

Essential Skills for Evidence-based Practice Appraising Qualitative Research

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Abstract

Research from qualitative traditions is often ignored as a resource for evidence-based practice. Findings from qualitative research, however, are of particular benefit to generalist nurses. Human responses to health concerns are at the core of nursing practice, and these responses are often identified through qualitative inquiry. Qualitative findings tend to be accessible and suitable for personal, rather than institutional, application to practice. This article reviews the differences between quantitative and qualitative research and suggests a model for critiquing and applying qualitative research in practice. Instructions for a brief appraisal process are provided in both English and Thai.

Keywords: evidence-based practice, qualitative research, appraisal guideline

Nursing knowledge is derived from both quantitative and qualitative research traditions. Along with other health professionals, nurses seek evidence to answer questions about therapy, harm, diagnosis and prognosis. This evidence typically comes from quantitative research findings. Nurses also, however, have a unique professional interest in questions about the meaning of health experiences to patients and caregivers, the ways people respond to health challenges, and the contexts that influence decisions about those responses. (See Appendix 1 for examples). Evidence to enrich our understanding of these questions often comes from qualitative research findings.¹

When I suggest that undergraduate nursing students and generalist nurses should be encouraged to read qualitative research and incorporate that evidence into their practice, I am sometimes met with doubt. "Qualitative research? Isn't that just for doctoral students?" "I can't see how qualitative research fits into the whole framework of evidence-based practice."

In reality, qualitative research supports the most basic principle of evidence-based practice, that clinical decisions are based on clinical expertise, evidence and patient values. Qualitative research contributes significantly to our knowledge of the range of possible patient values and the influences that shape those values. Because nurses are the human response specialists in health care, qualitative research findings also enhance our clinical expertise by introducing us to a variety of human responses beyond our personal experience. This evidence improves our capacity for empathy and contributes to cultural competence. Although most generalist nurses work in settings where application of quantitative evidence requires an institutional process², qualitative research findings often can be applied independently by individual nurses to enhance their interactions with patients and families.

Students and generalist nurses sometimes comment that it is easier to read qualitative research reports than quantitative ones. This is not surprising; the intended product of a qualitative study is rich description that engages the reader's emotions as well as intellect. The aim is to help us understand what it is like to be someone else. Alternatively, the product is a theory or process that helps organize our

understanding of a complex situation. Judging the truth value of a qualitative research study, moreover, does not require the detailed knowledge of study design and analytic method required to judge the truth value (validity) of a quantitative research study.

Differences between quantitative and qualitative research

Quantitative and qualitative research traditions arise from different philosophical traditions, so the assumptions that underlie each approach differ. The quantitative scientific method assumes that all the relevant potential answers to a clinical question can be identified before a study is conducted. The study is designed to demonstrate which of those answers are probable and which are improbable. The sample chosen for the study is assumed to represent the larger population for whom the clinical question applies. These assumptions result in hypothesis testing, where numerical data are analyzed by statistical methods to determine whether relationships are "real". "Real" relationships are defined by statistical significance (likely to be present in the larger population as well as the studied sample). Typically, the hypothesis that there is a "real" relationship is tested against the null hypothesis (relationship by sampling chance only), with the reasoning that one or the other hypothesis must be true.

In contrast, qualitative research traditions assume that potential answers to a clinical question may not be known when the study is planned but will emerge (with help) from the data as the study progresses. The sample studied represents experience with the clinical problem, but not necessarily any larger population than themselves. Instead of one probable answer, there may be many possible answers: true for some, but not necessarily for everyone.

Quantitative and qualitative traditions also differ in their assumptions about the role of the researcher. The quantitative tradition assumption is that answers to clinical questions should be objective and investigators' biases should not be allowed to influence study results. At the same time, researchers are assumed to be the experts on defining the clinical question, selecting the possible answers, specifying tests for those answers and choosing study subjects, measures and analyses appropriate to answering the question. Thus, quantitative researchers' biases are

actually designed into the study long before the outcome stage, even though the outcomes themselves are determined objectively. The results of a quantitative study are also expected to be replicable: a different researcher using the same methods with a similar sample should obtain the same results.

By contrast, the qualitative tradition assumes that the researchers' interpretations are central to the study findings, and that no two researchers are likely to reach exactly the same conclusions. Study informants, moreover, are the experts who will define the important answers to the clinical question. The product of each researcher / informant interaction is unique, producing a subset of all the possible answers to the clinical question.

The differences in assumptions between quantitative and qualitative research traditions are reflected in differences in study conduct. In quantitative studies, the plan for the entire study is established in advance: specified hypotheses, subject eligibility criteria, sample size, experimental manipulations, measures, data analytic strategies, and standards for accepting an answer as probable vs. improbable. Any deviation from this plan during the conduct of the study threatens to introduce bias into the results.

In qualitative research, the methods evolve as the study progresses, because they are influenced by the accumulating data. As preliminary themes emerge, informants may be asked to speak about expanded dimensions of the experience. Additional informants may be sought who represent a different experience of the clinical problem. The final sample size ideally reflects the point at which additional informants provide no new insights (saturation), not a number pre-determined by statistical power calculations. Qualitative analysis is complete (if it ever is!) when the researcher feels he/she understands the answers that have emerged from the data and how they relate to each other, not when a number of pre-specified statistical tests have been computed.

The quality standards for quantitative research studies are well-known. Study measures should be reliable (give consistent information across repeated uses). Study results should be valid (unbiased answers to the question being asked) and generalizable (able to be applied to the population represented by the study sample). A valid study finding in quantitative research

represents what is probably true for all people experiencing the same clinical problem as the study sample ("the" truth).

Because qualitative research arises from multiple academic disciplines, there are many terms that describe some aspect of quality for qualitative research. In summary, these terms reflect three basic quality standards: results are true, engaging and convincing. A valid study finding in qualitative research represents what is true for some and possibly true for others ("a" truth).

Evaluating qualitative evidence for application to practice

In contrast to the clinical question domains of therapy, harm, prognosis and diagnosis, critical appraisal worksheets for the nursing question domain of human response/meaning are less widely available among evidence-based practice resources. Those that are available follow the format common to other question domain worksheets: are the findings valid, what are the findings, how can I apply the findings to the care of my patient?¹

Generalist nurses may find it more efficient to conduct the appraisal in a different order. The findings of qualitative research only enhance practice when they provide us with a different or additional insight into the possible experiences of our patients, their families, our colleagues and ourselves. Thus, a streamlined critical appraisal approach asks about the usefulness of the findings first.

Brief Appraisal Strategy for Qualitative Research

Step One: Does the evidence allow you to see your patient, yourself, your health care colleagues or your practice setting in a different or expanded way?

If yes, proceed to Step Two. If no, stop.

Each nurse brings a unique set of experiences to his/her practice. Qualitative evidence that provides new insights to one nurse may already be part of the lived experience of another nurse. For the nurse who gains a new insight, the qualitative evidence is potentially useful if it is true. In this case, the nurse needs to continue the appraisal strategy to decide whether the evidence is trustworthy before she/he can decide how to apply the evidence to practice. When

the evidence does not tell a nurse anything new, it has no usefulness in practice. If evidence is not useful and will not change practice, it does not matter whether or not it is trustworthy. Further appraisal is therefore not needed.

Step Two: Can you trust the evidence?

In the simplest terms, there are only three questions to ask about the trustworthiness of qualitative research findings. Framed in terms of a study involving interviews, they are

- Did the researchers ask the “right” people?
- Did the researchers accurately hear what they were told?
- Did the researchers do a thorough job of analyzing what they heard?

Did the investigators collect information from people with experience about the issue of interest?

Qualitative research depends upon informants, as well as researchers, to identify important answers to a clinical question. It is therefore crucial that information come from sources who are experts because they are living the experience of interest. If the clinical question is how adolescents feel about body changes associated with cancer chemotherapy, the informants should be adolescents who have had or are now experiencing those changes. If the clinical question involves the stressors for nurses caring for persons with dementia, researchers should talk to the nurses who provide this care.

Did the investigators collect the information accurately?

When qualitative research involves knowledge transmitted through the spoken word, there are several strategies to ensure accuracy. Interviews can be recorded and transcribed, with transcriptions compared to the original recording for validation. Alternatively, researchers can take extensive notes during the interview, preserving direct quotes for informant comments that seem important. Informants can be asked to review transcripts or interview notes to verify the accuracy of the content.

For qualitative research traditions that involve observation, field notes are a basic data source. These may be supplemented by photos or videos to support the accuracy of the field notes. The researcher may

confirm his/her observations by interviewing key informants-members of the community who are in a position to be experts about the ways the community functions. Accuracy also involves the amount of engagement the researcher has with the field setting. It is not likely that a researcher could acquire comprehensive knowledge of the culture of a community from a single weekend visit.

Was the investigators' analysis of the data thorough and convincing?

The tasks that support the interpretive work (analysis) of qualitative research vary according to the research tradition being employed. Some traditions rely on coding, a technique for breaking text into fragments that represent single ideas, collecting and naming groups of similar ideas, and organizing those ideas according to their relatedness to each other. Some traditions encourage memo writing as the researcher thinks about what he/she has heard and observed. Researchers may share their data with other qualitative researchers and discuss their developing interpretations. Researchers may also return to study informants to see whether the sources of the original data agree with the analyses that have been made. In addition to describing their analytic actions, qualitative researchers often include direct quotes (i.e. original data) from study informants as examples to support the interpretations they have made. These examples allow each reader to decide whether the researcher has reached a convincing conclusion.

For evidence from quantitative research, each nurse is his/her own judge of whether the findings are clinically important, i.e. worthy of being applied to practice, even when there is general agreement that the findings are valid. For qualitative research, each nurse is also his/her own judge of whether the researcher's analytic process has been adequate and the resulting interpretations are convincing. When the reader is convinced that the new perspective reported by the researcher arises from a trustworthy process, it is time to consider how the evidence can be used.

If you are comfortable that the evidence is trustworthy, proceed to Step Three.

Step Three: Consider how you will use your new understanding.

In some circumstances, qualitative evidence may

lead to an institutional practice change. For example, evidence about cultural modesty beliefs may lead to redesign of examination gowns for women from an emerging immigrant population. Evidence about illness or caretaking experiences may be incorporated into standard discharge plans or written educational materials. When qualitative research evidence is applied institutionally, the evidence application model published previously in this journal provides a useful process.^{2,3} The most common risk of applying qualitative research findings to institutional practice is stereotyping: assuming that you know what is true about another person based on group membership without verifying that it is actually true for that individual.

Do the findings apply to your patient? Would the findings apply to other situations and settings?

Because qualitative research findings are truths for some, but not all, the application of those findings can be narrower or broader than expected. Qualitative findings about the experience of losing a limb to chronic disease may or may not represent the experience of every elderly diabetic facing this challenge. On the other hand, aspects of that understanding may apply to our care of young adults with traumatic amputations or women undergoing mastectomy. To the extent that we, as nurses, see similarities in the circumstances of our patients and qualitative study informants, it is reasonable to ask whether the findings apply. When possible, the experts to ask are our patients: "Some people in your situation say that..... Is that your experience, too?"

What seems unique about the subjects' experiences and responses?

This question is a reminder that qualitative research findings may not even apply to all the informants in the study. The careful qualitative researcher reports general interpretations, but also indicates when individual informants have different perspectives.

Do the findings help you understand how your patient may respond to health issues?

What does a nurse's personal application of qualitative evidence look like? Application is most

likely to result in changes in the way a nurse thinks about his/her patients and/or practice. This change may include a deeper understanding, at an emotional level, of what it feels like to be a person in need of the nurse's care - in other words, a greater capacity for empathy. Alternatively, the understanding gained may contribute to cultural competency - the ability to interact effectively with persons from differing ethnic groups.

Can you apply that understanding to your assessment and management strategies?

Qualitative evidence that identifies a framework or process for understanding a health event can suggest additional dimensions for nursing assessment. For example, qualitative research with persons attempting to stop smoking cigarettes identified a series of mental processes associated with changing behavior-the "stages of change" or "trans-theoretical model".⁴ Assessing a patient for his/her stage of change can also help the nurse choose an intervention for behavior change targeted to that patient's current thinking pattern.⁵

Qualitative evidence about others' experiences can also be incorporated into individual teaching or anticipatory guidance. For example, information about the varieties of phantom breast sensations experienced by mastectomy patients and their course over time⁶ could be helpful to women about to undergo this surgery.

To your understanding of your patient's relationship to the health care system, including you?

As nurses, we frequently find ourselves asking the question, "Why is my patient behaving this way?". There are many answers to this question, involving personal beliefs, available resources, competing priorities and cultural norms, among other influences. Qualitative research findings can provide us with insights into these answers. Kübler-Ross' classic observations about death and dying⁷, for example, suggest that persons experiencing each stage will present different emotions to their care providers and have different expectations of the health care system.

Our choice of profession means we have learned to be comfortable with the health care system and know the rules for accomplishing our objectives within it.

Qualitative research findings can remind us how our patients' experiences of the health care system differ from our own and how our rules may block their objectives.

Do the findings help you understand your patient's values?

What is it like to be your patient? What is important to him or her? What is important to his or her family? To his or her community? If we are to make clinical decisions based on patient's values as well as evidence, we need to understand those values and the factors that influence them. Qualitative evidence cannot tell us exactly what each individual or family or community may value, but it can broaden our perspectives about the range of those values and help us understand how values we do not endorse make sense in the context of our patients' lives.

Your own and others' values?

Nothing makes us more aware of our own values than an encounter with someone who does not share them. When that encounter occurs through qualitative evidence, rather than personal interaction, there is an opportunity to work through judgmental reactions in a reflective way. This, in turn, enhances our ability to maintain respectful relationships with others and perhaps to reconsider our own values.

No piece of qualitative evidence is likely to be applicable in all the ways suggested by these appraisal questions. It is vital to remember, moreover, that no piece of qualitative evidence is guaranteed to apply to the situation of your patient. Just as we must assess whether a dose of an analgesic medication has actually worked to reduce a patient's pain, we must assess whether our understanding of the patient's situation and values is accurate and helpful. Qualitative evidence provides possibilities for understanding, not certainties.

The areas of understanding potentially informed by qualitative evidence, however, are important ones. For many of our most important health problems, solutions will involve lifestyle changes in health behaviors, rather than "quick fixes" with increasingly complex medications and procedures. The nurse who understands a problem from his/her patient's perspective should be able to offer solutions that are more effective because they are consistent with the patient's experience, priorities and

values. Qualitative evidence enhances our ability to make productive relationships with our patients to achieve our mutual health goals.

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Appendix 1

Examples of clinical questions answerable by quantitative and qualitative evidence

Quantitative: Which therapy is likely to achieve a specified outcome?

Qualitative: What outcomes are important to patients like mine?

Why isn't my patient adhering to the therapy I prescribed?

Quantitative: What are the risk factors for some specified undesirable outcome?

Qualitative: Why do some of my patients act to reduce their risk factors and others don't?

How do persons with non-modifiable risk factors deal with the threat to their health?

Quantitative: What combination of signs, symptoms and tests are most accurate for establishing this diagnosis?

Qualitative: How do patients decide that their symptoms require health care?

How do patients understand symptoms and disease?

Quantitative: Given this diagnosis and stage of illness, what is the expected progression of the disease?

Qualitative: How do patients manage their lives during a disease arc?

What influences the decisions patients make about their health care?

Appendix 2

Brief Appraisal Strategy for Qualitative Research

Step One: Does the evidence allow you to see your patient, yourself, your health care colleagues or your practice setting in a different or expanded way?

- If yes, proceed to Step Two
- If no, stop

Step Two: Can you trust the evidence?

- Did the investigators collect information from people with experience about the issue of interest?
- Did the investigators collect the information accurately?
- Was the investigators' analysis of the information thorough and convincing?
- If you are comfortable that the evidence is trustworthy, proceed to Step Three

Step Three: Consider how you will use your new understanding.

- How do the informants differ from each other in their experiences and responses? What experiences and responses do they all have in common?
 - Does the evidence apply to your patient?
 - Would the evidence apply to other situations and settings?
 - Does the evidence help you understand how your patient may respond to health issues?
 - Can you apply that understanding to your assessment and management strategies?
 - Can the evidence help you understand your patient's relationship to the health care system, including to you?
 - Does the evidence help you understand your patient's values? Your own and others' values?

(This guideline created as a joint project between Jeanne Grace and the undergraduate faculty in obstetrics, pediatrics and fundamental nursing at the Faculty of Nursing, Mahidol University)

กลวิธีการประเมินงานวิจัยเบื้องคุณภาพฉบับย่อ

ขั้นตอนที่ 1: หลักฐานเชิงประจักษ์นี้ทำให้ท่านเข้าใจผู้ป่วยต้นเอง เพื่อเริ่มงาน หรือหน่วยงานที่ท่านทำงาน แตกต่างจากเดิมหรือมากกว่าเดิมหรือไม่

- ถ้าใช่ ไปต่อขั้นตอนที่ 2
- ถ้าไม่ใช่ ยุติ

ขั้นตอนที่ 2: หลักฐานเชิงประจักษ์นี้ถือถือได้หรือไม่

- ผู้วิจัยเก็บรวบรวมข้อมูลจากบุคคลที่มีประสบการณ์ตรงกับประเด็นที่ต้องการศึกษาหรือไม่?
- ผู้วิจัยมีกระบวนการเก็บรวบรวมข้อมูลได้อย่างถูกต้องหรือไม่
- ผู้วิจัยนิเคราะห์ข้อมูลได้อย่างครบถ้วนและนำเสนอเชื่อถือได้หรือไม่
- ถ้าท่านคิดว่าหลักฐานเชิงประจักษ์นี้ถือถือได้ ดำเนินการขั้นตอนที่ 3 ต่อไป

ขั้นตอนที่ 3: พิจารณาว่า ท่านจะใช้หลักฐานเชิงประจักษ์นี้อย่างไร

- ประสบการณ์และการตอบสนองของผู้ให้ข้อมูลแต่ละคน แตกต่างกันอย่างไร ประสบการณ์และการตอบสนองจะรับรู้ที่คล้ายกัน

- หลักฐานเชิงประจักษ์นี้สามารถนำไปใช้กับผู้ป่วยที่ท่านดูแลได้หรือไม่
- หลักฐานเชิงประจักษ์นี้สามารถนำไปใช้ในสถานการณ์อื่นหรือหน่วยงานอื่นได้หรือไม่
- หลักฐานเชิงประจักษ์นี้ช่วยให้ท่านเข้าใจวิธีการตอบสนองของผู้ป่วยต่อภาวะสุขภาพได้หรือไม่
- ท่านสามารถนำหลักฐานเชิงประจักษ์นี้ไปใช้ในการประเมินและการดูแลผู้ป่วยได้หรือไม่
- หลักฐานเชิงประจักษ์นี้ช่วยให้ท่านเข้าใจความสัมพันธ์ระหว่างผู้ป่วยกับระบบบริการสุขภาพ และระหว่างผู้ป่วยกับท่านหรือไม่

- หลักฐานเชิงประจักษ์นี้ช่วยให้ท่านเข้าใจความสัมพันธ์ระหว่างค่ากับอื่น ตัวท่านเองและคนอื่นๆ ให้คุณค่ากับอื่น (This guideline created as a joint project between Jeanne Grace and the undergraduate faculty in obstetrics, pediatrics and fundamental nursing at the Faculty of Nursing, Mahidol University)