

# Caregiving Motivations and Developmentally Prompted Transition for Mothers of Prematurely Born Infants

**Karen Pridham, PhD, RN, FAAN; Tondi Harrison, PhD, RN;  
Roger Brown, PhD; Mary Krolkowski, MSN, RN;  
Rana Limbo, PhD, RN, PMHCNS-BC;  
Michele Schroeder, PhD, RN, CPNP**

Parenting transition is a process prompted by infant developmental changes and may be defined by motivations for caregiving and the goals they indicate. Qualitative exploration of neonatal and 1-year feeding experience of 22 mothers of very-low-birth-weight infants revealed 3 types of caregiving-related motivations—nurturing, relating, and shaping quality of life. The clusters of motivations differed between ages and across mothers, suggesting transition in parenting reflective of both infant development and maternal goals. Study with a larger sample is needed to examine change in caregiving motivations and their function in characterizing parenting transitions. **Key words:** caregiving, infancy, infant development, infant feeding, internal working model, parenting, motivation, premature infants, transition, very-low-birth-weight infants

---

**Author Affiliations:** University of Wisconsin–Madison School of Nursing, Madison (Drs Pridham and Brown); The Research Institute at Nationwide Children’s Hospital, Columbus, Ohio (Dr Harrison); Children’s Hospital of Wisconsin, Milwaukee, Wisconsin (Ms Krolkowski); Gundersen Health System, La Crosse, Wisconsin (Dr Limbo); and Meriter Hospital, Madison, Wisconsin (Dr Schroeder).

*This study was supported with funds from the Wisconsin Perinatal Foundation, the Faye McBeath Foundation, the University of Wisconsin–Madison School of Nursing Florence Blake Research Fund, and the National Center for Advancing Translational Sciences (grant 9U54TR000021).*

*The authors thank the families that participated in the study and generously told them about their caregiving in the context of infant feeding. The authors also thank Ms Jill Paradowski, MS, RN, and her staff of City of Milwaukee Department of Public Health nurses, who worked with families; neonatal intensive care unit nurses at Aurora Sinai Medical Center, Children’s Hospital of Wisconsin, St. Joseph’s Hospital, and St. Mary’s Hospital, all in Milwaukee, Wisconsin; as well as Ms Carol Waskovich, MA, and Ms Jacklyn O’Brien, for preparation of transcriptions, Mary Elizabeth Bathum, PhD, RN, for review and analysis of transcriptions, Ms*

**T**RANSITIONS are commonly understood to mean movement or change from one condition to another. For mothers in their infants’ first year, transitions occur in relatively rapid succession and apace with the infant’s development. These transitions involve the parenting functions and caregiving practices that constitute the activities of mothering. For mothers, risks inherent in transitions include vulnerability to caregiving problems, deficiencies in competence, and risks to the quality of the mother-child relationship. At the same time, parenting transitions offer

---

*Lisa Miller, for preparation of the manuscript, and Patricia Becker, PhD, RN, for editing.*

*The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.*

**Correspondence:** Karen Pridham, PhD, RN, FAAN, University of Wisconsin–Madison School of Nursing, 600 Highland Ave, Madison, WI 53726 (kpridham@wisc.edu).

DOI: 10.1097/ANS.0b013e3182626115

opportunities for development of parenting functions and caregiving competencies, including sensitive and responsive interaction with the young child.<sup>1</sup> Interaction, Bronfenbrenner<sup>2</sup> claimed, is the mechanism through which development ultimately occurs. Interaction during feedings is a setting in which the development of both parents and infants occurs.

Initial study of transition to parenting focused on maternal outcomes of birthing an infant, for example, confidence and competence in the maternal role and acquisition or achievement of a maternal self-identity.<sup>3</sup> More recent studies treat this transition as a process mothers experience as they acquire maternal qualities. Meleis and colleagues<sup>4</sup> referred to the core of the transition process as “engaged mothering.” This process included getting ready, dealing with the reality of having a baby, settling in with the baby, and envisioning or planning for the future. Mercer,<sup>5</sup> following the call of McBride and Shore<sup>6</sup> for a dynamic transition concept, offered an alternative to the static concept of acquiring maternal identity. In Mercer’s conceptualization, commitment to and involvement with the infant are the outcomes. This process, like the transition process described by Meleis and colleagues, is phased and includes preparing, learning, moving to a new normal, and achieving a maternal identity over the course of about 4 months postpartum. Mercer suggested that the acquisition of maternal identity at this time was only in its initial stage. The process, however, has not been examined beyond 4 months.

Caregiving practices are often a point of interaction of clinicians with parents and a source of knowledge about parenting transition, including the parent’s goals and challenges in providing care to the infant. A theoretical framework for understanding parenting transition in the context of caregiving practices could advance clinical identification and assessment of transitions beyond an infant’s early months. Although to date, the framework has primarily been applied to the study of transitions for mothers, the frame-

work was structured with the transitions of fathers as well as of mothers. The transitions of interest are, therefore, referred to as parenting transitions.

The purpose of this article was to begin exploration of parenting transition within the framework of infant feeding. For this study, the concept of transition is expanded beyond a process or sequence of processes of giving birth and adapting to a new baby to a process in which parents are engaged as long as caregiving and interaction with the offspring continues. The new concept treats parenting transition as a process that is responsive to developmental changes in both the child and the mother, and their relationship. Parenting transition concerns change in everyday caregiving practices and parent-infant interaction within these practices, driven by the infant’s development and the parent’s anticipation of developmental change. Infant feeding was selected as the caregiving practice for the study of parenting transition because of its clinical importance for both primary and specialty care and because nurses are in a position to assess it and to intervene in ways that can influence its trajectory.

The data for exploring parenting transition were derived from narratives about feeding provided by mothers of premature, very-low-birth-weight (VLBW) infants during the neonatal period and at 12 months, age adjusted for prematurity (postterm age). For these mothers, the first transition occurs when a mother is taking on responsibility for her infant’s feeding. The second transition occurs toward the end of the first postterm year when a mother must revise the degree to which she is responsible for the nutrient intake of a child who is developing autonomy in self-feeding.<sup>7</sup>

#### **CONCEPTS FOR THE STUDY OF PARENTING TRANSITIONS: CAREGIVING AND THE INTERNAL WORKING MODEL**

The concept of caregiving, originated by Bowlby<sup>1</sup> and elaborated by George and

Solomon,<sup>8</sup> provides a vantage point for understanding, describing, and explaining parenting transition. Bowlby's concept of caregiving encompasses a mother's anticipation and reciprocation of the infant's attachment behavior, including the search for nurturance, stimulation, and protection from discomforts. Bowlby viewed caregiving as a behavioral system that operates within the mother-child relationship. Caregiving, in Bowlby's formulation, evolves with varying degrees of sensitivity and responsiveness as the child's needs change and capacities develop. Both the work of caregiving and the qualities of the mother-child relationship associated with it are influenced by a mother's remembered history, values and aspirations, and family support for attachment and caregiving goals.<sup>8</sup> Parenting transitions are initiated by current or anticipated developmental changes in the child. These changes require or stimulate construction or reconstruction of the meaning a situation has for a mother, her caregiving goals, responsibilities, and competencies.<sup>1</sup> In feeding, a mother directly encounters or anticipates tangible developmental changes in the infant and in the attending requirements for the provision of nutrients, support of the relationship, and attention to quality of life for infant, self, and family.<sup>8</sup> The result, when change is in process or desired, is a transition that varies from mother to mother and from time to time in the reconstruction of thought, emotional response, and action elicited from the mother.

Parenting transition concerns tangible, everyday parenting activity that mothers describe in their accounts of what they are working on, the goals for their work, its meaning, and how they feel about it. A mother's account of what she is working on and how this work is changing can provide in-depth information about a parenting transition and its clinically relevant features. The concept of the internal working model of caregiving provides an approach to accessing and organizing this information. It is a metaphor for a mental model of goal-oriented thought, emotion, and action and is structured by expectations and intentions that organize, regulate, and di-

rect the activity.<sup>1,9</sup> For example, one mother expects herself to provide the clinically specified amount of nutrients to her infant and intends to follow this expectation through, feeding by feeding. Another mother expects herself to ensure the infant's feeding comfort and satisfaction with an amount that has not been too large for a small baby's stomach and intends to stop feeding at the first sign of discomfort, no matter what amount the infant has fed. In each case, the mother's caregiving practice is concerned with feeding an amount adequate for the infant. The 2 mothers differ, however, in the motivation that actuates their practice. The first mother's motivation relative to nutrient intake concerns assurance of recommended amount. The second mother's motivation puts prescribed intake secondary to infant comfort and satisfaction.

The expectations and intentions of an internal working model of caregiving are integral to a mother's motivation, her goals or desired outcomes, and emotions that reflect the meaning of the activity. These components of an internal working model constitute the concepts used in this exploratory study for describing parenting transitions, differentiating the process of transition at different times in the life of a mother-offspring dyad, and formulating clinical responses to them.

## **MOTIVATION: A KEY CONCEPT IN PARENTING TRANSITION**

Motivation was considered a key concept for understanding mothering transition for several reasons. Motivation arises from a mother's discernment of her child's need for care<sup>1,10</sup> and her expectations to activate and sustain caregiving behavior.<sup>11,12</sup> Motivation is distinguished by meaning, emotion, and the goals or values associated with the caregiving activity.<sup>13,14</sup> Identifying the variations or nuances in motivation provides a mechanism for labeling or typing a mothering transition, making it possible to compare parenting transitions from one time to another and from one mother to another within a specific time

period postbirth. Multiple categories of motivation may be simultaneously active in caregiving activity, making the description of parenting transitions complex. Bronfenbrenner and Morris<sup>15</sup> suggested that development can be gauged by the emerging complexity of functions and processes in which an individual is engaged. Thus, the number and classes of categories of motivation active within a transition period and from one transition to another provide for the assessment of the structure of a mother's motivation and an index of her development within the context of mothering transition.

To explore maternal transition in relation to infant developmental change through the first year, data were taken from a small longitudinal study of the caregiving experience of mothers of premature, VLBW infants. These infants were vulnerable to feeding, growth, and developmental difficulties.<sup>16–18</sup> The overall goal was to explore concepts for the construction of a theoretical model of mothering transition occasioned by infant developmental change during the first postterm year. The focal concept explored was caregiving motivation. The exploration drew on mothers' reports of what they were working on or trying to accomplish with respect to feeding their infants. These reports were examined at 2 time points to assess whether aspects of motivation when infants are establishing nipple-feeding skills and feeding patterns differed from those at the end of the first postterm year when infants are generally developing or refining self-feeding skills.<sup>7</sup>

## **SPECIFIC AIMS**

The specific aims of the study were to (a) describe the motivations relevant to feeding that mothers of VLBW infants reported in the neonatal period near the beginning of feeding responsibility and at 1-year postterm age; (b) explore potential clusters of motivation categories mothers expressed at each of these times; and (c) examine change in motivation categories from the infant's neonatal period to the end of the first postterm year.

## **METHODS**

### **Research design**

This longitudinal, descriptive study was a secondary analysis of data collected for a pilot study with 22 mothers concerning their internal working models of feeding their VLBW infants through the infant's first postterm year. The data for all 22 of the mothers were used for the first aim. The data for the 15 mothers who completed both the neonatal and 1-year interviews were used for the second and third aims. The study was approved by the institutional review boards of the academic institution and the participating hospitals. Both parents signed the letter of informed consent.

### **Recruitment sites and sample**

Families of VLBW infants were recruited from 4 level III nurseries in a Midwestern city within a 10-month period spanning 1999–2000. Eligible mothers were at least 18 years old, able to speak and read English, and not known to have a history of substance abuse. Eligible prematurely born infants were appropriate weight for gestational age. Although the criteria for enrollment specified infant birth weight less than 1500 g, these criteria were relaxed to less than 1750 g midway into the study to increase the size of the sample.

### **Data collection procedure and methods**

Data for the first, neonatal assessment, aimed to be completed prior to 1-month postterm age, were collected either in the neonatal intensive care unit or following hospital discharge in the family home. All data for the second (1-year) data collection were obtained in the home. Demographic data included parental marital status, education, ethnicity or race, number of children living in the home, and income. Income was estimated by the mother, using categories that spanned a range of values. The lower value of the category selected by a mother was used to estimate poverty status according to federal guidelines for the year nearest data collection.<sup>19</sup>

A semistructured interview (Feeding Interview) was derived from an interview used in previous studies<sup>20</sup> to learn about a parent's internal working model of caregiving in the context of feeding. The interview included the following topics: (a) what feeding the baby is generally like; (b) how the feeding was the same or different from usual feedings; (c) what the parent gets out of a feeding (its meaning for the parent); (d) what the baby gets out of feeding; (e) the baby's feeding skill and how the parent expects it to change in the next month or two; (f) how the parent determines when to initiate a feeding; (g) how the parent determines when the baby has fed enough; (h) the kinds of things the parent needs to do during a feeding to support or sustain it; (i) how the parent would like the baby's feedings to be different (ie, the desired pattern of feedings); (j) disappointing or satisfying things about the baby's feedings; (k) feeding difficulties and what helps the parent get through them; (l) the parent's sources of help with feeding issues she is working on; and (m) feeding issues important to the parent not already discussed. Information about maternal motivations, expectations, intentions, emotions associated with feeding, and specific goals for the feeding activity were derived from a mother's responses to these questions.

Following the Feeding Interview, the mother was asked to respond to 6 hypothetical feeding situations, titled Feeding Situations. These situations concerned events or conditions likely to be out of the ordinary, unanticipated, and/or not yet experienced in order to learn about mothers' motivations for caregiving in a feeding context. The situations were identified from reports by mothers in an earlier study concerning feeding a premature infant.<sup>21</sup> The method was developed and tested with mothers of healthy infants, children, and adolescents.<sup>22</sup> Each of the situations concerned nutrient intake or feeding as a behavioral event in an interpersonal or family context. Feeding situations were presented in the following order: (a) your baby is sleepier and waking less frequently to eat;

(b) you had to be away from your baby for about 4 hours and, in your absence, needed to have a person new to your baby take care of him or her; (c) your baby feeds better when someone other than you feeds him or her; (d) your baby breathes very fast during feeding (referenced specifically to any respiratory difficulties the baby may have had at the time of the interview); (e) your baby gags or throws up milk or other food during feeding; and (f) your baby eats less than expected. Each situation was followed by 3 questions: (1) What would you make of this situation? (2) What, if anything, would you do? (3) How would you know you are on the right track (in what you think is going on? in doing that? in responding that way)? The situations were selected for appropriateness for infants within the first postterm month or at approximately 1-year postterm age. Mothers' responses to the Feeding Interview and Feeding Situations were recorded on audiotape and transcribed for coding. Each interview was coded by the first author. The second author independently coded one-third of the interviews. These codings were used for the assessment of inter-coder agreement, descriptive validity,<sup>23</sup> and arrival at a consensus coding.

### Data analysis

The guidelines of Sandelowski and Barroso<sup>24</sup> were followed for a 2-stage analysis of qualitative data. The first, descriptive stage, was identification of narrative that addressed what the mother was working on or desired to accomplish and her expectations, intentions, and goals. In this descriptive stage, the narrative response to both the Feeding Interview and Feeding Situations was read for information about a mother's internal working model of caregiving in the context of feeding. Identification of each expression of motivation, what a mother was working on, intending to work on, expecting to happen, or wanting to have, acquire, or be,<sup>24</sup> was noted in the transcription margin. These notes were used to create an abstract for each interview that included the narrative material for each

of the noted motivations. The context of each motivation included, to the extent that information was available in the transcription, the following: (a) a description of the situation the mother was experiencing; (b) its meaning for her; (c) her expectations for herself, her baby, or the caregiving activity in light of the situation; and (d) the intentions or actions engendered by the motivation.

The second stage of the qualitative analysis was conducted using content analysis<sup>25</sup> directed by the attachment/caregiving conceptual framework of Bowlby.<sup>1</sup> The concept of the internal working model was applied to the transcribed narrative from both the Feeding Interview and the hypothetical situations to identify motivations. The classes of motivations identified in an earlier study of parents of an infant with a complex congenital heart defect<sup>26</sup> were used as a point of departure, but in keeping with directed content analysis, did not limit the categories of motivation identified. Each example of motivation was given a motivation category label that was generated from the character of the activity that mothers had reported. A profile of motivations was created from each transcription. A catalog of motivation categories was created as the coding proceeded. Categories were refined, definitions were extended, and exemplars of motivation nuances were included as coding proceeded. Types of motivation were induced from the motivation categories after coding was completed.

To address the first aim, description of feeding-relevant motivations, a matrix was created for both the neonatal and year-end interviews. The matrices were organized with a row for each mother and notation in columns of the presence or absence of report of each category of motivation observed. To address the second aim, exploration of how motivations clustered both neonatally and at 1 year, data from mothers who had participated in both interviews were used. To assess associations among motivation categories, we used cluster analysis for binary data (ie, motivation mentioned or not mentioned) and the Jaccard similarity coefficient.<sup>27</sup> Using the Pa-

leontological Statistics software,<sup>28</sup> each cluster analysis produced an agglomerative, hierarchical, tree-like structure referred to as a dendrogram. The purpose of dendrogram analysis is to clarify inclusion and exclusion of items in clusters.<sup>29</sup> This method first finds the clusters of most similar motivations and progressively adds less similar motivations until all motivations have been included in a single cluster. This process operationalizes the concept of agglomeration.<sup>30</sup> Application of a similarity coefficient of a magnitude selected by the researcher permits the assessment of association within a cluster. In this study, a similarity coefficient of 50% or greater was used as adequate evidence of the existence of a cluster.

To examine change in motivations from the neonatal period to 1-year postterm age, the third aim, 4 variables were created. Each variable was a measure for each category of motivations of the percentage of mothers whose paired neonatal and 1-year narrative revealed the following: (a) stability-no change in expression of the motivation category from the neonatal to the 1-year interview; (b) stability-no change in nonexpression of the motivation category from the neonatal to the 1-year interview; (c) expression of the motivation category in the neonatal narrative but not the 1-year narrative; and (d) expression of the motivation category in the 1-year narrative but not the neonatal narrative. Longitudinal case studies were also used to examine change or stability in motivations from the neonatal to 1-year assessments.

## RESULTS

### Description of the sample

Of the 22 mothers who were interviewed, 20 mothers participated in the neonatal period, 17 mothers at 1 year, and 15 mothers at both times. On average, infants were 39.0 weeks postmenstrual age (SD = 2.4) at the time of the first (neonatal) interview. Infant weight at birth averaged 1049.3 g (SD = 308.7 g). Infants averaged 28 weeks

postconceptional age at birth ( $SD = 2.3$  weeks; range, 24-32 weeks). Eleven of the 22 infants had a diagnosis of the chronic lung disease, bronchopulmonary dysplasia. Average length of neonatal intensive care/special care nursery hospitalization was 64.3 days ( $SD = 30.8$  days). Twelve of the infants were male. One infant continued to be fed by gastrostomy tube through the first year.

Mothers, on average, were 28.9 years old ( $SD = 6.0$ ; range, 19.5-36.5 years) and had 14.0 years of education ( $SD = 2.5$ ; range, 11-21 years). Fifteen mothers were African American, 1 mother was Native American, 1 mother was Hispanic, and 5 mothers were Caucasian. Thirteen of the women were married or partnered, and 9 were single. The number of children living in the home ranged from 1 to 5, with an average of 2. Seven of the mothers (64%) reported annual family income in a category that, for the size of the family, conferred poverty status.

## Findings

### *Aim 1: Identification of motivation types and categories related to maternal feeding practice*

Examination of mothers' narratives revealed variation in motivation across mothers and within mothers over time. On the whole, the motivations mothers anticipated they would have in the hypothetical situations were consistent with or extended those concerning actual feeding.

Types of motivations and categories within type relevant to feeding practice are shown in Table 1. Three types of motivations were induced from the categories identified at the second level of analysis: (a) nurturing the infant, (b) relating to the infant, and (c) shaping quality of life and lifestyle for the infant, the family, or the mother. The same 3 types of motivations and 8 categories across types were applicable at both the neonatal and 1-year assessments. With the level of content analysis applied, no categories were identified at 1 year that had not been identified in the neonatal period.

### **Motivations for nurturing the infant**

Motivations of this type focused on sustaining the infant or on supporting or promoting infant well-being. The categories included in this type of motivation concerned the following outcomes: (a) nutrient intake, (b) growth, (c) development, and (d) protection. Motivation for ensuring adequate or appropriate nutrient intake was expressed by some mothers concurrently with motivation for promoting growth. In some cases, ensuring adequate intake was identified simply as a strategy to accomplish the goal of promoting the infant's growth. In these cases, ensuring nutrients was not counted as a motivation. We treated both ensuring adequate or appropriate nutrient intake and supporting growth as motivations when mothers were devoting attention or energy to initiating, carrying out, and sustaining activity characteristic of each motivation. The motivation for nurturing development most often concerned advancement of skill or competence in feeding. Mothers described the work they were doing to advance infant nipple-feeding competence in the neonatal period and in self-feeding at 1 year. The fourth category of nurturing motivation concerned protecting the infant from biobehavioral problems in the context of feeding or eating meals. A mother's protection could have immediate effects (eg, prevention of uncoordinated sucking, swallowing, and breathing or protection from aspiration, coughing, or gagging). For older infants, protection was sometimes aimed at longer-range outcomes, for example, overweight stemming from overeating.

### **Motivations concerning relating to the infant**

For some mothers, feeding provided a setting and opportunity for interacting, being close to, cuddling with the infant, having "special" or "quality time" with the infant, or, as put by some mothers, particularly of very young infants, of establishing or strengthening the relationship with the infant. Motivations of this type generally accompanied

**Table 1.** Types and Categories of Motivations Expressed in a Feeding Context: Definitions and Examples**Nurturing motivations**

*Feeding adequately or appropriately:* Motivation for providing adequate and appropriate feedings or meals

Neonate: "Keeping the baby comfortable and not feeling hungry."

"Feeding the baby the amount he is supposed to get."

"Helping the baby to get what he needs from breast-feeding."

1 year: "Giving foods that we [parents] eat that are safe and good for her."

"Getting the baby to eat what she should be eating and enough of it."

"Making sure the baby stays at feeding and doesn't get distracted."

*Nurturing growth:* Motivation for supporting growth

Neonate: "Giving as much intake as possible so the baby gains weight"

"Getting some food into the baby's system to make her grow."

"Seeing that feeding is not such a big chore for the baby and that she's gaining weight well."

1 year: "Giving baby enough nutrition and calories to keep him growing."

"Wanting to see him eat more because I don't think he eats enough and he's not real big for his age."

"Getting baby to eat more because other people think she is small."

*Nurturing development:* Motivation for supporting development of feeding or other skills

Neonate: "During feeding helping baby get a breathing pattern that is coordinated with sucking and swallowing."

"Helping baby stay more aroused during feeding."

"Giving baby assistance in feeding to a point that she is competent enough not to need assistance."

1 year: "Teaching the baby feeding etiquette [in the context of bringing the baby up correctly]."

"Teaching the child to eat nutritious food in a nutritious pattern (three meals a day)."

"Letting the baby be independent in self-feeding; needing to let him be himself, even though he will make a mess."

*Protecting the infant:* Motivation for reducing, preventing threats to, or ensuring the baby's physical well-being, safety, or health

Neonate: "Making sure she can suck, swallow, and breathe at the same time."

"Not letting baby get stressed out with feeding so that she spits up."

"Seeing that baby doesn't aspirate or choke."

Mother keeps the baby's bassinet in her bedroom. Because she doesn't want him to be laying in spit-up formula, she is always checking on him.

1 year: "Not letting baby overeat."

"Having to take more time with feeding now because baby seems to be gagging more on food."

"Seeing that the baby gets the calories and protein she needs after she throws up part of a meal with coughing."

**Relating motivations**

*Relating:* Motivation for developing, maintaining, or strengthening the relationship with the baby in the context of a feeding or a meal

Neonate: "Concentrating on the baby's warmth and comfort of the closeness when he is feeding."

"Having the pleasure of being with my son while feeding. I want to support his relationship with his Dad the same way."

"Having the opportunity to be someone for the baby and to do something for her."

1 year: "My baby getting a bond with me"

"Getting a feeling of closeness when I feed the baby—It's our quality time."

"Having the family together for a meal and making it our bonding time—playing, talking, and sharing as a family."

(continues)



**Table 1.** Types and Categories of Motivations Expressed in a Feeding Context: Definitions and Examples (*Continued*)

<p><b>Quality of life and lifestyle motivations</b></p> <p><i>Shaping the infant's quality of life or lifestyle:</i> Motivation for improving or maintaining the baby's biobehavioral stability or activity (eg, sleep) or other facets of lifestyle, the quality of the baby's physical, or social-emotional experience (eg, satisfaction, pleasure, comfort sense of security, agency, or personhood) or the baby's style of life</p> <p>Neonate: "Wanting baby to sleep better so that he will be more content and perhaps feed better, too."</p> <p>"Wanting baby to have peaceful feedings in which food is not forced on him."</p> <p>"Wanting baby's mealtimes to always be a pleasant experience for him."</p> <p>Although Mom agrees with clinicians that baby needs to increase intake for greater growth, she does not want to use the advised approach because she views it as aggressive.</p> <p>Mom wants baby to have peaceful, unforced feedings in which food is not forced on him.</p> <p>1 year: "Supporting baby's expression of what she wants and doesn't want during a meal."</p> <p>"Having baby be part of family meals, but feeding him first so he gets the food he needs."</p> <p>"Keeping baby on a set schedule so she has a routine she knows."</p> <p><i>Shaping family quality of life or lifestyle:</i> Motivation for improving or maintaining the quality of life or lifestyle of the mother or family in relation to the baby's feeding</p> <p>Neonate: "Working at reducing her [mother's] own tension and discomfort when breast-feeding."</p> <p>"Wanting to do things between baby's feedings, so wants feedings to be less close together."</p> <p>"Getting baby to have longer intervals between feeds and doing more for herself, like holding her own bottle and burping herself."</p> <p>1 year: "Wanting baby to eat every 4 hours consistently in larger amounts so that his eating better fits the family's pattern of meals."</p> <p>"Balancing her [mother's] feeling exhausted and baby's energy when eating or being fed."</p> <p>"Getting baby to the point of doing more self-feeding but not so messy that so much clean-up is needed."</p> <p><i>Shaping the quality of life or lifestyle for the parent, herself:</i> Motivation for enhancing the mother's quality of life, including her desire for personal satisfaction, pleasure, comfort, or personal growth through feeding</p> <p>Neonate: "Wanting feeding to be in the baby's control and not about what she [mother] wants things to be like—the pace and the decision when he's had enough."</p> <p>"Being seen by the clinicians as a competent mother through her skill in learning and performing new caregiving skills."</p> <p>"Liking feeding and the whole mothering thing—liking just holding her."</p> <p>1 year: "Becoming calmer and more relaxed in respect to feeding the baby."</p> <p>"Feeling happy when the baby is getting enjoyment out of playing with and mushing the food."</p> <p>"Having the energy to play with the baby at meal time and allow him to enjoy the meal."</p>	
--	--

motivation for providing adequate or appropriate nutrient intake.

**Motivations for shaping quality of life and lifestyle**

The third type of motivations included categories concerned with quality of life or

lifestyle for the infant, the family, and for the mother. Motivation to support infant quality of life was expressed by some mothers as improving how well the infant slept and gaining contentment as a result. Improvement of family lifestyle as a motivation was expressed in the intention of getting the baby to have

intervals between feedings that better suited the family pattern of meals. Mothers' motivation to support their own quality of life or shape their own lives in relation to infant feeding generally concerned enhancing satisfaction, pleasure, comfort, freedom from tension or anxiety, and learning or development.

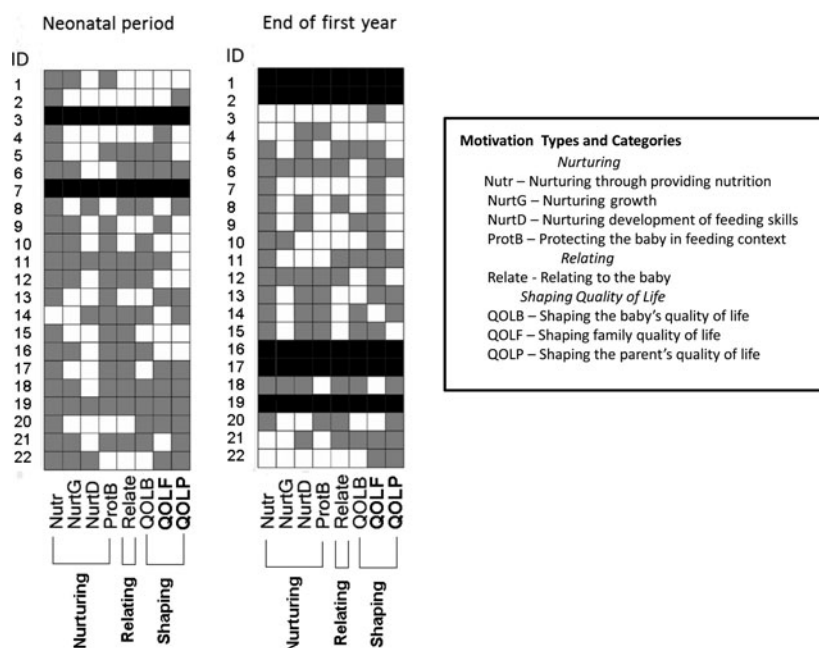
The plots of motivations by mother for the neonatal and 1-year assessments show the categories of each of the 3 types of motivations mothers expressed. All 22 mothers expressed motivations of more than 1 type in the interviews or interview in which they participated. Within the nutrient intake category of nurturing motivation, 19 of the 20 (95%) mothers interviewed neonatally described their attempts to provide adequate nutrient intake. At the 1-year interview, 13 of the 17 (76.47%) mothers interviewed indicated they were acting to see that the child received adequate and/or appropriate food intake. Neonatally, 60% or more of the mothers expressed motivations to protect the baby, relate to the baby, and promote the baby's quality of life. At 1 year, 60% or more of the mothers expressed mo-

tivations to nurture the infant's growth and development and to shape the quality of life or lifestyle of self or family.

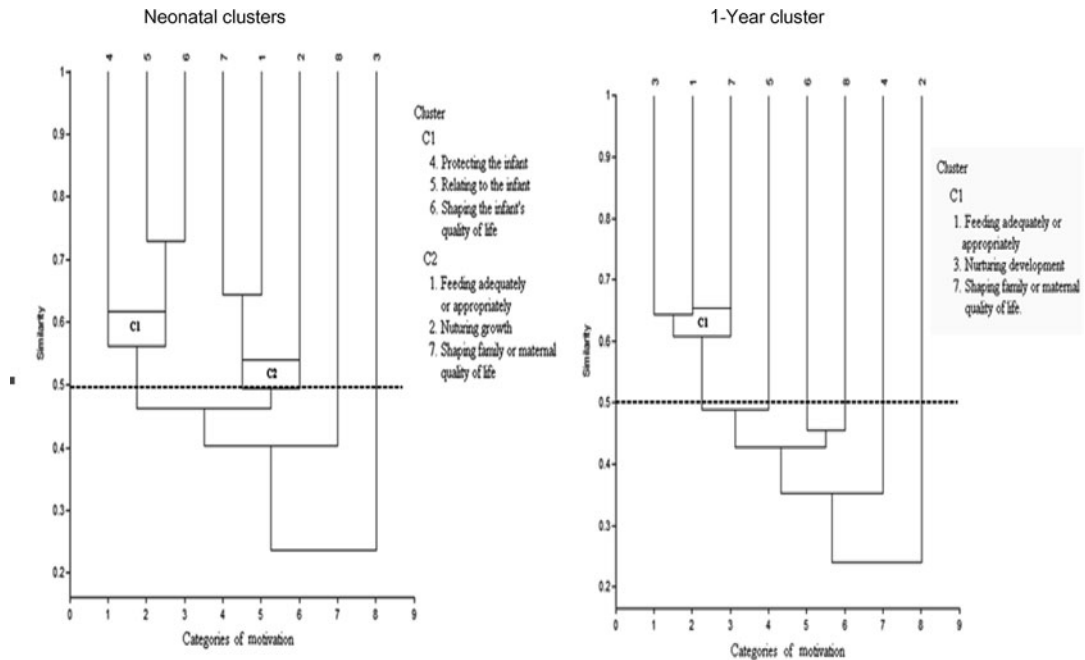
### ***Aim 2: Clusters of motivations expressed neonatally and at 1 year***

The matrix plots, shown in Figure 1, reveal several features of the association of motivation types or categories. All 3 types of motivations co-occurred in 11 of 20 mothers neonatally and 8 of 17 at 1 year. Several patterns could be identified through visual inspection of the plots. Some mothers expressed relating to the baby along with providing adequate nutrition. Several mothers, in addition to talking about motivations for relating and providing adequate nutrition, expressed motivation to promote the infant's quality of life or the lifestyle or quality of life of self or family.

The clustering of motivation categories in the neonatal and 1-year assessments is shown by the dendritic plots in Figure 2. The similarity coefficient is shown on the  $y$ -axis and the 8 categories of motivations are shown on the  $x$ -axis. The criterion similarity coefficient of



**Figure 1.** Matrix plots of motivation types and categories for mothers who provided neonatal and/or 1-year postterm interviews (N = 22).



**Figure 2.** Clusters of motivations for 15 mothers who participated in both the neonatal and 1-year assessments.

0.50 is shown by the dashed, horizontal line. Clusters of motivation categories above this line, for example, categories 4, 5, and 6 for the neonatal assessment, are demarcated by the label in the most encompassing branch of the dendrogram for the cluster (eg, C1).

Examination of the neonatal dendritic plot in Figure 2 shows 2 motivation clusters. The first cluster included relating with the baby (category 5) and shaping the baby's quality of life (category 6), both of which were clustered with protecting the baby (category 4). The second cluster of motivations in the neonatal period included providing adequate nutrition (category 1) and shaping the maternal or family lifestyle (category 7), both of which were clustered with nurturing the infant's growth (category 2). At 1 year, 3 motivations clustered with a similarity index of greater than 0.60: (a) providing adequate or appropriate nutrition (category 1); (b) nurturing development (category 3); and (c) shaping the maternal or family lifestyle (category 7).

### ***Aim 3: Stability and change in motivations from the neonatal period to the end of the first year***

Stability and change in motivation were examined in 3 ways: (a) examination of the 8 categories of motivations that were or were not expressed by each of the 15 mothers participating in both the neonatal period and at 1 year; (b) exploration of the nuances of motivations through mothers' narratives; and (c) examination of 4 longitudinal case studies.

The data for each category of motivation for each mother, shown in the matrix of Figure 1, were used for the first approach to the assessment of stability or change in motivations. Stability for all of the motivations a mother expressed was not observed for any mother. Seven of the mothers showed partial stability of motivations in their expression of at least 4 of the 8 motivation categories at both interviews. Although the number of mothers adding motivations did not differ from the number of mothers dropping motivations between the neonatal and 1-year interviews,

more motivations, overall, were dropped than added. Thirteen mothers added at least 2 motivations at 1 year, whereas 11 mothers dropped at least 2 motivations between the neonatal and 1-year interviews.

Over the 2 interviews, the proportion of motivations expressed by mothers ranged between 62.5% (5 motivation categories) and 100% of the 8 motivation categories. Taking both interviews into account, 4 of the 15 mothers expressed all motivation categories and 5 mothers expressed 6 of the 8 motivation categories. We examined the matrix showing motivation categories for each mother (see Figure 1) for differences among categories in stability or in being added or dropped. Motivation categories that were mentioned more often than other categories at both interviews were nurturing in terms of providing adequate or appropriate nutrients (11 times for the 15 mothers). Other frequently expressed motivations both neonatally and at 1 year were relating to the infant and shaping lifestyle for the mother herself.

Assessment, using data shown in Figure 1, of the number of mothers who mentioned a motivation at the neonatal interview in contrast to the number who mentioned the motivation at the 1-year interview was another approach to exploring change in motivations. Taking motivation to nurture the child's development in the context of feeding to illustrate this approach, the matrix revealed that development of feeding skills was mentioned as a motivation more often at 1 year than in the neonatal interview. At 1 year, development was expressed as motivation for the child's self-feeding, whereas, during the neonatal period, motivation for development was expressed as efforts to improve nipple, either at the breast or bottle (eg, becoming better at coordinating sucking, swallowing, and breathing). Although some mothers reported that their child's self-feeding skills were not meeting expectations at the 1-year interview, they did not indicate intention or active work to support the child's learning to develop skills for eating table foods, self-feeding, or using eating utensils. Several moth-

ers preferred to feed the child to ensure adequate intake. Other mothers who did not mention motivation to support the child's self-feeding and acceptance of a wider range of table foods expressed belief that the child would initiate self-feeding with utensils when ready, claiming the child would know when to begin using them.

Nurturing to protect the infant was expressed as a motivation by fewer mothers at the 1-year interview than at the neonatal interview (7 vs 10 mothers). The content of the motivation included concern with choking at both interviews. At 1 year, motivation to protect against choking was expressed in the context of addition of table foods to the child's diet and permitting self-feeding. However, at 1 year, mentions of the protection motivation also included concern about the longer-range problem of obesity.

Despite the expression of several categories of motivations at both interviews for almost half or more of the mothers, examination of the mother's narrative often revealed differences within a motivation category between the earlier and later interviews. These differences were primarily a matter of the specific goal of the category. For example, mothers reported attempting to get the infant to increase intake with the goal of growth more often in the neonatal interview than in the 1-year interview. Although the majority of mothers who expressed motivation for feeding adequate intake in the neonatal period continued to express it at 1 year (11 of 14), 5 of the 11 mothers qualified the motivation with type of food to be increased in the child's diet (eg, table foods, snacks of greater nutritional value). At 1 year, motivation to enhance or ensure the quality of the child's nutrient intake was clearly linked with motivation for support of the child's development of feeding competencies. For some of the mothers whose narratives expressed both of these motivations, inner struggle about how to accomplish both or conflict with the child or family about accomplishing both was apparent in a way that was not an issue in the neonatal period. In the neonatal period, several mothers

revealed differences with nursery clinicians about the amount the infant should be fed at a feeding. Several mothers, however, who continued to express motivation for feeding an adequate amount indicated the child's body size, which they or others perceived as too small, was the basis for the motivation. These mothers revealed little change in the nuances of the motivation from the neonatal period. For other motivations that were expressed at both neonatal and 1-year periods, specific content at 1 year was consistent with the child's developmental advances.

### Longitudinal case studies

The motivations relevant to feeding expressed by 4 mothers neonatally and at 1 year are illustrated in the case material shown in Table 2. Mothers' narrative material from the hypothetical situations is included in these case studies to show how it extended mothers' actual caregiving practice described in response to the Feeding Interview.

## DISCUSSION

The types and categories within types of motivations derived from the mothers' narratives about their feeding practices contribute to understanding the role of motivations as indicators of mothering transition in 2 distinct periods of development for VLBW infants. The types of motivations included (a) nurturing (ensuring adequate or appropriate intake and growth, and supporting infant development); (b) relating to the infant; and (c) promoting infant, family, and parent quality of life. Within each type, multiple categories of motivation were identified. The data were obtained from Feeding Interviews during which each participating mother was encouraged to describe her feeding practice and what she was working on in her own terms. The hypothetical situations extended the settings of feeding practice that could provide information about parenting transitions and affirmed the consistency of mothers' accounts

of their motivations, expectations, and intentions across experienced and potentially experienced situations. This exploratory study was not designed to produce generalizable findings. The small sample from which to identify categories and types of motivations, the design of only 2 assessments of motivations for only 15 mothers, and the limits of secondary analysis constrain what can be learned from the findings. Nevertheless, the results yield insights into parenting transitions that support the study hypotheses and suggest directions for clinical practice. The strengths of the study include the hypothetical situations used. The validity of the motivations identified is supported by their similarity to those expressed in a study of the caregiving practices of mothers of infants with a complex congenital heart defect.<sup>26</sup>

Three areas of findings advance our understanding of mothering transition from the perspective of mothers' motivations relevant to feeding a prematurely born infant in the neonatal period and at the end of the first year. A finding of fundamental importance for theoretical model building was that no specific type or category of motivation characterized maternal feeding practice and thus the nature of mothering transition at either the neonatal or 1-year period. However, a finding of equal importance is that mothers differed on the motivation types, categories, and the number of motivations expressed at each of the 2 assessment periods. The majority of mothers mentioned several categories, indicating that motivations may change in type or in category during parenting transitions. The motivation to provide adequate nutritional intake was the only motivation type identified by almost all of the mothers in the neonatal period. At 1 year, less than half of the mothers expressed this motivation, and no one type or category of motivation was expressed by almost all of the mothers. That there were not more distinctions between time periods is perhaps because the window of time was too narrow to discern distinct change in motivations. What the pattern might look like for infant at 15 or 18 months postterm age remains to be

**Table 2.** Case Studies of Feeding Motivations Reported in the Neonatal and 1-Year Interviews

*Kendra's motivations at 1 and 12 months postterm age:* Kendra (ID 4 in the sample of 22 mothers shown in Figure 1), a single African American mother, was nearing 20 years of age and continuing work on her high school equivalency degree when the youngest of her 3 children, all younger than 4 years, was born prematurely and of very low birth weight. At the neonatal assessment, Kendra's expressed motivations were to feed her baby, because she had to feed him, and working to make feedings easier for herself. In response to the hypothetical situations, she expressed motivation to learn from another person who might feed her infant more successfully than she could feed, indicating in another manner her desire to shape the quality of her life. At the end of her youngest child's first year, Kendra expressed motivations for supporting his ability to self-feed and protecting him from choking on table foods, which she fed to reduce the cost and work of food preparation. Her responses to the hypothetical situations revealed her desire to protect her child from the effects of acute illness and to ensure his well-being if she had to leave him in someone else's care.

*Shawna's motivations at the neonatal and 1-year interviews:* Shawna (ID 9) was a 21-year-old, married, African American woman with the equivalent of a high school education. Her VLBW son, who was 27 weeks postmenstrual age at birth and weighed 950 g, was her second child and the only one who was prematurely born. Interviewed when her baby was almost 35 weeks postmenstrual age and 10 days before his discharge to home from the neonatal intensive care unit, Shawna explained she had to keep the baby aroused for an adequate feeding. She also needed to pay attention to and learn the baby's signs so that she would get better at feeding him and could help him to get better at taking a bottle. Feeding was a time when she was brought closer to her baby. She wanted the staff not to rush nipple-feeding but to let the baby do it at his own pace. Motivation to have the baby determine the pace of feedings was reiterated in Shawna's response to hypothetical situations. She desired that both she and her baby have joy in feeding. When interviewed again about 12 months later, Shawna had a new baby, and her now 1-year-old, prematurely born son spent most of his day with his grandmother. Shawna was trying to give him a variety of foods as advised by her mother and her child's doctor. She found, however, that she was sometimes fighting with her child about taking new foods, so she played games with him during feeding despite her mother's disapproval of this practice. Shawna wanted to feel close to her son when she fed him and called it "our quality time." Expressing motivation concerned with lifestyle, Shawna was working to get her child to eat when everyone else in the family ate and to be hungry when other family members were hungry. At this time, Shawna was not actively or deliberately helping her child to develop feeding skills. She viewed him as having the capacity to eat a variety of foods and to use utensils when he matured enough to do so. Her responses to the hypothetical situations confirmed motivation to support her son in eating what he preferred to eat while revealing that she wanted to feed him the way clinicians and her mother thought was the right way to feed.

*Mikhaila's motivations at 1 and 12 months:* Mikhaila was a college educated and married 36-year-old African American primipara (ID 12). Mikhaila's baby boy born weighed 794 g at 25 weeks postmenstrual age and left the neonatal intensive care unit with a diagnosis of bronchopulmonary dysplasia. At 1 month, Mikhaila fed the baby the amount prescribed for him in a 24-hour period to achieve the clinician-desired rate of growth while seeing to it that he did not aspirate or choke during feeding. She outlined her strategy to feed in response to the baby's hunger cues as well as to keep in mind the needed amount by feeding him 5-10 mL every 3-4 hours in addition to feeding him what he would take at his self-initiated feedings. She intended that she and her baby have a nice interaction time during the feeding and that the baby felt comforted and secure by being held and quietly talked to. Motivations for this mother were coded as providing adequate nutrition, nurturing growth and development, protecting the baby from breathing and swallowing difficulties, relating to the baby, promoting the baby's quality of life, and supporting the parents' desired lifestyle of patterned, regular feedings. Mikhaila's responses to the hypothetical situations reiterated her concern about her baby's comfort and need for

(continues)

**Table 2.** Case Studies of Feeding Motivations Reported in the Neonatal and 1-Year Interviews (Continued)

protection through competent substitute caregiving. These situations also highlighted the mother's motivation to learn through experience.

At 12 months, Mikhaila revealed motivation for her child to get adequate nutrition. Although her son liked to drink from a glass, Mikhaila fed him his formula from a bottle so that he was sure to get all the formula he needed. Yet, she wanted him to "call the shots" about his feeding and to have a relationship of mutuality with him. She wanted his feedings to take less time. She had as a motivation advancing her son to eating a variety of foods that were appealing to him. She said it made her feel happy when he was getting enjoyment out of playing with his food despite it being frustrating for her. Another motivation expressed in the 1-year interview was to get her baby on a better schedule so that the parents were not up so late at night and the morning did not start so late. The hypothetical situations elicited motivation to ensure that her child had needed nutrients and issues of eating were not forced. She expected that he would eat when he was hungry. Mikhaila's motivation for the hypothetical substitute caregiving situation concerned managing her own discomfort about being away from her child despite her knowledge of competent substitute care.

*Alice's motivations at the neonatal and 1-year interviews:* Alice (ID 10), a high school educated, partnered, 27-year-old African American woman, was mother of an infant girl born weighing 812 g at 28 weeks postmenstrual age. Alice was making an effort to get her baby to eat a little bit more by making sure she stayed awake during feeding with the goal of weight gain. Alice intended to ask the doctor about giving her baby a trial on some cereals because she seemed ready for it and it would help her feel full. Motivation to protect was expressed in Alice's efforts to watch her baby to make sure she was not sucking too fast and to make sure she was taking her time in feeding. There were times when the baby forgot to swallow and breathe and then choked on formula. Motivation oriented to shaping her own lifestyle was revealed in the energy Alice was investing in waking her baby to feed more during the day in hopes that she would wake to feed less often during the night. In response to hypothetical situations, Alice affirmed motivation to protect her baby by asserting that she would make sure a substitute caregiver knew what she was doing before she even thought about leaving her baby with someone else. She expressed motivation to learn from the more successful feeding experience of some other feeder.

At the 1-year interview, Alice wanted to see that her baby ate all of the food she gave her. She wanted this food to be healthier food than the snacks she tended to give her baby. Alice did not mention motivation to support her child's growth at this time. Alice expected that her child would eat a better diet if given regular meals. Although Alice fed her baby because she made a mess when she fed herself, she revealed that her baby was learning to spoon feed and was pleased about her child being more independent in feeding and doing things that her mother no longer had to do for her. Alice revealed a conflict in motivations concerning her desire to increase her child's intake of healthy foods and wanting her child to develop skills for more independent feeding. Responses to the hypothetical situations revealed Alice's motivation to discern her child's food preferences.

Abbreviation: VLBW, very low birth weight.

determined. Questions concerning the meaningful and consistent association of motivations with infant developmental change and observable transitions in mothering practice will likely require study that is keyed to the timing of specific infant developmental

changes and maternal anticipation of those changes. In addition, feeding-relevant motivations and parenting transitions may be influenced by conditions other than infant development, including the infant's medical condition and family or parental factors.

A second area of findings that contribute to an understanding of parenting transitions concerns the multiplicity of motivations that mothers expressed. Motivations in relation to feeding activity were not found to occur singly but rather to occur with up to 7 other motivations. The 2 clusters of motivations identified with neonatal data and the 1 cluster identified with 1-year data combined nurturing categories of motivation with categories of shaping either infant or family/parental quality of life. These clusters suggest that motivation directly concerned with feeding may be activated along with motivation to obtain the desired quality of life for the infant, mother, or family.

Patterns of change and stability in motivation types and categories from one time period to the other were mixed. This may be a function not only of the infant's development but also of other processes, events, or conditions. The variation found within mothers from the neonatal period to 1 year lends additional strength to the idea that parenting transitions are linked to changes in infant developmental capacities. A close look at motivations that were stable from the neonatal period to 1 year sometimes revealed change within the motivation in the direction of a goal appropriate to the infant's developmental capacities at a later age. At 1 year, for example, for some mothers, protecting the baby changed from having a goal of preventing aspiration of fluid to preventing choking on table foods. The goals associated with motivations at a specific mothering transition require further analysis both for differentiation of motivations by infant developmental age and for identification of more precisely formulated motivation categories (Table 3).

Findings from each of the 3 aims led to construction of the following 6 hypotheses for further study: (a) The motivations related to caregiving in the context of feeding are likely to encompass component categories of 1 or all of the nurturing, relating, and shaping types at parenting transitions within the VLBW infant's first year. (b) Any one type of motivation, set of types, category within type,

or set of categories is not specific to a mothering transition at a time of a specific infant developmental change. (c) Motivation types or categories may vary in expression from one transition to another transition, and some types or categories may be more or less likely to be expressed in parenting transitions for a younger or older child. (d) Although motivation categories may maintain stability of expression from one time to another or change through addition or deletion, a mother's expression of what she is working on or desiring is likely to have an associated goal characteristic of the infant's developmental capacities at the time. (e) Exploration with mothers of the types and categories of motivation that are activated in their caregiving systems of behavior along with the associated goals at times of actual or anticipated infant developmental change may be both a vehicle for identifying a mothering transition for a specific mother and a vehicle for identifying types and categories of parenting transitions for a population of mothers. (f) The addition or deletion of types or categories of motivation in parenting transitions as the child grows older may be a function of infant, parent, or family conditions. Nurturing growth, for example, may no longer be activated as a motivation when the infant achieves growth that is satisfactory from clinician or parental perspective. Motivation either for nurturing growth or for ensuring adequate or appropriate intake may remain active, however, for some mothers beyond the generally expected infant age.

### Implications for clinical practice

Clinical practice implications are apparent in the motivations expressed by the mothers in this study. One implication concerns the applicability to clinical practice of assessing motivations for caregiving practice in general as well as feeding practice in particular. Construing mothering transition in terms of caregiving activity that varies in motivation from mother to mother and from time to time within a mother could support clinical practice in both population and personal dimensions, including the following practices: (a)



**Table 3.** Stability and Change in Expression of Motivations Comparing the Neonatal and 1-Year Interviews (N = 15)<sup>a</sup>

Motivation Category	Category Not Mentioned, Stable	Category Mentioned, Stable	Category Added	Category Dropped
Providing adequate nutrition	0	11 (73.3)	1 (6.7)	3 (20.0)
Nurturing growth	7 (46.7)	4 (26.7)	0	4 (26.7)
Nurturing development	2 (13.3)	2 (13.3)	9 (60.0)	2 (13.3)
Protecting the baby	2 (13.3)	4 (26.7)	3 (20.0)	6 (40.0)
Relating to the baby	5 (33.3)	7 (46.7)	1 (6.7)	2 (13.3)
Shaping the baby's quality of life	3 (20.0)	5 (33.3)	2 (13.3)	5 (33.3)
Shaping family lifestyle	1 (6.7)	6 (40.0)	5 (33.3)	3 (20.0)
Shaping parental lifestyle	6 (40.0)	7 (46.7)	1 (6.7)	1 (6.7)

<sup>a</sup>"Stable" refers to mention or no mention at both the neonatal interview and at the interview at 1-year postterm age. "Added" refers to mention of a category at the 1-year interview that had not been mentioned at the neonatal interview. "Dropped" refers to mention of the category at the neonatal interview but not at the 1-year interview. Values represent number (percentage) of mothers.

articulation of parenting transitions for populations of mothers along with anticipation of needs for the assessment and intervention specific to a population; (b) profile building for mothers at specific times of developmental change to aid competency assessment, guidance, and evaluation of well-being, all in light of the mother's motivations and the goals associated with them; and (c) creation of an entry point to a mother's story in terms of what is meaningful to her at specific times of child developmental change and the opportunities this provides for assisting in the construction of supportive caregiving practice.

Listening to Kendra could have led to the assumption that she belonged to a population of mothers who lacked interest in feeding practice, if such a population exists. This young mother, however, could be described as a member of a population highly under-resourced for need. Parenting transitions for Kendra were qualified by her life circumstances but organized by her infant's developmental capacities and changes she contemplated in them. A profile for mothering transition for Kendra could include her understanding of how an infant develops feeding skills and how to provide good enough substitute

care. Entry points for supporting Kendra in telling her story in enough detail to create opportunity for her to reconstruct her feeding practice and construct new approaches might include (a) what aspect of feeding she has been working on either for herself or her child, (b) what her feeding practice means to her, (c) what she would like to happen or things to be like, (d) what is making it hard or easy for what she wants to happen; and (e) what has been new or different for her in the process. With this approach, the clinician can ascertain what Kendra has learned without directly assessing it. Kendra's story told in terms of these or similar facets of parenting transitions and caregiving motivations could direct and organize anticipatory guidance and problem-solving intervention.

Another issue with clinical practice implications is that for some mothers, motivations for ensuring adequate or appropriate intake, supporting infant development, relating to the infant, and promoting the infant's quality of life appeared to be in conflict due to the use of incompatible strategies to accomplish goals. This could have resulted in complicating or stalling a mothering transition. Ambivalence about goals or use of strategies to accomplish a goal that interfered with

accomplishing other goals was noted during both the neonatal and 1-year periods. For several mother-infant dyads, examination of mothers' narratives showed tension-filled feedings or meals for the mother. Infant delay in the advancement of self-feeding skills was also reported when motivation to ensure adequate intake was activated in a manner suited to a younger infant along with motivation to advance infant self-feeding. Instead of supporting an infant's assertion of autonomy and use of mother as a secure base for exploration at about 1 year,<sup>8,31</sup> a mother may continue to manage feedings with adequate nutrition as the goal. The expectations and intentions that a mother revealed at the end of the infant's first year as she expressed her motivation for increasing the amount or nutrient quality of her child's intake, however, usually were specific to the mother's understanding of her child's actual or anticipated developmental capacities. However, these expectations were not always well informed with respect to how development might occur or best be supported by parents. Mothers' accounts of what they were working on revealed maternal ambivalence and conflict in motivations as well as misunderstandings and lack of knowledge concerning infant development, nutritional needs, and the nutritional

value of formulas and solid foods, particularly when the child was 1-year postterm age. To advance theory of parenting transitions, further study is needed to learn how multiple activated motivations operate in relation to each other, to specify the outcomes of this operation for mothering transition, and to identify factors that contribute to the quality of the operation of multiple motivations.

## CONCLUSION

The difference in clusters of motivations found in this study for maternal feeding of neonates compared with the motivation clusters found for feeding infants at 1 year supports the idea that motivation may be a central feature of mothering transition. The change in motivations with time and in association with infant developmental changes as described by most of the mothers, however, does not yet establish this idea as one to operate on clinically or on which to build a theoretical model of mothering transition that contributes to theory of transitions as a central concept of nursing.<sup>32</sup> This study is only a beginning step toward understanding mothering transition across the life span of mother-offspring relationships.

## REFERENCES

1. Bowlby J. *A Secure Base: Parent-Child Attachment and Healthy Human Development*. New York, NY: Basic Books; 1988.
2. Bronfenbrenner U. Foreword. In Cairns RB, Elder GH, Costello EJ, eds. *Developmental Science*. Cambridge, UK: Cambridge University Press; 1996:x-xvii.
3. Walker LO, Crain H, Thompson ET. Maternal role attainment and identity in the postpartum period: stability and change. *Nurs Res*. 1986;35:68-71.
4. Meleis AI, Sawyer LM, Im EO, Hilfinger Messias DK, Schumacher K. Experiencing transitions: an emerging middle-range theory. *ANS Adv Nurs Sci*. 2000;23(1):12-28.
5. Mercer RT. Becoming a mother versus maternal role attainment. *J Nurs Scholarsh*. 2004;36(3):226-232.
6. McBride AB, Shore CP. Women as mothers and grandmothers. *Annu Rev Nurs Res*. 2001;19:63-85.
7. Kopp CB. Development in the early years: socialization, motor development, and consciousness. *Annu Rev Psychol*. 2010;62:165-187.
8. George C, Solomon J. The caregiving system: a behavioral systems approach to parenting. In: Cassidy J, Shaver PR, eds. *Handbook of Attachment*. 2nd ed. New York, NY: Guilford Press; 2008:833-856.
9. Bretherton I, Munholland KA. Internal working models in attachment relationships: elaborating a central construct in attachment theory. In: Cassidy J, Shaver PR, eds. *Handbook of Attachment: Theory, Research, and Clinical Applications*. New York, NY: Guilford Press; 2008:102-127.
10. Engstrom Y, Cole M. Situated cognition in search of an agenda. In: Kirshner D, Whitson JA, eds. *Situated Cognition: Social, Semiotic, and Psychological Perspectives*. Mahway, NJ: Lawrence Erlbaum; 1997:301-309.

11. Lave J. Culture of acquisition and the practice of understanding. In: Kirschner D, Whitson JA, eds. *Situated Cognition: Social, Semiotic, and Psychological Perspectives*. Mahwah, NJ: Lawrence Erlbaum; 1997:17-36.
12. Heard D, Lake B. *The Challenge of Attachment for Caregiving*. London, England: Routledge; 1997.
13. Mayseless O. Studying parenting representations as a window to parents' internal working model of caregiving. In: Mayseless O, ed. *Parenting Representations: Theory, Research, and Clinical Implications*. Cambridge, UK: Cambridge University Press; 2006:3-40.
14. Bransford JD, Brown AL, Cocking RR, eds. *How People Learn: Brain, Mind, Experience, and School*. Washington, DC: National Academies Press; 2000.
15. Bronfenbrenner U, Morris PA. The bioecological model of human development. In: Damon W, Lerner RM, eds. *Theoretical Models of Human Development. Handbook of Child Psychology*. Vol 3. 6th ed. Hoboken, NJ: Wiley; 2006:793-828.
16. Bakewell-Sachs S, Gennaro S. Parenting the post-NICU premature infant. *MCN Am J Matern Child Nurs*. 2004;29(6):398-403.
17. Reyna BA, Pickler RH, Thompson A. A descriptive study of mothers' experiences feeding their preterm infants after discharge. *Adv Neonatal Care*. 2006;6(6):333-340.
18. Thoyre S. Feeding outcomes of extremely premature infants after neonatal care. *J Obstet Gynecol Neonatal Nurs*. 2007;36(4):366-376.
19. Department of Health and Human Services (DHHS). DHHS guidelines for 2001. <http://aspe.hhs.gov/poverty/01fedreg.htm>. Accessed July 9, 2011.
20. Pridham K, Schroeder M, Brown R. The adaptiveness of mothers' working models of caregiving through the first year: infant and mother contributions. *Res Nurs Healthb*. 1999;22:471-485.
21. Pridham K, Saxe R, Limbo R. Feeding issues for mother of very low-birth-weight, premature infants through the first year. *J Perinat Neonatal Nurs*. 2004;18(2):161-169.
22. Pridham K, Denney N, Pascoe J, Chiu YM, Creasey D. Mothers' solutions to childrearing problems: conditions and processes. *J Marriage Fam*. 1995;57(3):785-799.
23. Maxwell JA. Understanding and validity in qualitative research. *Harv Educ Rev*. 1992;62(3):279-300.
24. Sandelowski M, Barroso J. Qualitative analysis: what it is and how to begin. *Res Nurs Healthb*. 1995;18:371-375.
25. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277-1288.
26. Pridham K, Harrison T, Krolikowski M, Bathum ME, Ayres L, Winters J. Internal working models of parenting: motivations of parents of infants with a congenital heart defect. *ANS Adv Nurs Sci*. 2010;33(4):E1-E16.
27. Finch H. Comparison of distance measures in cluster analysis with dichotomous data. *J Data Sci*. 2005;3:85-100.
28. Hammer O, Harper DAT, Ryan PD. PAST: Paleontological Statistics Software Package for education and data analysis. *Palaeontol Electron*. 2001;4(1):9.
29. Etter W. Community analysis. In: Harper DAT, ed. *Numerical Paleobiology*. Chichester, UK: Wiley; 1999:285-360.
30. Harper DAT, Owen AW. Quantitative and morphometric methods in taxonomy. In: Harper DAT, ed. *Numerical Paleobiology*. Chichester, UK: Wiley; 1999:1-39.
31. George C, Solomon J. Representational models of relationships: links between caregiving and attachment. *Infant Ment Healthb J*. 1996;10:222-237.
32. Schumacher KL, Meleis AI. Transitions: a central concept in nursing. *Image J Nurs Schb*. 1994;26(2):119-127.