Conducting a Scholarly Literature Review

Vickie A. Lambert, Clinton E. Lambert

Abstract: A literature review is a systematic, topic focused, reproducible method of identifying, evaluating and interpreting existing literature (a body of recorded work) that has been produced by scholars, researchers and practitioners. Producing a scholarly literature review is not easy and often new scholars do not know where to start. It is the purposes of this article to: (a) identify the reasons for a literature review; (b) delineate how to go about accessing relevant literature; (c) present important issues to consider when reading and critiquing literature relevant to the review; and, (d) discuss important factors to address when summarizing and writing the results of a literature review.

Key Words: Doing a literature review; Accessing literature; Critiquing literature; Writing the results of a literature review

Introduction

One of the difficulties new scholars confront is how, why and for what purpose a sound literature review should be conducted. A literature review is a systematic, topic focused, reproducible method of identifying, evaluating and interpreting existing literature (a body of recorded work) that has been produced by scholars, researchers and practitioners. Therefore, it is the purposes of this article to: (a) identify the reasons for a literature review, (b) delineate how to go about accessing relevant literature; (c) present important issues to consider when reading and critiquing literature relevant to the review; and, (d) discuss important factors to address when summarizing and writing the results of a literature review.

Reasons for a Literature Review

A review of the literature can be done for personal or intellectual reasons, or because one wants to have a better understanding of what currently is known about a specific topic of interest. More explicitly, literature reviews can be conducted to: (a) describe current knowledge to guide professional practice; (b) write a research proposal; (c) identify research and development methods; (d) identify experts in a specific field of practice,

Correspondence to: Vickie A. Lambert, DNSc, RN, FAAN, International Nursing Consultant Lambert & Lambert Nursing Consultants, Springfield, VA, USA. E-mail: vlambert@mail.mcg.edu Clinton E. Lambert, PhD, RN, CS, FAAN, International Nursing Consultant Lambert & Lambert Nursing Consultants, Springfield, VA, USA.
education or research; (e) identify funding sources; and/or, (f) satisfy intellectual curiosity.

If one is conducting a literature review to guide professional practice, the review should focus on a specific area of interest, such as health care delivery for individuals with the human immunodeficiency virus, or the acquired immunodeficiency syndrome (HIV/AIDS). In such cases, it should be the intent of the practitioner to obtain the most current information on health care delivery, related to HIV/AIDS, so that he/she can provide up-to-date quality health care. The outcome of such a literature review is to defend the implementation of the most current and acceptable professional practices related to the specific field of health care.

By the same token, a health care researcher needs to conduct a thorough, up-to-date, literature review in order to write a proposal for possible funding and institutional approval to conduct a study. The goal of this type of literature review should be to retrieve as much relevant information, as possible, about the specific topic of interest to be examined in the proposed research study. According to Burns and Grove, the literature review for a research study needs to address the following:

- Known information about the topic.
- Chronology of the development of knowledge about the topic.
- Information about evidence that is lacking, inconclusive, contradictory or too limited.
- Debate or consensus about various positions on the topic.
- Directions for future research that is indicated in the published or printed work of prior researchers.
- Characteristics of identified key concepts or variables.
- Relationships among identified key concepts or variables.
- Existing theories in the field of research.
- Inconsistencies or shortcomings in the current knowledge base about the topic.
- Views that need further testing.
- Reasons for why a research problem should be further tested.
- Contributions in knowledge the proposed study is expected to make.

The purpose of the review of literature may be to identify effective research and development methods related to the topic under investigation. If this is the case, the focus of such a review should be to prevent the researcher from rediscovering what is already known about methods and measurement issues that currently exist and can be adapted to meet the specific needs of the proposed study. For example, if the research focuses on coping strategies or job satisfaction, what are the existing methods and instruments that have been used in prior studies and found to be acceptable and reliable for both the examination of coping strategies and job satisfaction?

While perusing the literature, a scholar may find the presence of conflicting or ambiguous information regarding a specific topic. In such a case, a review of the literature may need to focus on identifying experts (practitioners or researchers) who are highly knowledgeable and prominent in the field of study. These individuals often are called upon to assist in resolving uncertainty about inconclusive or missing data. Experts can be identified by way of the number and quality of research studies, and/or publications, they have produced on the topic under investigation. For example, if during the course of the review of literature one finds particular authors who have published five or more studies on depression and the long-term effects of certain medications, it would behoove the researcher to contact these individuals, since they may be able to shed light on many of the unanswered questions that remain regarding this
topic. In the majority of published works, contact information of the lead author is provided (i.e. mailing address and/or e-mail address).

Identifying funding sources also can be the focus of a review of literature. By examining prior published studies, one can identify the sources of funding used by other researchers. Whenever a researcher obtains a funding source, he/she is required to indicate the source in all published articles and/or research presentations regarding data obtained secondary to the funding received. Funding sources can be from governmental, private or academic organizations.

When examining prior published works, one needs to look at the type of studies carried out and which funding sources were used. For example, if the research was related to care of cancer patients, one needs to identify which funding sources were used most often, as well as which funding sources appeared to demonstrate interest in studies that focused on bench science, or those that dealt with the delivery of specific nursing or medical interventions. Prior to developing a proposal for the purpose of seeking monetary support, a researcher needs to be aware of the focus and interest of a specific funding agency.

Finally, a literature review may be conducted for the purpose of satisfying one’s intellectual curiosity. All good scholars and researchers should be life-long learners who consistently work to expand their knowledge bases. In the process of satisfying one’s intellectual curiosity, a new research or practice focus may emerge. For example, while satisfying intellectual curiosity about workplace stressors of nurses, one could end up engaging, both independently and with colleagues, in the development, implementation and publication of a number of research studies related to the topic. However, regardless of the purpose of the literature review, if the review is not thorough, or fails to explore numerous bodies of recorded work, it is likely vital and pertinent information will be missed.

**Accessing the Literature**

*Selecting materials for review:* A sound literature search is conducted systematically, with a description of what was done, as well as why it was done. This will result in others being able to replicate the methods used and to make a rational determination of whether to accept or reject the results of the review. If it is not clear as to the criteria used for the body of recorded work selected, equal credence may have been given to both good and poor material. Thus, the researcher needs to describe the type of materials selected and why they were selected. Often there is concern about materials retrieved from the internet that have not been peer reviewed or that are located on websites where anyone can add or delete information (i.e. Wikipedia).

*Extensiveness of the literature reviewed:* Novice scholars and researchers often ask, “How many articles should I review?” and “How far back, in years, should I go to locate relevant studies?” Unfortunately, the answer to both questions is, “It depends.” The topic being examined also is the major factor driving the amount of literature that needs to be examined. Topics that have been under examination for an extended period of time tend to have massive amounts of literature, while those that recently have emerged, as important, often have less available information. If the topic has an extensive amount of literature available, the key to a review lies in being able to narrow the focus. For example, the topic of “stress” has produced massive amounts of literature. Thus, it would behoove a reviewer to limit the search to a specific population and/or situation, such as workplace stress among hospital nurses.
When conducting a literature review one should review not only current studies, but also those considered “classics.” Classics are works that either initiated the field of research under examination, or marked a pivotal stage of the development in the field of research. Classics include not only articles, but also books and documents written about the specific topic. For example, many researchers working in the field of stress and coping consider Lazarus’ and Folkman’s, and Sleye’s books to be classics.

A general rule of thumb to use when deciding if a literature review is complete is when citations found in the reference lists of the material under review have become familiar to the reviewer. In addition, once a pattern in the material begins to emerge, most likely the review process has reached a saturation point. It is unlikely that one will be able to read every single piece of material on a topic, but the reviewer should continue reading material until he/she has a good command of the knowledge that exists about the topic under review.

**Database selection:** With the advent of computers, reviewers are capable of accessing massive amounts of information on a select topic, both nationally and internationally. Today, good libraries provide access to a large number of electronic databases that supply literature that can be downloaded onto a personal computer and/or quickly printed into a full-text version. In addition, interlibrary loans are available, in most academic and public libraries, if the specific library being used does not have a holding that a reviewer desires. Because of the ease with which reviewers can now obtain literature, more time for reading and synthesizing material is available than in the past.

To develop a literature search approach, it is advisable to consult with an information specialist, such as a subject specialist librarian. Utilizing such a professional can save a great deal of time, prevent going back along paths already searched and assist in finding new topical paths to search. Many university libraries provide such a service regardless of the reviewer’s affiliation with the university.

Generally, the most efficient search methods for nursing involve electronic databases, i.e. MEDLINE (database of the National Library of Medicine, USA), PsychINFO (database of the American Psychological Association), EDUC (Educational Resources Information Center or ERIC), and CINAHL (Cumulative Index to Nursing and Health Science Literature). When using an electronic database, key words for searching are required. Key words are the major variables that designate or narrow one’s examination of a large topical area. To determine possible key words, the reviewer needs to identify concepts relevant to the search, the population of particular interest, interventions (if appropriate), methods for measuring the concepts under study and possible outcomes (if appropriate). In most databases, subject headings and phrases can be used, as well as single terms. It is imperative to be able to state the parameters of a literature search; otherwise, the search will produce hundreds, if not thousands, of potentially irrelevant pieces of material. Also of importance is a review of the reference lists of relevant literature that has been located. It may become apparent certain authors are cited by many of the authors in the field. In such a case, it is helpful to search by citing the authors’ names so that all of these authors’ relevant publications are located. In addition, as a search progresses, it is helpful to note what key words are listed in the relevant publications located. Use of some of these key words, in the search process, can prove helpful. However, relying solely on a literature search, using electronic databases, is not advisable.

Conducting a comprehensive literature review involves supplementing an electronic search with a
review of references in identified literature, manual searches of select journals, consultation with experts regarding published and unpublished materials, and use of the internet. Use of the internet is important since a number of journals have been developed that are published only in an electronic format and may not yet be in the bibliographical data base being used. If one is affiliated with an academic library, the reviewer needs to ask if they provide lists of available electronic journals. Another option is the use of the commercial website, Ingenta (http://www.ingenta.com/), which allows one to search a massive number of on-line journals from numerous disciplines.

Limiting a search: Depending upon the database (i.e. MEDLINE, CINAHL) used, a reviewer can place limits on the type of materials sought or retrieved. For example, one can limit the search to: materials published in the last 10 years, research articles, reviews, material written in English, abstracts or full text materials. By limiting the search, a reviewer can save valuable time and reduce the need to review a large number of unrelated and/or superfluous materials.

Using reference management software: Reference management software is available for tracking references that have been obtained through searches. The software can be used to conduct a search, as well as store information on all search fields for each reference obtained, including the abstract. Reference management software has been developed to interface with the most commonly used word processing software to organize information about each reference regardless of citation style used. Examples of two of the more commonly used reference management software packages are ProCite (www.procite.com) and EndNote (www.endnote.com). One can download a trial version of both of these software packages in order to help in deciding which one to purchase.

Reading and Critiquing Relevant Literature

Reading and critiquing the literature provides the reviewer an understanding of the current knowledge about the topic under examination. According to Fink, and Burns and Grove, the process involves skimming, comprehending, analyzing and synthesizing content from the sources reviewed. Engaging in all of the steps of this process is necessary for one to be able to develop a written literature review of high quality.

Skimming sources: The first step in skimming involves a quick overview of each piece of material located to determine if it: covers the topic under review; is in a language the reviewer can read; and, is from a reputable source (journal, book, report, etc.). Skimming begins with reading the title, the name(s) of the author(s), and the abstract or introduction of the source. Then one needs to read the major headings, as well as one or two sentences under each heading, and the conclusion or summary section of the source, to obtain a sense of the content presented. In addition, skimming can assist in the identification of primary and secondary sources. Primary sources are those the reviewer identifies as crucial to the review process. They tend to be cited in the written literature review. Secondary sources serve the purpose of assisting in the location of other sources, but generally are not cited in the final write up of the literature review.

Comprehending content from sources: To comprehend the content of the material obtained, the reviewer must carefully read each source. Attention needs to be paid to understanding major concepts identified in each source and highlighting content the reviewer considers important. For research articles, special attention needs to be paid to the: purpose of the study; research questions/hypotheses; major variables; design of the study; sample selection; sample size; progress used to collect data;
method used to analyze data; findings of the study; interpretation of what the findings mean; and, the manner in which the findings relate to prior studies.

Often it is advisable to make notes in the margins of printed copies of each source which address such issues as: definitions of concepts; relationships among concepts; whether the author of the source is considered a major contributor to the topics under review; and, if the author of the source has other publications/sources on the topic. In addition, a reviewer may find it helpful to make a note about the general content, within the source, so he/she can eventually sort sources into specific categories. Categories serve as a guide or outline for writing the outcome of the literature review process.

**Analyzing sources:** Determining the value of a source is done by way of analysis. Analysis is conducted in two stages, including: (a) critiquing an individual source, and (b) making comparisons among sources. Critiquing research studies requires the reviewer to have some knowledge of the research process\(^{16,17}\) and the topic under examination, as well as the ability to exercise some form of evaluation judgment. As the reviewer reads each research study from beginning to end, the following questions need to be addressed:

**Author(s):**
What are the qualifications of the author(s) and with what institution(s) is (are) the author(s) associated?

**Publication Source:**
What is the credibility of the source of the publication (i.e. type and nature of the journal/book)?

If the source is published in a journal does it have an impact score and, if so, what is the impact score?

**Title:**
Does the title accurately reflect what type of study was conducted?

Does the title clearly identify the focus of the study, and include primary variables and population under examination?

**Abstract:**
Is the abstract clear, and does it adequately address all important components of the contents of the article?

Does the abstract summarize the major points of the article?

Does the abstract follow the same order as the content of the article?

**Introduction:**
Does the introduction establish a need for the study by stating the significance of the problem under examination?

**Background information:**
Is a thorough, yet concise and synthesized presentation of relevant literature provided?

Is the review of literature current and are publications considered “classics” in the field included?

Are the studies presented in the literature review adequately critiqued?

Are relevant theories presented and described, and are they adequately related to nursing’s body of knowledge?

**Research questions/objectives/hypotheses:**
Are research questions/objectives/hypotheses clearly stated?

Do the research questions/objectives/hypotheses make sense given the background information?
Do the research questions, objectives/hypotheses include all identified study variables?

**Research method:**
Is the research method clearly described and does it match the research questions/objectives/hypotheses?
Are the sampling strategies and sample adequately described?
Is the process of data gathering clearly delineated?
If an intervention or treatment was used, is it clearly defined and described?
Are the study variables identified and defined (conceptually and operationally)?
Are the measurements of the variables valid and reliable?
Are the instruments used to measure the variables identified and clearly described?
Are the ethical issues of anonymity, confidentiality, the right to withdraw without negative repercussions and approval to conduct the study addressed?

**Analysis:**
Are the types of analyses conducted described?
Do the methods of analyses fit the research questions/objectives/hypotheses?
If the study involved statistical analyses, are the levels of significance (\(a\)) indicated?

**Results:**
Are the findings adequately and accurately described?
Are the findings related back to the research questions/objectives/hypotheses?

In the case of qualitative study, are sufficient raw data from the informants provided to support interpretations made by the researcher(s).
Are tables and figures accurately presented, and do they supplement the narrative?

**Discussion:**
Are the findings related back to the study framework?
Are the findings consistent, or inconsistent, with prior research?
If findings are inconsistent with prior research, what might be the reason?
Are the meanings of all study findings interpreted?

**Limitations:**
Are the limitations of the study design and specific circumstances of the study presented?
Did the researcher appropriately generalize the findings?

**Conclusions and Recommendations:**
Are implications of the findings for nursing presented?
Are recommendations for future research suggested?

**References:**
Are current and classical references appropriately cited?
Do the references in the narrative match the citations in the reference list?

**Other:**
Is it possible to replicate the study?
Is the writing style scholarly, readable and easy to follow?
Conducting a Scholarly Literature Review

Into what category would you place the source for writing the summarization of the literature review?

At all times, during the analysis of sources, it must be kept in mind that not all published material is of quality! Thus, it is the responsibility of the reviewer, during this phase of the review process, to eliminate material of poor quality.

The second stage of analysis, making comparisons among sources, allows the reviewer to analyze the existing body of knowledge in relationship to the proposed research problem. According to Burns and Grove, making comparisons among sources allows the reviewer to determine: (a) theoretical formulations that have been used to explain how variables in the topical area have influenced one another; (b) what methodologies have been used in the past; and, (c) what is known about the topic.

Finally, as one compares sources, it is advisable to map out a table summarizing the outcome of the process. For example, some authors have found it helpful to create a table with columns that address such components as the: (a) author(s) name(s); (b) year of the publication; (c) name of the location of the source (journal/book name); (d) purpose or problem addressed in the study; (e) sample; (f) framework; (g) design; (h) type of analyses used; (i) instruments; (j) results; (k) implications; (l) limitations; and, (m) general comments regarding the critique.

Synthesizing sources: The process of synthesizing sources provides an opportunity for clustering and interrelating ideas generated from the literature critiqued. The synthesis process allows for clarification of the meaning of the literature reviewed and provides the structure for the written outcome of the entire literature review process. Synthesizing sources is not an easy task. In fact, synthesizing sources is probably the most difficult part of a scholarly review of the literature. A good synthesis of the literature reviewed involves thinking conceptually and being able to express ideas clearly in one’s own words. It is not simply a regurgitation of what researchers in each individual study found. If conceptual thinking is not involved in the synthesis process, the outcome will be a written review of literature that reads like an annotated bibliography.

Writing the Results of a Literature Review

Once the literature obtained has been read and critiqued, it is time to put into writing what was found, with a focus on the purpose of the review (i.e. describing current knowledge to guide professional practice, writing a research proposal, identifying research and development methods, satisfying intellectual curiosity, etc.). Generally a literature review has four major components: introduction, theoretical literature, empirical literature and summary.

Introduction: The introduction should: (a) identify the purpose or aim of the review; (b) give a brief global overview regarding the topic under discussion; (c) state how relevant pieces of literature reviewed were accessed; (c) give the criteria for inclusion of the literature reviewed; and, (d) present the structure of the written review to be presented. The introduction needs to be brief, catch the interest of the reader and set the scene for the remainder of the written work.

Theoretical literature: Literature that contains concept analyses, models, theories and conceptual frameworks that are related to the topic of the literature review should comprise the written presentation of the theoretical literature reviewed. It is common to find definitions and/or analyses of concepts under examination, the structure of existing theories, and frameworks or models regarding how the topic(s) under examination are
linked to other topics or concepts in this section. In addition, this is where most practitioners and researchers provide an existing basis for the theoretical support for the literature review, as well as a framework to guide one’s practice or research.

**Empirical literature:** The presentation of research findings should make up the empirical components of a literature review. The studies need to be presented and organized according to concepts or organizing topics. It is the responsibility of the author to synthesize the findings among relevant studies, rather than simply present the content of each individual study as an annotated bibliography. The findings need to be presented in an organized, logical manner, so the reader can see how they built on each other and the existing body of knowledge evolved. At no time should the presentation of existing findings be distorted to support the selected topic under examination. Thus, some studies may require elimination from the written literature review because they do not appropriately fit. In addition, an author should always be aware of his/her own opinions and present the data obtained from the literature review in an objective manner.

So the reader can begin to understand what is currently known about the topic and what gaps in knowledge exist, the reviewer needs to present strengths, limitations, similarities and differences among the studies. An understanding what is known, as well as what is not known, provides the basis upon which a practitioner and/or researcher build his/her future actions (i.e. health care interventions or research design).

At all times, throughout the entire written component of the literature review, the work of other authors must be accurately and appropriately documented. In addition, all references cited in the written literature review must appear in the reference list, and vice versa.

**Summary:** The final portion of the written literature review contains a concise overview of what is and is not known about the topic. Gaps in knowledge need to be clearly identified, with a discussion of how the proposed health care practice, or research study, will address a specific gap in knowledge. If the purpose of the literature review was to develop a research proposal, a brief critique of the adequacy of methods, used in prior studies, should be addressed, along with an indication of how the proposed study will improve on prior research methods used.

**Summary**

This article has identified the purposes of a literature review, the process involved in conducting the review, as well as key points to consider when writing the review results. It is advisable for new authors and scholars, who may not previously have conducted a thorough literature review, to peruse and read a variety of published literature reviews. By so doing, one can see the structure and content of literature reviews that have been considered of quality and, subsequently, accepted for publication. Literature reviews can be found in most professional nursing journals, with some journals (i.e. Annual Review of Nursing Research) focusing exclusively on presenting the current state of research for specific nursing-related topics.

**References**


การทบทวนวรรณกรรมเชิงวิชาการ

Vickie A. Lambert, Clinton E. Lambert

บทคัดย่อ: การทบทวนวรรณกรรมเป็นการประเมินและแปลวรรณกรรมที่มีอยู่ (ที่บันทึกผลงานไว้) และค้นหาวิธีการวิจัยที่สามารถตรวจสอบยืนต่อในหัวเรื่องที่เฉพาะ ซึ่งเป็นผลงานที่นักวิชาการ นักวิจัย หรือ ผู้ปฏิบัติได้สร้างไว้ การสร้างงานจากกราฟทบทวนวรรณกรรมเชิงวิชาการไม่ได้อยู่ในงานนั้น และมักไม่ได้รับความสนใจในความถี่เดิม วัตถุประสงค์ของบทความนี้เพื่อ 1) ชี้แจงเหตุผลของการทบทวนวรรณกรรม 2) เสนอรายละเอียดถึงวิธีการในการประเมินวรรณกรรมที่เกี่ยวข้อง 3) เสนอประเด็นปัญหาที่สำคัญในการวิจารณ์วรรณกรรมที่พบพบ และ 4) อภิปรายถึงปัจจัยที่มีความสำคัญเพื่อกำกับและเสนอแนวทางการทำงานของวรรณกรรม

Pacific Rim Int J Nurs Res 2010; 14(2) 101-111

คำสำคัญ: การทบทวนวรรณกรรมเชิงวิชาการ การได้มาซึ่งวรรณกรรม การวิจารณ์วรรณกรรม

ติดต่อที่: Vickie A. Lambert, DNSc, RN, FAAN, International Nursing Consultant Lambert & Lambert Nursing Consultants, Springfield, VA, USA. E-mail: vlambert@mail.mcg.edu

Clinton E. Lambert, PhD, RN, CS, FAAN, International Nursing Consultant Lambert & Lambert Nursing Consultants, Springfield, VA, USA.