



Case Study: A Good Choice for Nursing and Midwifery Research

Case study is a qualitative research approach useful for exploring, explaining and describing complex issues in their real life, natural context.^{1,2} As healthcare changes with advances in technology, treatments and demand, nursing practice has become increasingly complex. Contemporary use of case study in nursing and midwifery research has demonstrated its applicability as a unique and powerful approach to explore and understand these complexities.^{3,4} For some researchers however, the variation in case study approaches can be confusing. Drawing on the ideas of two leading case study methodologists, Yin² and Stake^{1,5} we present some of the fundamental steps that can enable a robust yet flexible research design.

What is and why use case study?

Case study research “explores a bounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple sources of information (e.g. observations, interviews, audio visual material, and documents and reports) and reports a case description and case-based themes.”⁸ The case therefore is the object of the study and commonly referred to as the unit of analysis.

Case study can be used to investigate a range of issues, however the essential requisite for employing case study is the impetus to explore, understand and describe the complexities of a situation or phenomena.^{1,2,6,7} Case study research does not ascribe to one ontological, epistemological or methodological position.^{6,9,10} This versatility presents the opportunity to design research that best addresses the complexity inherent in research problem.^{2,5} Multiple methods can be used to inform the research, enabling a comprehensive, in depth investigation.

Yin² explains that determining when to use case study research and defining the type of case study, is primarily based on the purpose of research outlined in the research questions. Research questions are primarily focused on answering queries related to “what is” and “has happened” or explaining the “how and why” of a situation.² Data is collected in its natural setting thus context is a significant contributor to the case being studied and minimal control over variables and behavioural events is evident.^{1,2} The context in which a nurse works can shape their clinical practice. Case study presents an approach that captures the influence of these elements for a more in-depth, holistic understanding of research problems related to nursing.

Designing the research: Essential steps [Figure 1]

Designing a case study begins with identifying the issues related to the research problem, defining the case and refining the research questions. Issue questions are derived from the literature about the problem being investigated. These help formulate the framework of the case study and are presented as the primary research questions or propositions.^{1,2} These direct the data collection and analysis toward the addressing the underlying purpose of the study.^{1,2,5}

Determining the type of case study

Varied types of case study exist for different purposes and include descriptive, exploratory, explanatory, illustrative, and evaluative.² The case study can also be single or multiple where a number of cases are examined collectively. Judicious choice is based on determining which type best addresses the purpose and research questions of the study.

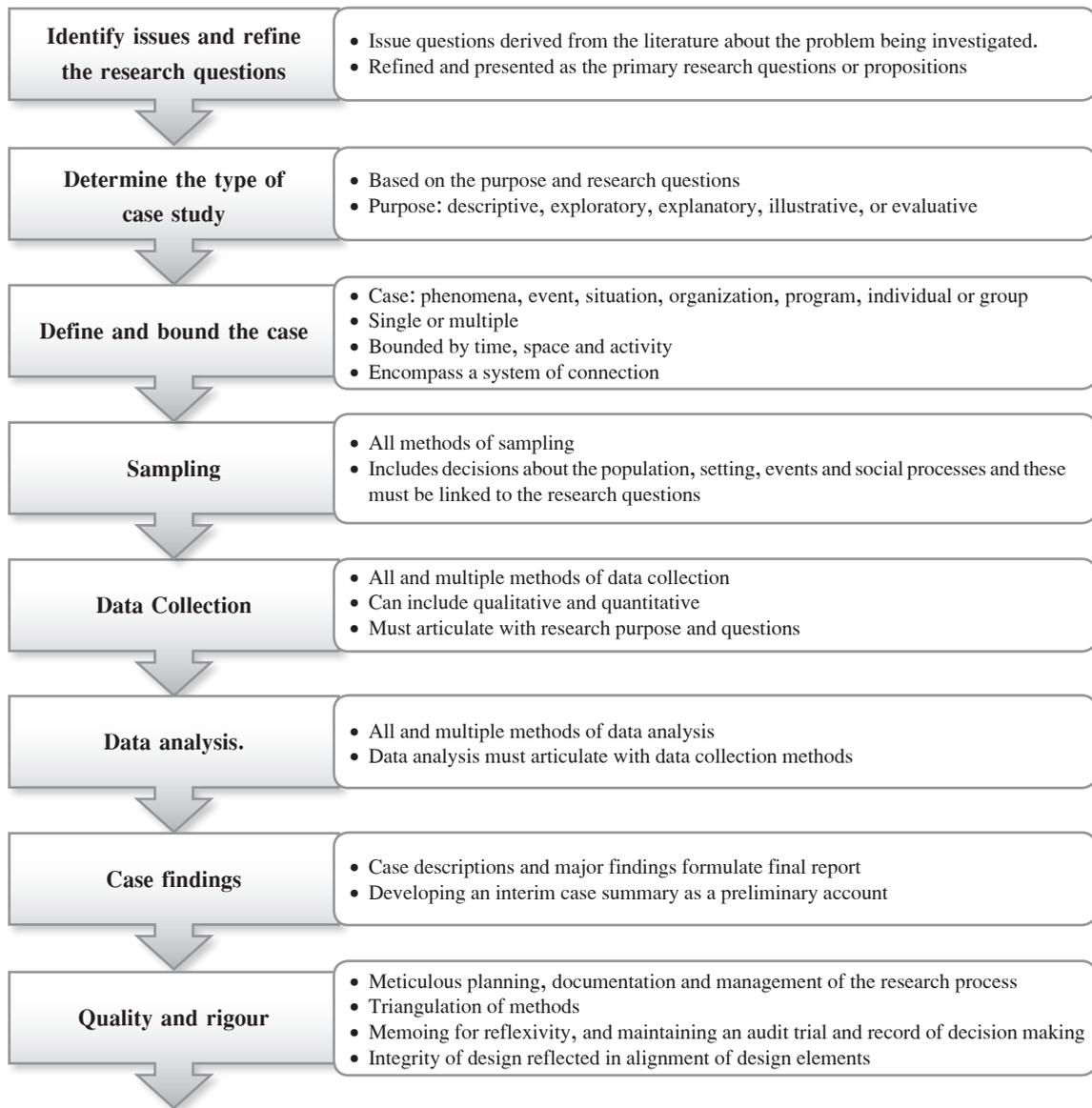


Figure 1: Essential steps in designing case study research

Define and bound the case

The case can be a phenomena, event, situation, organisation, program, individual or group.^{1,2,6,7} The case must be bounded by time, space and activity and encompass a system of connection.^{1,2} Boundaries vary according to the case and could be geographical, organisational and/or facility specific where a defined phenomenon occurs or a set criterion for an individual or group. Often the boundaries between the case and context can be blurred and take time to specify. Bounding the case applies a frame to focus the research process on the object of the study and manage contextual variables.

Sampling

Sampling in case study includes decisions about the population, setting, events and social processes.¹¹ Refining these strengthens the boundaries of the case and is critical for data analysis. The sample operationalizes the research design to enable a reliable description and understanding of the case. All types of sampling methods can be applied, however they must be carefully linked to the research questions. An appropriate sampling framework adds external validity where case study conclusions can be more readily understood and applicable to a wider section of the population.^{1,2}

Data collection

Conducting site visits (fieldwork) is central to case study research where the researcher's field notes formulate part of the documented evidence for analysis. Conducting these visits relies on identifying a reliable contact person or 'gatekeeper' to facilitate access and data collection at the site.^{1,2,5,10} The gatekeeper becomes the fulcrum within the study whereby their site knowledge provides essential guidance about approaches to disseminate study information, recruiting participants and special considerations that might be required.

A useful approach in developing knowledge about the site is to develop an initial overview of the case including location and specific contextual features. This can be refined as the study progresses and inform the final case description drawn from the findings of the study.

Data collection methods are chosen with specificity to address research questions. Multiple qualitative and quantitative methods can be employed to support a holistic, comprehensive investigation and understanding of the case.^{1,2,5,7} Methods most commonly utilised in case study research include observation, interviews, focus groups, documentation and artefacts.

Data analysis.

Similarly multiple methods can be used to analyse data, however how data is analysed must articulate with the method chosen for data collection.^{1,2} This alignment is important to the integrity of the research design and validity of the research findings. Data analysis methods can include coding and categorizing of data, and thematic and content analysis.^{1,2,11}

For multiple case studies, cross case analysis is the final step in the research process. Here each case is analysed and presented separately.^{1,2} Findings are compared across cases to explore how different contexts and processes vary. Similarities, differences and unique findings are identified and the final product of the research is presented as a collective case description.

Methods of triangulation are valued and commonly used at different stages during data analysis to add depth and rigor to the findings.² Triangulation of data sources, researchers, methods (within and between) and/or theory can be combined, compared and contrasted within and across cases.^{1,11}

Quality and rigour

Memoing as a reflexive activity is valuable in case study research and constant and central to the research process. The aim of memos is to provide a record of decisions and an audit trail of the research process.¹² Memoing captures the researcher's thinking and focuses on writing up ideas separate to the data collection and analysis.

Meticulous planning, documentation and management of the case study are important to ensure rigor and quality.^{2,10} Ensuring the overall approach articulates with the study's purpose is critical. A strong articulation contributes to the credibility and integrity of the final case study.^{2,4,9}

Case findings

Findings from the data collection and analysis are presented as case descriptions and key themes. Case descriptions can vary depending on the type of case study and approach used. These can be descriptive, illustrative or explanatory in nature.^{1,2} Initially, developing an interim case summary that outlines a preliminary account of what is happening in the case can enable refinement of the final case description.¹¹ The case description and major findings are combined to formulate the final report.

Conclusion

Case study research is a unique research approach capable of providing valuable insights into complex nursing phenomena. Understanding the essential steps in case study research can empower nursing and midwifery researchers to make significant contributions to nursing knowledge, clinical practice and health care. What is presented here is a brief and simplistic introduction to case study research approaches. Case study designs can be complex and need to be carefully considered and planned. Designing a robust case study takes time however the outcome is well worth the time and effort invested.

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