Writing the researchable question is a challenging and difficult step in the research process, yet it is one of its most critical aspects. A clear and carefully and thoughtfully constructed research question helps to guide the research project to hit its scholarly target. To some degree, research is only as good as the research question and plan on which it is based.1 More importantly, from a clinical practice perspective, answering the carefully composed research question closes the gaps between what is known and what needs to be known about nursing care and resolves the discrepancy between the way things are and what they ought to be for better patient care.2

A research question is “an explicit query about a problem or issue that can be challenged, examined, and analyzed and that will yield useful new information.”1 Researchable questions have 2 basic components: the stem of the question and the topic of interest. A simple research question has only 1 stem and 1 topic. An example is, “What are the concerns of clients in ostomy clinics?” The stem is “What are,” and the topic is concerns of ostomy clients. Complex questions have more than one stem and topic. An example is, “What is the relationship of self-image and educational level to positive adaptation in new ostomates?” In addition, researchable questions are action oriented, that is, the research activity will answer the question.1 Questions that can be answered with a yes or no are not action oriented.

Several characteristics typify the well-written and clinically necessary research question. They include importance, extreme specificity, measurability, contextuality (placement within the framework of prior knowledge), variable focus, feasibility, and for many reasons, interest to the researcher.1,4 A question that yields opinions rather than facts is not a researchable question.

Well-composed research questions target clinical problems of importance to patient care and the nursing profession. Sometimes they are issues encountered personally by the researcher in clinical practice, identified by other researchers and/or clinicians, or prioritized by professional nursing associations. Periodically, many nursing associations will seek the input of specially identified “expert” members regarding research topics or problems needing scholarly inquiry. One method by which these data are gathered is a Delphi study, wherein members identify priorities in 2 or 3 rounds of surveys.3 In many ways, the ultimate criterion for the research question is “So what?” Will the research make a difference?

Research questions that are well formulated also need extreme specificity or preciseness. In other words, the research question should explicitly identify the variables and population of interest. For example, a nurse wondering about the importance of self-care ability to a person with irritable bowel syndrome (IBS) should write a question that targets that intersection of these variables. The nurse can write a question such as, “What is the relationship between high perceived self-care ability and symptom control in IBS?” The variables are clear and measurable.

Measurability or researchability relates to different aspects of a similar issue. A research question cannot be a value judgment. To ask if self-care is important to women will likely not yield helpful outcomes to improve patient care. In addition, the concepts contained in the question must have an approach or method by which they can be measured.

Review of previous research or a literature review may yield methods or processes of data collection about the variables. These measures may include questionnaires, scales, interviews, or physiologic methods (eg, temperature and pulse rate). In the previous example, self-care ability may be measured by a previously developed questionnaire, and “symptom control” could be addressed by an IBS symptom checklist. In general, it is recommended that researchers (especially neophytes) should seek previously developed scales or instruments with already established validity and reliability because scale development is a time-consuming labor-intensive process.3

Janice M. Beitz, PhD, RN, CS, CNOR, CWOCN, Associate Professor, Director of Nursing Certificate and Distributive Learning Programs, WOCNEP Co-Director, School of Nursing, La Salle University, Philadelphia.

Correspondence: Janice M. Beitz, PhD, RN, CS, CNOR, CWOCN, La Salle University, 1900 W. Olney Ave, Philadelphia, PA 19141 (e-mail: beitz@lasalle.edu).

J Wound Ostomy Continence Nurs. 2006;33:122-124
Published by Lippincott Williams & Wilkins.

From the Center for Clinical Investigation

Writing the Researchable Question

Janice M. Beitz

122 J WOCN □ March/April 2006 Copyright © 2006 by the Wound, Ostomy and Continence Nurses Society
Research questions should also be contextualized within the literature; that is, they should be based on prior knowledge. If the researcher truly knows the literature and if the research question flows clearly from the topic, a more significant result is likely because the proposed research will not “reinvent the wheel.” Knowledge of previous research studies and their outcomes will empower the researcher to write a hypothesis to accompany the research question. For example, a hypothesis might state, “a woman with high self-care ability will report fewer IBS symptoms than a woman with lower self-care ability.”

Research questions also should focus on the critical variables. Some sources suggest that research questions should relate or combine 2 or more variables. In the previously stated research question, the 2 variables are self-care ability and IBS symptoms. However, in exploratory (lower level) quantitative studies or qualitative approaches (eg, phenomenology, historiography, and ethnography) only 1 variable may be used. A sample research question may include, “What is the lived experience of having a neobladder?” The variable of import is having a neobladder.

Feasibility is critical to composing a research question and conducting research. The researcher must write a question that can be answered in a realistic time frame, so that subjects are available, the research can be conducted ethically, and costs involved are reasonable.

Financial considerations are important to any nurse researcher, and they can be the link between the feasibility of a study and researcher interest. The investigator can seek grant funding that intersects with his or her research interests and research questions. For example, the Center for Clinical Investigation (CCI) of the Wound, Ostomy, Continence Nurses (WOCN) Society has funding available from corporate sponsors targeting ostomy, continence, and skin care nursing issues. The researcher can seek advice from the CCI so the researchable question meshes with grant funding parameters.

In many ways, a crucial aspect of writing a quality research question is having a focus of strong interest to the researcher. Research is time consuming and demands substantial self-investment. Passionate interest in the research topic is likely to keep the researcher committed to high-quality systematic unbiased project completion.

How does the researcher ensure that the research question addresses all critical aspects? A major way to formulate the optimal question format is to conduct a literature review. To get a handle on an area of potential interest, researchers may want to pose “background” and “foreground” questions. Clinical background questions are usually generalized and give the big picture. McKibbon and Marks suggest the “7 Ws” for framing a background question: who, what, for whom, why, where, when, and how well. Lower level resources, such as textbooks, drug guides, or other reference guides, may assist the neophyte researcher in this familiarization process.

Most nurse researchers who are contemplating a specific research project have already performed background research. They are more likely undertaking foreground question research, that is, questions posed by clinicians needing precise information about specific clinical situations. Instead of asking a background question such as, “What is self-care and how does it affect health?” they ask a more specific question such as, “What is the relationship of self-care ability to symptoms of IBS?” Foreground questions are more specific and more complex. Framing the foreground question can be guided by the mnemonic PICO or in some sources PICOM (Patient/Problem, Intervention, Comparison, Outcome, and Methodology) (Figure 1). By entering a description to each of the elements, the researcher can construct a focused clinical question. This mnemonic embodies a helpful search strategy for various levels of literature search.

Gray and Gray offer a 5-step clinical questioning process and the “4S” methodology for literature review. They suggest the following process for finding best available evidence about clinical questions: (1) formulate the clinical question, (2) search for answers, (3) appraise the evidence, (4) apply the results, and (5) assess the outcome. In preparing to enact a research study, the last 2 steps would change slightly for the researcher. The fourth step would compare the results of previous studies to the proposed question and locate the “gaps,” and the fifth step would reformulate the clinical question to address the acquisition of new necessary knowledge.

Once the preliminary clinical question has been formulated, the literature can be reviewed. They suggest a “top down” 4S approach: systems, synopses, syntheses, and studies. Although it is beyond the scope of this article to fully discuss literature search strategies, the basics are highlighted. Systems should be the starting point, that is, information sources that cover various diagnoses, provide a summary of high-quality systematic reviews, and are frequently updated. One example is Clinical Evidence (www.clinicevidence.com).

The preliminary topic may not have been investigated at this level. The next level down in complexity is synopses. These are structured abstracts of high-quality systematic reviews or original articles. An example is ACP Journal Club or a publication called Evidence-Based Medicine. The abstracts represent concise high-quality evidence.

More likely, a nurse researcher may find previous research activity at the synthesis or studies level. A synthesis is a high-quality systematic review of a research topic.

FIGURE 1. Framing a researchable question: a helpful mnemonic—PICOM.

<table>
<thead>
<tr>
<th>Patient/problem</th>
<th>Intervention (treatment)</th>
<th>Comparison (of intervention or treatment)</th>
<th>Outcome (of interest)</th>
<th>Methodology</th>
</tr>
</thead>
</table>

The preliminary clinical question may not have been investigated at this level.

The next level down in complexity is synopses. These are structured abstracts of high-quality systematic reviews or original articles. An example is ACP Journal Club or a publication called Evidence-Based Medicine. The abstracts represent concise high-quality evidence.

More likely, a nurse researcher may find previous research activity at the synthesis or studies level. A synthesis is a high-quality systematic review of a research topic.
If a nurse researcher cannot find previous research work or evidence at the higher 3 levels, then the investigation should look at individual studies, assessing their validity and relationship to the proposed research question. Studies can be obtained via such databases as CINAHL, MEDLINE, PSYCLIT, etc. Excellent descriptions of how to search the literature and how studies can be related to the research process and evidence-based healthcare are available. These 4 levels of evidence also show what research methodology has been used in the past.

KEY POINTS

- Characteristics of the well-written research question include importance, extreme specificity, measurability, contextuality, variable focus, feasibility, and interest to the researcher.

- Questions that can be answered with a yes or no or that yield opinions are not researchable questions.

- Framing a researchable question can be guided by the mnemonic PICOM: patient/problem, intervention, comparison, outcome, and methodology.

- Once a preliminary clinical research question has been formulated, the literature can be searched using the 4S approach: systems, synopses, syntheses, and individual studies.

Pragmatically, a novice clinical investigator may feel overwhelmed and intimidated by the research question formulation process. Investigators should consult research texts and nursing journals on how to commence the research process. Another approach is to seek and acquire the assistance of a research mentor. An experienced rewriting of the original research question usually improves the clarity of its focus and often helps the researcher to become more thoughtful and insightful about the proposed project.

Writing the quality researchable question is a challenge but critically fundamental to an optimal research project. Each well-constructed research question should address or match the standards described and help energize a systematic, logically driven, methodologically sound study.

References


Additional Readings