From Practice to Midrange Theory and Back Again
Beck’s Theory of Postpartum Depression

Gerri C. Lasiuk, MN, RN; Linda M. Ferguson, MN, RN

This article presents a brief overview of theory as background for a more detailed discussion of midrange theory—its origins, the critical role for midrange theory in the development of nursing practice knowledge, and the criteria for evaluating midrange theory. We then chronicle Cheryl Tatano Beck’s program of research on postpartum depression (PPD) and advance the thesis that her theory of PPD, titled \textit{Teetering on the Edge}, is an exemplar of a substantive midrange nursing theory. We demonstrate Beck’s progression from identification of a clinical problem to exploratory-descriptive research, to concept analysis and midrange theory development, and finally to the application and testing of the theory in the clinical setting. Through ongoing refinement and testing of her theory, Beck has increased its generalizability across various practice settings and continually identifies new issues for investigation. Beck’s program of research on PPD exemplifies using nursing outcomes to build and test nursing practice knowledge. \textbf{Key words:} Cheryl Tatano Beck, middle range theory, nursing practice theory, nursing outcomes, nursing theory, postpartum depression

In today’s world of evidence-based nursing and knowledge utilization, few question the centrality of theory to nursing knowledge development and the importance of that process to the ongoing evolution of the discipline. Although even Florence Nightingale knew that the practice of nursing requires specialized, discipline-specific knowledge,\textsuperscript{1} it would be several decades before the science of nursing had evolved sufficiently to systematically develop that knowledge. In the early part of the last century, nursing practice knowledge took the form of “rules, principles, and traditions”\textsuperscript{4}(p34) derived from experience and taught by rote. The competent practitioner needed only a caring disposition coupled with a handful of technical skills, which were taught in hospital-based apprenticeship-training programs. The little theoretical knowledge that did exist in nursing was co-opted from other disciplines.

This situation began to change when the public health movement took hold in the Western world. By 1913, the National League for Nursing Education in the United States recognized that the increasing scope and complexity of nursing practice required a broader knowledge base that must include “some knowledge of the scientific approach to disease, causes, and prevention.”\textsuperscript{2}(p60) The social upheaval that accompanied two world wars and the intervening Depression years spawned major shifts in the social order; changes to the delivery of healthcare; and a growing demand for skilled nurses. In response, national governments invested new resources into the study of nurse education and work life. This was a critical juncture...
for the discipline because it presented both an opportunity and an imperative for nurses to articulate the nature of the discipline, to define its domain, and to set a course for future development. Consideration of these weighty issues precipitated a cascade of events that culminated in a consensus about the need for a body of distinctly nursing knowledge, developed and tested through research (for reviews, see references 1 and 3).

The importance of theory to nursing knowledge development received official sanction in 1965 when the American Nurses Association (ANA) issued a position paper declaring theory development to be the primary goal of the profession. Nursing scholars responded and the earliest nursing theories went to press in the late 1960s and through the 1970s. These highly abstract grand theories and conceptual models defined the boundaries of the discipline and established the theoretical foundations for nursing curricula. While many practicing nurses saw them as having little direct relevance to their work, their articulation was a necessary precondition for subsequent phases in nursing knowledge development.

In their seminal article, Dickoff et al reiterated the theory-practice gap and sketched out a course for the development of research-based knowledge to guide nursing practice. At the same time, the sociologist Merton introduced the notion of middle-range theory as a means to guide empirical inquiry and to test that discipline's organizing theories. Jacox would later endorse middle-range theory development as an important vehicle for the development of practice knowledge needed in nursing.

By the late 1980s, nursing was primed to respond to Meleis' impassioned plea for a "reVisioning" of the goals of nursing scholarship. For the discipline to go forward, she said, it must refocus its efforts on developing substantive nursing knowledge built on concepts grounded in practice. This marked the entry of nursing into the current era, one in which the main thrust is toward the generation and testing of midrange and situation-specific theory.

This article opens with a brief review of theory as a way to create a context for a more detailed discussion of midrange theory—its origins, the critical role for midrange theory in the development of nursing practice knowledge, and criteria for evaluating midrange theory. We then chronicle Cheryl Tatano Beck's program of research on postpartum depression (PPD) and advance the thesis that her theory of PPD, titled Teetering on the Edge, is an exemplar of a substantive midrange nursing theory. We demonstrate Beck's progression from identification of a clinical problem, to exploratory descriptive research, to concept analysis and midrange theory development, and finally to the application and testing of her theory in the clinical setting. Through ongoing refinement and testing of the theory, Beck has increased its utility and applicability across various practice settings and continually identifies new issues for investigation. This research program on PPD exemplifies of using nursing outcomes to develop practice knowledge through midrange theory development.

THEORY: A PRIMER

Chinn and Kramer describe theory as the "creative and rigorous structuring of ideas that projects a tentative, purposeful, and systematic view of phenomena." More specifically, it consists of concepts and the relationships among those concepts, for the purpose of describing and explaining the phenomenon, predicting outcomes, or prescribing nursing actions. Theory serves to organize disciplinary knowledge and to advance the systematic development of that knowledge. It may also identify the parameters of a discipline; provide a means for addressing disciplinary problems; furnish a language with which to frame ideas of interest to a discipline; and provide unifying ideas about phenomena of interest to a discipline.

By its nature, theory is abstract and does not exist in the material world per se; rather,
it is a mental conception or an idea that represents things or events in that world. Because it is abstract, theory does not necessarily represent a particular thing or event, but may refer more generally to a class of similar things or events. In contrast, something that is concrete does exist in material form and "is embodied in matter, actual practice, or a particular example. In elucidating the nature of a particular theory, we might construct an imaginary line or continuum (an abstraction in itself!) anchored on one end by things or events that are concrete and on the other by things or events that are abstract. Theories that are relatively more abstract are broader in scope and can be generalized to a greater number of things or events, whereas those that are more concrete are narrower in scope and applicable to a smaller range of phenomena.

A concept is "a complex mental formulation of experience." It is the totality of a phenomenon, as it is perceived and—if it is empiric—can be verified by others. Like theories, concepts also exist at varying levels of concreteness and abstractness. A concept such as "biological sex" is more concrete (or empiric) because we can directly observe evidence of it. On the other hand, phenomena that can be measured only indirectly (such as depression) are somewhat more abstract and exist somewhere in the middle of our continuum. At the other end of the scale are highly abstract concepts like "self esteem" or "social support." Measurement of these concepts is also done indirectly, via agreed-upon indicators. The relationships between and among the concepts of a theory are stated as propositions. These are "postulates, premises, suppositions, axioms, conclusions, theorems, and hypotheses," each of which reflects the proposition's purpose, type of logic used in its construction, and the context in which the propositions occurs.

Types of theory

Having described key elements of theory, we can begin to label theories on the basis of their nature and purpose. Here we will consider metatheories, grand theories, midrange theories, and situation-specific theories.

**Metatheory** is global in nature and stipulates, in the broadest terms, the phenomena of interest to a discipline. Because of its high degree of abstraction, metatheory does not lend itself to empirical testing. This level of theory furnishes the concepts and propositions that are epistemological building blocks for disciplinary knowledge development. To a lesser degree than metatheory, **grand theory** is also very abstract. It offers conceptual frameworks, which define and organize disciplinary knowledge into distinct, though still broad, perspectives.

The sociologist Merton introduced the notion of **middle range theory** as a tool for empirical inquiry. He described it a "limited set of assumptions from which specific hypotheses are logically derived and confirmed by empirical investigation." Midrange theories are less abstract and more limited in scope than grand theories. They involve fewer concepts, have clearly stated propositions, and readily lend themselves to the generation of testable hypotheses.

**Situation-specific or microtheories** focus on specific phenomena in a particular setting. They are very limited in scope and are not intended to transcend time, place, or social-political structure. Two such nursing theories are Gilliland and Bush's theory of social support for family caregivers and Im and Meleis' theory of Korean immigrant women's menopausal transition.

**MIDRANGE THEORY**

A major limitation of grand-theory is that its concepts are too broad and abstract for empirical testing. In contrast, situation-specific or single-domain theories contribute little to building a cohesive and unified body of disciplinary knowledge because they are very concrete and too narrow in scope. Merton argues that middle range theory circumvents both of these problems. To his way of
thinking, efforts to explicate a unifying grand theory in sociology had just the opposite effect. That is, they resulted in the proliferation of a "multiplicity of philosophical systems in sociology and, further, led to the formation of schools, each with its cluster of masters and disciples." Merton believes that sociology's advance as a discipline rests on the development of middle-range theory whereas continued focus on total sociological systems (ie, grand theories) impedes that progress. In nursing, early efforts to define the parameters of nursing's domain and to identify its phenomena of interest led to the development of metatheory and grand-theory. While these did serve to differentiate nursing from other disciplines and explained the discipline's ontological values, they provided little direction for nursing research to say nothing of the day-to-day practice of nursing.

According to Merton, middle range theory can be developed from grand-theory (deductively) or from empirically grounded concepts (inductively). He emphasized, however, that the strength of middle-range theory is its capacity to describe, explain, and make predictions about concrete phenomena of interest to a discipline. The range of theoretical problems and testable hypotheses generated by middle range theory potentiates its utility and productivity. While Merton believes that the larger conceptual schemes of the discipline should evolve from the conceptual consolidation of tested middle-range theories, he does not advocate exclusive focus on them.

Early nursing advocates of midrange theory envisioned that a particular midrange theory might support a single or multiple grand-theories, thus cohering nursing knowledge. As well, Cody suggests that midrange theory testing provides a way to analyze the adaptability of nonnursing theories to nursing practice. On a cautionary note, however, he adds that researchers and clinicians must first determine whether this borrowed theory is consistent with the ontological values of nursing. If it is not, he warns, it will not advance nursing science.

Evaluating Midrange Theory

In a 1993 address to the ANA's Council of Nurse Researchers Symposium, Suppe proposed that midrange theory is identifiable by its scope, level of abstraction of the concepts, and testability. The scope or generalizability of a theory refers to the range of phenomena to which the theory applies or to the number of situations addressed by a particular theory. Because midrange theory is more concrete than grand theory—but less so than situation-specific theory—it applies across several client populations and practice settings, but not to all. The concepts of a midrange must be clearly delineated and sufficiently concrete as to be testable.

Testability requires that these concepts can be coded objectively, as operational definitions, empirical measures, or hypothesized relationships, and that researchers can test the relationships between and among these concepts under different conditions.

In the following section, we examine Cheryl Tatano Beck's theory of PPD. Our method for doing this is adapted from an approach to theory analysis described by Meleis and on the more specific criteria for analysis and evaluation of midrange theory proffered by Whall. Meleis' approach encourages attention to the theorist's background and important life influences; the paradigmatic origins of the theory; as well as analysis of the theory's rationale, scope, goal, and system of relations among other factors. This provides a context for the theory, locates the theorist in the larger scientific community, and fosters an understanding of where their work resides within the disciplinary knowledge structure. On the other hand, Whall's approach to theory evaluation is more directly oriented to an analysis of whether or not a theory bears the characteristics of a midrange theory. The latter considers (1) the assumptions underlying the
theory; (2) the relationship of the theory to philosophy of science; (3) any loss of information due to concepts not being interrelated via propositions; (4) presence/absence of internal consistency and congruence among all components of the theory; (5) empirical adequacy of the theory; and (6) evidence as to whether it has been tested in practice and/or through research and has held up to that scrutiny.

**Paradigmatic origins of the theory**

Beck's initial study in the area of PPD explored early discharge programs in the United States through a literature review and critique, in which she identified a significant gap in maternal care. She wrote:

What has not been given equal priority in postpartum follow-up care, however, is the mother's psychological status, more specifically, the phenomenon of maternity blues. Early discharge mothers are at home when the blues usually occur during the first week after delivery. Specific assessments for maternity blues should routinely be part of the nurse's assessment of these mothers during home visits.10(p137)

The next year, she reviewed the existing literature on maternity blues11 and began clarifying the differences among the concepts of postpartum psychosis, postpartum depression, and maternity blues. She also identified the need to improve the instruments employed in this area and called for “both qualitative and quantitative research designs... to completely investigate the phenomenon of the blues.”11(p298)

Beck32 takes exception to the notion that qualitative research belongs exclusively to the early stage of a research program. She contends that at the outset of a research program it is impossible to predict its trajectory. Rather, she says, the “path of a nurse scientist’s research program is truly determined by the state of knowledge that is known at each juncture when the research questions for the next study are being determined.”32(p266) In response to Morse’s33 caution against investigators moving back and forth between inductive and deductive research approaches at the expense of methodological rigor, Beck counters that researchers can acquire the knowledge and skills about a variety of research methods through continuing education and/or via collaboration with others who have the methodological expertise needed for a particular study. In her rejection of the incommensurability of different inquiry perspectives, she provides the basis for her
program of research: the need to address the question that arises with the most appropriate research method.

**Philosophical foundations**

Beck reflects characteristics of a postmodern philosophy of science. Many postmodernists are also constructivists who believe that each of us constructs an understanding of the material world on the basis of our perceptions of it. Because observation and perception are fallible, these understandings are invariably incomplete. Our best hope for approximating a full understanding of phenomena of interest is through systematic research employing multiple methods. According to Beck, "Each successive research project should be guided by the previous research study. The objective of this systematic, continuous inquiry is the cumulative production of new knowledge in a substantive area of nursing."

**Scope of the theory**

In 1992, Beck published a phenomenological study of the lived experience of PPD. Data for the study were the text of transcribed interviews with women attending a PPD support group, which Beck cofacilitated for a number of years. From those, Beck identified 45 significant statements about the women's experience of PPD and clustered them into the following 11 themes, which explicate the "fundamental structure of postpartum depression":

1. Unbearable loneliness
2. Contemplation of death provides a glimmer of hope
3. Obsessive thoughts about being a bad mother
4. Haunting fear that "normalcy" is irretrievable
5. Life is empty of all previous interests and goals
6. Suffocating guilt over thoughts of harming their infants
7. Mental fogginess
8. Envisioning self as a robot, just going through the motions
9. Feeling on the edge of insanity due to uncontrollable anxiety
10. Loss of control of emotions
11. Overwhelming feelings of insecurity and the need to be mothered

The next year Beck extended those findings into a grounded theory of PPD, titled *Teetering on the Edge*. She chose a qualitative approach to the topic because she believed that the Beck Depression Inventory (BDI), a widely used instrument to detect depression, failed to accurately capture the "horrifying experiences" (written communication, November 25, 2002) of PPD that she saw in her clinical practice. Research evidence corroborated Beck's observations, calling into question the content validity of the BDI for PPD and identified a need for further investigation.

Beck's grounded theory inquiry involved a purposive sample of women attending her PPD support group. Data were collected over a period of 18 months and included field notes from the support group meetings and transcriptions of in-depth interviews with 12 of the group's participants. Through constant comparative analysis, Beck identified the core variable or basic psychological problem in PPD as being *loss of control*, which the women experienced as teetering on the edge of insanity. Participants' attempt to cope with PPD through 4 stages—*encountering terror, dying of self, struggling to survive,* and *regaining control* (Fig 1).

In the first stage of PPD, *encountering terror*, the women live with horrifying anxiety, relentless obsessive thinking, and enveloping fogginess. During the stage of *dying of self*, they experienced alarming unrealness, isolation, and thoughts/attempt at self-harm. The third stage of PPD, *struggling to survive*, reflects the women's attempts to survive by praying for relief, battling the system, and seeking solace in support groups. In the final stage, *regaining control*, participants experience unpredictable transitioning, mourning of lost time, and guarded recovery. These 4 stages of PPD subsume the 11 themes.
generated in Beck's earlier phenomenological study,\textsuperscript{13} which, according to Beck,\textsuperscript{14} extends and enhances the trustworthiness of her conceptualization of PPD.

**Internal consistency**

The major concepts in Beck's theory of PPD (loss of control, encountering terror, dying of self, struggling to survive, and regaining control) are moderately abstract and relatively narrow in scope. All of the important concepts in Beck's theory are clearly identified, as are the propositions that explicate the relationships among them. The author explains each of the concepts and supports them with direct quotes from participants. With respect to the concept of dying to self, Beck furnishes\textsuperscript{14(p44)} a partial audit trail illustrating how she derived the concept from the data. The fact that the 11 themes from her phenomenological study\textsuperscript{13} readily subsume into the codes in her grounded theory study\textsuperscript{14} indicates a high degree of transferability, dependability, and congruence of results between the studies. Not only is information not lost, but the findings from a prior phenomenological study\textsuperscript{13} are integrated into Beck's\textsuperscript{14} ground theory research project. This suggests a high degree of internal consistency and congruency among elements of the theory.

An assumption underlying Beck's theory is that PPD is a significant women's health problem that not only affects individual women but also has deleterious effects on their children's health and development.\textsuperscript{37-40} Despite the fact that PPD had received considerable research attention by 1993, little of it was qualitative in nature. That being the case, Beck believed that some aspects of the experience of PPD remained underexplored. As well, because previous studies had never demonstrated an unequivocal link between PPD and the physiological changes associated with pregnancy and childbirth, there were undoubtedly other factors at play (eg, psychosocial, environmental, etc).
Other assumptions supporting Beck’s theory of PPD are those embedded in the qualitative inquiry paradigm, which is consistent with nursing’s values. Participants in qualitative research are viewed as competent knowers of their own experience and, as such, are collaborators in the inquiry process. In this tradition, there is emphasis on understanding phenomena by attending closely to participants’ lived experience. Furthermore, because qualitative research is discursive in nature and emergent in design, the researcher examines data for patterns of meaning with the aim of objectifying those patterns for scientific inquiry, while at the same time endeavoring to remain true to the participants’ construction of their experience. Qualitative research arises from traditions of human science inquiry in which the intent is to construct a holistic and ecological understanding of the phenomenon in question.

Empirical adequacy and testing

The empirical adequacy of Beck’s theory of PPD becomes apparent in her subsequent work. She went on to develop the Postpartum Depression Predictors Inventory16 (PDPI), a tool to identify women at risk for developing PPD. The PDPI is a checklist of 8 risk factors, determined through 2 meta-analyses39,41 to relate to PPD. These factors include prenatal depression, prenatal anxiety, history of previous depression, social support, marital satisfaction, life stress, childcare stress, and maternity blues. The PDPI is used in clinical settings across North America and in Iceland.42 In 2002, Beck published a revised version of the PDPI—the PDPI-R, which incorporates the results of another, more recent meta-analysis.16 Beck has also collaborated with Gable15,17,18 to develop the Postpartum Screening Scale (PDSS) for detection of PPD. The PDSS is a 35-item, Likert-type, self-report instrument whose psychometric properties are supported in the literature and by content experts.15 Confirmatory factor analysis of the scale supports the existence of its 7 hypothesized dimensions. Analyses of the 5-point response categories supported meaningful score interpretations and the internal reliability ranged from 0.83 to 0.94. Recently Beck15 published a Spanish version of the PDSS.

Beck’s research program clearly adopts a holistic approach to understanding the experience of PPD, consistent with the perspective and values of nursing. She explores views about women as whole beings operating in the context of a person-health-environment-nursing complex. In all of her writing, Beck discusses the implications of the work for nursing care. At the same time, her work resonates with those in other clinicians and researchers who work in the area of PPD. We find evidence of this in the congruence between Beck’s theory with the work of Sichel and Driscoll (cited in reference 18) “earthquake model” of PPD. The latter explains that a woman’s vulnerability to PPD reflects her unique genetic, hormonal, and reproductive makeup in the context of her life stressors. Depression, like an earthquake, can erupt when pressures increase at already highly stressed points of the system.

CONCLUSION

This article reviewed the basic elements of theory and chronicled the development of Teetering on the Edge, Cheryl Tatano Beck’s theory of PPD.14 We argue that Beck’s theory is an exemplar of substantive midrange nursing theory. Through ongoing refinement and testing of her theory of PPD, Beck has increased its generalizability across various practice settings and continually identifies new issues for investigation. Beck’s program of research on PPD represents a significant contribution to nursing practice knowledge through midrange theory development, which, in turn, advances the discipline of nursing.

Midrange theory has the potential to address the theory-practice gap that continues to plague nursing and to develop the substantive practice knowledge needed to advance nursing as a discipline.
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