

# RESEARCH METHODOLOGY IN NURSING

## Abstract

The growth and expansion of nursing knowledge are crucial in keeping pace with the ever-evolving advancements in technology and techniques for delivering patient care. Nursing research plays a vital role in enhancing the overall health and well-being of individuals. Integrating the research process into nursing and implementing research findings within clinical settings fosters innovative methods to enhance patient care. Irrespective of their practice settings, nurses should actively engage in reviewing research findings and applying them to bridge the gap that often exists between theoretical education and practical application. This ensures that nurses are well-equipped to deliver high-quality care while staying abreast of the dynamic changes in the field of nursing.

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## I. INTRODUCTION

"Research methodology encompasses the distinct set of procedures and techniques employed to discern, choose, process, and scrutinize information pertaining to a particular subject. Within the context of a research paper, the methodology section serves as a crucial tool for readers to assess the overall credibility and dependability of the study.

Research plays a pivotal role in the contemporary landscape of any profession, and nursing is no exception. Nursing research constitutes a methodical inquiry aimed at addressing questions or challenges encountered within clinical practice, education, and administration. Its significance within the nursing profession cannot be overstated, as it furnishes robust evidence that equips nurses with the ability to make informed clinical decisions and judgments in real-world healthcare settings. This, in turn, facilitates the delivery of evidence-based nursing care to patients, which is not only clinically appropriate but also cost-effective and likely to result in positive patient outcomes. Furthermore, nursing research contributes to the elevation of the standards and reputation of the nursing profession, while also fostering the growth of knowledge within the discipline (Polit & Beck, 2008).

Given these imperatives, it is incumbent upon nurses to not only comprehend the principles of research but also actively engage in research endeavours within their field. This paper seeks to elucidate the paradigms that underpin nursing research, with a particular emphasis on the epistemological and ontological assumptions inherent in the Positivist and Naturalistic paradigms. It will delve into the philosophical foundations of both quantitative and qualitative research methodologies, providing insights into the underlying philosophical framework that will guide my forthcoming thesis work.

## II. PURPOSES OF NURSING RESEARCH

- 1. Justifying Nursing Practices:** Developing solid, research-backed reasons for what nurses do.
- 2. Improving Efficiency:** Finding ways to make nursing activities more cost-effective.
- 3. Setting Standards:** Creating a foundation for defining quality and setting standards in nursing care.
- 4. Resource Allocation:** Supporting requests for necessary resources in nursing by presenting evidence.
- 5. Advocating for Nursing:** Protecting and promoting the professional status of nursing.
- 6. Addressing Critical Issues:** Concentrating on the most pressing problems affecting the nursing profession.

## III. APPROACHES IN NURSING RESEARCH

Nurse researchers do scientific studies to learn about how nursing care impacts patients. They use this knowledge to improve how nurses work and how healthcare is provided. Their research helps nurses at the bedside, in education, and in leadership roles make better decisions and provide better care to patients.

#### IV. THERE ARE TWO KINDS OF APPROACHES IN NURSING

1. **Qualitative approach:** Qualitative research, as explained by Burns and Grove (1999), is a subjective approach used to understand and interpret life experiences. It is particularly relevant to the nursing profession's holistic approach to patient care. Unlike quantitative research, which deals with numerical data, qualitative research focuses on gathering and analysing information in the form of words. Researchers categorize and identify patterns and themes within the collected data (Maalim, 1999).

Qualitative research can be categorized into various distinct approaches, such as historical analysis, case studies, observational studies, and the innovative method of rapid rural appraisal, which has gained prominence in contemporary participatory research.

2. **Historical Research:** Historical research is a form of qualitative inquiry commonly employed by social scientists. It involves the exploration and documentation of past events and occurrences. Researchers in this field aim to provide a comprehensive and sequential account of the subject matter under investigation. This approach seeks to capture the complete historical context, presenting a detailed picture of the past. For instance, a nurse might choose to delve into the historical evolution of nursing in Kenya, shedding light on the significant developments and trends within the profession over time.
3. **Case Study:** Case studies serve as a prevalent research approach, especially within the field of nursing, where investigators seek to gain comprehensive insights into intricate phenomena and discern the multiple factors influencing specific phenomena. This method offers distinct advantages due to its minimal resource requirements, making it a cost-effective choice compared to alternative research methods. Furthermore, case studies facilitate the in-depth examination of complex scenarios, enabling researchers to delve deeply into their subject matter.

However, it is crucial for researchers to acknowledge the inherent limitations of utilizing case studies as a research methodology. These limitations encompass various aspects that warrant consideration, including:

- Case studies cannot be statistically proven since they don't use sampling methods.
- Case studies can take a lot of time, especially when dealing with complex, long-term topics.
- Case studies are vulnerable to something called the "Hawthorne effect," where the research process can affect the study's results.

4. **Rapid Rural Appraisal (RRA):** A third type of qualitative research is known as Rapid Rural Appraisal (RRA). This method is used to gather data in participatory research. RRA emphasizes the importance of researchers recognizing that local research participants possess valuable knowledge and skills, making them active partners in the research process (Maalim, 1999).

In RRA, both researchers and participants work together, collaborating and learning from each other to find potential solutions to research questions (Rifkin, 1996). RRA is

particularly valuable for collecting data from local communities, especially regarding topics they are familiar with, such as disease patterns.

## V. THERE ARE DIFFERENT RRR TECHNIQUES USED FOR DATA COLLECTION

- 1. Mapping:** This involves asking research participants to create simple maps that show where various resources are in the study area. These resources can include things like hospitals, community services, and essential infrastructure such as roads, transportation, and communication methods (Maalim, 1999).
- 2. Venn Diagrams:** In research, circles are often employed to represent the connections, significance, and interactions among people and organizations in a particular field. Typically, survey participants use circles of different sizes. The size of a circle and its distance from the centre signify the level of importance a respondent associates with an institution, such as a healthcare centre."

## VI. USE OF QUALITATIVE RESEARCH METHOD IN NURSING

The uses of the qualitative research method in the following situation of nursing are examined below:

- 1. When Research Questions need to be Sharpened:** Qualitative research in nursing helps healthcare professionals gain valuable insights into patients' needs and experiences. It enables nurses to identify the information necessary for a deeper understanding of patients and the appropriate data collection methods. By focusing on patients' challenges and past experiences, qualitative research allows nurses to comprehend their issues better. This understanding empowers nurses to effectively address these problems and provide improved solutions. Qualitative research also assists in designing studies to further explore patients' requirements. (Kynge, 2020).
- 2. When need Detailed Description of an Issue:** Qualitative research plays a crucial role in enhancing our comprehension of intricate issues within the field of nursing. While quantitative data and statistics offer insights into what is happening, they often fall short in explaining the underlying reasons behind these phenomena. Qualitative research methods step in to bridge this gap by enabling healthcare professionals to engage in meaningful social interactions with patients.

One of the primary objectives of qualitative research in nursing is to delve into and analyze the social conditions surrounding patients. This approach goes beyond mere observation, seeking to provide in-depth explanations and insights. It is essential for those in the nursing profession to gain a comprehensive understanding of their patients, and qualitative research facilitates this by shedding light on the various dimensions of a patient's life.

Furthermore, qualitative research sheds light on the barriers that hinder patients from receiving optimal healthcare services. By identifying and thoroughly examining these barriers, nursing professionals can work towards improving the quality of care they provide. In essence, qualitative research contributes significantly to elevating the

standards of nursing services, thereby benefiting both healthcare providers and their patients.

- 3. Quantitative Research:** Quantitative research helps test objective theories by exploring connections between different factors (Polit and Hungler 2013; Moxham 2012). In this type of research, a variable is a factor that can be adjusted or measured during an experiment (Wong 2014, p. 125). The term "quantitative" refers to the focus on quantity and amounts. Throughout the study, data is gathered in numerical form, which is often referred to as statistical evidence (White and Millar 2014).

## **VII. THERE ARE DIFFERENT TYPES OF QUANTITATIVE RESEARCH WHICH ARE AS FOLLOWS**

- 1. Experimental Research:** This concept is about theories and experiments in research. An experiment is a way to use the scientific method to understand how different factors in a study are connected. In an experiment, we have something called an independent variable, which is like the special factor we're testing with the experimental group. Then, we also have a comparison group made up of randomly chosen participants who are split into experimental and control groups to help us compare the effects.
- 2. Correlation Research:** This research aims to find connections between two related things and understand how they affect each other. It's all about spotting trends and patterns in data, without trying to figure out cause and effect. This kind of research is often called correlational research, and it doesn't involve changing any variables in the study.
- 3. Descriptive Research:** As its name implies, focuses on providing a comprehensive overview of the existing state of research or a particular subject. This approach aims to elucidate and interpret the present circumstances, whether they pertain to individuals, conditions, occurrences, or environments (Atumanya et al., 2020). To accomplish this, meticulous attention is required when selecting units for study and measuring various variables. It is noteworthy that in descriptive research, the researcher typically does not commence the investigation with a predetermined hypothesis.
- 4. Causal-comparative Research:** Is a method used to figure out how one thing affects another. It helps us understand the relationship between two or more variables. In this type of research, we look at how changes in one variable (called the independent variable) influence another variable (known as the dependent variable).

For instance, we might use causal-comparative research to see how attending preschool affects a child's social skills by the end of the first grade, or to examine how drugs impact teenagers. This method involves comparing different groups or situations to draw conclusions about cause and effect.

## **VIII. USE OF QUANTITATIVE RESEARCH METHODS IN NURSING**

Quantitative research plays a pivotal role in shaping the fundamental aspects of nursing care, ensuring the meticulous attention required to uphold patient safety. Within this

context, it becomes evident that there exists a diverse array of quantitative research methodologies.

- 1. Survey Methods:** Survey research is a vital tool in nursing and healthcare, allowing for the evaluation of quantitative outcomes, research methodologies, and studies. It plays a crucial role in gathering insights from patients and understanding their healthcare experiences. Health organizations rely on surveys to collect data, often utilizing methods such as online surveys, web intercept surveys, paper questionnaires, and online polls. These surveys help healthcare professionals gain valuable insights into patient perspectives, which are essential for research purposes. By analysing data collected from patient surveys, numeric results are generated, enabling researchers to perform comparative analyses among specific patient groups. Random sampling ensures the accuracy of these results by including a diverse range of respondents. Traditionally, research surveys were conducted via phone calls or face-to-face meetings, but the advent of online media, including social media and email, has revolutionized this process. Cross-sectional and longitudinal surveys are two effective types of research surveys, each serving specific research purposes.
- 2. Correlational Research:** To explore the intricate interplay between two closely connected elements, where one influences the other, researchers employ correlational research as a valuable approach. This method finds particular significance in the realm of healthcare and nursing, where it offers insights into the natural dynamics of relationships. Unlike some quantitative research designs that necessitate at least two distinct groups, correlational research allows us to establish relationships between entities without imposing specific conditions on nursing care treatments. By applying mathematical analytical techniques, quantitative research enables researchers to uncover correlations between two or more variables. Through this approach, the foundational framework of quantitative research unveils patterns, relationships, and trends between these variables. In the context of nursing care strategies, these variables can wield considerable influence, and researchers have the capacity to manipulate them to achieve desired outcomes. This methodology offers a powerful tool for understanding and optimizing the dynamics of healthcare interventions.
- 3. Causal Comparative Research:** In nursing care treatment, researchers use quantitative research to determine the relationships between dependent and independent variables. This research method, often referred to as quasi-experimental research, examines the effects of nursing care without manipulation. Researchers carefully design surveys to consider both dependent and independent variables within groups, allowing them to analyze how these variables change under the influence of nursing care. This approach extends beyond simple statistical analysis and helps identify complex relationships between multiple variables.

## IX. CONCLUSION

In summary, both quantitative and qualitative methods are valuable for managing research in nursing and healthcare. This discussion has covered various aspects of their application, highlighting the importance of using these methods correctly to achieve optimal results.

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