After identifying a problem you wish to study and stating it in one sentence, you are ready to proceed to the second step in the research process: the literature review. This is a critical step and one inexperienced researchers may wish to complete quickly and get on with the really interesting part, the study itself. A literature review takes time and can be frustrating if you can’t find relevant literature on your topic for study, or if the literature seems so vast you don’t know where to start. The literature review, however, is essential and has several important functions. The functions of the literature review, where and how to search for relevant literature, guidance for reading the literature, and a format for writing a literature review will be discussed.

Is a Literature Review Necessary?

One of the primary functions of a literature review is to further clarify the problem identified for study. Perhaps you have noticed in your practice that some men who have prostate surgery for cancer have more problems regaining continence after surgery than others. You decide to study this and state your problem as: What are the factors that contribute to some men regaining continence after surgery more quickly than others? A literature review can help you determine if you will include all men who have had prostate surgery or limit your study population to a certain age group, to a particular stage of cancer prior to surgery, or perhaps to those who have had no prior or subsequent prostate cancer treatment. Thus, at the conclusion of the literature review, your study problem might be more specifically stated as: What factors contribute to regaining continence among men 65 and older who have had nerve-sparing prostate surgery for stage XX cancer? This sets limits for the target population to be studied, based on what you found in the literature.

Another literature review function is to verify that this is an important clinical problem which needs answering in order to improve patient care. Using the problem identified previously as an example, examine the literature to determine if others have identified this as an important clinical problem. Have there been any studies similar to the one you are planning? If so, what factors contributed to continence? Are there differences in the population the previous researcher used to the one you are planning to study? Are there personal costs of remaining incontinent that have been expressed in previous studies? Are there economic costs (loss of work time, cost of absorbent products) that were identified in prior studies? Finding information in previously published literature can help establish the importance of your study. You may also discover a study like the one you are considering. It is quite acceptable and very useful to replicate a study, since verifying findings adds to the believability of the results. If differences are found, that is also important. Even a partial replication can be very useful. Just be sure to use the same design as the previous researcher or be clear as to where and how you are deviating from the study you intend to replicate.

There are several other purposes of the literature review. It can help find gaps in existing knowledge; gaps that can be filled in your study design. It can help you select a research design and identify instruments to measure the central aspects in your study. Finally, it can help you interpret the findings in your study.

Where and How to Search For Relevant Literature

Prior to the computer age, literature searches were done by looking in the Index Medicus or other references in a library and examining the titles of articles arranged under various headings. While this method was straightforward, it was very slow, labor intensive, and quite limiting. Now the reverse is true. Computer searches allow you to access vast quantities of literature in a very short time, but sometimes the quantity of material uncovered can be daunting. How much literature should you review? How do you limit your search? There are no absolute rules about how much literature to review; however, if you estimate that your study will take 1 year to complete, limit your time for the literature review to between 1 and 3 months.
Literature searches can be divided roughly into primary and secondary sources. Primary sources are those written by investigators who conducted the studies. Secondary sources are those where a writer describes or summarizes studies done by others. Review articles are an example of secondary literature sources. They can be valuable in guiding you to primary literature, which should be your major literature source. It may also be useful to review theoretical or conceptual material, particularly if you need help in defining some of the important ideas in your study. For instance, perhaps a previous study found that the level of social support for cancer patients seems to be one of the factors which promotes continence after surgery. Gaining an understanding about the nature of social support (for example, how it is defined and measured), would be useful in your study. It may also be useful for you to briefly review articles written by other clinicians who have worked with your study population. They may provide you with helpful ideas or insights for designing your study.

If you have used electronic databases, then you have some understanding of how to search the literature. If you have never done an electronic literature search, a librarian can assist you. There are also a number of commercial vendors who offer literature retrieval services for an hourly or monthly fee. These databases are user friendly and provide menu prompts to assist you through the literature retrieval process. Two often-used service providers’ Web sites and e-mail addresses are Ovid at http://www.ovid.com, e-mail: webmaster@ovid.com and Aries Knowledge Finder at http://www.ariessys.com, e-mail: WebMaster@ariessys.com.

There are a number of noncommercial electronic databases. Two examples are CINAHL (Cumulative Index to Nursing and Allied Health Literature) and MEDLINE® (Medical Literature Online). CINAHL covers material from 1982 to the present from almost 1,000 journals in nursing and allied fields. MEDLINE, which was developed by the National Library of Medicine, contains information from the Index Medicus and International Nursing, as well as other sources. It covers over 3,600 journals and can be accessed for free through Grateful Med at http://igm.nlm.nih.gov.

Because these databases are so large, you will need to restrict your search, or you will be overwhelmed with references, many of which are not useful to you. After typing in the major subject heading, the database will provide choices of subheadings and how many articles are in each of the subheadings. For instance, you might want to restrict your search to primary sources (for example, research reports) and then choose to examine articles published in the last 5 years. While this process initially may seem difficult, the programs are easy to follow. This can greatly speed up your literature search as well as allow you to access vast amounts of information.

As a clinician, you have a wealth of clinical experience to use as an “intellectual filter.”

How to Read the Literature

After obtaining copies of the literature, skim the articles and sort them with notations at the top of the first page as to whether they are:
- Primary research
- Secondary/review
- Concept/theoretical
- Opinion/clinical

You may want to star the articles that contain the material most central to your study. Set aside the articles that do not seem relevant to your study. Then go back and carefully read the material, making notations in the margins of the paper and highlighting sections which are particularly relevant to the study you are planning. You may also want to make note of measurement instruments which other researchers have used. Next, review the reference lists which the researchers’ have cited. Are there particular articles which many authors have cited? If so, you may have identified seminal articles, that is, those which are the first or original works done in this area. It is usually a good idea to read this type of article even if it is a number of years old. Remember, as you are reading it is acceptable and even necessary and desirable to question the findings of other researchers. As a clinician, you have a wealth of clinical experience to use as an “intellectual filter.” Make notes of the results which concur with your clinical experiences and those which don’t. There are no perfect studies. All have some flaws which are usually discussed in the limitations or discussion section. Use this material to assist you in conducting a study that avoids these problems which the previous researcher has kindly commented on, in the best tradition of clinical research for those who come after them.

Writing a Literature Review

Writing a literature review is more than just citing the findings from study after study. It also should contain few if any personal biases and conjectures, and it should organize and summarize the material that is relevant to your study. Direct quotes are rarely used. Paraphrasing, which is expressing the ideas in the literature in your own words, is the standard. Second, it should comment on inconsistencies in the literature. For instance, one researcher may have found that social support did promote continence after surgery while another researcher did not find this to be the case. Don’t be concerned if there are inconsistencies like this in the literature, since it tells you that there is not consensus on this concept as it relates to your area of study and it could mean that this is a concept to consider including. This is where your clinical judgment comes in. When you begin to write the study design (design
will be covered in the next article in this series), it is useful to provide a sentence or two as to why or why you have not included the concept of social support in your study.

For example, paraphrasing and summarizing material on social support and the promotion of continence you might say:

“Social support has been associated with general health protective behaviors in the literature for a number of years (Abby, 1964; Bacc, Circ, & Deck 1978; Eick & Funk, 1988; Gank, 1999); however, findings are mixed as to its value in promoting continence among prostate surgery patients. Hank and Ice (1989) and Jakes (1999) both determined that social support, as measured by the ABC scale, was a positive influence on continence restoration. Kress (1989), Lukes (1999), and Meter, Noll, and Oats, (2000) all used different scales to measure social support and did not find that it contributed to continence restoration among patients with prostate cancer. In addition, there was no consensus among the authors on the definition of social support.”

Note that the fictitious review first acknowledges the origin of social support as it became associated with health-protective behaviors in the Abby 1964 article (a seminal article). Then several other general and well-done studies are cited. Next, studies are cited that support the concept as it relates to prostate surgery and also mentions how the authors measured the concept. Finally, three other articles are cited which did not find social support to be a useful concept and it also states that other social support measures were used to measure this concept. Thus, it isn’t necessary to list or comment on all studies which have examined this concept, just the ones that you determine are “good” studies where the researcher(s) has done a credible job in conducting his/her study.

To help determine which studies are credible and to assist in organizing your review, it may be useful to make a literature review summary table. Pinch (1995) has developed a table format which you might find helpful, especially if there are a number of articles to review in your area of study. This is organized by putting the following headings across the top of two pages you have taped together.

- Source (author and year of publication)
- Purpose/Problem (as stated by the researcher in one sentence)
- Sample (who and how many persons were in the study)
- Framework (sometimes researchers identify a particular theoretical framework as a basis for the study)
- Concepts (here you should find social support, but there may also be other concepts as well)
- Design (the type of study which was done — more on design in the next article in this series)
- Instruments (how the authors measured social support — for example, with the ABC scale or others)
- Results (what were the key findings?)

You may also want to add one or two more headings that are notes or comments regarding what you believe are the strengths or weaknesses of a particular study and if it is consistent with your clinical experience. The summary table can help you see at a glance where similarities and differences are across studies.

If there are other factors cited within the literature as supporting or not supporting continence after a prostatectomy, then this should be summarized as well. Finally, decide how to define the factors that you choose to include in the study. While the literature will be helpful, usually there is more than one definition for a particular concept in the literature. State the definition you intend to use and then ensure that the measurement instrument uses this definition as well.

A final paragraph in the literature review should list the gaps in knowledge and state how the study will contribute to providing needed information in this area. For a small to modest-sized clinical study, the length of your review may be about two, single-spaced, typewritten pages, although this can vary considerably depending on the lack or abundance of previous research in a particular area of study.

**Summary**

The literature review is a critical step in designing and conducting a credible study. It might seem tedious at first, but your own ideas will become better developed and thoughtful as you critique what other researchers have done. It will make your study stronger. Thus, don’t skim over this part of the process. A good literature review will make the next steps easier. It will also assure that you are studying an important area, that the outcome has clinical importance to your patients, and that writing and reporting the results will be easier. ![The literature review is a critical step in designing and conducting a credible study.](image)

**Reference**


**Additional Readings**
