

Focusing on the Fundamentals: Reading Qualitative Research with a Critical Eye

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This article in the “Exploring the Evidence: Focusing on the Fundamentals” series provides nephrology nurses with basic principles related to analyzing a qualitative research study. Qualitative research is a method to answer questions about or explain a phenomenon of interest, a social process, or a culture by collecting and analyzing narrative data from the perspective of the participant (Gray, 2017). There are a variety of qualitative study designs that may require a slightly different emphasis when evaluating the research. This article focuses on general principles and provides steps to follow when critically appraising a qualitative research article to determine its strengths and weaknesses.

Qualitative Study Designs

As with quantitative research, different study designs are used in qualitative research. Some of these designs include phenomenology, ethnography, historical, grounded theory, case study, narrative inquiry, and exploratory-descriptive. A phenomenology study seeks to identify the lived experience related to the research interest (Creswell & Poth, 2018). A phenomenology researcher may bracket out his or her own thoughts and perceptions to strive for a purer and more comprehensive, rich description of a phenomenon from the perspective of the participant (Tufford & Newman, 2012). Ethnography, based on anthropology, is a method that includes the social and evolutionary perspectives of the participant framed within a cultural context (Ingham-Broomfield, 2015). In ethnography, fieldwork is a primary method for data collection, which allows the researcher to be immersed in the culture of the

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individuals being studied, allowing for collection of several different types of information (Creswell & Poth, 2018). The historical method is used to study past events and data in chronology to establish facts and principles, as well as to understand their impact (Ingham-Broomfield, 2015). With grounded theory, the researcher uses inductive reasoning to attempt to develop a social theory for a phenomenon that has none (Ingham-Broomfield, 2015). While data are collected and examined repeatedly, the researcher identifies concepts and relationships between them (Gray & Grove, 2017). The case study approach focuses on a single phenomenon in a particular subject – the “case” (Ingham-Broomfield, 2015). Narrative inquiry considers stories participants share related to life experiences. With narrative inquiry, the researcher develops memos that allow for recording of conceptual thoughts and ideas that may help develop theory (Gray, 2017). Exploratory-descriptive qualitative research is used when trying to answer a more specific research question and “may or may not use a theoretical framework” to guide the study (Gray, 2017, p. 278).

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Table 1
Key Areas for Critical Review of Qualitative Research

Title	<ul style="list-style-type: none"> Does the title clearly and accurately portray the essence of the research?
Authorship	<ul style="list-style-type: none"> Are the authors' backgrounds and experiences appropriate for the specific qualitative method employed?
Abstract	<ul style="list-style-type: none"> Does it clearly and accurately summarize the main points of the study?
Introduction or Background	<ul style="list-style-type: none"> Does this section allude to the significance of the research problem?
Review of the Literature	<ul style="list-style-type: none"> Does the review of the literature provide sufficient, relevant information to justify the need for the research on the topic of interest? Does the author include any limitations of the reviewed literature?
Theory or Framework	<ul style="list-style-type: none"> Is there a theory or underlying framework identified that underpins the study? Remember that some authors do not use a theoretical framework in qualitative work.
Purpose	<ul style="list-style-type: none"> Is there an explicit, logical statement of the purpose of the study?
Methods	<ul style="list-style-type: none"> Is the design of the study compatible with the study purpose? Is the setting clearly described? Does the design represent the best way to collect evidence to answer the research questions, if any? Is the sample described? Does the sample represent the intended population? Does the author indicate saturation was achieved? Are procedures for participant recruitment, data collection, and data analysis sufficiently described and appropriate for the study purpose? Is the method of data collection appropriate for the selected qualitative approach? Is there sufficient information provided about how the phenomenon was captured and how trustworthiness was ensured? Is there evidence that the rights of participants were addressed through a review process?
Results/Findings	<ul style="list-style-type: none"> Are results presented and interpreted in accordance with the selected qualitative approach? Were the development and description of relationships, patterns, or theory based on inductive reasoning outlined?
Discussion	<ul style="list-style-type: none"> Was a summary of the interpretation of results and insight into the phenomenon presented? Were findings compared with those of others? Did authors identify any study limitations?
Conclusion	<ul style="list-style-type: none"> Are conclusions in line with results presented? Are suggestions for areas of future research and thoughts on future implications for clinical practice conveyed?

Source: Adapted from Astroth & Chung, 2018.

Each qualitative method may require a slightly different view or approach to data collection, which is beyond the scope of this article.

Components of Critical Analysis of Qualitative Research

While it is important for nurses to read and understand research as a means to improve practice, this is not a skill that may be developed in a basic nursing program. Further, some research studies published may not follow strict processes and may be flawed or weak. A critical analysis considers study strengths and weaknesses, contributing to the evaluation of findings for applicability to nursing practice.

Gray and Grove (2017) describe three necessary considerations that will facilitate a critical analysis of qualitative work. The first is to identify and appreciate the philosophical foundation of the particular research design (Gray & Grove, 2017; Powers, 2015). For example, the phenomenology approach may be based on hermeneutics, a philosophical idea related to the researcher's ability to dialogue about life through the exploration of the lived experience of participants (Powers, 2015). The second consideration is to be familiar with the different designs of qualitative work; having this knowledge will aid the reader in a clearer understanding and expectations of the work (Gray & Grove, 2017). For example, when reading a grounded theory qualitative report, the reader should expect to see emerging themes that may underpin theory

development. The third consideration is that the reader must have an inherent appreciation of the perspectives of the participants (Gray & Grove, 2017). It is this aspect of qualitative research that provides its richness and uniqueness. Other components of a critical analysis of qualitative work that differs from a quantitative study include determining sample size and evaluating trustworthiness of data.

Sample Size

Sample size in qualitative research is determined differently than in quantitative research. With quantitative research, the investigator conducts a power analysis to determine the sample size of participants best suited for the study design and required to answer the research question. However, in qualitative research, a common method for determining sample sizes is whether or not data saturation is achieved. Saturation is the condition that occurs when no new themes or perspectives are obtained from interviewing additional participants (Cleary, Horsfall, & Hayter, 2014). Data saturation is needed to gain detailed and non-superficial understanding of the phenomenon. The scope and complexity of the phenomenon, as well as the previously established knowledge on the phenomenon of interest, are other factors that determine the sample size (Morse, 2015).

Evaluation of Data Trustworthiness

Another aspect related to qualitative research is that of reliability and validity of study findings. While quantitative researchers yield statistical numbers, such as reliability coefficients, to support the rigor of their studies, many qualitative researchers follow specific procedures that suggest the trustworthiness of their findings. The value, or trustworthiness, of qualitative data can be evaluated in several different ways; these include addressing the credibility, dependability, confirmability, and transferability of data (Guba, 1981; Lincoln & Guba, 1985).

Credibility, or truthfulness of data, is equivalent to internal validity in quantitative studies and refers to the believability and confidence one has with the findings (Beck, 2009). In qualitative research, findings or the description of a phenomenon should accurately resemble the actual phenomenon (Morse, 2015). A few strategies that can be used to improve credibility include prolonged engagement and persistent observation, member checking, triangulation, and peer debriefing credibility (Morse, 2015). Member checking is the process of reviewing findings with a sample of study participants to ensure accuracy of interpretation by the researcher (Cope, 2014). Triangulation refers to the practice of using multiple methods of collecting data to enhance comprehension of the phenomenon of interest (Cope, 2014). Peer debriefing allows researchers to converse about their findings with peers who are not involved with the study (Lincoln & Guba, 1985). During the process of presenting data, emerging patterns, or conceptualized theory, peers can

ask questions and assist in conceptual development of the study or in preventing (or uncovering) researcher bias (Morse, 2015).

Dependability, equivalent to reliability (Lincoln & Guba, 1985) in quantitative studies, refers to the ability to replicate findings if the study was repeated (Morse, 2015). Dependability can be attained with triangulation and use of an audit trail (Morse, 2015). An audit trail refers to a collection of materials, such as transcripts, field notes, journals, and reports, documented throughout the research process and used by the researcher to verify conclusions made about data and provide transparency (Cope, 2014; Gray, 2017). In addition, development of a coding system that allows standardized systematic coding contributes to inter-rater reliability (Morse, 2015).

Confirmability refers to the researcher checking the objectivity of findings and can typically be handled by two or more persons reviewing data and coming to an agreement about their meaning (Beck, 2009). Confirmability can be obtained through use of triangulation, audit trails, and keeping a reflective journal (Lincoln & Guba, 1985). Reflective journaling is the process of keeping notes about the researcher's increasing self-awareness of the meaning of the phenomenon, as well as methodological decisions made (Lincoln & Guba, 1985).

Transferability is similar to generalizability in a quantitative study in that the reader would consider how results might apply to a different situation or population (Lincoln & Guba, 1985). A comprehensive description of the context or subject is crucial for generalization (Morse, 2015). Transferability can be obtained by making data available so others can determine their applicability (Lincoln & Guba, 1985).

There are additional criteria one may consider when evaluating qualitative research. One criterion concerns authenticity (Guba & Lincoln, 2005). Authenticity is the degree of accuracy the researcher portrays in describing thoughts and experiences of the participant in the research report (Beck, 2009). Gray and Grove (2017) also discuss transparency as another aspect of qualitative study evaluation. Transparency will be evident in details provided by the researcher, including use of field notes or memos, identifying any preconceived notions or biases of the researcher, clear descriptions of the research procedures, and details of data analysis (Gray & Grove, 2017).

Framework for Analysis

Even though the determination of data quality for quantitative and qualitative research is different, there are some similarities in the steps one follows when critiquing these two forms of research (Gray & Grove, 2017). Components for evaluation of quantitative research include title, abstract, introduction, review of the literature, underlying theory or framework, purpose, methods, results, discussion, and conclusion (Astroth & Chung, 2018). However, with qualitative research, some of these components may

vary according to the type of study design; for example, no theoretical framework is identified when conducting a grounded theory study.

Title

The title should clearly and accurately portray the essence of the research. Ideally, the title contains information about the population, the problem, and the qualitative design to allow the reader to determine if the topic is of interest.

Authorship

It is important to determine the appropriateness of the authors' background and experience with the specific qualitative method employed (Caldwell, Henshaw, & Taylor, 2011; Gray & Grove, 2017). As with quantitative research, the conduct of qualitative research requires specific expertise.

Abstract

The abstract of the qualitative article should clearly and accurately summarize the main points of the study. As with quantitative research, the abstract should briefly outline the background, purpose of the study, findings, and implications for future research or practice (Astroth & Chung, 2018); additionally, authors should note the qualitative approach used. It should be detailed enough to allow the reader to decide if the topic meets the needs related to the initial search for information.

Introduction/Background

The introduction or background section of the article should allude to the significance of the research problem or topic of interest. Authors will often include a brief description of what led to their interest in the research topic (Gray & Grove, 2017). This information may help decipher if there is any potential for researcher bias (Hentz, 2012).

Review of the Literature

This section should provide sufficient, relevant information to justify the need for research on the topic of interest; the author should note any limitations of the literature reviewed (Gray & Grove, 2017). Sometimes authors include works older than five years to provide a full appreciation of the extent of the work completed on the topic of interest (Gray & Grove, 2017).

Theory/Conceptual Framework

A theoretical framework is often not identified in a qualitative study. The researcher needs to be thinking clearly and not have any preconceived ideas that might confound the qualitative research process; this is common with grounded theory. However, with exploratory-descriptive research, for example, a framework may be identified and guide the development of interview questions.

Purpose

The study statement should be explicit and logically related to the identified need for the research. It should match the particular study design and accurately depict what the authors want to convey about the topic (Creswell & Poth, 2018).

Methods

The methods section of the study should include the type of qualitative design, setting, and sample. This section also includes ethics considerations, data collection, and data analysis.

Design. The design integrity must be appropriate, sound, and ethical. The design will also have an impact on the determination of the credibility and trustworthiness of the findings (Powers, 2015). Because qualitative designs have specific purposes, the reader needs to understand the various approaches and determine if it was the most appropriate way to study the phenomenon of interest. For example, if the nurse researcher wanted to learn more about the lived experience of the client who receives home hemodialysis, phenomenology would be the appropriate study design.

Setting. For the setting of the study, the authors should identify sites where participant recruitment and data collection occurred. With the historical approach, this could also include sites where past documents and data sources are located.

Sample. The sample can vary from a living person to groups of informants to historical data, such as letters or newspapers. The sampling technique should be appropriate to ensure collection of rich data to understand the phenomenon being studied. Thus, convenience sampling or purposive sampling is often used in qualitative research. While random sampling is preferred in quantitative research, it may limit validity in qualitative research, and thus, a theoretical sample may be favored (Morse, 2015). Theoretical sampling allows researchers to gather information from those capable of providing information related to the topic of interest, which is more meaningful than a larger random sample (Morse, 2015). This sampling technique is used most often with a grounded theory design. The authors should provide specific information about who or what is included and excluded for the study. Sample size can be as little as a single informant (Ingham-Broomfield, 2015) or until data saturation is achieved.

Measurement. The instrument used to measure the phenomenon of interest needs to contribute to trustworthiness, as mentioned above. In qualitative research, the focus is to capture the phenomenon with accuracy and comprehensiveness. Commonly used measurements are observations and interviews. Observations can be overt or covert, whereby the fact that participants are being observed is disclosed or not disclosed to the informant, respectively. When disclosed, investigators need to consider the Hawthorne effect in that participants may behave differently in response to the attention they receive. Interviews

can be structured, unstructured, or semi-structured, and can take place in person, by telephone, or via the Internet. It can be one to one or in groups, all depending on the purpose and the design of the study (Ingham-Broomfield, 2015).

Procedures. The authors should indicate that a human subjects' protection committee approved the research. The recruitment process should be appropriate for the qualitative study approach (Gray & Grove, 2017). Steps for participant recruitment should be clearly delineated. The data collection and analysis method should be sufficiently described and appropriate for the study purpose. Additionally, the authors should address how they evaluated data, such as trustworthiness.

Results/Findings

Readers need to note that while statistical significance of test results is highlighted in quantitative research, development and description of relationships, patterns, and theory based on inductive reasoning are underscored in qualitative research (Ingham-Broomfield, 2015). The authors should clearly describe results in a manner consistent with the qualitative approach, such as thematic analysis with exploratory-descriptive research. When appropriate, the authors should provide comments from participants that exemplify the results.

Discussion

The discussion should include a summary of the interpretation of results and insight into the phenomenon studied (Ingham-Broomfield, 2015). The authors should describe how study findings provide an understanding of the phenomenon of interest, as well as how results compared with those of others. The section may also include a discussion of study limitations, such as researcher or participant bias.

Conclusion

The conclusion may highlight key findings, but it should also offer suggestions for areas of future research. In addition, authors should provide thoughts on implications of findings for clinical practice.

Practice

As mentioned in our previous article on analyzing quantitative work, the reader of research may not always have the expertise or training to complete an extensive review of the study (Astroth & Chung, 2018). This is especially true because quantitative research, which may be more familiar to readers, is fundamentally different from qualitative research. However, nurses need to understand that findings from qualitative research provide valuable insights into patients' experiences, and thus, it is advantageous for nurses to read this type of work. More importantly, nurses should read qualitative work with a critical eye, determining the trustworthiness of findings. Ways to

assist the nurse in being a better consumer of qualitative work include regular reading and practice, consulting with more experienced nurses, and participation in a journal club (Caldwell et al., 2011). Journal clubs allow peers and colleagues to come together to review, appraise, and summarize articles of interest (Lachance, 2014).

When reviewing a qualitative study, the reader should understand that despite reported trustworthiness of data, the level of evidence is lower than most quantitative work. For example, qualitative studies are at the same level as descriptive quantitative research (level VI) but lower than all other quantitative work; a qualitative meta synthesis is at level V, which is lower than quasi-experimental (level III) and systematic reviews (level I), which are the highest levels of evidence (Grove, 2017). Nurses need to consider this when reading articles, however, and not dismiss potential benefits of qualitative studies in uncovering the rich descriptions of the phenomenon of interest. Further, the inductive nature of qualitative research supports the potential for theory development.

Conclusion

Reading qualitative research requires a critical eye because not all published work is high quality. The skill of critically reviewing a research study is important in helping nurses determine the quality and strength of the evidence available to support practice. While some may consider qualitative work a 'softer' approach to science, there is value in describing and understanding the human experience (Cope, 2014). Frameworks such as the one provided herein allow nurses to critically evaluate what they are reading.

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Learning Outcome

After completing this learning activity, the learner will be able to describe aspects of a quality research article and discuss steps to use when appraising a qualitative research article.

Learner Engagement Activity

For more information on this topic, read the following article:

Rutberg, S., & Boulkidis, C.D. (2018). Focusing on the fundamentals: A simplistic differentiation between qualitative and quantitative research. *Nephrology Nursing Journal*, 45(2), 209-213. Retrieved from <https://library.annanurse.org/anna/articles/1898/view>

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Longer answers to open-ended questions may be typed on a separate page.)

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SIGNATURE _____

- | | Strongly Disagree | (Circle one) | Strongly Agree |
|--|-------------------|--------------|--|
| 2. The learning outcome could be achieved using the content provided. | 1 | 2 3 | 4 5 |
| 3. The authors stimulated my desire to learn, and demonstrated knowledge and expertise in the content areas. | 1 | 2 3 | 4 5 |
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| 6. Did the learner engagement activity add value to this education activity? | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
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| a. I will make a change to my current practice as the result of this education activity. | | | |
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| e. I perceive there may be barriers to changing my current practice. | | | |
| 8. What do you plan to do differently in your practice as a result of completing this educational activity? (Required) _____ | | | |
| 9. What information from this education activity do you plan to share with a professional colleague? (Required) _____ | | | |
| 10. This education activity was free of bias, product promotion, and commercial interest influence. (Required) | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 11. If no, please explain: _____ | | | |

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