



Knowledge structure and core concept analysis of nursing research on infertile women in Korea

Hye-Sun Shin*

Suwon Women's University, South Korea

Abstract

This study aimed to examine nursing research on infertile women in Korea published over the past two decades, with a focus on identifying the knowledge structure and key concepts and informing future directions for nursing research and practice. This study employed an integrative review guided by the topic-centered literature review framework proposed by Arksey and O'Malley. Nursing studies related to infertile women published in Korean academic journals between 2005 and 2025 were identified through searches of major Korean databases, including RISS, KMBASE, KoreaMed, and NDSL. A total of 20 studies were selected and analyzed according to research characteristics, study design, key variables, and thematic domains. The analysis indicated that nursing research on infertile women in Korea was organized into four primary thematic domains: treatment experience-focused studies, studies addressing psychological and emotional factors, quality-of-life-related studies, and studies examining sociocultural factors. The most frequently examined core concepts were depression, stress, spousal support, quality of life, and resilience, in descending order. Most studies were concentrated on descriptive survey designs. Nursing research on infertile women in Korea has mainly concentrated on psychological and emotional issues. Future research should broaden its focus to include practice-oriented approaches such as intervention development, longitudinal research, and mixed-methods designs. This study is significant in that it provides a systematic overview of the knowledge structure of nursing research on infertile women.

Keywords: Infertility, Women, Nursing Research, Integrative Review, Knowledge structure

Introduction

Infertility is defined as the inability to achieve pregnancy within a specified period despite regular, unprotected sexual intercourse, and it is understood as a health issue in which physical, psychological, and social factors interact in a complex manner [1]. In the past, infertility was largely perceived as a personal issue or a private matter between spouses; however, with the recent intensification of low fertility rates, infertility has increasingly emerged as a national public health and social concern [2]. In particular, South Korea's total fertility rate remains among the lowest in the world, and in conjunction with this trend, the population experiencing infertility continues to increase. These demographic and social changes further underscore the need for systematic and specialized healthcare and nursing approaches for individuals affected by infertility [3].

Women experiencing infertility encounter repeated diagnostic tests, procedures, and prolonged treatment processes beginning at the diagnostic stage. Throughout this process, they experience not only physical burdens but also ongoing psychological

and emotional distress [4]. Treatments such as ovulation induction, hormone therapy, and assisted reproductive technologies not only cause physical fatigue and pain but also involve uncertainty regarding outcomes, and repeated treatment failures contribute to increased levels of depression, anxiety, and stress [5]. In particular, because infertility treatment does not guarantee clear success, women experience persistent tension and psychological exhaustion throughout the entire course of treatment.

Moreover, infertility is not limited to an individual woman's health issue but affects marital relationships, family dynamics, and broader social relationships. Women experiencing infertility are likely to experience feelings of guilt, inferiority, and social withdrawal amid societal expectations and role-related pressures surrounding pregnancy and childbirth [6]. Some women perceive disclosing their infertility status as burdensome and may experience feelings of isolation due to fear of social stigma and prejudice. Within this sociocultural context, the psychological distress experienced by infertile women may be further intensified [7].

Women experiencing infertility are recognized not merely as recipients of medical treatment but as nursing care recipients with concurrent physical, psychological, and social needs. Accordingly, within the field of nursing in Korea, a wide range of studies has been consistently conducted on infertile women, examining variables such as depression, stress, quality of life, spousal support, family support, and resilience [8]. These studies are meaningful in that they have provided essential foundational data for understanding the psychological characteristics and lived experiences of women experiencing infertility.

However, nursing research on infertile women conducted in Korea to date has been predominantly composed of descriptive studies focusing on individual variables, and despite the accumulation of research findings, studies that provide an integrated overview of the overall research trends and thematic structure remain limited. In other words, there has been insufficient systematic analysis of the thematic domains around which nursing research on infertile women has developed, the concepts that have been repeatedly examined, and the methodological characteristics of the existing literature.

In recent years, despite growing emphasis on the importance of nursing interventions focused on improving quality of life and psychological well-being among women experiencing infertility, studies that develop nursing intervention programs applicable to actual clinical settings or evaluate their effectiveness remain relatively limited [9]. Furthermore, from a perspective that recognizes infertility not merely as an individual issue but as a social and structural concern, research reflecting the sociocultural context surrounding the experiences of infertile women is also limited. Factors such as social stigma, cultural expectations, and institutional support systems play a significant role in influencing the health and adaptation of women experiencing infertility; however, studies that comprehensively address these elements from a nursing perspective remain scarce.

Therefore, it is critically important to systematically synthesize the accumulated body of nursing research on infertile women in Korea and to analyze the structure of research topics and core concepts [10]. Such an effort enables an objective understanding of existing research trends and provides insight into

future directions for nursing research on infertile women. Furthermore, this type of analysis can strengthen the evidence base for nursing practice and serve as foundational data for the development of nursing interventions applicable in real clinical settings.

Accordingly, this study seeks to conduct a topic-centered integrative review of nursing research on infertile women conducted in Korea over the past 20 years, with the aim of systematically analyzing research characteristics, key concepts, and thematic structures. By clearly delineating the knowledge structure of nursing research on infertile women, this study intends to establish an academic and practical foundation that can be utilized by future researchers and clinical nurses.

Methodology

1. Study design

This study is a literature review conducted to analyze the knowledge structure and core concepts of nursing research on infertile women in Korea. A literature review aims to systematically examine accumulated research findings related to a specific topic and to synthesize research trends and key concepts in order to suggest directions for scholarly development.

This study sought to comprehensively examine how nursing research on infertile women in Korea has formed its knowledge structure by analyzing research characteristics, key variables, and research topics within the existing literature. Accordingly, rather than comparing effect sizes or intervention outcomes of individual studies, this study adopted a descriptive literature review approach focused on identifying patterns of research accumulation and conceptual structures.

2. Literature Search Strategy

The literature search was conducted for studies related to infertile women published in Korean academic journals between January 2005 and December 2025. To ensure the comprehensiveness and reliability of the literature, major Korean academic databases, including the Research Information Sharing Service (RISS), Korean Medical

Database (KMbase), KoreaMed, and the National Digital Science Library (NDSL), were utilized. Search terms were used in both Korean and English to comprehensively include nursing research on infertile women. The main search terms were ‘난임’, ‘난임 여성’, ‘불임 여성’, ‘infertility’, and ‘infertile women’, and the terms were combined and applied according to the search characteristics of each database. During the search process, an initial screening was conducted based on article titles and abstracts. Among the studies identified through the initial search, duplicate records were removed, and studies with low direct relevance to infertile women, studies focused solely on the effects of medical procedures with limited nursing perspectives, as well as theses and conference presentation materials, were excluded. Subsequently, full-text reviews were conducted to reassess the appropriateness of research topics and nursing contributions, and ultimately, a total of 20 studies that met the literature selection criteria were included in the analysis.

3. Inclusion and exclusion criteria

The inclusion criteria for this study were as follows.

- Studies published in Korean academic journals.
- Studies in which the research participants were infertile women, or studies addressing the experiences, psychological characteristics, quality of life, or nursing needs of infertile women.
- Studies that examined infertile women from a nursing perspective.
- Studies written in Korean or English.
- In contrast, studies meeting the following criteria were excluded from the analysis.
- Studies with low direct relevance to infertile women.
- Studies focusing solely on the effects of medical procedures without including nursing-related analysis.
- Studies that were not published as peer-reviewed journal articles, such as these, conference presentation materials, or reports.
- Duplicate records identified during the literature search.

The literature selection process was conducted through researcher review and consensus, and final inclusion was determined through full-text review following title and abstract screening.

4. Data extraction and analysis

To facilitate a systematic analysis of the selected studies, specific data extraction items were established. The data extraction framework was developed based on prior research and established methodological approaches to nursing literature reviews and encompassed the following domains.

First, general study characteristics were examined, including year of publication, journal, study design, study participants, and ethical considerations. Second, content-related characteristics were analyzed, including key research variables, core concepts, research topics, and the direction of research findings. All studies were organized according to uniform criteria, and repeated reviews were conducted to ensure the accuracy and consistency of the extracted data.

5. Data analysis

Data analysis was conducted using a combination of descriptive analysis and topic-centered analysis. General study characteristics were summarized by calculating frequencies and percentages, whereas content-related characteristics were compared and analyzed based on recurrently identified concepts and research findings.

Key research variables and concepts were grouped and categorized according to their similarities and commonalities, and these categorizations were used to derive the core concepts and thematic domains of nursing research on infertile women. Through this analytical process, this study sought to systematically present the knowledge structure of nursing research on infertile women in Korea.

6. Ethical considerations

This study was a literature review that analyzed previously published studies and did not involve direct data collection from human participants. Nevertheless, to ensure adherence to research ethics, all sources were clearly cited, and careful attention

was paid to the interpretation of the findings to ensure that the original authors' research purposes and results were not distorted.

Results

This study conducted a literature review of 20 nursing studies on infertile women published in Korean academic journals between 2003 and 2023 that met the inclusion criteria. The results are presented across three domains: general study characteristics, key research variables, and analysis of research themes [1–20].

1. General study characteristics

1) Distribution of studies by publication year

An analysis of the 20 selected studies by publication year showed that two studies (10.0%) were published between 2003 and 2010, and three studies (15.0%) were published between 2011 and 2015. In contrast, 15 studies (75.0%) were published from 2016 onward, indicating a marked increase in nursing research on infertile women in more recent years. This trend may be interpreted as reflecting the growing social and public health interest in infertility, alongside the deepening issue of low fertility rates (Table 1).

2) Research sources and journal distribution

The selected studies were published across a total of 12 academic journals. Among these, journals focusing on women's health and nursing accounted for the largest proportion of publications, with the Korean Journal of Women Health Nursing representing the highest share at six studies (30.0%). This was followed by the Journal of the Korean Society of

Maternal and Child Health with four studies (20.0%), and the Journal of Korean Academy of Nursing with two studies (10.0%). In addition, studies on infertile women were also identified in journals from related disciplines, including counseling, social work, and psychology (Table 1).

3) Study design types

Analysis of study designs indicated that 13 studies (65.0%) were descriptive survey studies. This was followed by 3 studies (15.0%) employing correlational designs, 2 studies (10.0%) focused on instrument development, 1 study (5.0%) using a qualitative design, and 1 study (5.0%) employing an experimental design. These findings suggest that nursing research on infertile women in Korea has primarily focused on describing phenomena and exploring related factors (Table 1).

4) Participant characteristics

Regarding participant characteristics, 16 studies (80.0%) focused exclusively on women experiencing infertility. 2 studies (10.0%) examined women who had undergone assisted reproductive technologies, while 1 study (5.0%) focused on infertile couples and 1 study (5.0%) compared infertile women with women without infertility. These distributions are presented in (Table 1).

5) Ethical considerations

Analysis of ethical considerations indicated that 14 studies (70.0%) explicitly reported adherence to research ethics or approval from an Institutional Review Board (IRB), whereas 6 studies (30.0%) did not include any statement regarding ethical considerations.

Table 1. General characteristics of selected studies on infertile women (2015–2025) (N = 20)

Variable	Category	n	%
Publication Year	2015–2017	4	20
	2018–2019	5	25
	2020–2021	6	30
	2022–2023	3	15
	2024–2025	2	10
Journal	Korean Journal of Women Health Nursing	6	30
	Journal of the Korean Society of Maternal and Child Health	4	20
	Journal of Korean Academy of Nursing	3	15

	Counseling, psychology, and social science–related journals	4	20
	Other health- and nursing-related journals	3	15
Study Design	Descriptive survey studies	13	65
	Correlational studies	3	15
	Instrument development studies	2	10
	Qualitative studies	1	5
	Experimental studies	1	5
Participants	Women experiencing infertility	16	80
	Women who experienced assisted reproductive technologies	2	10
	Infertile couples	1	5
	Comparison between infertile women and women without infertility	1	5
Ethical Considerations	IRB approval or ethical compliance reported	14	70
	Ethical considerations not reported	6	30

2. Analysis of key research variables

The results of the analysis of key research variables used in nursing research on infertile women are presented in Table 2. Among the 20 included studies, 9 studies (45.0%) most frequently examined depression. This was followed by 7 studies (35.0%) addressing stress, 6 studies (30.0%) examining spousal support, and 6 studies (30.0%) focusing on quality of life. In addition, 4 studies (20.0%) investigated resilience, 3 studies (15.0%) examined family support, and 2 studies (10.0%) addressed self-esteem. Variables such as anxiety, irrational parenthood beliefs, and marital satisfaction were each examined in 1 study (5.0%), indicating relatively low frequencies.

Table 2. Distribution of key variables in nursing research

Key Research Variable	n	%
Depression	9	45
Stress	7	35
Spousal Support	6	30
Quality of Life	6	30
Resilience	4	20
Family Support	3	15
Self-esteem	2	10
Anxiety	2	10
Irrational Parenthood Beliefs	1	5
Marital Satisfaction	1	5

1) Studies addressing intrapersonal responses to the infertility experience

A total of 8 studies (40.0%) focused on intrapersonal responses to the experience of infertility. Studies in this domain primarily examined the psychological

and emotional responses experienced by women during the diagnosis and treatment of infertility, as well as related influencing factors. The main research focus was on identifying how psychological variables—such as depression, stress, anxiety, self-esteem, and resilience—affect the infertility experience. Across multiple studies, women experiencing infertility were reported to experience persistent negative emotions resulting from repeated frustration associated with unsuccessful pregnancy attempts. These psychological responses were also found to influence both the continuation of infertility treatment and quality of life.

2) Studies examining infertility within relational and social contexts

A total of 7 studies (35.0%) examined infertility within relational and social contexts. Studies in this domain emphasized that infertility is not merely an individual woman's issue but a phenomenon experienced within relationships with spouses, family members, and society. In particular, spousal support and family support were repeatedly reported as important factors influencing psychological adjustment and quality of life among women experiencing infertility. Higher levels of emotional and instrumental support from spouses were associated with lower levels of depression and stress, and the quality of the marital relationship was found to play a critical role in the interpretation and acceptance of the infertility experience.

In addition, several studies highlighted that social perceptions and stigma toward women experiencing infertility may lead to psychological withdrawal and social isolation

3) Studies proposing directions for nursing practice and interventions

A total of 5 studies (25.0%) proposed directions for nursing practice and interventions. Studies in this domain focused on identifying the nursing needs of women experiencing infertility or emphasizing the necessity of nursing interventions. Key topics included information provision during infertility treatment, emotional support, counseling needs, and

perceptions of the nursing role. Several studies reported that women experiencing infertility experience anxiety due to insufficient information and uncertainty related to treatment, highlighting the need for systematic nursing education and counseling. In addition, this domain included studies on the development of nursing needs assessment tools that reflect the specific characteristics of women experiencing infertility.

Table 3. Summary of thematic structure in nursing research on infertile women (2015–2025) (N = 20)

Major Thematic Domain	Subtheme	Main content	n	%
Studies addressing intrapersonal responses to the infertility experience	Psychological and emotional responses	Depression, stress, anxiety, self-esteem	5	25
	Adaptation and positive resources	Resilience, self-efficacy, emotional regulation	3	15
Studies examining infertility within relational and social contexts	Spousal and family relationships	Spousal support, family support, marital relationship	5	25
	Social perceptions and stigma	Social stigma, negative social perceptions	2	10
Studies proposing directions for nursing practice and interventions	Nursing needs and roles	Assessment of nursing needs, perceptions of the nursing role	3	15
	Nursing interventions and tool development	Directions for nursing interventions, development of measurement tools	2	10

Discussion

This study conducted a literature review of 20 nursing studies on infertile women published in Korean academic journals between 2005 and 2025 to analyze the knowledge structure and core concepts of nursing research on infertile women [1–20]. Through this analysis, the study sought to systematically identify the concepts and themes that have guided the development of nursing research on infertile women and to derive implications for the future advancement of nursing research and clinical practice.

The findings of this study indicate that nursing research on infertile women in Korea has developed its knowledge structure around three primary domains: intrapersonal responses to the infertility experience, relational and social contexts, and directions for nursing practice and interventions. This suggests that nursing research on infertile

women has evolved beyond a narrow focus on medical treatment outcomes toward a more integrated understanding of the psychological and social contexts of women experiencing infertility. In particular, the substantial proportion of studies emphasizing intrapersonal responses reflects the significant impact of infertility experiences on women's emotional stability and self-perception. This finding is consistent with previous studies reporting high levels of depression and stress among women experiencing infertility [11]. Studies focusing on intrapersonal responses, which constituted the largest proportion in this review, primarily addressed negative emotional experiences among women experiencing infertility, such as depression, stress, and anxiety. This reflects the fact that infertility is not a problem resolved in the short term but rather a prolonged process accompanied by repeated experiences of failure, during which emotional exhaustion and psychological burden may accumulate. Notably, studies addressing positive

psychological resources, such as resilience, suggest new directions for nursing care for women experiencing infertility. Rather than viewing infertile women solely as a vulnerable population, these findings highlight the need to design nursing interventions from a perspective that strengthens individual strengths and adaptive resources. Future research should therefore move beyond approaches centered exclusively on reducing depression and focus on the development of nursing interventions aimed at enhancing resilience.

Studies addressing relational and social contexts emphasized that the experience of infertility is not merely an individual woman's issue but one that is shaped within relationships with spouses and family members. Spousal support was repeatedly identified as a key factor positively influencing emotional stability and treatment continuation among women experiencing infertility, indicating that infertility nursing care should extend beyond an individual-centered approach to include couple- and family-centered interventions. However, studies addressing macro-level factors, such as social stigma and cultural perceptions, were relatively limited. This suggests that nursing research on infertile women has largely remained at the individual and family levels and has not sufficiently incorporated broader social and structural factors [12–13]. Future research should therefore expand to include nursing-focused analyses of social perceptions of infertility and institutional support systems aimed at improving the well-being of women experiencing infertility.

The proportion of studies proposing directions for nursing practice and interventions was relatively low in this review [14]. Most studies were limited to identifying nursing needs and problems among women experiencing infertility, whereas studies focusing on the development and effectiveness evaluation of nursing intervention programs applicable in clinical practice were scarce. This indicates that nursing research on infertile women in Korea has largely remained at the stage of problem identification and descriptive analysis, with insufficient progression toward evidence-based nursing practice. Future research should therefore focus on developing nursing intervention programs that reflect the characteristics of each stage of infertility treatment and empirically verifying their

effectiveness.

Most of the studies included in this review employed descriptive survey designs, contributing to an improved understanding of the experiences of women experiencing infertility and related influencing factors. However, longitudinal studies, experimental studies, and mixed-methods designs were conducted only to a very limited extent. Because the infertility experience is characterized by changes over time, cross-sectional designs alone are insufficient to fully explain the adaptation processes of women experiencing infertility. Accordingly, future research should include longitudinal studies that span from the point of infertility diagnosis through the completion of treatment or successful pregnancy outcomes. In addition, mixed-methods research designs that integrate qualitative and quantitative approaches are needed to achieve a more comprehensive and multidimensional understanding of the infertility experience. The findings of this study further suggest that nursing care for women experiencing infertility should expand beyond a supportive role in physical treatment to encompass holistic care, including psychological and emotional support as well as relational interventions. Nurses should play a key role as healthcare professionals who continuously assess the emotional status of women experiencing infertility and help alleviate uncertainty and anxiety throughout the treatment process. Moreover, specialized education and continuing professional training programs are needed for nurses providing infertility-related care, and the introduction of a specialized infertility counseling nurse role may also be considered. Such efforts would contribute not only to improving the quality of life of women experiencing infertility but also to strengthening nursing professionalism.

Conclusion and Implications

This study conducted a literature review of 20 nursing studies on infertile women published in Korean academic journals between 2005 and 2025 to analyze the knowledge structure and core concepts of nursing research on infertile women. Through this review, the study systematically organized the concepts and themes that have guided the development of nursing research on infertile women and sought to suggest directions for the future

advancement of nursing research and practice.

The findings indicate that nursing research on infertile women in Korea has developed its knowledge structure around three primary domains: intrapersonal responses to the infertility experience, relational and social contexts, and directions for nursing practice and interventions. Psychological and emotional factors, particularly depression and stress, were repeatedly identified as core concepts in infertility nursing research, while spousal and family support emerged as important protective factors influencing adaptation and quality of life among women experiencing infertility. In addition, several studies highlighted the importance of positive psychological resources, such as resilience, suggesting a gradual expansion in the conceptual approach to infertility nursing care.

However, nursing research on infertile women in Korea remains heavily concentrated on descriptive survey designs, and studies focused on the development and effectiveness evaluation of nursing intervention programs applicable in clinical practice were limited. Furthermore, research examining the experiences of infertile women within sociocultural contexts and studies employing longitudinal approaches were insufficient. These findings suggest that infertility nursing research has largely remained at the stages of problem recognition and phenomenon description, with limited progression toward evidence-based nursing practice.

Based on these findings, this study offers the following recommendations.

First, there is a need for research focused on the development of nursing intervention programs aimed at improving psychological adaptation and quality of life among women experiencing infertility. In particular, intervention programs should incorporate components that strengthen positive psychological resources, such as resilience and self-efficacy, in addition to reducing depression and stress.

Second, to enhance the methodological diversity of nursing research on infertile women, greater use of longitudinal studies and mixed-methods research designs is recommended. Given that the experience of

infertility changes over time, research designs capable of examining adaptation processes across different stages of treatment are needed.

Third, infertility nursing care should expand beyond an individual-centered approach to include couple- and family-centered care. Because spousal and family support plays a critical role in emotional stability and treatment continuation among women experiencing infertility, the development of couple-focused nursing interventions and family-involved programs is warranted.

This study is significant in that it systematically organized existing nursing research on infertile women in Korea and presented its underlying knowledge structure, thereby providing foundational data for the future development of infertility nursing research and practice. However, this study is limited by its inclusion of only studies published in Korean academic journals. Future research should therefore incorporate international studies to enable comparative analyses and to examine global trends in nursing research on infertile women.

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