

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

Coleen E. Toronto
Ruth Remington
Editors

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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.

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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.

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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.

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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

Table 1.1 Differences between the three common review types

	Narrative	Integrative	Systematic
Purpose	Provides an overview on a topic of inquiry for a research study, dissertation, or stand-alone review	Critical analysis of empirical, methodological, or theoretical literature, which draws attention to future research needs	Answers a single clinical question
Team member(s)	One or more reviewer	Two or more reviewers and librarian involvement recommended	Three or more reviewers includes librarian or information specialist and statistician if meta-analysis is performed.
A priori review protocol (plan)	No	No	Yes—protocol registration encouraged (PROSPERO, Cochrane Collaboration)
Review question	No	Broadly defined purpose and/or review question(s)	Single clinical question generally in the format of PICO P = population, I = intervention, C = comparison, O = outcomes
Established reporting guidelines	No	No	Yes (PRISMA reporting guidelines)
Timeline	2–6 months	6–12 months	12–24 months
Use of a systematic search methodology (allows for replication)	No	Yes	Yes
Sampling	Scholarly work on topic	Experimental/nonexperimental research—may include theoretical and methodological literature	Experimental research
Eligibility (inclusion and exclusion)	No	Yes	Yes
Search flow diagram	No	Yes	Yes (PRISMA flow diagram)
Critical appraisal	No	Yes	Yes
Data extraction	No	Yes	Yes
Analysis and synthesis	Narrative analysis	Narrative and/or thematic analysis with descriptive and qualitative synthesis	Narrative analysis with descriptive and qualitative synthesis—may include quantitative synthesis (meta-analysis)
EBP Implications	No	Yes	Yes

methods reduce the chance for reviewers to only select literature that supports their own opinions or research hypotheses. Overall, systematic reviews take more time to complete and require more resources compared to narrative and integrative reviews. Before a reviewer selects a particular review method to follow to synthesize evidence, the breadth and depth of the review question(s) and scope of inquiry need to be considered (Gough et al. 2012).

Evidence-based care calls for the integration of best research evidence, clinical expertise, and values of the patient. The amount and complexity of evidence that healthcare professionals need to inform evidence-based practice (EBP) can be overwhelming. A rigorously conducted review can provide nurses and other healthcare disciplines a comprehensive update on a topic of interest or concern. A well-prepared review synthesizes many studies and can translate this evidence into practice sooner, less than the often cited 17 years (Morris et al. 2011).

Systematic reviews of randomized control trials (RCTs) using meta-analysis to determine the effectiveness of a healthcare intervention are considered the highest level of evidence in medicine and allows a clinician to make the best and most up-to-date healthcare decisions on interventions for treatment. There are many resources available for reviewers to use that provide guidance on how best to conduct and report a systematic review (Aromataris and Munn 2017; Higgins et al. 2019; Institute of Medicine 2011; Moher et al. 2009). The remainder of this chapter and book will focus on the less understood integrative review (IR) method; how is it defined, barriers in the use of this type of method, and the method's systematic process.

1.3 Define Integrative Review Method

An IR uses a broad approach and diverse sampling that include empirical or theoretical literature, or both (Cooper 1984). IRs provide synthesis on: (1) empirical research (review of quantitative and/or qualitative empirical studies on a particular topic), (2) methodological (review and analyses of designs and methodologies of different studies), and (3) theoretical (review of theories on a particular topic) (Whittemore et al. 2014; Soares et al. 2014).

An IR synthesizes research and draws conclusions from diverse sources on a topic. This enables the reviewer the ability to provide a more holistic understanding of a specific phenomenon. The IR method enables a reviewer to address: (1) the current state of evidence of a particular phenomenon, (2) the quality of the evidence, (3) gaps in the literature, and (4) identify the future steps for research and practice (Russell 2005). A well-prepared IR follows a systematic process and includes appraised and synthesized literature from diverse literatures to address phenomena relevant to a particular field of study (Soares et al. 2014; de Souza et al. 2010). Moreover, when appropriate, experts suggest using a theoretical framework to guide the IR process (Soares et al. 2014; Russell 2005; Denney and Tewksbury 2013; Torraco 2005). A broad conceptual definition of the IR has been provided, and attention to the differences between the IR method and other review methodologies is noted throughout this chapter and the remainder of the book.

1.4 Barriers to Conducting an Integrative Review

Methodological discourse of the IR method began to emerge in the 1980s in the fields of education, psychology, and nursing (Cooper 1982, 1984; Jackson 1980; Ganong 1987). Despite the high level of interest at that time, the evidence base for how best to conduct IRs remains limited, and no consistent set of acceptable standards or guidelines are available at this time for reviewers to consult. Slow development may be attributed to the need for combining diverse methodologies (experimental, nonexperimental research, and theoretical literature), which adds complexity for analysis, synthesis, and conclusion drawing (Whittemore and Knafl 2005).

The absence of formal guidelines for IRs had prompted several researchers in the field of nursing education to explore published IRs in order to gain a better understanding of how IRs are conducted. Researchers found the use of inconsistent review methods and lack of rigor in many reviews conducted by nurse reviewers (Hopia et al. 2016; Toronto et al. 2018).

While few articles address how to write an IR (Torraco 2005, 2016; Whittemore and Knafl 2005), the coverage in research textbooks on the process of conducting an IR is more limited and is often presented in a brief summary or chapter. In 1980, Jackson (1980) pointed out that the limited information on review methods found in textbooks presents an obstacle not only to novice student reviewers but also to experienced reviewers. Despite these barriers, IRs are frequently published internationally in high-impact nursing research journals supporting the utility of this type of review to inform evidence-based practice in nursing (Soares et al. 2014). A major reason for the popularity of the IR method in nursing is that it uses diverse data sources to investigate the complexity of nursing practice more broadly compared to a narrowly focused clinical question found in systematic reviews. Evidence produced from well-conducted IRs contributes to nursing knowledge by clarifying phenomena, which in turn informs nursing practice and clinical practice guidelines.

1.5 Systematic Approach

Both the systematic review and IR require a systematic approach that is transparent and rigorous. Cooper's widely used methodological approach for an IR has provided guidance for reviewers on how best to conduct an IR (Cooper 1982, 1984; Russell 2005; de Souza et al. 2010; Whittemore and Knafl 2005). This methodological approach consists of five stages to guide the design of an IR: (1) problem formulation stage, in which the broad purpose and review question(s) are clearly stated; (2) literature search stage, which uses a comprehensive and replicable search strategy to collect data; (3) data evaluation stage, in which the methodological quality and relevance of selected literature are appraised; (4) data analysis stage, which includes data abstraction, comparison, and synthesis; and (5) presentation stage, in which the interpretation of findings and implications for research; practice; and policy as well as the