

# Metasynthesis: A Goldmine for Evidence-Based Practice

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One common misconception about evidence-based nursing is that it is based solely on quantitative research.<sup>1</sup> Quantitative and qualitative research methods, however, complement each other. Evidence-based nursing requires the application of research evidence in clinical decision making. Research evidence can be qualitative or quantitative depending on the specific clinical situation.

Qualitative researchers are urged to synthesize their findings to help establish qualitative research as a viable source of evidence in evidence-based practice.<sup>2</sup> Knowledge development in specific clinical areas is facilitated when findings from a number of qualitative studies are synthesized together. Estabrooks, Field, and Morse<sup>3</sup> explained that qualitative researchers typically work in isolation from one another. Glaser and Strauss warned that the results of individual qualitative studies would remain “respected little islands of knowledge separated from others,”<sup>4(p181)</sup> only to be visited every now and then by other researchers if an approach (eg, metasynthesis) to build a cumulative body of knowledge is not used.

Metasynthesis is

*an interpretive integration of qualitative findings in primary research reports that are in the form of interpretive syntheses of data: either conceptual/thematic descriptions or interpretive explanations.<sup>2(p199)</sup>*

In other words, a metasynthesis is a technique for combining the results of multiple qualitative studies on the same topic. As qualitative scholars moved in this direction, Thorne et al

noted that metasynthesis “seems to be unfolding before our eyes as we dive deeper and deeper into its implications and applications.”<sup>5(p1345)</sup> Although qualitative studies are increasing in perioperative nursing, their contribution to improved outcomes for patient care may be hindered without synthesis. This article addresses metasynthesis and its usefulness in providing evidence for perioperative nursing. Noblit and Hare’s<sup>6</sup> method for synthesizing qualitative research is described and illustrated using a previously published metasynthesis on postpartum depression.

## METASYNTHESIS VERSUS META-ANALYSIS

Quantitative studies on the same research topic also use a synthesis method (ie, meta-analysis) to optimize their usefulness in evidence-based practice. A meta-analysis is a statistical technique that combines and integrates the results of multiple quantitative studies that explored the same research question.<sup>7</sup> Lipp<sup>8</sup> addressed the advantages of meta-analysis, such as demonstrating a

## ABSTRACT

Metasynthesis is a technique that can help establish qualitative research as a viable source of evidence. Using this approach, results from multiple qualitative research studies on the same topic are combined and synthesized to reveal the best evidence.

This article addresses metasynthesis and its application to perioperative evidence-based care. Noblit and Hare’s method for synthesizing qualitative research is described and illustrated using a previously published metasynthesis of postpartum depression research.

**Key words:** *metasynthesis, evidence-based practice, perioperative nursing, postpartum depression. AORN J 90 (November 2009) 701-710. © AORN, Inc, 2009.*

## Types of Qualitative Research

**Phenomenology:** an inductive, qualitative research tradition that focuses on investigating the meaning of experiences for individuals.

**Grounded theory:** an inductive, qualitative research tradition developed by sociologists Glaser and Strauss. It is called the constant comparative method whereby the central problem or concern of a group of individuals in a social setting is discovered and the process these persons use to cope with or resolve this basic problem is developed. The end product is a substantive theory grounded in data.

**Ethnography:** an inductive, qualitative research tradition from anthropology that focuses on the cultural behavior of groups of individuals.

**Historical research:** a systematic study of events that happened in the past. The description and interpretation of historical events are the foci of this inquiry.

lack of adequate technical evidence.

The “meta” in metasynthesis has a different meaning than the “meta” in meta-analysis. Meta-analysis involves aggregating data while metasynthesis involves interpreting data.<sup>9</sup> Just like a quantitative meta-analysis, metasynthesis involves rigorous scientific technique. Paterson et al<sup>10</sup> explain that the goal of a metasynthesis is not to look for similarities of results of a specific phenomenon, but rather to delve deeper into the research to reveal some new information that may increase our understanding.

Sandelowski, Docherty, and Emden<sup>11</sup> cautioned that those working on metasynthesis projects are walking a line between needing to analyze the studies in enough detail to keep the integrity of each particular study, while trying to avoid becoming so immersed in the details that the synthesis is unusable. Concentrating on details prevents the person conducting the metasynthesis from integrating the different studies together and from seeing the larger picture.

Whether or not to incorporate different qualitative research designs in a metasynthesis is a point of debate. Some researchers believe that varying qualitative approaches (eg, phenomenology, grounded theory) should not be combined in one metasynthesis because each approach has differing views of reality, thus generating different kinds of knowledge.<sup>9</sup> Other researchers are more concerned with including studies that explore the same substantive area as opposed to mixing together studies with different philosophical bases in a metasynthesis. Sandelowski and Barroso<sup>2</sup> stressed that the method used in a metasynthesis should be chosen based on the researcher’s purpose in conducting the qualitative synthesis.

Sandelowski and Barroso<sup>2</sup> suggested a caveat that readers of metasyntheses need to be cognizant that the findings are at least three times removed from the original experiences of the participants in their respective studies. The first removal occurs when the participant shares his or her original experience with the researcher, followed by the second removal of the researcher’s representations of the participants’ experiences in his or her research study. The third removal occurs when the person conducting the metasynthesis interprets the reports from the individual studies, thereby adding yet another layer of interpretation.

### NOBLIT AND HARE’S METHOD FOR METASYNTHESIS

Noblit and Hare developed a method, called meta-ethnography, for synthesizing qualitative research in anthropology. This approach for synthesizing interpretive (ie, qualitative) research is a rigorous procedure and is the most commonly used method in nursing for conducting a metasynthesis. Using this method, researchers compare and analyze results from qualitative studies on a specific topic to create new interpretations. When Noblit and Hare first developed this method, they did not foresee its primary use in fields of professional practice.<sup>5</sup> They cautioned that using meta-ethnography to inform professional practice and policy is a complex endeavor that requires the person conducting the metasynthesis to take

into account the historical, political, and intellectual contexts in which the original studies to be synthesized were conducted.<sup>5</sup>

Following are the seven phases of Noblit and Hare's meta-ethnography. These phases overlap and repeat as the metasynthesis progresses.

1. Identify a topic.
2. Decide which qualitative studies are relevant to the initial interest.
3. Read the qualitative studies to be included in the synthesis multiple times.
4. Determine how the qualitative studies are related to each other by making a list of the key metaphors in each study and their relationship to each other.

Noblit and Hare use the term *metaphor* to refer to concepts, themes, and phases included in the findings of the individual studies. Three assumptions can be made about the relationships among the research studies, including

*(1) the accounts are directly comparable as reciprocal translations, (2) the accounts stand in relative opposition to each other and are refutational, or (3) the studies taken together present a line of argument rather than a reciprocal or refutational translation.*<sup>8(p36)</sup>

5. Translate the studies into one another (ie, metaphors from each study are compared with those of the other studies included in the metasynthesis).

As Noblit and Hare explain,

*Translations are especially unique syntheses, because they protect the particular, respect holism, and enable comparison. An adequate translation maintains the central metaphors and/or concepts of each account in their relation to other key metaphors or concepts in the account.*<sup>8(p28)</sup>

6. Synthesize the translations.

In synthesizing translations, a whole is made that is more than the sum of the parts of the individual studies. The translations can be compared to determine whether the same metaphors can be combined together.

7. Express the synthesis interpretation through

such forms as the written word, plays, art, videos, or music. Visual displays also are helpful to summarize the findings of a metasynthesis.

### POSTPARTUM DEPRESSION: A METASYNTHESIS

I conducted a metasynthesis of 18 qualitative studies on postpartum depression that were published between 1990 and 1999.<sup>12</sup> Two of the 18 studies were unpublished. I chose Noblit and Hare's<sup>8</sup> method for synthesizing qualitative research to conduct this metasynthesis.

I identified the key metaphors in each of the 18 studies and then reciprocally translated the individual studies' metaphors into one another (Table 1). Next, I synthesized the translations to create a cumulative source for all of the individual studies' metaphors. Four overarching themes emerged that reflect women's struggles with postpartum depression—incongruity between expectations and reality of motherhood, spiraling downward, pervasive loss, and making gains (Figure 1).

Various patient quotes can be used to illustrate each of the four themes. Following is an illustration of the spiraling downward theme. Quotes representing a number of the synthesized studies play a prominent role in the write-up of a metasynthesis. Anxiety, anger, guilt, obsessive thinking, and contemplating harming oneself were some of the distressing emotions and thoughts that plagued new mothers suffering from postpartum depression. For each of these, a quote is taken from my metasynthesis;<sup>12</sup> each quote is from a different study.

#### ANXIETY.

*It was like every nerve in my body was exploding. Like little fireworks were going off all over my body. I felt like I was going crazy. My skin felt like it was literally crawling. I wished I could rip it off and put it on another body. I would try and wipe my skin off.*<sup>13(p45)</sup>

#### ANGER.

*I would get really angry. It's really scary because you've heard these stories about mothers being in court for smothering their*

**TABLE 1**  
**Individual Study Metaphors as Related to Four Overarching Themes**

<b>Study</b>	<b>Incongruity between expectations and reality of motherhood</b>	<b>Spiraling downward</b>	<b>Pervasive loss</b>	<b>Making gains</b>
Nicolson <sup>1,2</sup>	Disappointed expectations of motherhood	Guilt; anxiety about relationship with friends; initial insecurities or being overwhelmed	Loss of autonomy and time; appearance, femininity, sexuality; occupational identity; support, control	Reintegration and acceptance of change
Mauthner <sup>3,5</sup>	Conflicting expectations and experiences of motherhood; fear of rejection and moral condemnation when judged as a "bad mother."	Social withdrawal; isolation; guilt for being a "bad mother"; going mad; anxiety or panic attacks; failure and inadequacy or inability to cope	Lack of support; did not recognize the person they had become	Resolution or acceptance of difficulties and conflicts
Morgan, Matthey, Barnett, and Richardson <sup>6</sup>	Place high expectations on self	Loneliness; anxiety; irritated behavior or anger or resentments	Loss of control of negative emotions	
Nahas, Hillege, Amasheh, <sup>7</sup> Nahas, Amashah <sup>8</sup>	High cultural expectations of motherhood; fear of failure as mother and wife; fear of being labeled	Loneliness/isolation; guilt; poor self-image; worry over every little thing/panicky; overwhelmed	Loss of life of her own; lack of family support	Solace in support groups

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Excerpt from: Beck CT. *Postpartum depression: a metasynthesis*. Qual Health Res. 2002;12(4):453-472. Reprinted with permission from Sage Publications, Thousand Oaks, CA.

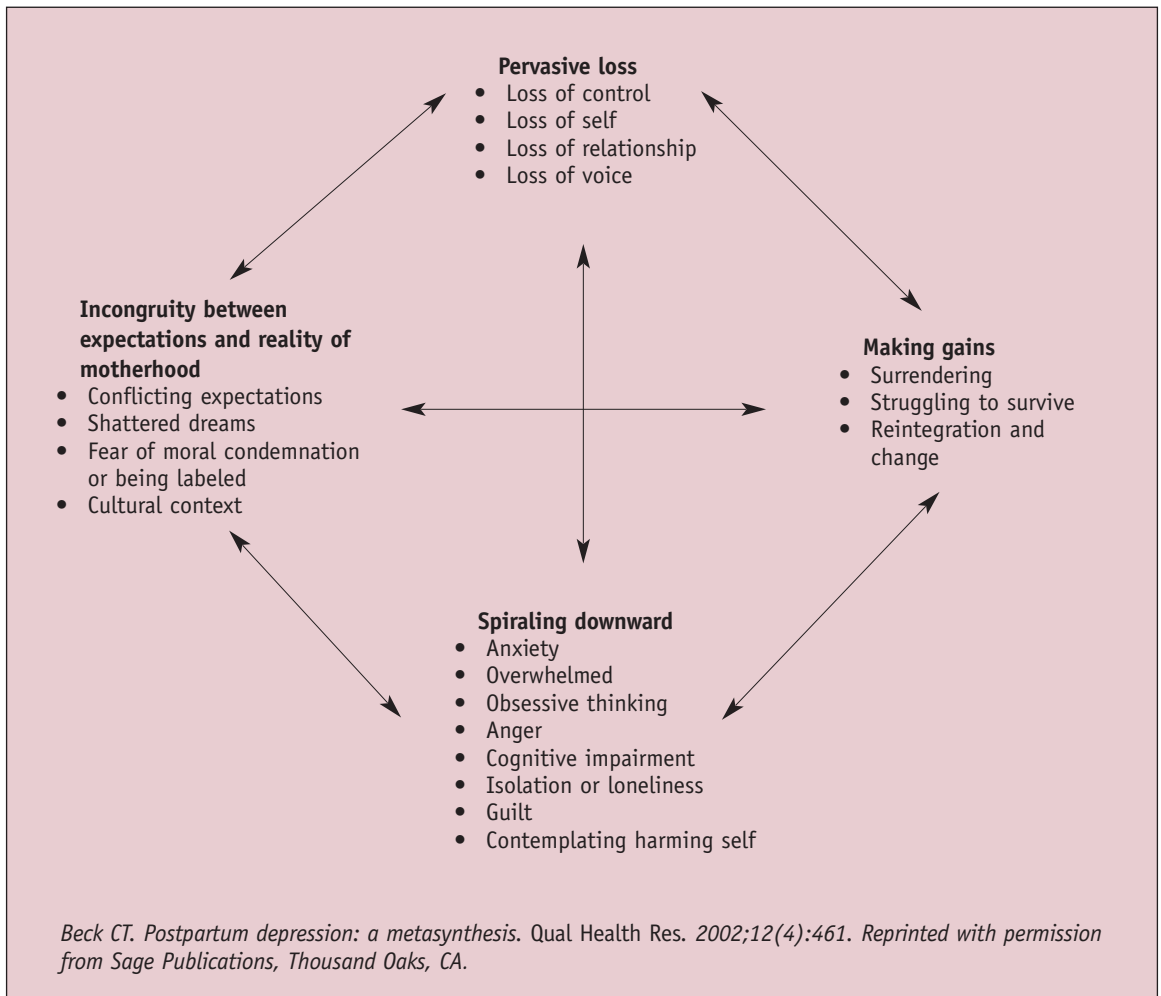


Figure 1 • Four perspectives involved with postpartum depression.

*baby and my first thought was fry the woman [in the electric chair]. I mean can you believe they'd do that to a helpless child? And be able to understand that?*<sup>14(p102)</sup>

#### **GUILT.**

Originally it had been about all kinds of horrific ways of hurting her. . . . I could hardly bear to look at like the creases on her neck and I'd imagine someone cutting them with a razor blade. I couldn't stop them, but think it was just stabbing her in the stomach, it just changed to that, stabbing her in the stomach all the time . . . then the things became more like urges to hurt her and that really scared me. That shook me up, you know? It felt like

*in the very kind of marrow of my being, the very depths of my soul.*<sup>15(p86)</sup>

#### **OBSESSIVE THINKING.**

*I kept saying I'm not a good mother. I just couldn't see myself as a mother anymore. I started having thoughts about giving my baby up for adoption. I didn't have control over my thoughts. I would just keep ruminating over and over about these things [ie, adoption].*<sup>16(p39)</sup>

#### **CONTEMPLATING HARMING ONESELF.**

*Over there are all these thorns and they pick at your skin and they hurt and you can't get any relief. Over there's nice soft cotton and*

*all you have to do is jump right over there. When you're so desperate that's the only way you can see out. You will stay in the thorns or go to the cotton. And the only way you can go to the cotton is to end your life.*<sup>17(p314,315)</sup>

Results of this metasynthesis have valuable implications for clinical practice. For example, loss emerged as one key component of postpartum depression. The typology of losses identified can be used by clinicians to help differentiate the multiple forms of loss that women experience.

### PERIOPERATIVE METASYNTHESIS

This next section describes an example of how metasynthesis can be applied to perioperative nursing. Rhodes et al, a group of nurses, conducted a metasynthesis to investigate patients' subjective experiences and satisfaction with nursing interventions during the perioperative period in the day surgery setting.<sup>18</sup> Twenty-nine studies on the area of interest were initially retrieved, five of which met their inclusion criteria of

- qualitative research, and
  - patients 18 years of age and older who had surgical procedures in a day surgery setting.
- The research question for their metasynthesis was

*From the patient perspective, what nursing interventions/care leads to feelings of satisfaction during their peri-operative experiences in the day surgery setting?*<sup>18(p180)</sup>

The nurses used the Qualitative Assessment and Review Instrument (QARI) to analyze and synthesize the studies being considered for use in the metasynthesis. The QARI is available through the Joanna Briggs Institute at <http://www.joannabriggs.edu.au>. The QARI consists of 10 items that a reviewer should look for and check yes, no, or unclear on the instrument to assess the quality of each study. The items addressed by the QARI include congruity between the research methodology and each of the following:

- philosophical perspective,
- research question or objectives,

- data collection methods,
- data analysis, and
- interpretation of findings.

The QARI also assesses

- influence of the researcher on the study,
- ethical approval from an appropriate body,
- participants' voices adequately represented, and
- conclusions drawn.

Rhodes et al<sup>18</sup> conducted a metasynthesis of five studies that featured different qualitative research designs—two grounded theory, one phenomenological, and two descriptive qualitative designs. Only the two grounded theory studies conducted were considered to be of sufficient quality to be synthesized in the metasynthesis. The authors did not operationally define what they meant by "sufficient quality."<sup>18(p181)</sup> Rhodes et al<sup>18</sup> completed a descriptive summary for the other three studies that were not of sufficient quality to be included in the metasynthesis. Results of the metasynthesis revealed three similar findings:

- education/information,
- communication, and
- privacy.

**EDUCATION AND INFORMATION.** Patients and their significant others emphasized the importance of pre-admission contact with perioperative clinicians. This contact played a major role in decreasing anxiety and improving patient outcomes during the perioperative period. Specific, relevant information provided during the pre-admission contact helped patients not only during the day of surgery, but also during the recovery period after they were discharged home.

**COMMUNICATION.** Patients' perception of poor or lack of communication significantly affected their satisfaction with care during their day of surgery, especially in the preoperative period. Such measures as updating patients about waiting times, taking time to listen, and providing reassurance were highly valued by patients.

**PRIVACY.** Patients placed a great deal of value on maintaining their privacy throughout the perioperative period. Preserving self-respect and dignity were essential to patient satisfaction with care. Table 2 provides a glimpse of the synthesized findings of privacy. Rhodes et al

**TABLE 2**  
**Privacy**

<b>Findings</b>	<b>Illustration</b>	<b>Category</b>	<b>Synthesis</b>
Perceived lack of privacy, increased patient anxiety, feelings of vulnerability and dissatisfaction of their perioperative experience.	"The feeling of being naked and awake during the procedure was disturbing. I did not like having no clothes on with all those people around. I am a bit overweight and find that was the worst part of the overall experience."	Maintaining patient privacy during a procedure.	Lack of privacy during the perioperative period may impinge on patient satisfaction. The evidence suggests that patients are concerned about their privacy throughout their perioperative experience.
Patient expressed increased discomfort and embarrassment when vomiting.	"I was sick as a dog, chunked everywhere. Every time I vomited, the pain knifed me. The nurses were great, did all the things to settle me down. I felt good fairly soon, but so embarrassed. You kind of expect a little something after you wake for your troubles. I only had a curtain around me and was so embarrassed, everyone in the room knew it was me hurling."	Preservation of privacy and self-respect during the perioperative period.	
Preserving dignity during the perioperative period was an important factor in maintaining control over self.	"No way was I going to throw up in that room in my gown surrounded by only a flimsy curtain. A girl's got to retain some dignity."		

*Rhodes L, Miles G, Pearson A. Patient subjective experience and satisfaction during the perioperative period in the day surgery setting: a systematic review. Int J Nurs Pract. 2006;12:184. Reprinted with permission from Wiley-Blackwell, Oxford, UK.*

ended their metasynthesis with 13 recommendations for improving patient care during the perioperative period. Following are a few of these recommendations:<sup>8(p185)</sup>

- Stagger admission times to reduce preoperative waiting times.
- Maintain patient modesty, dignity, and privacy throughout the continuum of care.
- Improve communications skills, listen to the patient, and explain all aspects of care.
- Conduct inservice lectures about patient satisfaction and strategies to improve pa-

tient satisfaction throughout their continuum of care.

### CONCLUSION

A metasynthesis can be a goldmine for perioperative nurses to help strengthen evidence-based practice. A metasynthesis can enlighten and increase the understanding of nurses in regard to various aspects in the perioperative process that our patients experience. It also can serve as a model to guide the development of individualized nursing care interventions in

perioperative nursing and to affect decision making in health care policies. Metasyntheses have the potential to leave a legacy for future perioperative nurses and researchers. — **AORN** —

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## HIV Subtype D May Increase Risk for Dementia

Patients infected with HIV subtype D are at a greater risk for developing dementia, according to an August 28, 2009, news release from Johns Hopkins Medicine, Baltimore, Maryland. The HIV virus occurs in several subtypes, which are identified by letters A through K and distinguished by small differences in genetic sequence. Additionally, particular subtypes seem to be clustered in certain areas of the world. For instance, the majority of the 35 million people infected with HIV are located in Sub-Saharan Africa, where subtypes A, C, and D are most prevalent.

Researchers from Johns Hopkins studied 60 patients with HIV at a clinic in Kampala, Uganda. The patients were participants in a different study to test the effects of antiretroviral medications on cognitive impairment; however, they had not yet begun taking

the medications. The researchers determined the patients' HIV subtype before performing a variety of neurological and cognitive tests to assess each patient's brain function. Results from the test revealed that seven of 33 patients (24%) with subtype A and eight of nine patients (89%) with subtype D had dementia. This finding is the first to demonstrate that a specific subtype of HIV has an effect on cognitive impairment. More research is needed to determine the reason for the increased occurrence of dementia in patients with HIV subtype D.

*HIV subtype linked to increased likelihood for dementia* [news release]. Baltimore, MD: Johns Hopkins Medicine; August 28, 2009.



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