify, analyze, appraise and synthesize all selected studies, but does not include statistical synthesis methods.

A *systematic review* has a single narrowly focused clinical question, usually formulated in a PICO (P = population, I = intervention, C = comparison, O = outcomes) format and may include meta-analysis. *Meta-analysis* is used to statistically synthesize data from several included studies to provide a single more precise estimate of the effectiveness of an intervention (Conner 2014). Both integrative and systematic reviews follow systematic steps, including asking a review question(s); identifying all potential electronic databases and sources to search; developing an explicit search strategy; screening titles, abstracts, and articles based on inclusion and exclusion criteria; and abstracting data from selected literature in a standardized format. Both use critical appraisal methods to assess the quality of each study, identify sources of bias, and synthesize data using transparent methods. These explicit