

CHAPTER 2

LITERATURE REVIEW

The purpose of this chapter is to review the literature that addresses Transition Theory, maternal role performance in transition to being the first time mother, and the major variables in this study and their relationships to maternal role performance.

Transition Theory

Chick and Meleis (1986) originally developed the Transition Theory through concept analysis of transition. They provided the definition of transition, proposed an array of properties and dimensions of transition, and proposed the relationships of transition to clients, environment, health, and nursing therapeutics.

Definition of transition

Transition Theory defines transition as a passage or movement from one stage, condition, or place to another.

Characteristics of transition

Transition Theory describes the characteristics of transition as follows.

1. *Process*. Transition is a process. The beginning and end of transition do not occur simultaneously. There is a sense of movement, a development, a flow associated with it. The distance between the beginning and the end may be short or long.

2. *Disconnectedness*. Transition produces disconnectedness associated with disruption of the individual's living and individual's feelings of uncertainty and instability. Disconnectedness has implications for well-being and health.

3. *Perception*. Meanings attributed to transition events are varied between persons. The difference in perception of transition events may influence reactions and responses to such events. A positive perception makes an individual more predictable in healthy transition.

4. *Patterns of response*. An individual has different patterns of response during the transition process. Patterns of response may be elation, happiness, stress, and emotional distress. Patterns of response such as disorientation, distress, depression, and anxiety, disturb development of transition.

5. *Dimension*. Individual's transition process may be easy or difficult. It can be described with some possible dimensions of transition: scope, duration, effect, clear boundary. The examples are such as single or multiple transition, temporary or permanent transition, minor or major disruption, and clear entry and exit or ambiguous entry and exit.

Process of transition

Transition Theory explains that transition is an open system consisting of three phases including entry, passage, and exit, and nursing therapeutics to help the clients in transition.

1. Entry phase

Three types of transition are indicated as antecedent events including developmental, situational, and health-illness transition. Developmental transitions are transitions related to life cycle such as pregnancy, motherhood, adolescence, and

adulthood. Situational transitions are transitions related to work and living such as retirement, immigration, and migration. Health-illness transitions are transitions related to illness such as illness with various diseases, hospitalization and recovery. All types of transition produce disconnectedness associated with the disruption of the individual's lifestyle and the individual's feelings of uncertainty and instability.

2. Passage phase

Transition process occurs in this phase. Individuals have different experiences in transition process, simple or difficult, depending on the number of mediating factors. Mediating factors are personal and environment factors which affect the transition process of movement from one stage, condition, or place to another. The important personal factor is meaning attached to transition or individual's appraisal of experienced transition that affects the individual's life. Environmental factors are changes in the environment which constitute, or are parts of the event that makes the process of transition necessary, and the helpful environmental resource outside the person defined as social support which helps the individual during transition. In addition, nurses have the important role of helping the clients to pass the transition process and have a successful transition. Nursing therapeutics that help individual to have easier response and success in transition are promotion, prevention, and intervention.

3. Exit phase

Transition outcomes are results of the response to the transition. The healthy transition outcomes include connectedness and stability. Health outcomes after transition are revealed into four patterns including restoration, maintenance, protection, and promotion.

Chick and Meleis (1986) proposed the relationships between antecedent events, mediating factors, and health outcomes as presented in Figure 4.

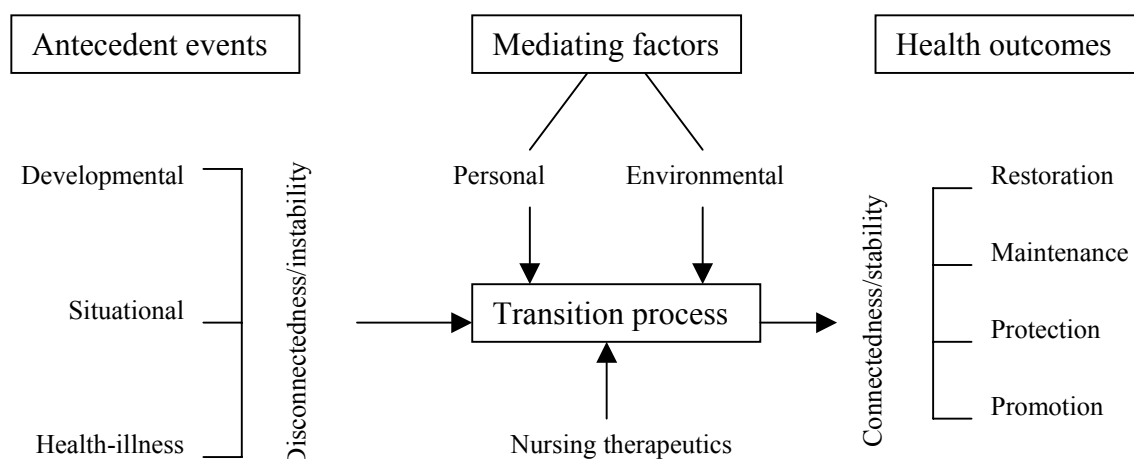


Figure 4. Relationships between antecedent events, mediating factors, and health outcomes

From “Transition: A nursing concern,” by N. Chick, and A. I. Meleis, 1986. In P. L. Chin (Ed.), *Nursing research methodology: Issues and implementation*, p 237-257.

In 1994, Schumacher and Meleis (1994) extended the Transition Theory from the original work developed by Chick and Meleis (1986). They extended the work through a review of the nursing literature related to transition published since 1986. The definition of transition, characteristics of transition, major concepts, and

relationships of the major concepts of the earlier Transition Theory were remained.

Categories or subcategories to each of the major concepts were added.

Process of transition

Transition Theory explains that transition is an open system consisting of three phases including entry, passage, and exit, and nursing therapeutics for helping the clients in transition.

Entry phase

Four types of transition are indicated as antecedent events including developmental, situational, health-illness, and organizational transitions. The organizational transition was a new category in types of transition added to the previous theory developed by Chick and Meleis (1986).

1. *Developmental transitions.* Developmental transitions are transitions related to life cycle. Examples of developmental transitions are becoming a pregnant woman, becoming the first time mother, and entering the next stage of life cycle such as adolescence, middle age, menopause, and old age.

2. *Situational transitions.* Situational transitions are transitions in various educational or professional roles, work, and living. Examples of situational transitions are entering or finishing on educational program, beginning work, becoming a staff nurse, changing a clinical role to an administrative role, retirement, immigration and migration.

3. *Health-illness transitions.* Health-illness transitions are transitions related to health and illness. Examples of health-illness transitions are illness due to various diseases, hospitalization, post-operation, hospital discharge, diagnosis of chronic illness, and recovery stage.

4. *Organizational transitions*. Organizational transitions are transitions that have an impact on persons in the organization, transitions related to changing the structure of the organization, and transitions related to the social and economic environment. Examples of organizational transitions are changing the leader of the family, using new technology in the wards, and using a new service policy in the hospital.

Passage phase

Universal properties of transition and transition conditions are involved in the passage phase. Transition conditions were mediating factors in the previous theory developed by Chick and Meleis (1986).

1. Universal properties of transition

Two universal properties of transition are indicated in the theory. First, transition is a process. The process involves development, flow, or movement from one state to another. Second, changes occurring in transitions are identities, roles, relationships, abilities, and patterns of behavior.

2. Transition conditions

Transition conditions are personal and environmental factors that affect the transition process. One factor can affect another or other factors during the transition process. These factors of transition conditions provide understanding the transition experience of individual, simple or difficult, and influence transition outcome. Transition conditions include meaning, expectation, level of knowledge and skill, level of planning, emotional and physical well-being, and environment.

2.1 *Meaning*. Meaning refers to the subjective appraisal of an anticipated or experienced transition and the evaluation of its likely effect on one's

life. An individual who evaluates the experienced transition as positive will have an easier transition outcome.

2.2 Expectation. People undergoing transition may or may not know what to expect and their expectations may or may not be realistic. When one knows what to expect or the transition meets the expectation, the stress associated with transition may be somewhat alleviated.

2.3 Level of knowledge and skill. New knowledge and skill development are needed during the transition because they lead an individual to comprehend and meet the demands of the new situation. Individuals experience less degree of uncertainty when they acquire an increased level of knowledge and skill.

2.4 Level of planning. Extensive planning for the transition helps to create a smooth and healthy transition because individuals have prepared themselves or have been prepared for transition.

2.5 Emotion and physical well-being. Many emotions attest to the difficulties encountered during transition such as distress, anxiety, insecurity, frustration, and depression. Physical discomfort can accompany the transition, and it may interfere with the assimilation of new information. Emotional disorder and physical discomfort disrupt transition outcome.

2.6 Environment. Environment is related to transition in two main ways. First, changes in the environment may constitute, or be part of the event that makes the process of transition necessary. More occurring environmental changes call for a larger response and require more adjustment to a new environment. Second, helpful environmental resources outside the person are defined as social support which helps individuals during transition and is important to successful transition.

Exit phase

Transition outcomes are results of the responses to the transition.

Indicators of healthy transition outcome are role mastery, subjective sense of well-being, and well-being of relationship.

1. *Role mastery*. Role mastery denotes achievement of skilled role performance and comfort with the behavior required in the new situation.
2. *Subjective sense of well-being*. The subjective sense of well-being refers to well adaptation to transition, such as satisfaction in the new position, personal integrity, and quality of life.
3. *Well-being of relationship*. The well-being of relationship refers to the relationship to members in the organization, such as meaningful interaction, and family adaptation.

Nursing therapeutics

Nurses have the important role of helping the clients pass the transition process and have a successful transition. Nursing therapeutics can be considered to provide in antecedent, transition process, or consequence phase. There are three types of nursing therapeutics that help individuals for easier response and success in transition including promotion, preventing the complication, and providing the intervention. A nursing model of transition proposed by Schumacher and Meleis (1994) is shown in Figure 5.

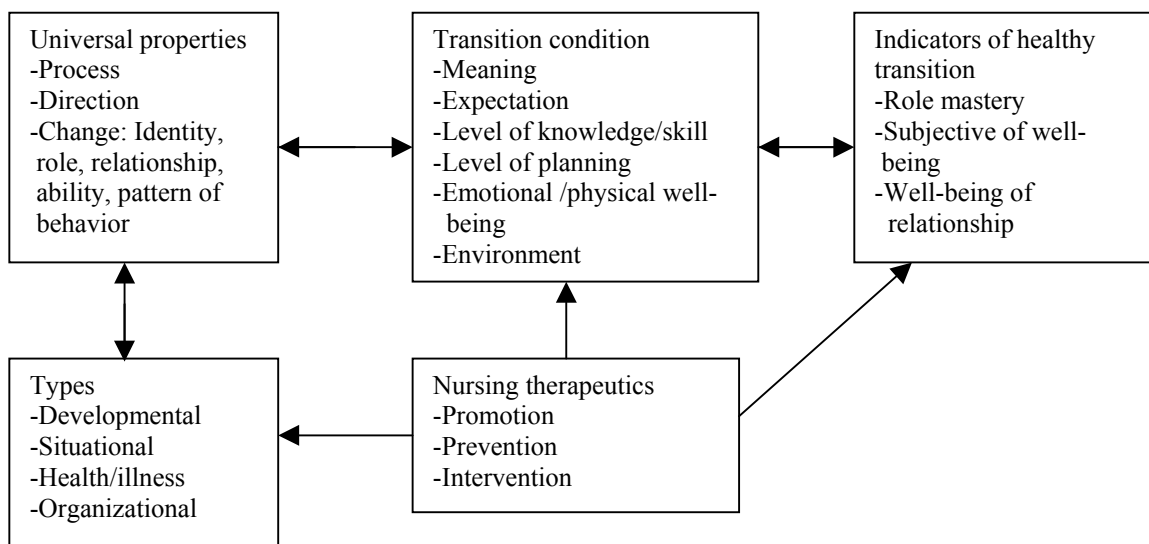


Figure 5. A nursing model of transition

From “Transition: A central concept in nursing,” by K. L. Schumacher, and A. L. Meleis, 1994, *Image: Journal of Nursing Scholarship*, 26, p119-127.

Maternal role performance

Following delivery, new mothers simultaneously undergo complex physiological and psychosocial processes. In addition to physical recovery from pregnancy and childbirth, new mothers must master new role behaviors, maternal role performance, by developing a sensitive awareness of their infants’ needs and patterns of expressing those needs, providing the infant care that responds to the infants’ needs, and establishing an emotional linkage to their infants (Walker et al., 1986).

Maternal role performance is defined as behavioral and affective mothering skills which facilitate accomplishment of the maternal role. The process of transition to being the first time mother is important because it directly influences maternal role performance (Koniak-Griffin, 1993). Maternal role behaviors in caregiving, social interaction with the infant, and the mother's affective reports in maternal role are components of the maternal role performance and both reflect the integration of physiological and psychosocial processes of the mothers. Maternal role behaviors that are sensitive and respond to the infant during the first year of life are especially important for healthy cognitive, emotional, and linguistic development in the infant's first year and the child in subsequent years (Koniak-Griffin, 1993; Walker et al., 1986).

The maternal role is a complex cognitive and social process which is learned, reciprocal, and interactive. New mothers' perceptions of intimate interpersonal experience with their infants and their perceptions of mothering both influence maternal behaviors. Maternal role performance is oriented toward and dependent upon information which is directly or indirectly obtained from the infants (Rubin, 1967a, 1967b cited by Koniak-Griffin, 1993). Maternal role performance during the infant period is the response toward the dependent nature of the infants. This dependency necessarily directs a large part of the maternal role to those caregiving activities related to the infants' physical health and comfort which at this stage the infants cannot supply for themselves. Maternal caregiving serves to coordinate and cope with the infants' biological needs related to feeding, sleeping, elimination, postural maintenance, etc. The mothers' affective operation is expressed

in empathy with the infants, their positive regard for the infants and for themselves as the mothers of these infants (Walker et al., 1986).

Stages of maternal role performance

Like any other role in society, the maternal role is a product of culture and refers to the acts that the mothers are expected to perform in relation to their infants. Although the mothers' culture group has general expectation, it does not provide the mothers with a job description or specific rules for the maternal role. Within each culture there is generally a wide range of latitude for expression of the maternal role and for individuality. Role adaptation may be difficult for the new mothers. Maternal role performance is facilitated by the new mothers' ability to place themselves in the position of the infants, or to imagine what it is like from the infants' perspective. It is also enhanced by the mothers' perceptions of positive responses from their social group to their behaviors in the maternal role (Koniak-Griffin, 1993; Mercer, 1981).

Maternal role performance is progressed through a four-stage process: anticipatory, formal, informal, and personal stage. During these stages new mothers progressively shift from the external role models of mothering performance to constructing an internal, personal model. In the final stage, the new mothers feel congruence of self and their new role as others accept their maternal role performance (Mercer, 1985).

1. Anticipatory stage

The anticipatory stage occurs during the pregnancy. Maternal role performance reflects social norms, which are common beliefs concerning what mothers should and should not do. These are learned indirectly as the woman is

mothered as a child and more directly during an anticipatory stage. The new mother begins to learn about expectations of the maternal role performance and seek out a role model. This knowledge of maternal role performance is acquired through direct and indirect learning. Social and psychological adjustments to the new role begin during this stage.

2. Formal stage

The formal stage of maternal role performance begins with the birth of the infant. At this time, the new mother actually begins to enact her maternal role performance, but generally, her maternal role performance is influenced largely by the consensual expectations of others within the role set.

3. Informal stage

In this stage, the new mother develops her own unique style of dealing with the maternal role. She begins to respond to her infant's cues and to create her own response which can be observed during the first and second month postpartum. As the new mother evolves her own style of role performance, an accompanying increase in self-confidence in her maternal role takes place.

4. Personal stage

The new mother feels a congruence of herself and her maternal role performance as she develops her own maternal role style and others accept her maternal role performance. This process of maternal role performance has been observed to occur within a range of three to ten months postpartum. The initial period of maternal role performance appears to be completed for most new mothers before the end of the first postpartum years (Mercer, 1985; Nichols & Humenick, 1988).

Components of maternal role performance

Transition to being the first time mother is a period of change and reorganization in postpartum mother's life that involves the maternal role in addition to the established roles. Maternal role performance is constructed as the mothers' responses by interaction with the infants in which the mothers achieve competence in the maternal role, and integrate the maternal role behaviors into their established role set, so that they are comfortable with their identity as a mother (Mercer, 1981, 1985). The construct of maternal role performance is described with the interplay of the behavioral and affective dimensions of the maternal role (Koniak-Griffin, 1993; Walker et al., 1986). Mercer (1985) identified three components of progressing in maternal role performance including providing the infant care confidently for the infants involved in the role, having mother-infant attachment, and expressing satisfaction in the maternal role.

1. Confidence in providing the infant care

Mothers with having behaviors of providing the infant care confidently for their infants are necessary for a healthy transition to becoming the first time mother and establishing a positive mother-infant relationship (Zahr, 1991). The mothers' perception of their maternal competence in providing the skillful, sensitive care that responds to infants' needs and fosters infants' development contributes to their behaviors of providing the infant care confidently (Mercer & Ferketich, 1995). Maternal confidence in providing the infant care for the infants has been identified as a basic determinant of a new mother's performance as a mother (Bullock & Pridham, 1988; Mercer & Ferketich, 1994). A longitudinal study by William et al. (1987) revealed that confidence in the care of infants played a central role in the transition to being the new mothers in the infancy period. The mothers' past experience with the

infants and their expectation about their ability to understand their infant's cues and their ability to provide infant care tasks, predicted how confident and attached the mothers were to the infants during the postpartum period. Bullock and Pridham's (1988) study found that the mother's perceived competence was positively related to the mother's confidence in providing the infant care at one month postpartum.

Rogan, Schmied, Barclay, Everitt, and Wylite's (1997) study found that factors influencing the maternal confidence in providing the infant care of the new mothers were infant behaviors, mothers' sense of isolation, and social support. Murphy's (1990) study found that in assuming a new role, feedback from the partner and the social network were important to validate maternal confidence in infant care tasks. In addition, Barclay, Everitt, Rogan, Schmied, and Wylite's (1997) study reported that many of the new mothers identified friends and relatives who had infants as a great learning resource for their confidence in providing the infant care, and also reported having received practical help from them. Another important factor in developing maternal confidence in providing infant care was support given by professionals in the form of information about infant care (McVeigh, 2000).

2. Mother-infant attachment

One of the most important aspects of infant psychosocial development is mother–infant attachment. Attachment is a sense of belonging to or connection with each other. This significant bond between infant and mother is critical to normal development and even survival (Gorrie et al., 1998; James, Ashwill, & Droske, 2002). Mother-infant attachment is strengthened by many mutually satisfying interactions between the mothers and the infants throughout the first period of infant life. For example, noisy distress in infants signals a need, such as hunger. Mothers respond by

providing food. In turn, infants respond by quieting and accepting nourishment. The infants derive pleasure from having their hunger satiated and the parents from successfully caring for their infants. A basic reciprocal cycle is set in motion in which mothers learn to regulate infant feeding, sleep, and activity through a series of interactions. These interactions include rocking, touching, talking, smiling, and singing. The infants respond by quieting, eating, watching, smiling, or sleeping (James et al., 2002).

Dormine, Strauss, and Clarke's (1989) studied the relationship between social support and adaptation to the first time mother and found that social support was significantly related to mother-infant interaction and mothers' sensitivity to infant cues. A longitudinal study by William et al. (1987) revealed that the first time mothers' confidence in providing the infant care for their infants facilitated their development of mother-infant attachment over a two year period. Postpartum depression poses risks to the maternal-infant relationship and to infant development, e.g., pattern of unresponsiveness, and a lack of attunement between mother and infant (Horowitz et al., 2001). Depressed mothers are less attuned and responsive in the vocalizations directed toward their infants and also less attuned to infant needs during feeding and sleeping (Logsdon et al., 1994).

3. Satisfaction in the role

The transition to being the first time mother is a process of personal and interpersonal change that occurs as a woman assumes tasks of the maternal role and appraises herself as a mother (Pridham & Chang, 1992). Becoming the first time mother creates a period of change and instability for women who decide to have their first infants (Pridham et al., 1991). The new tasks and responsibilities of the maternal

role arise and old behaviors of new mothers need to be modified (Lowdermilk et al., 2000). New mothers have to reorganize their relationship with their new infants. New mothers must master new behaviors of the maternal role by developing a sensitive awareness of their infants needs and patterns of expressing those needs, and establishing an emotional linkage to their infants (Walker et al., 1986). New mothers can be vulnerable to distress and stress (Lowdermilk et al., 2000). New mothers need to adapt in order to fit into the maternal role and in provision of care according to the infants' needs (Koniak-Griffin, 1993; Pridham et al., 1991). New mothers experiencing and feeling certainty and stability in response to the transition will have a successful transition and satisfaction in the maternal role. The satisfactions in the maternal role experienced by the new mothers will contribute to the quality of new mothers' lives and performance to nurture their infants (Pridham & Chang, 1992).

Matich and Sims's (1992) study found that the partner: husband, spouse, and infant's father, was an important source of emotional, informational, and instrumental support in postpartum women during the transition to being the first time mother. The first time mothers who perceived support from partners were more likely to experience easier transitions, express higher levels of satisfaction in maternal role, and enjoy their infants more. Reece (1995) studied relationships among the factors of the early adaptation to the maternal role and found that first time mothers' perceived support from family and friends was significantly associated with first time mothers' expressing a high level of confidence in infant care tasks and high satisfaction in the maternal role.

Maternal role performance in transition to being the first time mother

Walker et al. (1986) studied maternal confidence in 64 first time mothers and 58 experienced mothers at early postpartum and four to six weeks postpartum. The results reported that the first time mothers had significantly less maternal confidence in carrying out everyday baby care than did experienced mothers because the first time mothers had no prior experience. The first time mothers demonstrated higher maternal confidence at four to six weeks postpartum than at early postpartum. Maternal confidence was measured with the Pharis Self-confidence Scale (Pharis, 1978 cited by Walker et al., 1986).

Mercer (1985) studied maternal confidence, maternal satisfaction, and mother-infant relationships in 242 first time mothers over the first year postpartum. The study found that the first time mothers' confidence in infant care, satisfaction in the maternal role, and mother-infant relationships were higher at one month postpartum than at early postpartum. Maternal confidence was measured with the Maternal Behavior Questionnaire (Blank, 1964 cited by Mercer, 1985), maternal satisfaction was measured with the Gratification Checklist (Russell, 1974 cited by Mercer, 1985), and mother-infant relationship was measured with the Feeling about the Baby Scale (Leifer, 1977 cited by Mercer, 1985). Another finding was that 85 percent of the first time mothers reported internalization of the maternal role or comfort with the maternal role by eight months postpartum (Mercer, 1985).

Maternal perception of infant behavior

An infant has a proper behavior: crying, feeding, regurgitating, sleeping, and eliminating (Broussard & Hartner, 1971; Reeder et al., 1997). The first time mothers have to understand and perceive their infants' behaviors, so they can respond

to their infants' needs suitably (Jenson & Bobak, 1995; Mercer, 1985; Reeder et al., 1997). Broussard's (1979) study found that information about infant behaviors perceived by the mothers influenced positive or negative maternal perception of infant behavior. The mothers' perception of their infants' behaviors that is less difficult or not difficult for them to respond to will induce the mothers' perception of infant behavior as positive. On the other hand, mothers' perception of their infants' behaviors that are more difficult for them to respond to will induce the mothers' perception of infant behavior as negative (Broussard, 1979). The result of a longitudinal study of first time mothers revealed that the first time mothers' perception of their infants were predictive of the children's later development (Broussard & Hartner, 1971). The main reason was that maternal perception of infant behavior influences the interaction between mothers and the infants. Mother-infant interaction forms the social environment that enables an infant to progress through the stages of normal development (Beck, Reynold, & Rutowski, 1992; Gorrie et al., 1998; Koniak-Griffin, 1993).

New mothers need information about infant behaviors for learning, understanding, and developing their perception of infant behavior. A proper behavior that infants perform and how the mothers perceive their infant behaviors are as follows.

1. Crying

The newborn should begin extrauterine life with a strong, lusty crying. The sounds produced by crying can be described as hunger, anger, discomfort, and bid for attention. Discomfort sounds initially consist of gasps and cries. The duration of crying is as highly variable in each infant as is the duration of sleep pattern. Some

infants may cry for as little as five minutes or as much as two hours or more per day. Usually, an infant cries for hunger and needs a diaper change due to feces and urine (Wong, 1999).

Infant crying has been found to be a major concern of the mothers. New mothers often do not have a realistic picture of the amount of crying that occurs in normal infants. New mothers need to learn and understand infant crying. Besides, new mothers need to practice comforting their infant crying. Infant crying is often perceived by mothers as indicating failure of their mothering ability. Infant crying has been found to evoke a mother's feeling of frustration, nervousness, helplessness, anxiety, and sadness (Nichols & Humenick, 1988).

2. Feeding

During the first period of an infant's life, the infant's gastrointestinal tract is not yet fully developed. Feeding is suitable for infant digestion. There are two acceptable choices for infant feeding: breast-feeding and bottle-feeding. Feeding schedules should be determined by the infant's hunger. Five feeding behavioral stages occur during successful feeding. 1) Prefeeding behavior, such as crying or fussing, demonstrates the infant's degree of hunger. It is preferable to begin the feeding by encouraging the infant to grasp the breast properly. 2) Approach behavior is indicated by sucking movement or the rooting reflex. 3) Attachment behavior includes those activities that occur from the time that the infant receives the nipple and sucks. 4) Consummatory behavior consists of coordinated sucking and swallowing. 5) Satiety behavior is observed when infants let the mothers know that they are satisfied, usually by falling asleep (Wong, 1999).

Infant feeding is another major concern of new mothers. Infant feeding has a profound meaning for mothers in relationship to their infants' growth and well-being. Recognizing feeding behavior steps can assist mothers in learning and understanding infants' feeding. New mothers often wonder whether their infants are getting too little or too much to eat. New mothers feel accomplishment when they know their infants are receiving the nourishment needed for growth (Nichols & Humenick, 1988).

3. Regurgitation and spitting up

Regurgitation is the return of small amounts of food after a feeding. Spitting up is the dribbling of unswallowed formula from the infant's mouth immediately after feeding. Regurgitation and spitting up are common occurrences during infancy. It should not be confused with actual vomiting, which can be associated with a number of disturbances that may be serious.

It is necessary for new mothers to learn and understand the regurgitation and spitting up. The normal occurrences of regurgitation and spitting up should be explained to new mothers, especially to those who are excessively concerned about it. It can be reduced by frequent burping during and after feeding. The inconvenience of spitting up can be managed with the use of absorbent bibs on the infant and protective cloths on the mother (Pillitteri, 1999).

4. Sleeping

Newborns begin life with a systematic schedule of sleep. For the next two to three days, it is not unusual for infants to sleep almost constantly in order to recover from the exhausting birth process. The infant's sleep is comprised of five states: regular sleep, irregular sleep, drowsiness, alert inactivity, and waking. The

cycle of these sleep states is highly variable and is based on the number of hours an infant sleeps per day, which averages sixteen hours. The most sleep time is spent in irregular sleep. Sleep periods last twenty minutes to three-four hours with little day to night differentiation (Wong, 1999).

Concerns regarding sleep are common during infancy. Sometimes it is basic that mothers have questions if their infants need additional sleep or their infants suffer from sleep disturbance. Sleep patterns vary among infants, and active infants typically sleep less than do placid infants. Usually swaddling or wrapping an infant in blanket promotes sleeping. Breast-fed infants usually sleep for less prolonged periods, with more frequent waking, especially during the night, than do bottle-fed infants. It is especially important for new mothers to learn and understand these sleep states, their infants' sleep patterns, and the methods effective in altering them (Jenson & Bobak, 1995).

5. Elimination

Infant's first stool is meconium composed of amniotic fluid, intestinal secretions, and mucosal cells. Passage of meconium should occur within the first twenty-four to forty-eight hours. Transitional stool usually appears by the third day after initiation of feeding. Transitional stool is greenish brown to yellowish brown, thin and less sticky than meconium. Sometimes transitional stool contains some milk curds. True stool usually appears by the fourth day. The stool of a breast-fed infant is yellow to golden, soft, and pasty. In bottle-fed infants, stool is pale yellow, and firmer than stool of the breast-fed infant (Dickason, Silver, & Kaplan, 1998).

Relationships between maternal perception of infant behavior and maternal competence

Cutrona and Troutman (1986) studied the relationships among maternal perception of infant behavior, social support, maternal competence, and postpartum depression in 55 first time mothers. The study found that maternal perception of infant behavior had a significant direct effect on maternal competence ($\beta = .31, p < .01$) in the first time mothers at one month postpartum. Maternal perception of infant behavior was measured with the Infant Temperament Questionnaire (Carey, 1970 cited by Cutrona & Troutman, 1986). Porter and Hsu (2003) studied the relationship between maternal perception of infant behavior and maternal competence during the transition to being the first time mother. The results revealed that maternal perception of infant behavior accounted for a significant proportion of variance in maternal competence of the first time mothers at one month postpartum.

Pridham and Chang (1992) studied the relationships among maternal personal conditions: age, education, and infant care experience, every day support, maternal perception of infant behavior and maternal competence in 62 mothers with a new infant in the first three months postpartum. The results revealed that only maternal perception of infant behavior had a direct effect on maternal competence of mothers with a new infant at one month postpartum ($\beta = .34, p < .05$). Maternal perception of infant behavior was measured with the Knowing Infant Scale developed by the investigator.

Relationships between maternal perception of infant behavior and maternal perception of parenting

Pridham and Chang (1992) studied the relationships among maternal personal conditions: age, education, and infant care experience, every day support, maternal perception of infant behavior and maternal perception of parenting in 62

mothers with a new infant in the first three months postpartum. Maternal perception of infant behavior was measured with the Knowing Infant Scale developed by the investigator. The result revealed that only maternal perception of infant behavior had a direct effect on maternal perception of parenting at one month postpartum ($\beta = .40$, $p < .05$).

Relationships between maternal perception of infant behavior and depression

Holden et al. (1989) studied experimental research by providing counseling to six weeks postpartum, depressed mothers in which infant behaviors and infant care were discussed. There were 26 depressed mothers in the experimental group and 24 depressed mothers in the control group. The result was found that counseled depressed mothers showed a significant reduction in postpartum depression from before intervention to after intervention ($p < .01$) whereas the reduction of postpartum depression in the control group was not significant. The maternal perception of infant behavior was an important factor related to reduction of depression in postpartum mothers.

Sukhapan (2001) studied role stress in 150 first time Thai mothers at six weeks postpartum and found that maternal perception of infant behavior and child rearing experience could significantly explain 27 percent of the variance of role stress. Maternal perception of infant behavior had a direct effect on role stress in the first time Thai mothers ($\beta = .53$, $p < .05$). Maternal perception of infant behavior was measured with the Neonatal Behavior Questionnaire (Sookkavanawat, 1998). Nana (2000) studied mental health and factors related to mental health in 1,000 early

postpartum Thai mothers. Maternal perception of infant behavior was significantly related to mental health of early postpartum Thai mothers.

Relationships between maternal perception of infant behavior and maternal role performance

Bullock and Pridham (1988) studied sources of maternal confidence in 49 first time mothers at one and three months postpartum. The results revealed that the infant behavior including infants' mood and the infants' responses to care were major sources of the maternal confidence in providing the infant care. Barclay et al. (1997) studied women's experience in becoming a new mother in 55 first time mothers and found that one of the factors influencing the maternal confidence in providing the infant care was infant behavior.

Sookkavanawat (1998) studied the relationships among self-esteem, maternal perception of infant behavior, marital relationships, and maternal role performance in 150 first time Thai mothers at four to six weeks postpartum. The study found that maternal perception of infant behavior and marital relationships could explain 28% of variance in maternal role performance. Maternal perception of infant behavior had a direct effect on maternal role performance in the first time Thai mothers ($\beta = .63, p < .001$). Maternal perception of infant behavior was measured with the Neonatal Behavior Questionnaire (Sookkavanawat, 1998).

Social support

Social support has been the helpful environmental resources outside the person which help individuals during the transition process and are important to

successful transition (Schumacher & Meleis, 1994). The concept of social support has been studied widely in social science by many theorists.

Definition of social support

Definitions of social support that have appeared in the literature are as follows.

Caplan (1974) defined social support as various forms of aids or assistance, such as emotional, cognitive, and material support supplied by family members, friends, neighbors, and others.

Kahn and Antonucci (1980) referred to social support as interpersonal transaction that includes one or more of the following: the expression of positive affect of one person toward another; the affirmation or endorsement of another person's behaviors, perception, or expressed views; the giving of symbolic or material aid to another.

House (1981) made an important contribution to the definition of social support in two ways. First, he structured the definition issue as who gives what to whom regarding which problems. Second, he defined social support as emotional concern, instrumental aid, information, and appraisal between people.

Schaefer, Coyne, and Lazalus (1981) defined social support as a soul support to human beings in the society when they come across tenseness.

In summary, the definition of social support is proposed in variety. These definitions converge on several points. Social support involves provider and recipient, centers on social integration and reciprocal process, and composes of various types of support.

Type of social support

Social support is classified by Weiss (1974 cited by Diamond & Jones, 1983) into six categories of relational provisions: attachment, social integration, opportunity for nurturance, reassurance of worth, sense of reliable alliance, and the obtaining of guidance.

Cobb (1976) conceptualized social support as information and outlined three classes of information. Information leading the subject to believe that he was cared for and loved was categorized as emotional support. Information leading the subject to believe that he was esteemed and valued was categorized as esteem support. Information leading the subject to believe that he belonged to a network of communication and mutual obligation was categorized as network support.

House (1981) proposed four types of social support: emotional, instrumental, informational, and appraisal support. Emotional support includes providing empathy, caring, love, and trust. Instrumental support includes providing tangible goods and service, or tangible aid, such as aid in kind, money, labor, time, and modifying environment. Informational support includes providing a person with information that the person can use in coping with personal and environmental problems, such as providing advice, suggestion, direction, or information. Appraisal support includes providing feedback that affirms self-worth and allows one to see himself or herself as others do.

Caplan (1974) illustrated a support system as formal and informal relationships that may be classified into three types. Emotional support refers to behavior that fosters feelings of comfort and leads an individual to believe that he is admired, respected, and loved. Cognitive support refers to information, knowledge,

and advice that help an individual to understand his world, and adjust to change within it. Material support refers to goods and services that help to solve practical problems.

In summary, social support is composed of different types of support. The important types that are proposed are emotional, instrumental, informational, appraisal, cognitive, material, esteem, and network support.

Mechanisms of social support

Social support has long been associated with health and well-being (Logsdon et al., 1994). It is generally agreed that social support acts as a buffer to protect individuals against negative life events (Cobb, 1976). Diamond and Jones (1983) summarized the following hypotheses based on many studies of social support, stress, and illness outcome. First, social support has a direct effect on health. Second, social support provides a buffer against the effects of high stress. It is the interaction between stressors and social support that is important. Third, social support has a mediating effect that stimulates the development of coping strategies and promotes mastery. Social competence may account for the absence of ill health. Finally, the lack of social support exacerbates the impact of stressful life events.

House (1981) explained that social support could modify or counteract the deleterious effect due to unsuccessful transitions in three ways. First, social support can directly enhance health and well-being because it meets important human needs for emotional concern, instrumental aid, information, and appraisal, especially during the transitional period. That is positive effects of support on health can offset or counterbalance negative effects of transition. Second, social support can directly reduce levels of maladaptation in a variety of ways, and hence indirectly improve

health, such as minimizing interpersonal pressures or tension, promoting affiliation, approval, and accurate appraisal of the self and environment. Third, social support acts to prevent the unfortunate consequences of crisis and change. It can improve adaptive competence in dealing with life transitions as well as challenges.

In summary, social support directly enhances health, reduces pressure, and protects individuals from the effects of life transitions. It is a powerful force in the management and resolution of maladaptation associated with life transition.

Social support in transition to being the first time mother

Women assume many roles in their lifetime. Transition to being the first time mother in the postpartum period has been identified as a time of stressful maternal adaptation and even crisis (Ruchala & Halstead, 1994). Social support has been found to cushion the experience of moving into parenting and is proposed as an essential variable to successful maternal role performance. Social support is defined as the interpersonal resources accessed and mobilized when new mothers attempt to deal with the everyday stress and strain of life. Satisfaction with support has been shown to be important to new mothers (McVeigh, 2000). The support a new mother receives from those around her is one the most important factors influencing her level of well being (Gjerdingen & Chaloner, 1994). Therefore, the availability of positively perceived informal and formal support systems have been identified as being essential for successful maternal role transition and the development of confidence in parenting and maternal role performance during the postpartum period (Koniak-Griffin, 1993).

Relationships between social support and maternal perception of infant behavior

Crockenberg (1981) studied infants with difficult behaviors and their families. The results revealed that the mothers with irritable infants who had high levels of social support were more perception of infant behavior and able to establish more secure attachment with their infants than were the mothers with low levels of social support.

Relationships between social support and maternal competence

Cutrona and Troutman (1986) studied the relationships among maternal perception of infant behavior, social support, maternal competence, and postpartum depression in 55 first time mothers at one month postpartum. The study found that social support had a direct effect on maternal competence of the first time mothers ($\beta = .28, p < .05$). The social support received in the first time mothers enhanced their maternal competence. Social support was measured with the Social Provision Scale (Weiss, 1974 cited by Cutrona & Troutman, 1986). Wandersman, Wandersman, and Kahn (1980) studied adaptation in maternal role of the first time mothers at early postpartum and found that social support was associated with maternal role adaptation. The social support received from partners could explain variance in maternal competence.

Relationships between social support and maternal perception of parenting and maternal role performance

Cronnenwett (1985) studied the relationships among social network, perceived support, and postpartum outcome in 108 first time mothers at one month postpartum. Social network and perceived support was measured with the Social Network Inventory developed by the investigator and based on House's concept of social support. The study found that the first time mothers who had greater access to

available emotional support and higher levels of social integration expressed higher levels in parenting and were more confident in their maternal role performance.

Reece (1995) studied relationships among factors of the early adaptation to maternal role in 105 first time mothers at one month postpartum. The study found that first time mothers' perceived support from family and friends was significantly associated with the first time mothers' expressing a high level of parenting, more confidence in infant care tasks, and high satisfaction in their maternal role. Perceived support was measured with the Postpartum Self-evaluation Questionnaire (Lederman, Weingerten, & Lederman, 1981 cited by Reece, 1995).

Relationships between social support and depression

Logsdon et al. (1994) studied social support in relation to postpartum depression in 105 first time mothers at one month postpartum. Social support was measured with the Social Support Questionnaire developed by the investigator. The results showed that social support was significantly correlated with postpartum depression and could explain 40 percent of variance in postpartum depression. Flagler (1990) studied the relationship between postpartum mothers' self-reported feeling and maternal role at six weeks postpartum. The study found that negative emotion in postpartum mothers was related to less support for the maternal role from family and friends. Holden et al. (1989) studied an experimental research by providing counseling to depressed mothers at six weeks postpartum in which infant behaviors and infant care were discussed. The counseling was functioned as informational support. The results showed that counseled depressed mothers displayed a significant reduction in postpartum depression from before intervention to after intervention (p

<.01) whereas the reduction of postpartum depression in the control group was not significant.

Relationships between social support and maternal role performance

Rogan et al. (1997) studied women's experience in becoming a new mother. Data were collected from 55 first time mothers. The study found that one of the factors influencing the maternal confidence in providing the infant care was social support. Matich and Sims's (1992) study found that the partner: husband, spouse, and infant's father, was an important source of emotional, informational, and instrumental support in postpartum women during transition to being the first time mother. The first time mothers who perceived support from partners were more likely to experience easier transitions, express higher levels of satisfaction in maternal role, and enjoy their infants more. Majewski (1987) studied social support and transition to the maternal role in 93 first time mothers and found that the first time mothers who identified their husbands as their major support person had an easier transition to the maternal role than those who identified family members.

Maternal perception of parenting

During the early postpartum, first time mothers develop a relationship with their infants, learn their infant's behaviors, and care for their infants. First time mothers' experiences with their infants, and appraisals of their experiences in parenting during the early postpartum have great important on developing the maternal perception of parenting (Koniak-Griffin, 1993; Pridham & Chang, 1989). The maternal perception of parenting influences the first time mothers' confidence in

their maternal role (Walker et. al., 1986) and the first time mothers' behaviors in their maternal role (Koniak-Griffin, 1993; Pridham & Chang, 1989). First time mothers' appraisals of their experiences in parenting may be positive, neutral, and negative. The first time mothers who evaluate their experienced transition as positive will mark the progress of the transition to being the mother of a new infant (Pridham & Chang, 1992).

Parenting is a social role encompassing complex attitudes and behaviors with a developmental component. With time and experience, new mothers acquire skills and refine ideas that have been described as parenting. Women come to the task of parenting a new infant from different life contexts and with varying personal resources that can be expected to affect the role taking process (Grace, 1993). The maternal factors such as age, education, and parity, child factors such as infant behavior, and infant health, and situational factors such as stress, depression, and social support, can affect the role taking process (Mercer, 1981).

The basic goals of parenting are to promote the physical health of the infants and children, to foster the skills and abilities necessary to be a self-sustaining adult, and to foster behavior capabilities for maximizing cultural values and beliefs. However, new mothers approach parenting with inadequate experience and knowledge. At the beginning, new mothers learn by trial and error, and commit the same mistakes that have been committed by countless other mothers. They somehow manage to accomplish the task and become more skilled with each additional child. Experience in having been nurtured as an infant is an essential component of successful parenting (Wong, 1999). Although parenting continues to evolve as the growing child changes, the initial period of parenting appears to be complete for most

new mothers well before the end of the first postpartum year (Grace, 1993; Pridham & Chang, 1992).

Development of parenting

New mothers proceed through parenting developmental stages as a function of individual adult developmental tasks. In the process of mother–infant development, the behavior of each influences the behavior of the others. Development of a parenting sense can be progressed and divided into four phases (Reeder et al., 1997).

1. *Anticipation*. Looking forward to parenting, a new couple thinks about and discusses becoming parents and the way in which they will rear their infants. They wonder what changes will develop in their relationship and what kind of parents they will be.

2. *Honeymoon*. This is the early interpersonal adjustment to the infant in which the attachment is formed between the new mother and the infant and new role learning takes place. The transition in self-image from nonparenting to parenting is made.

3. *Plateau*. The long middle period of parenting development parallels child development at each period. As the child is an infant, new mothers learn to interpret the infant's needs.

4. *Disengagement*. This phase ends the active parenting. It is usually at the time of the child's marriage.

Learning of parenting

Rubin (1984 cited by Pillitteri, 1999) has identified a number of specific tasks that are used by new mothers to learn parenting and new mothers must complete these tasks before they are ready to be a mother. These tasks are important in each childbirth, not just the first one. These tasks are as follows.

1. Mimicry

The process of mimicry involves new mothers actively learning and imitating the behaviors of others mothers in parenting. They spend time with the other mothers to learn what to do. They may spend more time talking to their own mothers.

2. Role playing

The process of role playing involves new mothers acting out particular role behaviors. As part of the mothers' need for role playing, they are drawn into a world of talk about infants especially the new mothers. It is helpful for most new mothers to attend childbirth education classes or classes on preparing for parenting. Attending these classes will help the new mothers accept having an infant, expose them to other mothers as role models, and provide practical information about infant behaviors and infant care.

3. Fantasy

The process of fantasy entails new mothers internalizing and elaborating the self-role. This task develops new mothers' knowledge and comprehension toward parenting. The new mothers perform much the same work as they did in initially accepting the pregnancy. They fantasize about what it will be like to be the mothers of their infants.

4. Introjection-projection-rejection

The process of introjection-projection-rejection involves new mothers to continue actively acquiring a maternal role fit. This step begins with the new mothers becoming aware of their needs to learn to be a mother (introjection). They then find a role model of a mother among her friends or family (projection). The behaviors of the role model are observed closely. The new mothers transpose themselves into the model person's behaviors. If those behaviors seem to fit how the new mothers will be able to be a mother, they are able to add to their existing knowledge and behavior. If those behaviors do not seem to fit, the new mothers will cast the model aside (rejection). They will then choose the other role model and continue this process until they find one that is right for them.

5. Grief

The process of grief involves the new mothers having the thought of grief associated with giving up or changing the existing role, and having the new maternal role. However the thought of grief does not influence their acceptance of the new role.

Maternal perception of parenting in transition to being the first time mother

Walker et al. (1986) studied maternal perception of parenting in 64 first time mothers and 58 experienced mothers at early postpartum and four to six weeks postpartum. Maternal perception of parenting was measured with the *Myself as Mother Scale* developed by the investigator. The study reported that the first time mothers had less perception of parenting than did experienced mothers because the first time mothers had no prior experience. Maternal perception of parenting score in the first time mothers increased from the early postpartum to four to six weeks

postpartum. Grace (1993) studied maternal perception of parenting across the first six months postpartum in 76 postpartum mothers. The study showed that maternal perception of parenting score in the first time mothers increased with time: one, three, four and a half, and six months postpartum. Maternal perception of parenting was measured with the What Being the Parent of a New Baby Is Like (Pridham & Chang, 1989).

Pridham and Chang (1992) studied maternal perception of parenting in 62 mothers with a new infant in the first three months postpartum and found that maternal perception of infant behavior had a direct effect on maternal perception of parenting at one month postpartum ($\beta = .40, p < .05$). Maternal perception of parenting was measured with the What Being the Parent of a New Baby Is Like (Pridham & Chang, 1989).

Relationships between maternal perception of parenting and maternal role performance

Walker et al. (1986) studied maternal perception of parenting and maternal confidence in 64 first time mothers and 58 experienced mothers at early postpartum and four to six weeks postpartum. Maternal perception of parenting was measured with the Myself as Mother Scale developed by the investigator. The study reported that maternal perception of parenting in the first time mothers was associated with maternal confidence in performing the maternal role both at early postpartum and four to six weeks postpartum. Curry (1983) studied adaptation to maternal role in the first time mothers and found that maternal perception of parenting was positively related to the first time mothers' confidence in providing the infant care. Maternal perception of

parenting was measured with the Tennessee Self-concept Scale (Tennessee, 1965 cited by Curry, 1983).

Maternal competence

Mothers' perception of their competence in providing the skillful, sensitive care that responds to infants' needs and fosters infants' development is a major factor influencing maternal confidence in performing maternal role (Mercer & Ferketich, 1995). Two components are related to competence in providing the skillful, sensitive infant care. The first component is knowledge of and skill in infant care activities includes infant behaviors, feeding, holding, clothing, bathing the infant, eliminating, sleeping, and protecting the baby from harm. The second component is valuing and comfort in infant care includes an attitude of tenderness, awareness, and concern for the infant's needs and desires. The ability to competently perform these task-oriented activities or the skillful, sensitive infant care does not appear automatically with the birth of an infant. The women who become new mothers have no experience of infant care. The new mothers must learn to develop this ability, and this learning process can be difficult. The new mothers become adept in infant care activities and meet the demand of the new situation when they have the desire to learn and the support of others (Lowdermilk et al., 2000).

Maternal competence can be characterized as self-efficacy. Bandura (1977) defined self-efficacy as the belief that one has the skill and competence to carry out specific actions or a particular task. Perceived self-efficacy is concerned

with judgement of how well one expects to cope with upcoming situation. According to Bandura (1977, 1982) perception of self-efficacy affects how much effort people will expend and how long they will persist in the face of obstacles or aversive experiences. Self-efficacy judgement also affects cognitive and affective reactions to stress. When faced with stress, those who have low estimations of their own efficacy tend to give up easily, make internal attributions for failure, and experience high levels of anxiety and/or depression. By contrast individuals with high self-efficacy beliefs are persistent, avoid self-denigration attributes, and experience less anxiety and depression (Cutrona & Trouman, 1986).

Bandura (1982) lists four sources of self-efficacy beliefs: performance accomplishment, vicarious experience, verbal persuasion, and emotional and physical arousal. Performance accomplishment means successful mastery that results through personal experience and is viewed as having the strongest impact on the self-efficacy beliefs. Successful experience tends to increase perceived self-efficacy. Vicarious experience is facilitated by exposing individuals to people of similar capabilities who have successfully performed a target behavior. Watching the performances of others in the maternal role may shape expectations for one's own performance. Verbal persuasion is used to convince people through discussion, praise, and encouragement. Direct statements from others concerning one's competence can clearly influence self-efficacy to perform a target behavior. Emotional and physical arousal can also influence self-efficacy expectations. High arousal usually weakens performance (Cutrona & Trouman, 1986).

Reece (1992) defined the self-efficacy in the maternal role as a new mother's competence in her ability to meet the demands and responsibilities of early

maternal role. Mothers with greater perceptions of self-efficacy in their ability to infant care would be more likely to plan competently to infant care, initiate infant care shortly after the childbirth, and respond to the infants' needs only as planned and not from lack of competence in the adequacy of their infant care. They also may be more likely to seek out professional and social support to meet of being a mother goal. The low maternal self-efficacy is related to perceived inadequate infant care.

Nurses can help new mothers or inexperienced mothers feel competent in their new maternal roles. They can promote new mothers and provide interventions to new mothers for practicing infant care tasks during the early postpartum at the hospital, or at home with assistance and feedback available. Nursing approaches and strategies can enhance new mothers' self-efficacy by helping them feel more competent in their parenting skills (Lowdermilk et al., 2000).

Maternal competence in transition to being the first time mother

Mercer and Ferketich (1995) studied maternal competence during infancy in 166 inexperienced mothers and 136 experienced mothers. The result revealed that the first time mothers' competence was higher at four and eight months postpartum than at early postpartum and one month postpartum, indicating a developmental process in maternal role achievement, but no change was observed in experienced mothers' maternal competence. Maternal competence was measured with the Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978).

Relationships between maternal competence and depression

Cutrona and Troutman (1986) studied the relationships among maternal perception of infant behavior, social support, maternal competence, and postpartum depression in 55 first time mothers at one month postpartum. The study found that

maternal competence had a significant direct and negative effect on postpartum depression in the first time mothers ($\beta = -0.37, p < .01$). Maternal competence was measured with the Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978). Fowles (1998) studied the relationship between maternal competence and postpartum depression in 168 first time mothers and found that maternal competence was significantly negative associated with depression in the first time mothers.

Relationships between maternal competence and maternal role performance

Bullock and Pridham (1988) studied the relationship between maternal competence and maternal confidence in 49 first time mothers and found that the maternal competence was positively related to maternal confidence in providing the infant care in the first time mothers at one month postpartum. Mercer and Ferketich (1994) studied mother-infant interaction during infancy in 166 inexperienced mothers and 136 experienced mothers. The study found that maternal competence was significantly associated with mother-infant interaction in both inexperienced and experienced mothers at early postpartum, one month postpartum, four and eight months postpartum. Maternal competence was measured with the Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978).

Depression

Depression is a significant mental health concern and is believed to be especially prevalent in postpartum women (Logsdon et al., 1994; O'Hara, Zekoski, Philipps, & Wright, 1990). The reported incidence of postpartum depression in the

United States has ranged from 4.9% (Gotlib et al., 1991) to 32.4% (Logsdon et al., 1994).

Definition of postpartum depression

Horowitz et al. (2001) describe a postpartum depression that is a mood disorder with symptoms of fatigue, anxiety, fear, despair, compulsive thoughts, feelings of inadequacy, loss of libido and dependency.

Petrick (1984) describes a depression in postpartum women that presents with tearfulness, despondency, feelings of inadequacy, feeling an inability to cope, disturbance of mood, irritability, anorexia, loss of normal interests, sleep disturbance, and cognitive symptoms including impaired concentration and recent memory deficits.

Beck (1995) describes postpartum depression as a group of behaviors during the postpartum period characterized by a disturbance of mood, a loss of sense of control, and physical anguish. The behaviors are such as a depressed mood, loss of pleasure in activities, crying for no apparent reason, inability to sleep, appetite disturbance, lack of concentration, confusion, obsessive and compulsive behavior.

Wood, Thomas, Droppleman, and Meighan (1997) describe postpartum depression as a group of behaviors such as crying, insomnia, appetite change, feeling of worthlessness, a decrease in energy, an inability to concentrate, demonstration of little concern for personal appearance, feelings of anxiety, irritability, loss of control, and hostility.

Gorrie et al. (1998) state that a woman experiencing depression shows less interest in her surroundings and a loss of her usual emotional response toward her infant and family. Even though she cares for the child in a loving manner, she is unable to feel pleasure or love. She may have intense feelings of unworthiness, guilt, and shame and she often expresses a sense of loss of self. Generalized fatigue, complaints of ill health, and difficulty in concentrating are also present. She often has little interest in food and experiences sleep disturbance. She often describes panic attacks and relentless obsessive thinking.

In summary, postpartum depression is a group of behaviors during the postpartum period characterized by a disturbance of mood, a loss of sense of control, and intense mental, emotional and physical anguish such as tearfulness, anxiety, fear, despair, irritability, compulsive thoughts, feeling of inadequacy, feeling an inability to cope, dependency, sleep disturbance, and appetite disturbance.

Predisposing factors of postpartum depression

Petrick (1984) identifies several factors that predispose women to experience postpartum depression.

1. *Personality traits.* Some researchers have reported that mothers who experience depression often exhibit anxious and/or obsessive personality traits or present as over controlled, compliant individuals.

2. *Genetics factors.* Genetic predisposition is a factor in the amount of affective disorders experienced postpartum. Women with a known affective bipolar disorder (manic-depressive illness) are 3.5 times more likely to experience a manic or depressive episode postpartum.

3. *Psychosocial stressors*. The postpartum period itself may be a stress that precipitates a psychological disturbance for predisposed women. Successful completion of the new tasks inherent in parenting requires mastery of all prior developmental stages. Symbiotic attachments often result from the failure to achieve prior developmental tasks of individuation, separation, and establishment of individual identity.

4. *Biological factors*. Hormonal changes may be linked to specific behaviors in postpartum mothers. A rapid decrease in progesterone between the first and second stages of the labor, a decrease in estrogen, or a high level of prolactin are associated with postpartum mothers and may be attributed to depression.

Wood et al. (1997) summarizes risk factors investigated in studies and found to be associated with an increased risk of postpartum depression. These factors are prenatal anxiety, ambivalence about maintaining the pregnancy, history of depression or bipolar disorder, personal dissatisfaction, lack of social support, life stress, childcare stress, and unstable relationship with the husband.

Lowdermilk et al. (2000) state that biochemical, psychological, social, and cultural factors have been explored as possible causes of the postpartum depression. However, the etiology remains unknown. Whatever the cause, the early postpartum period appears to be one of emotional and physical vulnerability for new mothers, who may be psychologically overwhelmed by the reality of parental responsibilities. The mother may feel deprived of the supportive care she received from her partner, family members and friends during postpartum period. Fatigues after childbirth is compounded by the around the clock demands of the new baby and can accentuate the

feelings of depression. Inadequate support in dealing with parental responsibilities in new mothers is an important contributory factor to the feelings of depression.

O'Hara et al.'s (1990) study found that women who were depressed postpartum reported significantly more stressful events in infant and infant care during the postpartum period than nondepressed postpartum mothers. Logsdon et al. (1994) studied social support in relation to postpartum depression in the first time mothers at one month postpartum. The results showed that social support was significantly correlated with postpartum depression and could explain 40 percent of variance in postpartum depression. Flagler's (1990) study found that negative emotion in postpartum mothers was related to less support for the maternal role from family and friends.

In summary, personality, genetic, biological, psychological, and social and cultural factors have been proposed as predisposing factors of the postpartum depression. Difficulties in infant and infant care, and social support are important factors in relation to depression in the first time mothers.

Adverse effects of postpartum depression

Postpartum depression poses risks to the maternal-infant relationship and to infant development, e.g., pattern of unresponsiveness, and a lack of attunement between mother and infant (Horowitz et al., 2001). Depressed mothers are less attuned and responsive in the vocalizations directed toward their infants and also less attuned to infant needs during feeding and sleeping (Logsdon et al., 1994). Zuravin's (1989) study reported that moderately depressed mothers demonstrated an increased risk of physical aggression with their infant, while severely depressed mothers were at increased risk of verbal aggression. Flagler's (1990) study found that negative

emotion of the mothers was related to their poorer adjustment with their infants. Negative emotion was viewed as loss of self-control on the mothers. This, in turn, influenced the mothers' ability to view themselves as competence of carrying out role responsibility.

The research findings have consistently demonstrated the adverse effect of postpartum depression of a woman on a child's general behavioral and developmental functioning (Beck et al., 1992). Postpartum depression has a major consequence for the infant development and infant outcome because characteristics of postpartum depression have an adverse effect on the developing mother-infant relationship (Gorrie et al., 1998). Whiffen and Gotlib's (1989) study reported that infants of depressed mothers had been shown to have less positive affect and poorer cognitive performance than infants of nondepressed mothers.

In summary, postpartum depression of women in postpartum period has adverse effects not only on women's health, but also on maternal-infant interaction and infant development. Thus, more attention should be paid to postpartum depression.

Depression in transition to being the first time mother

Logsdon et al. (1994) studied social support in relation to postpartum depression in 105 first time mothers at one month postpartum. The results showed that 32.4% of the first time mothers had depression scores that were classified as possible depression. Social support was significantly correlated with postpartum depression and could explain 40 percent of variance in postpartum depression. Postpartum depression was measured with the Center for Epidemiologic Studies Depression Scale (Radloff & Locke, 1986).

Relationships between depression and maternal role performance

Beck (1995) studied the effects of postpartum depression on mother-infant interaction and found that postpartum depression had a moderate to large effect on mother-infant interaction. Fowles (1998) studied the relationship between postpartum depression and maternal role performance in 168 first time mothers and found that postpartum depressive symptoms had a significant negative effect on maternal role performance. Postpartum depression was measured with the Edinburgh Postnatal Depression Scale (Cox et al., 1987 cited by Fowles, 1998). Panzarine, Slater, and Sharps (1995) studied postpartum depression in 50 first time mothers and found that depressed mothers had negative mother-infant interaction, and reported less maternal confidence in providing the infant care and maternal role satisfaction.