

# Unveiling the landscape of research methodologies in nursing literature: a comprehensive analysis



Review

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Received: 8 July 2024; Accepted: 6 September 2024; Published: 20 December 2025

**Abstract:** **Objective:** To analyze the uses of research methodologies applied in nursing articles published in esteemed journals. Nursing research uses various methodologies to examine different aspects of the field. Understanding the frequency and trends of these approaches is important. **Methods:** A comprehensive analysis of 697 peer-reviewed research articles (RAs) was conducted. These articles encompassed quantitative, qualitative, and mixed-methods designs. **Results:** The analysis revealed a dominance of quantitative methodologies (78%) among the examined RAs. Qualitative approaches were less prevalent (14%) but showed a growing presence. Mixed-methods studies constituted approximately 7% of the analyzed articles. **Conclusions:** This systematic exploration of research methodologies in nursing literature from 2018 and 2022 highlights the dynamic and diverse nature of research in the field. This comprehensive understanding of research methodologies is a valuable guide for researchers, educators, and policymakers in shaping the future of nursing research.

**Keywords:** *evidence-based practice • mixed-methods research • nursing research • qualitative research • quantitative research • research design*

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## 1. Introduction

Nursing research, as one of the most important parts of health care, plays a fundamental role in improving patient care outcomes and enhancing health service delivery systems at local and global levels. Literature reviews show that numerous research articles in the field of nursing have been published from 2018 to 2022, indicating a continuous effort for investigation, up-to-datedness, and a deep view of the numerous challenges in the nursing profession. To achieve this goal, various research methods have been applied by

researchers and specialists, each contributing to the expansion and depth of nursing research during this period.

Among these, quantitative methods have been widely used in nursing research. These methods provide systematic frameworks for collecting and analyzing numerical data, aiming to quantify phenomena, measure variables, and draw statistical inferences. Well-known methods used in examining trends, evaluating interventions, establishing relationships between variables, and

How to cite this article: Tazik K, Maniati M. Unveiling the landscape of research methodologies in nursing literature: a comprehensive analysis. *Front Nurs.* 2025;4:433–442.

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understanding patient outcomes in nursing contexts include questionnaires, experiments, cohort studies, and correlation analyses.<sup>1-3</sup>

Between 2018 and 2022, nursing researchers increasingly turned to qualitative research methodologies, as these provided detailed information about subjective experiences, natural data, and behaviors in the nursing field. These methods include approaches such as case studies, ethnography, phenomenology, narrative research, and grounded theory, which enabled comprehensive exploration. Through detailed narratives, participant observations, and in-depth interviews, researchers effectively captured the richness and complexity of nursing phenomena.<sup>1,4</sup>

Moreover, mixed-methods approaches have been an emerging trend in nursing research from 2018 to 2022. These approaches provide comprehensive insights that help researchers triangulate data sources and validate findings to offer a holistic understanding of complex nursing issues. Mixed-methods designs, including sequential explanatory, concurrent triangulation, and transformative designs, enable researchers to enhance the strengths of both types of data and achieve a deeper understanding of nursing phenomena.<sup>1,5,6</sup>

Considering that nursing research methodologies used between 2018 and 2022 have been diverse and dynamic in nature, examining and paying attention to their frequency of use is essential. Understanding the frequency of use, specific applications, and the strengths and limitations of various research methodologies used in nursing research articles during this period is crucial for a better understanding of the direction and impact of research conducted in the field.

This review aims to examine and evaluate the range of research methodologies used in nursing research articles published between 2018 and 2022. In fact, analyzing and synthesizing the application of these methods provides a comprehensive overview of the trends, patterns, and advancements in research methodologies in the nursing field during this period. Moreover, highlighting the implications of these methods for evidence-based practice helps in policy development and guides future directions in nursing research.

Previous studies have mainly focused on the description and application of specific research methods in nursing studies. For example, Soares et al.<sup>7</sup> examined the importance of integrative review in nursing research and evidence-based practice. After analyzing 17 studies and synthesizing the results, they found that integrative research is a complex review type that requires standardized methods to ensure scientific strength. Similarly, Baloyi,<sup>8</sup> after investigating the use of systematic review as a research method in postgraduate nursing education in South Africa, revealed a lack

of understanding of this research method at that educational level in South Africa.

An integrative review focusing on qualitative case study methodology in nursing research emphasized the potential of the qualitative approach to capture the richness and complexity of nursing phenomena through narrative descriptions, participant observations, and in-depth interviews.<sup>9</sup> Extensive books have been published on research methods in nursing and health care.<sup>10-12</sup> These books provide detailed descriptions of various research methodologies but do not address the current application and frequency of these methods in published research articles. This gap highlights the need for empirical studies that review the actual use of these methods in nursing research publications.

While previous studies and books have extensively described research methods, they have not examined the actual frequency and application of these methods in published nursing research articles. The significance of our study lies in addressing the gap identified in the existing literature and books on research methodologies in nursing. This study has attempted to fill this gap by providing an empirical review of the research methodologies used in nursing research articles published between 2018 and 2022.

## 2. Literature review: Quantitative, qualitative, and mixed-method designs

Previous research has shown that research methodologies play an important role in shaping the quality and credibility of nursing studies. Researchers describe research designs as frameworks or structures that guide researchers in collecting, analyzing, and interpreting data to answer research questions or hypotheses.<sup>1</sup> Selecting an appropriate research design that aligns with the research objectives is very important because it allows for thorough investigation and the attainment of reliable findings.<sup>1</sup> Generally, research designs are classified into 3 types: qualitative, quantitative, and mixed-methods approaches.

### 2.1. Qualitative research designs

Qualitative designs explore complex phenomena through deep understanding and often use methods such as interviews, observations, and content analysis. They focus on the subjective experiences of participants to uncover meanings, patterns, and contexts. In fact, these research designs are suitable for understanding social, cultural, and behavioral aspects and emphasize flexibility and holistic perspectives.<sup>1</sup>

## 2.2. Quantitative research designs

Quantitative designs involve collecting structured and numerical data through methods such as surveys, experiments, or statistical analysis of existing data. Their aim is to test hypotheses, establish relationships, and measure variables, emphasizing objectivity, generalizability, and statistical significance. Researchers emphasize the precision, control, and replicability of quantitative research designs, considering them suitable for examining cause-and-effect relationships and numerical patterns.<sup>1</sup>

## 2.3. Mixed-methods research designs

Mixed-methods approaches within a single study combine aspects of both qualitative and quantitative approaches, providing a more comprehensive view. The capability of these methods to offer a complete understanding by blending diverse data sources and methods is emphasized, which helps validate findings through triangulation.<sup>1</sup> In fact, mixed-methods designs allow researchers to examine complex research questions from multiple perspectives, thereby enhancing the overall depth and scope of the study. Researchers often stress the importance of selecting the most appropriate research design based on the nature of the research questions and the types of data being used.<sup>1</sup>

Here are explanations of some commonly used quantitative research designs:

**Experimental design:** This involves manipulating 1 or more variables to observe their effect on another variable while controlling for confounding factors. These designs often include a control group and an experimental group to compare the effects of interventions or treatments.<sup>13</sup>

**Survey research:** This method involves collecting data from a population sample using questionnaires or interviews with the aim of gathering information about attitudes, opinions, behaviors, or characteristics. This approach emphasizes collecting quantitative data from a representative sample.<sup>14</sup>

**Correlational design:** This approach examines the relationship between 2 or more variables without establishing a cause-and-effect connection. It assesses the degree and direction of the association among variables using statistical measures such as Pearson's correlation coefficient.<sup>15</sup>

**Longitudinal design:** This method involves repeated study of the same individuals over a significant period with the aim of observing changes, developments, or

trends in variables over time. These designs help track individual or group changes.<sup>16</sup>

**Cross-sectional design:** This approach collects data at a single point in time with the aim of examining relationships among or differences between variables within a specified population. They provide a snapshot view of the population at a particular moment.<sup>17</sup>

**Quasi-experimental design:** This method does not involve full randomization of individuals into groups. Despite facing challenges in controlling variables, these designs examine the effects of interventions or treatments.<sup>18</sup>

These designs offer different methods for conducting quantitative research, selected based on the nature of the research questions, the variables under study, and the desired outcomes. Each design has its strengths, limitations, and specific contexts in which it is most suitable for use.

The most common qualitative methods used in research include the following:

**Interviews:** Interviews involve individual or group conversations between the researcher and participants. These interviews can be structured, semistructured, or unstructured, providing flexibility in questioning to explore participants' experiences, perspectives, and attitudes.<sup>19</sup>

**Observation:** Observational methods include systematically watching and recording behaviors, interactions, or phenomena in real-life settings. Researchers can participate directly (as participant observers within the context) or observe from a distance (as nonparticipant observers outside the context).<sup>20</sup>

**Document analysis:** Document analysis involves studying written, visual, or audio materials such as archives, official records, diaries, photographs, or videos to gain a better understanding of social, cultural, or historical contexts.<sup>21</sup>

**Focus groups:** Focus groups involve a moderator leading small group discussions. This method encourages interaction and allows for the exploration of shared perspectives, opinions, and experiences on a specific topic.<sup>22</sup>

**Ethnography:** Ethnographic research involves prolonged immersion in a natural environment to understand social behaviors, cultural phenomena, and community functions. Researchers often take an active role to gain insider perspectives.<sup>23</sup>

Case studies: This involves an in-depth examination of a specific individual, group, organization, or phenomenon within its real-world setting. This method can provide detailed findings by exploring complexities and nuances.<sup>24</sup>

Creswell<sup>1</sup> suggests that 3 key mixed-methods research designs form the basis for combining qualitative and quantitative approaches. These designs provide a framework for researchers to integrate different methodologies and achieve a comprehensive understanding of research topics. The 3 key mixed-methods designs are as follows:

Sequential explanatory design: In this design, the researcher first collects and analyzes quantitative data (e.g., surveys) and then collects qualitative data (e.g., interviews). The qualitative phase typically explores, clarifies, or provides context for the quantitative results, enhancing the overall understanding of the research findings.

Sequential exploratory design: In this design, the researcher first collects and analyzes qualitative data to investigate a research problem or phenomenon. The qualitative data then guide the subsequent quantitative phase, providing a comprehensive understanding of the studied phenomenon.

Concurrent triangulation design: This design involves the simultaneous collection of qualitative and quantitative data on a research topic. After data collection, the researcher combines the data for comparison, validation, or confirmation to achieve a comprehensive understanding of the topic. This design emphasizes the concurrent collection and integration of qualitative and quantitative data to strengthen and support the findings.

It is emphasized that these 3 designs are key models for integrating qualitative and quantitative research methods.<sup>1</sup> Researchers can adapt and apply any of these designs according to their research questions, context, and preferences, which provides flexibility in mixed-methods research while maintaining methodological rigor.

### 3. Methodology

The methodology applied for the analysis of research methods used in nursing research articles published between 2018 and 2022 involved a systematic and comprehensive approach. The aim was to identify, classify, and evaluate the prevalent research methodologies utilized within the nursing discipline during this period. To start with, the most prestigious nursing journals were

selected based on their indexing and impact factors. The list included *Clinical Simulation in Nursing*, *European Journal of Oncology Nursing*, *International Journal of Nursing Studies*, *Journal of Cardiovascular Nursing*, *Journal of Nursing Scholarship*, *Journal of Professional Nursing*, *Nurse Education Today*, and *Nursing Outlook*.

#### 3.1. Inclusion and exclusion criteria

Articles included in this analysis met the following criteria:

- Published between 2018 and 2022 in peer-reviewed nursing journals;
- Explicitly discussing or applying research methodologies within the nursing context;
- English-language articles available in full-text format.

Articles were excluded if they were

- published before 2018 or after 2022;
- not focused on research methodologies or lacked explicit methodological discussions; or
- were duplicate publications or unavailable in full-text format.

#### 3.2. Data collection and analysis

After selecting the journals, the authors collected primary articles while omitting review articles, short articles, responses, and letters from the selection. Additionally, they excluded special journal issues from the analysis process to avoid potential deviations from the standard journal framework caused by guest editors. The electronic versions of the articles were downloaded and organized into separate yearly folders to match their publication dates. The articles were labeled with a 4-digit title, where the first number represented the article, the second noted the publication volume, the third indicated the issue number, and the fourth showed the publication year. This naming system aimed to simplify article retrieval and enable analysts to check the issues discussed in the reported results.

After collecting and reviewing the articles, the authors engaged 4 doctoral students specializing in English language education from local universities to analyze the research methods used in the journals. A coordination meeting was held between the authors and the analysts to define research objectives and establish the desired classification. This classification includes quantitative, qualitative, and mixed methods research.

Each group member was assigned the task of identifying the research method used in each article, along

with its corresponding code. In a pilot study, 100 randomly selected articles were analyzed, ensuring consistent results and indicating high validity. To ensure a thorough understanding of research objectives, each member reviewed articles from 2 journals and submitted their findings to the corresponding author for final review. In instances of analytical ambiguity or unclear cases, group meetings were convened to discuss and achieve consensus on the final results.

After the literature search, retrieved articles were screened based on titles and abstracts to evaluate their relevance to the study's objectives. Full-text articles meeting the inclusion criteria were then thoroughly examined to extract data on the applied research methodologies, including quantitative, qualitative, or mixed-methods approaches. Each identified methodology was further categorized into specific methods, such as surveys, case studies, experiments, or ethnography, for detailed analysis.

The analysis focused on synthesizing information from selected articles to identify patterns, prevalence, and trends in the use of research methodologies in nursing research between 2018 and 2022. Quantitative methods, qualitative approaches, and mixed-method designs were analyzed individually to understand their prevalence, applications, strengths, and limitations within the nursing field.

## 4. Results

Table 1 presents a clear breakdown of the frequency of different research designs—quantitative, qualitative, and mixed methods—in nursing articles. The table shows the prevalence of a single method versus multiple methods within these research paradigms. The analysis indicated that 78.91% of the reviewed articles used quantitative methods, 14.06% used qualitative approaches, and 7.03% utilized mixed-methods designs. The data suggest that qualitative and quantitative studies generally used a single research method, whereas mixed-methods articles showed a greater tendency to apply multiple research methods.

The majority of the quantitative articles (97.09%) used only 1 research method. A smaller proportion utilized 2 methods (2.37%), and an even smaller

percentage used 3 methods (0.54%). None of the articles used 4 methods. This shows that quantitative research predominantly relies on a single research method. Some qualitative articles (38.77%) used just 1 research method, while a higher number compared to quantitative studies used 2 methods (44.90%). A smaller portion used 3 methods (16.33%), and none utilized 4 methods. This indicates that while a substantial portion of qualitative studies relied on a single research method, there was a comparatively higher tendency to use 2 methods, suggesting more variety in qualitative inquiry compared to quantitative research.

Most mixed-methods studies (67.35%) utilized 2 methods, with a significant proportion (30.61%) using 3 methods. There was a single instance (2.04%) where a mixed-methods article used 4 methods. Mixed-methods studies, by definition, involve the use of multiple research methods, and the majority of these articles indeed combined 2 methods, typically integrating qualitative and quantitative approaches. The use of 3 methods was also notable, which emphasizes the complexity and diverse nature of these studies.

Table 2 shows the prevalence and distribution of various quantitative research methodologies used in this field. According to this table, the most utilized research methods are as follows:

- (1) Systematic review studies: This method was the most prominent research method across the observed years, totaling 323 articles, accounting for 51.19% of the entire dataset. The use of this method remained consistent, fluctuating moderately between 61 and 78 articles annually.
- (2) Survey studies: Another frequently used method that contributed 129 articles (20.44% of the total). The number of survey-based research varied annually, peaking at 38 articles in 2021.
- (3) Randomized controlled trial design: This approach was notably used in 99 articles (15.69% of the total). Its usage showed moderate fluctuations ranging from 15 to 23 articles annually.
- (4) Cohort studies: This method was utilized in 37 articles (5.86% of the total). The frequency of this method varied over the years, with annual numbers ranging from 4 to 11 articles.

Designs	Method 1		Method 2		Method 3		Method 4		Total	
	F	%	F	%	F	%	F	%	F	%
Quantitative	534	97.09	13	2.37	3	0.54	0	0	550	100
Qualitative	38	38.77	44	44.90	16	16.33	0	0	98	100
Mixed-methods	0	0	33	67.35	15	30.61	1	2.04	49	100

**Table 1.** Number of research methods used in nursing articles (N = 697).

Methods	Years					
	2018	2019	2020	2021	2022	Total (%)
Systematic review study	42	78	61	72	70	323 (51.19)
Survey study	23	24	18	38	26	129 (20.44)
Randomized controlled trial design	15	23	20	23	18	99 (15.69)
Cohort studies	11	4	7	10	5	37 (5.86)
Validation study	0	3	2	6	1	12 (1.90)
A secondary analysis of data	2	0	3	0	5	10 (1.58)
Quasi-experimental study	0	0	1	3	0	4 (0.63)
Retrospective cross-sectional study	1	1	0	0	2	4 (0.63)
Prospective correlational study	1	0	1	1	0	3 (0.48)
Cost-effectiveness study	2	0	0	0	1	3 (0.48)
Scale development study	0	0	0	2	0	2 (0.32)
Nonrandomized controlled trial	0	1	0	0	0	1 (0.16)
Ex post facto cross-sectional design	0	0	0	0	1	1 (0.16)
Dyadic analysis of cross-sectional data	0	0	0	0	1	1 (0.16)
Time-sectional study	0	0	0	0	1	1 (0.16)
Test evaluation study	0	0	0	0	1	1 (0.16)
Total	97	134	113	155	132	631 (100)

Note: RAs, research articles.

**Table 2.** Frequency and distribution of research methods used in quantitative RAs.

Other less-frequently utilized quantitative research methodologies were validation studies, secondary analysis of data, quasi-experimental studies, retrospective cross-sectional studies, and prospective correlational studies. These methods together accounted for <2% of the total articles, with numbers ranging from 3 to 12 articles across the years. Cost-effectiveness, scale development, nonrandomized controlled trials, ex post facto cross-sectional design, and test evaluation were utilized in a very small number of articles, each accounting for less than 1% of the total dataset.

This section provides a comprehensive overview of the frequency and distribution of various research methodologies used in qualitative research articles, summarizing key findings over the years. Table 3 shows the prevalence and distribution of these methodologies within this field. The most commonly utilized research methods are as follows:

- (1) Interviews: This method emerged as the most prevalent qualitative research method, appearing in 32 articles, which represents 19.51% of the entire dataset. Its usage varied annually, ranging from 3 to 13 articles.
- (2) Observation: Observation techniques were frequently used, contributing to 17 articles (10.36% of the total).

The use of observation showed fluctuations, with counts ranging from 1 to 7 articles per year.

- (3) Grounded theory and ethnography: Grounded theory was used in 16 (9.75%) articles, while ethnography was used in 15 (9.14%) articles. These methods showed consistent utilization across the observed years.
- (4) Longitudinal studies and surveys: Both longitudinal studies and surveys were each used in 11 articles, contributing 6.71% to the total dataset. The frequency of these methods varied annually, with longitudinal studies ranging from 1 to 4 articles per year and surveys fluctuating between 1 and 3 articles.

Fewer qualitative research articles used case studies, conceptual reviews, focus groups, prospective observational studies, and phenomenographic approaches. Collectively, these methods comprised less than 5% of all articles, with each method ranging from 3 to 8 articles over the years.

Clinical scenarios, theory propositions, evaluation studies, and concept mapping approaches were used in a very few articles, each accounting for less than 2% of the total dataset.

Table 4 details the frequency and distribution of various mixed-methods research designs used in the corpus of this study.

Methods	Years					Total (%)
	2018	2019	2020	2021	2022	
Interview	3	13	9	4	3	32 (19.51)
Observation	1	7	2	3	4	17 (10.36)
Grounded theory	4	4	1	4	3	16 (9.75)
Ethnography	1	4	4	1	5	15 (9.14)
Longitudinal study	2	4	1	1	3	11 (6.71)
Survey	3	1	3	2	2	11 (6.71)
Case study	1	3	3	0	1	8 (4.88)
Conceptual review	0	0	1	1	6	8 (4.88)
Focus group	0	3	3	1	0	7 (4.27)
Prospective observational	0	0	2	3	2	7 (4.27)
Phenomenographic approach	0	3	2	0	0	5 (3.05)
Clinical scenarios	3	0	0	0	0	3 (1.83)
Theory proposition	0	1	0	2	0	3 (1.83)
Evaluation study	1	0	0	2	0	3 (1.83)
Concept mapping approach	0	0	2	0	0	2 (1.22)
Document review	0	1	0	0	1	2 (1.22)
Realist review	0	1	1	0	0	2 (1.22)
Prospective observational	0	1	0	0	1	2 (1.22)
Judgment analysis	0	1	0	0	0	1 (0.61)
Methodological review	0	0	1	0	0	1 (0.61)
Narration	1	0	0	0	0	1 (0.61)
Signal detection task	1	0	0	0	0	1 (0.61)
Data mining	1	0	0	0	0	1 (0.61)
Unstructured interviews	1	0	0	0	0	1 (0.61)
Think aloud	1	0	0	0	0	1 (0.61)
Diary	1	0	0	0	0	1 (0.61)
Content analysis	0	1	0	0	0	1 (0.61)
Pragmatic approach	1	0	0	0	0	1 (0.61)
Total	26	48	35	24	31	164 (100)

Note: RAs, research articles.

**Table 3.** Frequency and distribution of research methods used in qualitative RAs.

Methods	Years					Total (%)
	2018	2019	2020	2021	2022	
Sequential explanatory	5	6	6	7	3	27 (55.10)
Sequential exploratory	0	4	2	0	0	6 (12.25)
Sequential transformative	0	0	0	0	0	0
Concurrent triangulation	1	5	1	2	2	11 (22.45)
Concurrent embedded	2	0	2	0	1	5 (10.20)
Concurrent transformative	0	0	0	0	0	0
Total	8	15	11	9	6	49 (100)

Note: RAs, research articles.

**Table 4.** Frequency and distribution of research methods used in mixed-methods RAs.

According to Table 4, the most common mixed-methods research design was the sequential explanatory method, used in 27 articles, accounting for 55.10% of the total dataset. This design consistently appeared across the observed years, with annual counts ranging from 5 to 7 articles. Following this, the concurrent triangulation design was also commonly used, appearing in 11 articles (22.45% of the total). Its usage varied ranging from 1 to 5 articles annually. The concurrent embedded design was found in 5 articles, contributing to 10.20% of the total dataset, and its frequency ranged from 0 to 2 articles per year.

The less-frequently used mixed-methods research designs included sequential exploratory design, which was found in 6 articles, accounting for 12.25% of the total dataset. Its usage varied, with annual counts ranging from 0 to 4 articles. However, both the sequential transformative and concurrent transformative designs were not used in any of the observed articles during the specified years.

## 5. Discussion

Research methodologies in nursing literature have significantly developed based on needs and reflect the complex issues of nursing with a dynamic and diverse approach. This review analyzed 697 peer-reviewed research articles from reputable nursing journals published between 2018 and 2022. The review indicates a strong tendency among researchers to use quantitative methods while also showing the growth in the use of qualitative and mixed-methods designs.

Historically, nursing research has predominantly used quantitative research methods, with more than 78% of the analyzed articles applying these approaches. These methods utilize structured frameworks for collecting and analyzing numerical data, aligning with the emphasis on evidence-based practice and the use of quantitative measures to assess clinical outcomes. Studies using various quantitative research designs, such as systematic reviews, surveys, and randomized controlled trials, have been extensively applied, demonstrating a commitment to rigorous investigation and statistical analysis to provide valid and reliable results for nursing practice.

Moreover, 14% of the articles used qualitative research methods, indicating that this type of research has gained significant prominence. Methods such as interviews, observation, grounded theory, and ethnography have provided a detailed understanding of subjective experiences, perceptions, and behaviors in nursing. The increasing use of these methods

highlights the importance of examining social, cultural, and behavioral aspects in nursing and emphasizes flexibility and holistic perspectives in nursing research.

During the analyzed period, there was also a trend toward the use of mixed-methods approaches, accounting for about 7% of the studies. These designs, including sequential explanatory, concurrent triangulation, and transformative designs, combine quantitative and qualitative approaches to gain a more comprehensive understanding of complex nursing topics. This integration allows researchers to use multiple data sources, validate findings, and provide a holistic perspective that bridges qualitative and quantitative views.

Understanding the frequency and application of various research methods in nursing is crucial for the field. Quantitative methods, with precise measurements and statistical analysis, aid evidence-based practice. Qualitative methods, by capturing detailed subjective experiences, provide research context. Mixed-methods studies combine both perspectives, expanding the overall scope of nursing research.

The analysis shows trends in the use of research methodologies. Quantitative methods remain consistent, while qualitative and mixed-methods approaches vary over the years. This perspective enhances the understanding of how nursing research methodologies have evolved and adapted to the new challenges and priorities within the profession.

The findings suggest both strengths and limitations of different research methodologies. Quantitative methods offer precision and objectivity but miss the depth of subjective experiences. Qualitative approaches provide detailed insights but may lack generalizability. Mixed-methods designs try to overcome these limitations by combining the strength of both qualitative and quantitative data.

A key implication of this comprehensive analysis is its impact on evidence-based practice and nursing policy. The use of diverse research methodologies build on a strong evidence base that guides clinical decision-making and policy development. This allows researchers and practitioners to make informed choices about research design, interpret findings, and apply them effectively in real-world health care settings.

### 5.1. Limitations

While the study provides valuable information, it is essential to acknowledge certain limitations. First, the analysis only compiled those articles published in

prestigious nursing journals, which might limit the generalizability of the findings. Second, the exclusion of articles not published in the specified timeframe may overlook relevant developments in nursing research methodologies. Lastly, by only considering English-language articles, the study may also miss valuable data from non-English literature.

## 5.2. Suggestions

Future research could look at the research methodologies in nursing over an extended time frame, using a more extensive range of journals and languages. Examining the effect of specific research methodologies on health-care outcomes (e.g., qualitative versus quantitative methodologies) and patient experiences could provide practical understanding for nursing practice. Furthermore, exploring the perspectives of health-care professionals regarding the application of different research methodologies could also give deeper understanding. Studying the reasons behind the dominance of quantitative methodologies over the other approaches could provide valuable data.

## References

1. Creswell JW. *Research design: Qualitative, quantitative, and mixed methods approaches*. 3rd ed. Thousand Oaks: Sage Publications; 2009.
2. Setia MS. Methodology series module 5: Sampling strategies. *Indian J Dermatol*. 2016;61:505.
3. Mackey A, Gass SM. *Second language research: Methodology and design*. New York: Routledge; 2005.
4. Creswell JW. *Steps in conducting a scholarly mixed methods study*. DBER Speaker Series; 2013:48. <https://digitalcommons.unl.edu/dberspeakers/48>. Accessed September 7, 2024.
5. Johnson RB, Onwuegbuzie AJ, Turner LA. Toward a definition of mixed methods research. *J Mix Methods Res*. 2007;1:112–133.
6. Creswell JW, Plano Clark VL. *Designing and conducting mixed methods research*. 2nd ed. Thousand Oaks: Sage Publications; 2011.
7. Soares CB, Hoga LA, Peduzzi M, Sangaleti C, Yonekura T, Silva DR. Integrative review: concepts and methods used in nursing. *Rev Esc Enferm USP*. 2014;48:335–345.
8. Ten Ham-Baloyi W, Jordan P. Systematic review as a research method in postgraduate nursing education. *Health SA Gesondheid*. 2016;21: 120–128.
9. Anthony S, Jack S. Qualitative case study methodology in nursing research: an integrative review. *J Adv Nurs*. 2009;65:1171–1181.
10. Polit DF, Beck CT. *Nursing research: Generating and assessing evidence for nursing practice*. 8th ed. Philadelphia: Lippincott Williams & Wilkins; 2008.
11. Munhall PL. A phenomenological method. In: Munhall PL, ed. *Nursing research: A qualitative perspective*. 5th ed. Sudbury: Jones & Bartlett Learning; 2012:113–175.
12. Maltby J, Williams G, McGarry J, Day L. *Research methods for nursing and healthcare*. London: Routledge; 2014.
13. Campbell DT, Stanley JC. *Experimental and quasi-experimental designs for research*. Scotts Valley: Ravenio Books; 2015.
14. Groves RM, Fowler FJ, Couper MP, Lepkowski JM, Singer E, Tourangeau R. *Survey methodology*. 2nd ed. Hoboken: John Wiley & Sons; 2009.
15. Babbie ER. *The practice of social research*. 15th ed. Boston: Cengage Learning; 2020.

## 6. Conclusions

In conclusion, this systematic exploration of research methodologies in nursing literature from 2018 and 2022 highlights the dynamic and diverse nature of research in the field. The dominance of quantitative methodologies, the rise of qualitative approaches, and the integration of mixed-methods designs all contribute to advancing nursing science and improving health-care outcomes. This comprehensive understanding of research methodologies is a valuable guide for researchers, educators, and policymakers in shaping the future of nursing research.

## Ethical approval

This study (project ID: U-98281) was approved by the ethics committee of Ahvaz Jundishapur University of Medical Sciences (IR.AJUMS.REC.1398.956).

## Conflicts of interest

All contributing authors declare no conflicts of interest.

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16. Menard S. *Longitudinal research*. 2nd ed. Thousand Oaks: Sage Publications; 2002.
17. Fink A. Conducting research literature reviews: From the internet to paper. 5th ed. Thousand Oaks: Sage Publications; 2019.
18. Shadish WR, Cook TD, Campbell DT. Experimental and quasi-experimental designs for generalized causal inference. Boston: Houghton Mifflin; 2002.
19. Creswell JW. Qualitative inquiry and research design: Choosing among five approaches. 2nd ed. Thousand Oaks: Sage Publications; 2007.
20. Patton MQ. Qualitative research and evaluation methods: Integrating theory and practice. 4th ed. Thousand Oaks: Sage Publications; 2014.
21. Bowen GA. Document analysis as a qualitative research method. *Qual Res J*. 2009;9:27–40.
22. Breen RL. A practical guide to focus-group research. *J Geogr High Educ*. 2006;30:463–475.
23. Hammersley M, Atkinson P. *Ethnography: Principles in practice*. 3rd ed. New York: Routledge; 2007.
24. Stake RE. Qualitative case studies. In: Denzin NK, Lincoln YS, eds. *The sage handbook of qualitative research*. 3rd ed. Thousand Oaks: Sage Publications; 2005:443–466.