THE CONCERNS OF POSTPARTUM WOMEN WHO HAVE EXPERIENCED A HIGH-RISK PREGNANCY

by

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Abstract

This quantitative study used an exploratory, descriptive, comparative design to examine and describe postpartum concerns during the first two weeks following delivery of women who have experienced high-risk pregnancies. The association of demographic and perinatal factors with postpartum concerns was also examined.

The convenience sample of 73 women included 46 primiparas and 27 multiparas who completed and returned, via mail, the Maternal Concerns Questionnaire (MCQ) (Sheil, et al., 1995) and a participant information sheet between 10 and 14 days postpartum. The MCQ consists of 50 items grouped into five concern subscales: mother, infant, partner, family and community.

Findings revealed that most women had low to moderate levels of concern. From greatest to least, the concerns related to the baby, mother, family, partner and community. The primiparas' overall concerns were of greater intensity than those of the multiparas, and the types of concern differed between the two subgroups: the primiparas focused on the infant and themselves and the multiparas centered on the family and themselves. Younger women had more partner concerns than those over 38 years of age. Women whose infants were born before 38 weeks of pregnancy had greater intensity of concerns about the infant than those whose infants were born after 38 weeks. As the infant's birth weight increased, the mother's level of concern about the infant decreased. Women who breastfed had less intensity of concerns about their infants than those who used a combination of feeding methods. These study findings will assist health care professionals in hospital and community to provide individualized postpartum care to women who have experienced a high-risk pregnancy.
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CHAPTER ONE

Introduction

Background to the Problem

The early postpartum period, identified as the first few weeks after the birth of an infant, is a time of profound change and one of the most challenging and exciting transitions for women and their families. Concerns of women during the postpartum period, have been identified in numerous studies as including their physical well-being, infant care and feeding, and balancing family and household demands (Bull, 1981; Cadman, 1995; Gruis, 1977; Harrison & Hicks, 1983; Hiser, 1987; Lemmer, 1987; Moss, 1981; Smith, 1989; Tobert, 1986). These findings are based on studies of women who have experienced a low-risk pregnancy, that is, one considered to be without any demonstrated psychological or physiological problems (Kemp & Hatmaker, 1989). Up until now, the postpartum concerns of an emerging group of new mothers, those who have experienced a high-risk pregnancy, have not been systematically studied.

Today, there are an increasing number of women who are identified as having a high-risk pregnancy, that is, one in which the mother has a physiological, emotional or social problem or condition, that may adversely affect her health or the health of her fetus (Buckley & Kulb, 1993). This experience may influence the concerns these women encounter in the early postpartum period.

During the past 15 years, advances in reproductive and medical technology, improved antepartum surveillance, and postponed pregnancies have changed the profile of childbearing women (Buckley & Kulb, 1993). Women previously unable to attain or sustain a pregnancy
are now able to conceive and have successful pregnancy outcomes. From 1986 to 1995, the average age of women experiencing a pregnancy has increased from 26.9 years old to 28.7 years old with a larger proportion of women having their first child when they are over 35 years of age (Statistics Canada, 1987, 1996). An increasing number of antepartum complications have been attributed to the increase in pregnancies later in life (Winslow, 1987). These pregnancies as well as those coupled with health problems, while having mostly successful outcomes, are considered high-risk.

In British Columbia (BC), as in North America, between 10 and 20% of all pregnancies are classified as high-risk (Buckley & Kulb, 1993; Statistics Canada, 1996). Therefore, of the 45,883 births in BC in 1996, between 4,500 and 9,100 women would be identified as having a high-risk pregnancy. At BC Women’s Hospital (BCWH), the tertiary care facility for obstetrics in BC, there are approximately 7000 births each year. Of these approximately 2,000 (28%) are deemed high-risk (K. Epp, personal communication, July 15, 1999).

During the childbearing cycle, successful resolution of prenatal as well as postpartum maternal tasks is necessary for the successful initiation and continuation of effective parenting (Mercer, 1995). Rubin (1975, 1984) first identified the prenatal tasks as the maternal tasks of pregnancy. These include: a) seeking safe passage for mother and baby, b) ensuring acceptance of the baby by significant others, c) binding-in to the unknown child, and d) learning to give of oneself. Postpartum tasks, were later delineated by Gruis (1977) evolving from her work on the concerns of low-risk postpartum women. The maternal postpartum tasks encompassed in the Gruis framework include: a) restoring the physical self, b) learning to care for and meet the needs of a dependent infant, c) establishing a relationship
with the infant, and d) altering lifestyles and relationships to accommodate a new family member.

Much of the information on high-risk pregnancy has been generated from existing knowledge of the impact of pregnancy on women considered to be low-risk (Carty, Crawford & Ross, 1992). Stainton et al. (1992) found that the maternal tasks of pregnancy described by Rubin are similar for women experiencing high-risk pregnancies. However, the intensity of the women’s feelings and the emphasis on each task alters with the high-risk situation. Women experiencing high-risk pregnancies face additional challenges such as treatment regimes that may reduce the physiological risk but threaten their psychological safety and generate uncertainty (Clauson, 1996; May & Mahlmeister, 1994).

Until recently, a common assumption was that care during the postpartum period was similar for women whether they had experienced a high-risk or low-risk pregnancy (Maloni & Kasper, 1991). Just as the development of a high-risk condition may disrupt or impede the accomplishment of maternal tasks of pregnancy (Gilbert & Harmon, 1998). Any threat to the expectant woman’s sense of adequacy during pregnancy may affect her ability to accomplish the postpartum tasks that accompany the birth of her infant (Penticuff, 1982). Some women may only begin to realize the impact of having had a high-risk pregnancy during the early postpartum period when it is finally safe to allow their feelings to emerge (Maloni, 1994). However, the physical and emotional sequels of a high-risk pregnancy can last up to a year or longer following the infant’s birth (Curry, 1990). It can then be anticipated that there would be differences between high-risk and low-risk pregnant women’s experiences and that these
differences could alter the course, the intensity, and the frequency of the high-risk pregnant women's concerns in the postpartum period.

**Problem Statement**

The accomplishment of prenatal and postpartum maternal tasks is essential for a successful role transition to motherhood. High-risk pregnancy and other factors may interfere with meeting the maternal tasks of pregnancy which in turn, could disrupt or impede achievement of the maternal tasks during the postpartum period. Most studies to date have focused on women experiencing low-risk pregnancies. While the findings from these studies are useful for understanding the postpartum concerns of women who experienced uneventful pregnancies, it is unclear whether these findings can be extended to women considered to have had high-risk pregnancies. Identifying the specific postpartum concerns of high-risk mothers and understanding the factors that may influence these concerns will enable health care professionals to provide individualized and more effective care to these women, both in hospital and in the community.

**Study Purpose**

The purpose of this study was to identify and describe the concerns of women during the first two weeks of the postpartum period who have experienced a high-risk pregnancy and whose infants were not admitted to a neonatal intensive care unit (NICU) at birth. In addition, the study examined a number of demographic and perinatal factors that could influence the women's postpartum concerns.
Theoretical Framework

The theoretical framework that guides this study comes from two areas of the literature, the postpartum tasks identified by Gruis (1977) and factors identified in the literature that may influence women's transition through the developmental tasks of the perinatal period. Difficulties that arise during the perinatal period may interfere with a smooth transition resulting in increased numbers or intensity of postpartum concerns. Since the group of postpartum women who have experienced a high-risk pregnancy is a relatively new phenomenon, theoretical frameworks remain to be developed. The theoretical frameworks that are useful for understanding the postpartum concerns among the low-risk childbearing population can offer a starting point for assessing and understanding the postpartum concerns of women experiencing a high-risk pregnancy. Besides a high-risk pregnancy, other perinatal as well as demographic factors may influence the adjustment to the pregnancy or postpartum period and impact a successful transition to motherhood.

Postpartum Task Framework

A postpartum task framework was developed by Gruis (1977) based on her research on maternal concerns following delivery. Other researchers, such as Rubin (1984), Mercer (1981), and Ziegel and Cranley (1984) have conducted studies on the transition to motherhood and achieving maternal identity and have described maternal tasks during the postpartum period. Because the present study is focusing on the concerns of new mothers, the Gruis postpartum task framework is the most appropriate one to guide this research.

The Gruis framework addresses four maternal tasks: a) restoring the physical self, b) learning to care for and meet the needs of a dependent infant, c) establishing a relationship
with the infant, and d) altering lifestyle and relationships to accommodate a new family member. Gruis’ descriptions of these four tasks follows:

**Physical restoration.** Restoring the physical self involves the process of uterine involution and healing of the endometrium, episiotomy or cesarean site. Discomfort may be experienced throughout this period, inhibiting comfortable handling of the infant, sexual relations, and return to normal physical patterns of exercise, eating, and elimination. Mothers express concerns about their bodies returning to their pre-pregnant shape and concerns about the fatigue and emotional tension they experience (Gruis, 1977).

**Meeting the infant’s needs.** Learning to care for and meet the needs of a dependent infant is demanding both emotionally and physically. Fatigue reduces a mother’s emotional capacity to cope and the demands of a new infant may be continuous and unrelenting. New mothers, especially first-time mothers, experience major concerns as they learn about their newborns’ behaviour and needs. Gruis identified infant care as a major concern for new mothers (Gruis, 1977).

**Relationship with the infant.** Establishing a relationship between the mother and her infant is imperative so that the infant can learn to relate socially to others and to his or her environment. Gradually, mothers learn the unique patterns of their infants’ behaviour and what is comforting to them, and begin to identify with their babies as separate individuals. The concerns arise from their unfamiliarity with the new baby, the unpredictability of the infant’s behaviours, and feeding patterns in the early postpartum period.

**Accommodating a new family member.** Few mothers are prepared for the required changes in lifestyle that occur following the birth of an infant. Altering one’s lifestyle and
adjusting family relationships to accommodate a new family member can contribute to increased concerns. However, it does become easier for new mothers as they feel more in control of their bodily functions and become more comfortable caring for their infants. Some mothers experience a sense of loss related to necessary reductions in social activities and time with their partners and other family members. Since the woman spends most of her time with the new infant, the time she has to spend with her partner is reduced. This could give rise to deterioration in their relationship. Integrating the new baby into the family is an adjustment for siblings, grandparents, and other relatives as well. Relationships at work and involvement in community organizations are curtailed while women adjust to motherhood. Some women manage the need to reorganize their time and energies to meet the demands of the postpartum period better than others. However, they still express concerns about changes that occur related to their partner, family, and involvement in the community (Gruis, 1977).

Factors Influencing Maternal Concerns and the Postpartum Task Framework

Findings in the literature suggest that factors related to pregnancy, birth, and the postpartum period as well as demographic factors could influence maternal postpartum concerns. High-risk pregnancy is one of the prenatal factors. Women who experience high-risk pregnancy face stress and uncertainty as the expected course and duration of their pregnancy becomes altered (Snyder, 1979). Delay or alteration in accomplishing the maternal tasks during pregnancy may occur with the event of a high-risk pregnancy.

Based on findings from a study of high-risk pregnant women, Stainton et al. (1992) adapted Rubin's developmental tasks for women with low-risk pregnancies to reflect the needs of the high-risk antepartum population. Similar to Rubin's tasks, but with a change in
emphasis, Stainton suggested that the first task, seeking safe passage, emphasizes the word SAFE for these mothers, since the high-risk situation can lead to an uncertain outcome. The second task, gaining acceptance by others, stresses the importance of the word OTHERS. The uncertainty of the health of the anticipated baby heightens the mother’s need for the baby to be accepted by friends and family. Binding-in to the child, the third task, emphasizes the phrase, BINDING-IN. A woman may find it very difficult to consider developing a relationship with her baby until the threat to the pregnancy and/or fetus is passed. The fourth task is giving of oneself and GIVING is intensified in high-risk pregnancies. Women focus on the survival of their infants to the exclusion of everything else, including their work, social life, and independence (Stainton et al., 1992). Experiencing a high-risk pregnancy is one of many factors that may influence the transition to postpartum for new mothers.

Studies of childbearing populations have reported that women’s adaptation during the postpartum period is influenced by demographic factors such as age and education (Koniak-Griffin, 1993; Mercer, 1981; Pridham, Lytton, Chang, & Rutledge, 1991). Also affecting maternal postpartum concerns are a number of perinatal factors including activity restriction during pregnancy (Maloni, 1993; Robertson & Kavanaugh, 1998) support during the perinatal period, (Curry, 1983; Majewski, 1987; Norbeck & Tilden, 1983; Rubin, 1977), prenatal education, (Harrison & Hicks, 1983; Hillier & Slade, 1989), type of birth (Fawcett, 1981; Marut & Mercer, 1979) labour and delivery experience (Ament, 1990; Fowles, 1998; Rubin, 1984), and infant feeding method (Mercer & Stainton, 1984; Pridham et al., 1991). Hence, it is important to examine the associations between these factors and the maternal
postpartum concerns identified in this study. It may then be possible to gain some insight into how these associations influence a woman’s transition to motherhood.

Although the Gruis postpartum task framework was based on assessments of women experiencing a low-risk pregnancy, all women need to embrace these tasks as they progress into motherhood. Therefore, this framework and the factors influencing the maternal postpartum tasks will serve as the basis for assessing the postpartum concerns of women who have experienced a high-risk pregnancy.

Research Questions

The following research questions guided this study:

1. What are the concerns of women in the first two weeks postpartum who are identified as having experienced a high-risk pregnancy and whose infants are not admitted to the NICU at birth?

2. What are the associations between demographic and perinatal factors and mothers’ postpartum concerns?

Significance of the Study

The successful transition to motherhood has a profound effect on the well-being of the mother, infant, partner, and family. Identification of concerns enables women to develop strategies to deal with these concerns and thus negotiate a successful transition to motherhood. Until now, all studies on the concerns of postpartum women have focused on those women experiencing a low-risk pregnancy. This study will provide descriptive information about the concerns of postpartum women who have experienced a high-risk pregnancy. Findings will add to the body of nursing knowledge specific to this population.
Identifying the concerns of postpartum women who have experienced a high-risk pregnancy will give direction to nurses and other health care professionals when providing care, both in the hospital and in the community. Nurses will be able to individualize their care ensuring that women who have experienced a high-risk pregnancy receive the specific teaching and postpartum support they need to successful negotiate the transition to motherhood.

**Definition of Terms**

The following terms will be used throughout the study:

- **Concern** - anything that is a question, worry or a problem to the woman (Sheil et al., 1995).

- **Postpartum period** - the 42 days following the birth of an infant (Wong & Perry, 1998).

- **High-risk pregnancy** - a pregnancy in which the mother has a physiological, emotional or social problem or condition, that may adversely affect the health of the woman or fetus (Buckley & Kulb, 1993; Murphy & Robbins, 1993).

- **Low risk pregnancy** - a pregnancy without any demonstrated physiological or psychological problems (Kemp & Hatmaker, 1989).

- **Primipara** - a woman who has completed one pregnancy with a fetus or fetuses which has/have reached the stage of viability (Wong & Perry, 1998).

- **Multipara** - a woman who has completed two or more pregnancies to the stage of viability (Wong & Perry, 1998).

- **Third trimester** - the period from 27 weeks through term (38-40 weeks) gestation (Wong & Perry, 1998).
Gestational Age - “estimated age of the fetus, calculated in weeks, from the first day of the last menstrual period” (May & Mahlmeister, 1994, p. 1135).

Perinatal Period - the time from the first day of the last menstrual period until the 28th postpartum day (Buckley & Kulb, 1993).

Assumptions of the Study

This study is based on the following assumptions:

1. Participants are the most legitimate source of information about their concerns and they will provide truthful answers to the questionnaires.

2. The questionnaire used captures the concerns of postpartum women who have experienced a high-risk pregnancy.

3. The impact of a high-risk pregnancy will influence a mother’s concerns during the early postpartum period.

Limitations of the Study

The study has several limitations that include the following:

1. Study findings may not be generalized to those women who do not meet the inclusion criteria. Application of findings will be limited to other samples that have characteristics comparable to this one.

2. Participants are from one tertiary care hospital which limits generalizability of the results to other patient populations and other hospitals.

3. The concerns identified are specific to the first two weeks postpartum and will not account for women’s concerns within other time frames.

4. The study findings cannot be generalized to mothers whose infants were admitted to the
Overview of the Thesis

This thesis encompasses five chapters. Chapter One includes the background, problem statement, study purpose, theoretical framework, research question, significance of the research, definitions of terms, assumptions, limitations, and overview of the thesis. In Chapter Two, a review of selected literature pertaining to the research questions will be presented. Chapter Three presents the research methods including descriptions of the research design, sample and setting, subject recruitment, data collection procedure, data collection instruments, data analysis, and ethics and human rights. In Chapter Four, the description of the sample, findings, and a discussion of the results will be presented. The thesis will conclude with the summary, conclusions, implications for nursing practice, and recommendations for future research in Chapter Five.
CHAPTER TWO

Literature Review

Overview

In this chapter, selected literature pertaining to three areas is reviewed. In the first section, an overview of the literature related to the transition to motherhood is provided. In the second section, literature with respect to maternal postpartum concerns is reviewed. In the third section, demographic and perinatal factors, accenting high-risk pregnancy that can influence the transition to motherhood, are discussed.

An extensive literature review was undertaken using OVID, a computerized search program encompassing the years 1982 to 1999. Data bases including the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, and Psychological Abstracts were explored using key words and phrases such as postpartum, puerperium, maternal concerns, transition to motherhood, maternal role attainment, postpartum learning needs, and high-risk pregnancy. This search yielded over 150 references with the majority of the articles from CINAHL. Review of the references at the conclusion of the articles revealed approximately 40 additional pertinent references, including both articles and books. Many of these references predated 1982, the year limit for OVID and provided a historical basis for the work completed on maternal postpartum concerns. In addition, four theses critical to this research were obtained. A hand search of related unbound journals added recent articles. Eight references were found using the term “Maternal Concerns Questionnaire”. Critical analysis of the literature laid the foundation for this study on maternal concerns in the early
postpartum period for those women experiencing a high-risk pregnancy and the factors that influence the transition to motherhood.

**Transition to Motherhood**

The announcement of a pregnancy begins the development of the parental role. LeMasters (1957) and Sheehan (1981) determined that the addition of a child to the family constituted a real or potential crisis and described it as a disruptive event to family life. LeMasters conceded that most parents did eventually negotiate a successful transition to parenthood. Later work by Rossi (1974) described the successful adjustment to parenthood as a “normal crisis”. She felt this developmental stage was more appropriately addressed as a transition. Regardless of the chosen definition, major changes occur during this period which have a significant impact on all family members. The mother is the most affected by changes occurring during this time as she experiences not only emotional and role changes, but physiological changes as well. The transition to motherhood involves changes in relationships and lifestyle patterns and a major reorganization of roles as the fetus/infant is integrated into the family (Sheehan).

Many researchers have studied the maternal adaptation process during the postpartum period after a low-risk pregnancy (Gruis 1977; Mercer 1981; Rubin 1975; Ziegel & Cranley, 1984). However, there has been no systematic study of the transition to motherhood for those women who have experienced a high-risk pregnancy. Most of the research reports on the physical or psychological effects of a high-risk pregnancy on the woman and her family Maloni & Kasper, 1991; White & Ritchie, 1984). The concerns these mothers experience during the postpartum period have been anecdotally included in the summation of some
articles which discuss the effects on women of high-risk pregnancies (Ferketich & Mercer, 1990; Maloni, 1994; Stainton, 1994). Maloni reported on the effects of hospitalization and bedrest on women and their families. Stainton identified that most postpartum high-risk women needed help from their families to reorganize their lives. Ferketich and Mercer found that anxiety generated from a high-risk pregnancy can negatively affect maternal competence and increase a woman's concerns.

In her work with low-risk childbearing women over three decades ago, Reva Rubin (1984) described the progressive changes that occur in maternal behaviour to achieve a maternal role identity. This transformation, which begins during pregnancy and extends through the postpartum period, can be successful only if the woman negotiates the maternal tasks associated with pregnancy and the early postpartum period (Mercer, 1995). Identified and described by Rubin, these maternal tasks address three sub-systems described as the self (mother) system, the mother and child system, and the family system within the context of society (Rubin). During the pregnancy and intrapartum period, the mother-child system forms and the self and family systems are altered in preparation for the new addition to the family. Rubin believed that the maternal experience occurring in the early postpartum period reconstructs these three subsystems within the individual's social context and with the assistance of family, friends, and caregivers.

In her early work, Rubin (1961) defined the puerperium as consisting of two time periods: the first two to three days after the infant is born is identified as the 'taking-in' phase, and the next ten days are described as the 'taking-hold' phase. The taking-in phase is a restorative time for the mother in which sleep and food play a large part. The new mother
exhibits passive and dependent behaviour as she strives to meet her needs and regain balance in her life. During the taking-hold phase, the mother becomes an initiator as she actively takes on being the mother of her infant. In this phase, she learns new behaviours as she begins to care for her infant (Ament, 1990). In her later work, Rubin (1984) did not discuss the early postpartum period in such definitive terms but referred generally to the taking-in phase as a subjective maternal experience that occurs during the first three weeks after delivery. During this period, the mother-infant relationship is initiated and the family system is modified.

Mercer (1981) identified maternal tasks similar to those of Rubin’s. Encompassing a longer period of time during the puerperium, the maternal tasks described by Mercer are: claiming the infant as her own, learning to care for the baby, redefining her relationship with the baby’s father, and resuming responsibilities at home. Mercer also added the additional task of reconciling the anticipated birth with the actual birth experience. Ziegel and Cranley (1984) identified six maternal postpartum tasks similar to those of Rubin and Mercer related to the self, infant, family, and society. The tasks identified by Ziegel and Cranley include: achieving resolution of pregnancy and labour and delivery, reconciling the real infant, attaching to the infant, replenishing physical and psychic energy, learning infant care skills, and reestablishing family relationships to include the new family member.

Gruis (1977) published a postpartum task framework based on her research findings on the concerns of postpartum low-risk women. Gruis believed that all mothers must accomplish tasks during the postpartum period that will enable them to make a successful transition to motherhood. The four tasks she identified are: restoring the physical
self, learning to care for and meet the needs of a dependent infant, establishing a relationship with the infant, and altering her lifestyle and relationships to accommodate a new family member.

Gruis also studied the adaptation of women during the transition to motherhood. However, the work of Gruis (1977) focuses on the concerns experienced by mothers during the postpartum period.

Maternal Postpartum Concerns

During the transition to motherhood, women experience a wide-range of concerns. The concerns of postpartum women have been reported in the literature for more than 35 years. These studies focus on the concerns of select populations, such as primiparas or multiparas, and examines the concerns related to specific perinatal aspects and/or relationships in the lives of new mothers (Adams, 1963; Bull, 1981; Cadman, 1995; Chapman, Macey, Keegan, Borum & Bennett, 1985; Davis, Brucker, & MacMullen, 1988; Fishbein & Burggraf, 1998; Graef et al., 1988; Gruis, 1977; Harrison & Hicks, 1983; Hiser, 1987; Lemmer, 1987; Moss, 1981; Moxon, 1989; Muehl, 1983; Peterson-Palmberg, 1987; Ruchala & Halstead, 1994; Smith, 1987; Sumner & Fritsch, 1977; Tobert, 1986).

For this literature review, the studies were categorized into several groupings. First, the early studies that review the initial research completed on postpartum concerns are discussed. The next category of studies presented relates to Gruis’ work. Gruis’ systematic evaluation of women’s postpartum concerns that led to the development of the Gruis postpartum task framework, which provided guidance for the current study and studies that used Bull’s Maternal Concerns Questionnaire (MCQ) (Bull, 1979), an expansion of Gruis’ checklist.
These studies are discussed in relation to the five subscales of the MCQ: you (mother), baby, partner, family, and community. Then, studies that examined new mothers' concerns using different methods and tools, other than the MCQ, are described. The last section includes demographic and perinatal factors that may influence maternal postpartum concerns.

**Early Studies on Maternal Postpartum Concerns.**

In one of the earliest reported studies, Adams (1963) interviewed 40 primiparas regarding infant care activities during the first postpartum month. The amount and frequency of feeding, followed by crying, and infant care were the major concerns identified in this study. Other identified concerns included the amount the husband was involved in infant care and the interruption to the mother's lifestyle caused by a new family member.

Sumner and Fritsch (1977) documented telephone calls from new mothers in their first six weeks requesting information regarding postpartum concerns. The greatest number of mothers' questions related to infant feeding, specifically breastfeeding. Gastrointestinal concerns, especially colic, infant care (cord care, face, and diaper rash), and crying were also identified as concerns. Although not as important as the concerns regarding the baby, the mother's postpartum recovery was also identified as a concern. Primiparous women accounted for 62% of the telephone calls and the highest rate of calls occurred during the first three weeks post-delivery.

**Studies That Used the Gruis Scale.**

Gruis (1977) conducted a study to identify and describe women's postpartum concerns. The 17 primiparas and 23 multiparas who participated had experienced uneventful pregnancies and had birthed full-term infants. Based on a review of the literature and her
clinical experience, Gruis developed a 32 item questionnaire identifying potential concerns of postpartum women. At one-month post delivery, the 40 study participants ranked the 32 concern items as either major or minor. The most frequently identified concern was return of the figure to normal. This was followed by regulating the demands of husband, housework, and children, emotional tension, and fatigue. For the total sample, few of the infant care items were rated as being a major concern. However, differences in concerns were expressed by primiparas and multiparas. The primiparas' concerns focused on the newborn (infant feeding and behaviour) and the self (return of figure to normal). The multiparas’ concerns related to self-care issues (fatigue and emotional tension) and family (the strain a new baby places on the rest of the family) (Gruis, 1977).

Subsequently, the questionnaire developed by Gruis was used by several other investigators to study the concerns of postpartum women. Bull (1981), Harrison and Hicks (1983), and Smith (1989) reported similar results. Harrison and Hicks surveyed 64 primiparas and 94 multiparas between three and nine weeks post-delivery and added an item to the questionnaire about financial concerns. Their findings showed that regulating the demands of husbands, housework and children were of greatest concern to all mothers. This was followed closely by concerns regarding the return of the figure to normal, fatigue, emotional tension, and exercise. Primiparas identified more concerns than multiparas about infant feeding. However, because the concerns of the primipara and multipara subgroups were combined for data analysis, the overall findings of the study reflect the concerns of the multiparas, the larger subgroup.
Smith (1987) replicated the Gruis (1977) study with a cohort of 41 mothers because she wondered if societal changes in the 1980s would alter the concerns of new mothers. Similar to Gruis, Smith found that fatigue and other concerns related to the self were of major concern to both multiparous and primiparous women. In addition, the primiparas were concerned about their baby’s behaviour and feeding and multiparas were concerned about the new baby’s place in the family. Findings inconsistent with those of Gruis cited breast soreness and the labour and delivery experience as of major concern.

Studies That Used the Bull Scale

Bull (1981) incorporated Gruis’ findings in her study of the maternal postpartum concerns of 31 primiparas. She expanded the Gruis’ postpartum checklist of concerns to a 50 item questionnaire and grouped the items into five concern categories labeled as: concerns related to you (mother), baby, partner, family, and community, to make more meaning of mothers’ concerns. Bull believed that “a mother’s concerns are an indication of her needs at a given time” (p. 391). Following childbirth, the mother is in the taking-in phase and she is unable to focus on the infant’s needs unless her own are met (Rubin, 1961). Based on the work by Rubin, Bull hypothesized that mothers would express a greater number and intensity of concerns about themselves and fewer and less intense concerns regarding the baby, her husband, her family and the community on the third day postpartum than after one week at home. These hypotheses were not supported. Findings in Bull’s study revealed that at three days post-delivery, new mothers had concerns about physical discomfort such as episiotomy. After one week at home, the maternal concerns related to physical comfort decreased and concerns related to the emotional self increased substantially. Similarly, after one week at
home the concerns about the infant’s behaviour continued to be moderate to major concerns but those related to the physical care of the baby decreased. Concerns about husband were consistently ranked as small or moderate by over 50% of the new mothers both at three days post-delivery and after one week at home. The family and community presented little or no concern for up to 80% of the participants at both times. Bull concluded that for primiparas a focus on self and infant persisted after one week at home.

Since 1981, a number of studies have used the questionnaire developed by Bull (1979) to examine mothers’ concerns between three days and six weeks post-delivery (Fishbein and Burggraf, 1998; Lemmer, 1987; Moxon, 1989; Muehl, 1983; Peterson-Palmberg, 1987; Tobert, 1986). In these studies, the samples ranged between 16 and 92 participants and except for the studies by Muehl and Lemmer, which surveyed only primiparas, all others included both primiparas and multiparas in their sample.

Concerns about the mother. The greatest concerns a woman had about herself were the return of her figure to normal and being a good mother (Fishbein & Burggraf, 1998; Lemmer, 1987; Moxon, 1989; Tobert, 1986). Other areas of concerns identified were mothers’ exercise habits (Peterson-Palmberg, 1987; Muehl, 1983), fatigue (Fishbein & Burggraf; Tobert; Muehl), emotional tension, and the labour and delivery experience (Peterson-Palmberg). In the first three weeks of the postpartum period, the intensity of the concerns related to self was moderate to much. Muehl’s study of 16 primiparas at six weeks post-delivery, revealed that return of the figure to normal was still the primary concern for mothers, however the intensity of the concern had greatly diminished.
Concerns about the baby. Concerns about the baby were of great importance in the early weeks post-delivery. Recognizing signs of illness (Lemmer, 1987; Moxon, 1989; Muehl, 1983), the infant’s normal growth and development (Peterson-Palmberg, 1987; Tobert, 1986), and infant feeding (Fishbein & Burggraf, 1998; Lemmer), were the greatest concerns. A number of studies that focused on different times of the postpartum period reported that new mothers consistently identified moderate to much concern regarding their infants.

Concerns about the partner and family. None of the studies reviewed indicated a high intensity of concerns in regard to the husband/partner or family. Areas of greatest concern related to the partner were finding time alone (Lemmer, 1987; Peterson-Palmberg, 1987), family planning (Moxon, 1989; Peterson-Palmberg), and sexual relations (Lemmer). At six weeks postpartum, finding time for recreation was the greatest partner concern but the intensity level of the concern was substantially lower (Muehl, 1983).

Managing the demands of the household (Fishbein & Burggraf, 1998; Lemmer, 1987; Peterson-Palmberg, 1987), finances (Moxon, 1989; Muehl, 1983; Peterson-Palmberg) and reaction of siblings (Tobert, 1986) were the greatest family concerns identified. Tobert differentiated between the concerns of multiparas and primiparas. The primiparas, who have no other children, had little concern related to their families and the multiparas were moderately concerned about the reaction of the siblings to the new infant. This is consistent with the findings of Moxon who reported that multiparas had concerns regarding the jealousy of the other children toward the baby and the time they had to spend with their other children.
Concerns about the community. In all the studies reviewed, the concerns represented as community were of least concern for mothers at all times periods. However, Lemmer (1987), Muehl (1983), and Peterson-Palmberg (1987) each found that work outside the home was a concern for a number of women. Whereas Moxon (1989) found the availability of community resources, as well as employment outside the home, were of concern. Moxon’s participants lived in rural areas where accessing community resources may have been more difficult.

Other Studies Addressing Maternal Postpartum Concerns.

Examination of mothers' concerns during the postpartum period, using data collection methods other than Gruis' or Bull's questionnaires, have been conducted by a number of investigators (Cadman, 1995; Chapman et al., 1985; Davis et al., 1988; Graef et al., 1988; Hiser, 1987; Moss, 1981). Although, the data collection methods used in these studies varied, e.g. telephone interviews to study the concerns of breastfeeding mothers (Chapman et al.; Graef et al.) and a 44 item Likert scale questionnaire to determine the teaching needs of postpartum women (Davis et al.), findings were similar to other studies that reported postpartum concerns. Infant concerns such as feeding (Graef et al.), illness (Davis et al.), and behaviour (Chapman et al.) were of greatest concern across the three studies while maternal concerns included fatigue and feeling tense (Graef et al.), fatigue and lack of weight loss (Chapman et al.) and postpartum complications (Davis et al.). Study findings related to family concerns were identified as adjustment of siblings (Chapman et al.; Davis et al.), pressure from family visits, and lack of help from fathers (Graef et al.).
Factors Influencing Maternal Postpartum Concerns

A number of factors have the potential to influence maternal postpartum concerns and therefore impede the accomplishment of maternal postpartum tasks and the successful transition to motherhood. Three key perinatal factors identified in the literature are high-risk pregnancies (Clauson, 1992; Curry, 1990; Penticuff 1982; Snyder, 1979; Stainton et al., 1992), parity (Peterson-Palmberg, 1987; Smith, 1989; Tobert 1986), and time that has passed since delivery (Bull, 1981; Gruis, 1977; Melchior, 1975; Ament, 1990; Rubin, 1984). Additional perinatal factors are whether the woman received prenatal education (Harrison & Hicks, 1983; Hillier & Slade, 1989), nature of her birth experiences (Fowles, 1998; Koniak-Griffin, Marut & Mercer, 1979), the adequacy and reliability of her support systems (Koniak-Griffin, Majewski, 1986; Ferketich & Mercer, 1990; Pridham, et al. 1991; Wandersman, Wandersman & Kahn, 1980) gestation of pregnancy at delivery (Choi, 1973; Gennaro, 1988), infant weight (Buckley & Kulb, 1993; Gay, Edgil, & Douglas, 1989), and infant feeding method (Mercer, 1995). Demographic factors that may be associated with maternal concerns include age (Koniak-Griffin, 1993; Mercer & Ferketich, 1990) and years of education (Hiser, 1987; Mercer, 1986; Pridham et al.).

Perinatal Factors and Maternal Concerns

For the purposes of this literature review, the potential influence of high-risk pregnancy, parity, and the time since delivery when the concerns are identified will be discussed first. High-risk pregnancy is a perinatal factor that has the potential to impact postpartum concerns; but it also denotes the study population and therefore will be examined in more depth. Parity is of clinical significance as the differences between multiparas and
primiparas could affect maternal postpartum concerns. The time frame in which maternal concerns are measured, during the postpartum period, may affect the nature and the frequency of the concerns.

High-risk pregnancy. Current or previous high-risk pregnancies can delay a mother's achievement of the prenatal tasks and therefore hinder the work necessary to complete the postpartum tasks. Anxiety related to a high-risk pregnancy can have negative effects on maternal competence and thus increase a new mother's postpartum concerns (Ferketich & Mercer, 1990). Unresolved previous high-risk pregnancies or their adverse outcomes can increase the women's uncertainty and concerns. This may delay the accomplishment of maternal tasks in the present pregnancy or during the postpartum period (Curry, 1990, Snyder, 1979).

Many women experiencing high-risk pregnancies are under enormous stress as they try to manage their concerns regarding the fetus, concurrently with maintaining family relationships and other commitments. Studies show that many of these women feel ambivalent about their pregnancies, futile about making plans for labour and delivery, and avoid attachment to the fetus (Kemp & Page, 1986; McCain & Deatrick, 1994; Wohlreich, 1987). Most pregnant women wonder what kind of mothers they will be whereas women, experiencing a high-risk pregnancy, may wonder if they will become mothers at all (Penticuff, 1982). Delays in the mother-infant attachment process may result because of fears regarding bonding with a fetus or infant that may not survive (Moore, 1983). Distancing themselves from potential pain and loss is often used by these women as a
protective strategy. Women need to grieve when they do not experience a normal pregnancy (Snyder, 1979). These feelings and fears may cause an increase in postpartum concerns.

If the high-risk pregnancy also necessitates activity restriction or hospitalization, the results can mean anxiety and uncertainty during the pregnancy and physical and psychological sequelae in the perinatal period. The greater the activity restriction the greater the effects on the woman's physical and emotional well-being. Physical effects can include muscle atrophy, dizziness, deep muscle soreness, and cardiac deconditioning (Maloni et al., 1993). Psychological stress related to restricted activity during pregnancy can increase anxiety, uncertainty and lower self-esteem (Clauson, 1992; Heaman, 1990).

High-risk pregnant women and their partners report a greater number of family functioning problems than do women and their partners who experience low-risk pregnancies and labour and deliveries (Mercer, Ferketich, De Joseph, May, & Solld, 1988; Stainton, 1994). Family, friends, and caregivers may expect postpartum women, who have experienced a high-risk pregnancy, to assume care for themselves and their babies immediately after delivery. However, help may be needed by these new mothers with organizational tasks as they return their focus to managing the household and integrating the new baby into their family (Stainton).

Parity. Parity influences the concerns that women have during the postpartum period. Multiparas, who have previous experiences with newborns, have a set of skills that permit them to take care of their infants. Therefore, they will likely have decreased concerns related to caring for a new baby. Their needs are centered on gaining knowledge about infant behaviour and how to facilitate the integration of the new baby into the family structure.
Unless the primiparous women have cared for newborns, they will probably be concerned about a new baby and how to feed and care for him or her. In research conducted by Chapman et al. (1985), Graef et al., (1988), and Sumner and Fritsch, (1977), primiparas made up the greatest proportion of participants. It is interesting to note that the major concerns in these three studies related to infant concerns, such as feeding and infant behaviours (recognizing signs of illness) and concerns related to self, such as fatigue, emotional tension, and return of the figure to normal. Comparable results were noted in studies where primiparas comprised the total sample (Adams, 1963; Bull, 1981; Lemmer, 1987) or the sample of primiparas were reported separately (Davis et al., 1988; Smith, 1989; Tobert, 1986).

Similarly, when multiparous women made up more than half the sample (Gruis, 1977; Harrison & Hicks, 1983; Moxon, 1989; Peterson-Palmberg, 1987) the foremost concerns related to physical restoration of the mother (fatigue, emotional tension, and return of the figure to normal) and integrating the new member into the family (managing demands of the household, finance, and time with other children). Walker, Crain and Thompson (1986), in a study of low-risk postpartum women, identified that the multiparas had more self-confidence and fewer concerns related to the postpartum period. Studies where the multipara subgroup was reported separately found results comparable to other studies that had predominantly multipara samples (Davis et al., 1988; Smith, 1987; Tobert, 1986).

Two studies with relatively equal samples of primiparas and multiparas reported concerns in the categories related to the mother, infant, and family (Fishbein & Burggraf, 1998; Ruchala & Halstead, 1994). In the study by Fishbein and Burggraf, over half the
subjects' concerns related to self (return of the figure to normal, sutures and fatigue), infant (feeding and recognizing illness), and family (managing the households). Similar results were found in Ruchala and Halstead's study related to the mother, and her baby, and family.

For multiparas, the major concerns were related first to the family, and secondly, related to themselves with only minor concerns related to the infant. In most studies, primiparas' concerns related primarily to infant issues and concerns about their own physical restoration were fewer. Family issues played a minor role for primiparas until their other concerns were resolved.

The findings of the studies with unequal numbers of multiparas and primiparas may be misleading as the larger sample of multiparas or primiparas in a study could bias the results toward the major concerns of the larger subgroup. Although some of the studies tried to recruit equal numbers of primiparas and multiparas, none of the studies addressed the effect of combining these two groups may effect the results.

**Time since delivery.** Maternal postpartum concerns have been studied at a variety of times during the postpartum period. Concerns appear to be the greatest in number and intensity during the early weeks following birth (Chapman et al., 1985; Gruis, 1977; Sumner and Fritsch, 1977). Both Melchior (1975) and Hiser (1987) speculated that data collected in the first few days post-delivery are gathered when the mother is still euphoric and before the realization of the reality and the responsibilities of a new baby. Between one and two weeks, the woman may be better able to articulate her concerns. However, most studies done in the first few days after delivery reported similar concerns to those completed within the first three weeks post-delivery and included concerns about the mothers, their
infants, and their family (Davis et al., 1988; Moxon, 1989; Tobert, 1986). Only the study by Bull (1979) showed a change in the focus of concerns from three days to one week at home. The overall level of concern related to the mother continued to be moderate to high at one week after discharge from the hospital, however, the concerns about her physical well-being decreased while the concern level of her emotional well-being increased.

Surveys completed at 10 days to two weeks postpartum identified concerns including: return of figure to normal (Lemmer, 1987; Tobert, 1986), fatigue (Ruchala & Halstead, 1994; Tobert), emotional tension (Peterson-Palmberg, 1987), infant feeding (Davis et al, 1988; Fishbein & Burggraf, 1998), and meeting the needs of everyone at home (Hiser, 1987; Peterson-Palmberg).

By three to four weeks postpartum, the intensity of concerns had decreased substantially but the concerns did not differ from those reported in earlier studies. Gruis (1977) reported women's greatest concern to be return of the figure to normal. The major concerns for primiparous mothers were still infant feeding, fatigue, and feeling tense (Cadman, 1995; Graef et al., 1988; and Smith, 1989).

**Prenatal education.** The purpose of prenatal education is to increase the knowledge and coping skills of a soon-to-be mother, with the hope of decreasing fear and concerns during the perinatal period. Controversy exists as to the value of prenatal education in influencing concerns. Hillier & Slade (1989) reported that primiparas who attended childbirth classes had greater confidence in caring for their newborns than those who did not. However, Harrison & Hicks (1983) reported that an increase in postpartum concerns was shown for women who attended prenatal classes as compared to those who did not. Harrison & Hicks
speculated that women who attended prenatal classes were already very anxious and that is why they took prenatal classes.

**Nature of the birth experience.** A positive or a negative birth experience may affect the postpartum concerns of the new mother. A successful labour and delivery are likely to increase the mother’s self esteem and confidence so she can begin the postpartum period feeling that she can cope with the challenge. Negative birth experiences have the potential to affect a mother’s self-esteem and the early interactions with her infant (Marut & Mercer, 1979).

Many factors alter a woman’s perception of her labour and delivery experience and can affect the achievement of postpartum maternal tasks. Stressors, such as lack of control over events, conditions of labour, and physical discomforts may affect women’s concerns postpartum (Pridham et al, 1991; Fowles, 1998). Some examples that may affect the new mother’s perception of labour include the duration of her labour and the kinds and dosages of medications she received during this period (Ament, 1990). A very long labour leaves a mother fatigued, decreasing her ability to cope with her own care and the care of her baby. If she had wanted a medication-free labour and delivery and had taken pain medication, she may feel like a failure, which will affect her recovery and her ability to take care of her new baby. If, on the other hand, the mother perceives that her labour and birth went well, she is more likely to experience satisfaction and have the energy she needs to recover and to learn how to care for her infant (Rubin, 1984).

Marut and Mercer (1979) interviewed 20 primiparas 48 hours after their cesarean births. They found that many of the mothers were unhappy with their birth experience and
were focused on the unexpected changes to their bodies. Tribotti, Lyons, Backburn, Stein, & Withers (1988) noted a greater frequency and intensity of pain, lack of sleep, and decreased mobility concerns reported by women who had a cesarean birth. In these studies, women were more concerned about themselves than their infant or the family (Fawcett, 1981).

**Level of support for the mother during the perinatal period.** Support is likely to have a major effect on maternal postpartum concerns. Women who have a high level of support will have more confidence in coping with the care of themselves and their newborns. Lack of support can negatively affect the feelings of capability of a new mother to care for her infant in the first weeks postpartum. Majewski (1986) found that mothers who experienced conflict in relation to their spouse, parent, or self-roles had more difficulty making the transition to motherhood. Feeling unsupported in the hospital or by family at home decreased the new mother’s ability to cope and increased her concerns (Curry, 1983). Kemp and Hatmaker (1989) found that women who experienced a high-risk pregnancy were more anxious when they received less support from their partner. Women who had good relationships with their partners and families found they graduated more easily into the maternal role (Mercer 1995).

**Gestation of pregnancy at delivery.** The vast majority of pregnant women experiencing a low-risk or high-risk pregnancy hope to deliver after 38 weeks of gestation and bring home a healthy baby. If the infant is delivered prior to 38 weeks, the woman may not be ready to relinquish her pregnancy role. In addition, she may feel fearful about the health of the baby and question her ability to begin caring for a newborn. The younger the gestational age of the baby at delivery, the less time the mother has had to complete the tasks of pregnancy and this may delay accomplishing the maternal postpartum tasks. Gennaro (1988) reported from
her study, that mothers who delivered their infants at term experienced less anxiety, concerns, and depression than women who delivered babies before 38 weeks.

**Infant birth weight.** For many women, having a successful birth means delivering a healthy, robust baby. Babies weighing 2,500 grams or more (six or more pounds) indicate that the new mother has been successful in providing a safe and nurturing womb for her baby. This helps to decrease the mother’s concerns because she is confident that the baby is healthy and will be able to survive outside the uterus. If the infant is of term gestation, but small for gestational age the mother may wonder about the health of the baby, and feel guilty (Buckley and Kulb, 1993). Babies born at term but weighing less than 2,500 grams will often require time in an isolette to stabilize their temperature and other regulatory mechanisms. The maternal-attachment process may be delayed if the mother is fearful of touching her baby. Gay et al. (1988) reported that until a bond is established with the infant, involvement in the infant’s care is delayed and maternal concerns are increased.

**Infant feeding method.** Breastfeeding is the best way to feed the newborn (Riordan & Auerbach, 1999). When breastfeeding becomes established and the baby is gaining weight, mothers experience a sense of accomplishment, and confidence in their maternal abilities increases which in turn decreases their concerns related to the baby. Conversely, if problems occur with breastfeeding, a new mother’s concerns will increase. If a mother uses a variety of methods such as, the breast, expressed breast milk or formula from a bottle or an eyedropper to feed the baby, the time involved in each feeding session increases. Much of her day may be focused on feeding her infant and the mother can then become concerned about her ability to provide nourishment for her baby.
Women who choose formula feeding can easily measure the amount the infant is receiving, but may have increased concerns because they feel they are not providing the best nutrition for their infants. In support of this, Mercer (1995) found that women who were breastfeeding their infants reported less concerns at one month that those who were bottle-feeding.

**Demographic Factors and Maternal Concerns**

**Age.** The age of childbearing women may affect the nature and intensity of their postpartum concerns. Women aged 30 or older will have many life experiences, some of which have taught them how to cope successfully with new and stressful situations. These skills would help them adapt to the uncertainties that accompany the birth of a newborn in a much more confident manner and therefore they likely have fewer concerns in the postpartum period. Conversely, the older mother may have read many books, resulting in high expectations of how the childbearing experience should unfold and she will be more concerned if the experience does not meet their expectations. Many young mothers do not have many resources, support, or coping skills to deal with the enormous demands of a new baby. However, if the young mother has adequate resources and good support she may not have as many postpartum concerns (Mercer, 1986; Wandersman et al., 1980).

Young (teenage) mothers, identify more postpartum concerns because they have less confidence and fewer resources to mobilize to rely upon (Hiser, 1987; Mercer, 1986; Pridham et al, 1991). However, Brouse (1988) identified childbearing women under 20 and over 30 years of age as more frustrated and fatigued in the postpartum period than the 20 to 30 year old group. Conversely, Kemp and Hatmaker (1989) reported that older women tended to
have lower anxiety levels than younger women and therefore, could cope better with concerns arising in the postpartum period.

**Education.** The number of years of education may have an influence on maternal postpartum concerns. Women who have completed high school have learned skills that allow them to develop new skills. They are better able to transfer those skills related to self and baby care and this may decrease their potential concerns. Women who have not completed high school may not have these skills. Mercer (1986) found those with less than high school education identified more postpartum concerns because they had less confidence and fewer resources to mobilize. Hiser’s (1987) study showed that those mothers who had not completed high school and those with a graduate degree reported more concerns than women who had completed high school or had earned an undergraduate degree. If women have graduate level education they may experience more concerns because their academic knowledge may not be transferred to practical situations.

**Summary**

The review of the literature illustrated that a number of different samples, sampling times, instruments, and methodologies have been used to study maternal concerns in the early postpartum period. From Adams’ study in 1963, to Fishbein and Bruggraf’s study in 1998, the examination of maternal postpartum concerns spans 35 years. There are common themes throughout the various studies, which indicate that concerns have changed very little over three decades. First time mothers are concerned with self-restoration and infant concerns, such as feeding, behaviours, and care. Multiparas are concerned about integrating the new baby into the family as well as concerns about themselves. A number of factors influenced
the concerns expressed by women in the early postpartum period with particularly high-risk pregnancy, parity, and time since delivery. The demographic factors of age and education, and additional perinatal factors including prenatal education, birth experience, support, gestation of pregnancy at delivery, birth weight of the baby, and feeding method also have the potential to influence maternal postpartum concerns.

Although numerous studies have described the concerns of postpartum women, only women who have experienced low-risk pregnancies have been studied. Research is required which addresses the concerns of women in the early postpartum period who have experienced high-risk pregnancies.
CHAPTER THREE

Methods

Introduction

In this chapter, the methods for conducting the study are presented. The research design, the sample selection and setting, the data collection procedure, and the instruments for data collection are described. Data analysis procedures, as well as the ethical considerations for the protection of human rights are discussed.

Research Design

An exploratory descriptive comparative design was used in this study to examine and describe maternal postpartum concerns during the first two weeks of the postpartum period. This design was used to gain information about the characteristics of a single sample without any manipulation of the variables (Burns & Grove, 1997).

Sample and Setting

A convenience sample of 73 postpartum women met the criteria and agreed to participate in the study between January 1999 and May 1999. Participants were recruited from the ambulatory clinic and four postpartum units located at BCWH, the major obstetrical tertiary care centre in BC for women experiencing high-risk pregnancies. Of the 112 questionnaires distributed to women who agreed to participate in the study, 73 were used for data analyses resulting in a response rate of 66%. Based on a power of .80, medium effect size of .50 and a significance level of .05, using a two-tailed test it was calculated that a sample size of 64 per group was needed to test for differences (Cohen, 1988). Hence, the
subgroups of 46 primiparas and 27 multiparas did not meet the recommended numbers and therefore any analysis between the groups must be interpreted with caution.

Women in the study met the following inclusion criteria:

1. 18 years or older,
2. able to understand, read and write English,
3. identified by their obstetrician as experiencing a high-risk pregnancy,
4. perceived that they were experiencing a pregnancy that was at risk,
5. at least 27 weeks gestation when admitted to the study,
6. planned to deliver their infant at BCWH.

Women were excluded from the study for the following reasons;

1. they delivered their infant before 32 weeks gestation,
2. their infant was admitted to the neonatal intensive care unit after birth.

Subject Recruitment

Subjects were recruited from two areas of BCWH, the ambulatory clinic and four postpartum units. Prior to beginning subject recruitment, the investigator met with the nurses in each area to explain the study. In addition, a memorandum describing the study, including the study purpose and criteria for sample inclusion was given to the nurses in the clinic and on each of the four postpartum units. Posters and flyers announcing the study and asking women to volunteer were displayed in the waiting area of the ambulatory clinic.

In the ambulatory clinic, nurses approached women who met the study criteria and provided them with an introductory letter explaining the study (see Appendix A). If the women indicated they were willing to participate, they provided their name and telephone
number in the appropriate space and returned the form to the nurse in the clinic. On receipt of these forms, the investigator telephoned the women to further explain the study, answer any questions they might have, and obtain their verbal consent if they wished to participate. After three months, only 33 women of the estimated 160 eligible women had enrolled in the study.

The investigator then requested permission to recruit participants from the postpartum units. This request was approved by the Acting Director of the Postpartum Program. Subsequently, in consultation with the primary nurse, eligible postpartum women were approached by the investigator to request their participation in the study. The investigator explained the proposed study to the women, answered any questions they might have, and if the woman was interested, consent to participate was attained.

**Data Collection Procedures**

Women who consented to participate in this study were provided with a study package containing the following materials; a Participant Letter (see Appendix B) and a Maternal Concerns Questionnaire (MCQ) (see Appendix C), a Participant Information Form (see Appendix D), and a pre-addressed and stamped envelope. For the women recruited at the ambulatory clinic, the study package was mailed two weeks before their expected date of delivery. The participants were asked to inform the investigator when they had delivered. As well, the investigator reviewed the hospital census four to five times a week to determine whether any of these study participants had delivered before 38 weeks of pregnancy. If this occurred, a study package was immediately mailed to them. For those participants recruited from the postpartum units, the study package was provided while they were on the unit. The
package, which all the participants received, was to be completed before the end of their second postpartum week.

Each participant was telephoned at one week post-delivery to remind them to complete and return the questionnaire and the participant information form. If a woman had lost the study package, the investigator mailed another package to them. Completing and returning the study package indicated participant consent.

Women in the ambulatory clinic who did not want to participate in the study were asked to complete a short, anonymous socio-demographic form (see Appendix E) which they sealed in an envelope and gave to the nurse. This information was sought to determine if the women who agreed to participate in the study were similar to, or different from, those who did not wish to participate with regard to age, marital status, education, ethnic origin, support, and parity. Unfortunately, only 20 forms were returned which decreased the ability of the investigator to make any comparison.

Data Collection Instruments

Two data collection tools were used in this study. The Maternal Concerns Questionnaire (Bull, 1979; Moxon, 1989) was used to identify the postpartum concerns of women who had experienced a high-risk pregnancy. The Participant Information Form was used to collect demographic as well as perinatal information about the women enrolled in the study.

Maternal Concerns Questionnaire (MCQ)

The MCQ used in this study is a self-administered questionnaire consisting of 50 items specific to postpartum concerns. The concerns are grouped into five subscales of concern or...
potential concern. The subscales and number of items in each are: You, meaning the Mother (18 items), Baby (11 items), Partner (6 items), Family (6 items), and Community (9 items). Mothers were asked to respond to each item using a four point Likert scale. The intensity of the concern was indicated by a range of responses, from 1, meaning no concern to 4, meaning much concern. This questionnaire was easy to administer and for the women to complete. The readability is estimated at a grade eight level and completion time takes approximately 20 to 30 minutes (Sheil et al., 1995).

Originally, the MCQ was a 46 item tool developed by Bull (1979) which incorporated the maternal postpartum concern checklist created by Gruis (1977), and concerns that mothers described to Bull during her clinical practice. Bull grouped items of like concerns together and categorized these into the subscales of You, Baby, Husband, Family, and Community.

Since 1979, the MCQ has been used in a number of studies to identify concerns of postpartum women (Fishbein & Burggraf, 1998; Moxon, 1989; Muehl, 1983; Peterson-Palmberg, 1987; Ruchala & Halstead, 1994; Tobert, 1986). In 1989, Moxon modified the 46 item MCQ based on the recommendations of Peterson-Palmberg. Four new items relating to other children in the family and access to resources were added to the family and community subscales. Moxon also changed the name of the Husband subscale to Partner in order to include unmarried subjects.

Validity. To establish item clarity and content validity, Bull (1979) subjected the MCQ to two panels for review. One panel was composed of 14 mothers and the other panel consisted of three nurses who worked with mothers and newborns. Items with 80% panel
agreement were retained in the questionnaire. To determine the face validity of the MCQ for this study, six postpartum women who had experienced a high-risk pregnancy and three perinatal nurse specialists reviewed the questionnaire. Both groups judged the 50 items as appropriate.

Reliability. The internal consistency of the questionnaire is well established. Bull (1979) was the first to determine internal consistency by reporting the Cronbach’s alpha coefficient for 30 postpartum women who completed the questionnaire. Cronbach’s alpha for the total scale was reported as .90 at 3 days and .93 at 10 days post-delivery.

Following Bull, many other investigators have reported the internal consistency of the MCQ (Fishbein & Burggraf, 1998; Lemmer, 1987; Moxon, 1989; Muehl, 1983; Norr & Nacion, 1987; Peterson-Palmberg, 1987). In these studies, the Cronbach’s alpha coefficient for the Total concerns scale has ranged from .94 to .96. The alpha coefficients for the five subscales ranged from .74 to .95 for the subscales as follows: You (.79 to .91), Baby (.87 to .95), Partner (.78 to .86), Family (.74 to .79), and Community (.76 to .86).

For this study, Cronbach’s alpha coefficients for the total scale and subscales are high, supporting the internal consistency. The Cronbach’s alpha coefficient for the Total concerns scale was .96. Subscale coefficients for the five categories were: You (.90), Baby (.93), Partner (.83), Family (.75); and Community (.80).

The fact that each of the studies reported moderate to high Cronbach’s alpha coefficients lends support to the internal consistency of the instrument (Polit & Hungler, 1991). A Cronbach’s alpha coefficient between .8 and .9 indicates an instrument that reflects fine discriminations in levels of a construct (Burns & Grove, 1997, p. 329).
In her article, Sheil et al. (1995) discussed how the reliability and face validity of the Maternal Concerns Questionnaire was established. From her appraisal of the tool, Sheil concluded that the instrument "can be used with confidence in postpartum situations, particularly in the first few weeks" (Sheil et al., p. 154).

In this study, two open-ended questions were also added. These questions offered the participants an opportunity to elaborate on their concerns or to add concerns that were missed in the body of the original questionnaire. One question also provided women with a chance to comment on how caregivers could be helpful regarding their concerns.

**Participant Information Form**

The Participant Information Form was designed to collect appropriate demographic and perinatal data from each participant. The form is based on a literature review of factors that may influence the successful transition to motherhood, as well as on items from similar questionnaires used in studies with childbearing women (Clauson, 1992; Fishbein & Burggraf, 1998; Hewat, 1998; Lemmer, 1987; Pridham et al., 1991).

**Data Analysis**

Data from the questionnaires were coded, entered into the computer and analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics and nonparametric procedures were used to analyze the data. Descriptive statistics, such as frequency and distribution, provided a method for describing the questionnaire items and subscales as well as the characteristics of the sample. The subscales of the MCQ identified as You (Mother), Baby, Partner, Family, and Community were also analyzed to determine items of greatest concern.
Content analysis was done for the two open-ended questions added to the MCQ. The mothers' additional postpartum concerns as well as their opinions of how caregivers could help with their concerns, were then classified.

To determine associations, the relationship between the demographic and perinatal factors with the maternal concerns, were analyzed. For example, the relationship between maternal age and the intensity and frequency of concerns was reported. Women's concerns were examined for differences between subgroups such as primiparas and multiparas.

The nonparametric procedures of Mann-Whitney U and Kruskal-Wallis were used to test for differences because the data did not meet the assumptions required for parametric procedures (such as normal distribution, linearity, and homogeneity of variance) (Burns & Grove, 1997). The Mann Whitney U statistical procedure was used to test for differences in concerns between two groups. The Kruskal-Wallis was used to test for differences in concerns among three or more groups. If a statistically significant difference was evident among three or more groups, post hoc analyses were performed using the Mann Whitney U to determine where differences existed (Muro, 1997). The Spearman Rho procedure was used to examine associations between concerns and other ordinal ranked variables including income, level of education, time in labour, and level of prenatal and postnatal support. The level of significance was set as .05.

**Ethics and Human Rights**

Prior to conducting the study, ethical approval was obtained from the University of British Columbia’s Behavioral Sciences Screening Committee and from BCWH Research Coordinating Committee. Potential participants received an introductory letter from the
nurse asking permission for the investigator to contact them. Once the potential participants agreed, the investigator contacted each woman, in order to answer any questions about the study and obtain their verbal consent. Each woman was provided with a study package that included a letter of explanation, the questionnaire, and the participant information sheet. Completed and returned questionnaires indicated a woman’s consent to participate.

Assignment of only a code number on the questionnaires ensured confidentiality. All data were kept in a locked cabinet in the researcher’s office, separate from the list of participants’ names and addresses. Access to all data acquired during the study was limited to the investigator, her thesis committee, and a statistical consultant.

Participation in the study was voluntary and participants could refuse to answer any of the questions or withdraw from the study at any time without any effect on their on-going medical or nursing care. A letter was attached to the front of each participant’s hospital chart to inform the mother’s physician of her consent to participate in the study (see Appendix F).

**Summary**

An exploratory, descriptive, comparative research design was employed for this study. Between January and April 1999, 73 women completed and returned the MCQ and the Participant Information Sheet within the first two weeks of the postpartum period. The MCQ consists of 50 items specific to postpartum concerns, which are divided into five subscales, You (mother), Baby, Partner, Family, and Community. Descriptive statistics were used to identify frequency, distribution and intensity of postpartum concerns for women experiencing a high-risk pregnancy. Nonparametric procedures, including Mann Whitney U, Kruskal-Wallis, and Spearman Rho were used to determine if the maternal concerns were
associated with demographic and perinatal factors. The procedures for ethical and human rights in this study were also described.
CHAPTER FOUR
Presentation of Findings and Discussion of the Results

Introduction

The purpose of this study was to describe the concerns of women during their first two weeks post-delivery and to examine factors that may influence those concerns. This chapter provides a description and analysis of the data collected from the 73 women who participated in the study and is presented in three sections. In the first section, a description of the characteristics of the sample is presented. In the second section, the findings of the study are reported and in the third section, a discussion of the results is provided.

Characteristics of the Sample

The sample consisted of 73 women who had experienced a high-risk pregnancy and who completed a postpartum questionnaire 10 to 14 days after their infants were born. These women were recruited from the ambulatory clinic and four postpartum units at BCWH between January and May 1999. A total of 112 women were recruited into the study which included 35 women from the ambulatory clinic and 77 women from the postpartum units. From January to mid-March 1999, 35 of the approximately 240 eligible women attending the ambulatory clinic volunteered to be in the study. Of these 35 women, 29 were included in the final sample and six women were excluded for the following reasons: two infants were admitted to the NICU, two women completed the MCQ at more than two weeks following their deliveries, and two women did not return their questionnaires for unknown reasons.

On the postpartum units, between mid-March and May 1999, a total of 83 women were approached by the investigator to consider participation in the study. Of the six women who
chose not to participate in the study, three declined because of time constraints and three did not perceive they had a high-risk pregnancy. Of the 77 women who agreed to participate, 44 completed and returned the questionnaires within the two-week post-delivery time frame. An additional 11 women completed the questionnaires between 15 days and 38 days post-delivery so they were excluded from the study. It is not known why the other 22 women did not return the questionnaires.

An additional 20 women who were approached at the ambulatory clinic but did not want to participate in the study completed a short socio-demographic information sheet. Analysis showed that these women were similar to the study group in that the majority were older Caucasian primiparas who were well-educated, married, and indicated that they had support during their pregnancy. They did not report their reasons for not wanting to be in the study.

The final sample consisted of 73 women, 29 women from the ambulatory clinic and 44 women from the postpartum units, who met the inclusion criteria and returned the completed questionnaire and participant information sheet within the specified time period. This represents 65% of the 112 women who received the questionnaire. The demographic and perinatal characteristics of this sample are described in the following section.

**Demographic Characteristics of the Sample**

Demographic data were collected to describe the characteristics of the study population. These included age, marital status, years of education, ethnic origin, and combined family income.
Age. The age of the women ranged from 19 to 44 years (M = 32.9, SD = 6.2) (see Table 1). The majority of the women in the study were over 25 years of age (87%). It is noteworthy that 41.1% of the women were 35 years or older. Of the 30 women who were 35 years or older in this group, 20 were primiparas and 10 were multiparas.

Table 1

Maternal Age

<table>
<thead>
<tr>
<th>Age categories in years</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19-25</td>
<td>9</td>
<td>12.3</td>
</tr>
<tr>
<td>26-30</td>
<td>22</td>
<td>30.2</td>
</tr>
<tr>
<td>31-34</td>
<td>12</td>
<td>16.4</td>
</tr>
<tr>
<td>35-38</td>
<td>18</td>
<td>24.7</td>
</tr>
<tr>
<td>over 38</td>
<td>12</td>
<td>16.4</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Marital status. Over 90% of the women were married. The remaining women had either never been married or were separated, widowed or divorced.

Education. The education level, reported as the total number of years of schooling ranged between 12 to 21 years (M = 15.1, SD = 2.5). All participants, except for one who omitted the question, had completed at least 12 years of school (see Table 2). It is interesting that 26% of the women had graduate level education.

Ethnic origin. The majority of the sample was Caucasian (70%), with the second largest group in the sample being of Asian origin (16.4%). Seven (10%) South Asian women
were from India, Pakistan, and Malaysia, and three (4%) women were of First Nations origin, also known as Native Indians of North America.

Table 2

<table>
<thead>
<tr>
<th>Education in years</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>15</td>
<td>20.6</td>
</tr>
<tr>
<td>13 - 16</td>
<td>38</td>
<td>52.0</td>
</tr>
<tr>
<td>17 - 21</td>
<td>19</td>
<td>26.0</td>
</tr>
<tr>
<td>Not Reported</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Income.** Forty-six (63%) of the participants’ combined family income during the previous year was $50,000 or more (see Table 3). The median income range group was $50,000 to $79,000. Six (10%) of the women preferred not to answer this question.

Table 3

<table>
<thead>
<tr>
<th>Total Combined Family Income Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income level</td>
</tr>
<tr>
<td>less than $20,000</td>
</tr>
<tr>
<td>$20,000 - $49,000</td>
</tr>
<tr>
<td>$50,000 - $79,999</td>
</tr>
<tr>
<td>greater than $80,000</td>
</tr>
<tr>
<td>Prefer not to answer</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
In summary, the demographic profile of this study group shows that 87% of the women were over 25 years of age with more than 41% were at least 35 years of age. All the women had completed high school and 26% had university graduate school education. Most (90%) of the participants were married, Caucasian (70%), and had combined annual family incomes of over $50,000.

**Perinatal Characteristics of the Sample**

In this study, the perinatal period included pregnancy, intrapartum (labour and delivery), and the first 30 days post-delivery. The perinatal characteristics described for the mothers in this sample include: parity, previous high-risk pregnancy and losses, time in current pregnancy when identified as high-risk, activity restriction and hospitalization during the pregnancy, prenatal education, support during pregnancy and the postpartum period, gestation of pregnancy at delivery, and the labour and delivery experience. For the infants, the perinatal characteristics described are: gender, weight, and feeding method.

**Parity.** Forty-six (63%) of the women were primiparas and 27 (37%) were multiparas. Including the current pregnancy, the number of pregnancies that women had experienced ranged from one to seven. Twenty-one of the multiparas had other living children, of which 19 were preschool, two were school age, and one was an adolescent.

**Previous high-risk pregnancies and losses.** In prior pregnancies, 15 of the 73 women had experienced pregnancies that were identified as being at risk for the following reasons: preterm labour, premature rupture of the membranes, gestational diabetes, pre-eclampsia, blood disorders, and maternal age. Four women required hospitalization during their prior pregnancies due to high blood pressure, premature labour, premature rupture of the
membranes, and a kidney infection. Of the 46 primiparas in the study, four had experienced a pregnancy loss before 20 weeks. Five of the multiparas had previously lost pregnancies between 21 weeks and 40 weeks.

**Time in current pregnancy when identified as high-risk.** Some women knew they would be at risk before they conceived this pregnancy while others did not discover they were at risk until they were pregnant (see Table 4). Thirty-four (47%) women were identified by their health care providers as being at risk before the conception of the current pregnancy for reasons related to their age, their medical-surgical history, and/or previous obstetrical or infertility problems. Risks identified in the first and second trimesters for 15 women included: antepartum hemorrhage, premature labour, and medical concerns, such as kidney infections. Twenty-four (34%) of the participants were identified as at risk in the third trimester and reasons included: pre-eclampsia, gestational diabetes, premature labour, and cholestasis.

**Table 4**

**Time in Current Pregnancy When Identified as High-Risk**

<table>
<thead>
<tr>
<th>Time when risk identified</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before conception</td>
<td>34</td>
<td>46.5</td>
</tr>
<tr>
<td>During 1st trimester (0-12 weeks)</td>
<td>10</td>
<td>13.6</td>
</tr>
<tr>
<td>During 2nd trimester (13-25 weeks)</td>
<td>5</td>
<td>6.4</td>
</tr>
<tr>
<td>During 3rd trimester (26-40 weeks)</td>
<td>24</td>
<td>33.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Activity restriction and hospitalization during current pregnancy. Thirty-five (48%) women in the sample had some activity restriction during their current pregnancy which ranged from resting for an hour in the afternoon to total activity restriction except for bathroom privileges. The median level for activity restriction was six hours per day.

Seventeen (23%) of the women were hospitalized during the current pregnancy. For those hospitalized, the weeks at admission ranged between 14 to 39 weeks of pregnancy (M = 30, SD = 7.91) and length of time in hospital ranged from two to 31 days. However, only three of the antepartum women remained in hospital for more than seven days.

Prenatal education. Fifty-two (71%) of the women reported that they had participated in some type of prenatal education. Of the 45 primiparas, 41 (91%) participated in prenatal education and for the multiparas only 4 (14%) had attended some type of prenatal education. Of those participating in prenatal education, 41 (79%) attended classes, 8 (11%) read books, and 3 (6%) attended classes and read books.

Support during pregnancy and the postpartum period. During pregnancy, 67 (92%) of the women felt supported by their partner. Of these 67 women, 54 (81%) received a lot of support, and 13 (19%) received a medium amount of support. Six (8%) of the women reported they received little or no support from their partner. All the women felt supported by their families with 66 (90%) citing a lot of support and 7 (10%) receiving moderate support. All but one woman felt supported by the health care team, while 53 (73%) reported a lot of support and 19 (27%) reported moderate support from health care providers.

During the postpartum period, 95% of the sample felt supported by their partner, which included 58 (79%) women who reported a lot of support and 11 (15%) women who
reported moderate support. Four women (6%) reported that they received little or no support from their partners. Sixty-three (86%) of the women felt that their families had provided them with a great deal of support and 10 (14%) women reported moderate support from their families after their infants were born.

The majority of the women felt supported by the health care team, 55 (75%) reported a lot of support and 14 (19%) reported moderate support. There were four (6%) women who stated that they received little or no postpartum support from the health care team. Sixty-eight (93%) of the women in the sample received a telephone call and visit from the community health nurse after hospital discharge. Contact with other health care professionals such as doctors, physiotherapists, and lactation consultants during the first two postpartum weeks, was noted by 47 (64%) of the women.

**Gestation of pregnancy at delivery:** The women in the sample delivered their babies between 33 and 42 weeks gestation ($M = 38.37, SD = 1.76$). Almost 60% of the women delivered between 38 and 40 weeks gestation (see Table 5). Only a small number (7%) of women delivered before 36 weeks gestation (see Table 5).

**Table 5**

<table>
<thead>
<tr>
<th>Gestation in weeks</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>33-35</td>
<td>5</td>
<td>6.9</td>
</tr>
<tr>
<td>36-37</td>
<td>16</td>
<td>21.9</td>
</tr>
<tr>
<td>38-40</td>
<td>43</td>
<td>58.8</td>
</tr>
<tr>
<td>41-42</td>
<td>9</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Labour and delivery experience. Information on the labour and delivery experience includes the following data: birth method, length of labour, and problems in labour and delivery. Thirty-nine women (53%) delivered vaginally and 34 (46%) had a cesarean birth. Of the women who delivered vaginally, six had an assisted delivery with either forceps or a vacuum extractor. Of the 73 participants, 20 (27%) were scheduled for a cesarean birth while 53 (73%) experienced labour. Fourteen (27%) of the labouring women delivered by emergency cesarean birth.

Women were in labour from 1 to 40 hours ($M = 14.53$, $SD = 9.79$) and the majority of the women reported their labour to be 16 hours or less. Twenty-one (36%) of the women reported longer than average labours, that is, between 17-40 hours. Twenty-six (36%) of the women identified problems in labour and/or delivery which included lack of pain control, fetal distress, failure to progress in labour and lack of descent of the baby during the pushing stage of labour, which required a forceps or vacuum delivery.

Infant gender, weight, discharge time and feeding method

Thirty-two (44%) males and 41 (56%) females were born to the women. All were singleton deliveries because women experiencing multiple births did not fit the inclusion criteria. Weight for the babies was 1,644 grams to 4,621 grams ($M = 3284$, $SD = 572$). Sixty-seven (90%) of the babies weighed over 2,500 grams and the other six babies weighed between 1,644 and 2,450 grams. All but two of the babies were discharged home with their mothers.
Fifty-one (70%) of the babies were exclusively breastfed, while 3 (4%) were formula fed and the remaining 19 (26%) mothers fed their babies by a combination of methods, including expressed breast milk from a bottle or breast milk or formula from a spoon or eye dropper.

Findings Related to the Maternal Postpartum Concerns

The findings of this study will be presented in relation to the two research questions. The first question, the concerns of women in the first two weeks postpartum that have experienced a high-risk pregnancy, was examined using descriptive statistics. The second question used nonparametric techniques, including Mann Whitney U, Kruskal-Wallis, and Spearman Rho to test the associations, if any, between selected demographic, and perinatal factors that might be associated with women’s postpartum concerns.

Maternal Concerns During the First Two Weeks Postpartum

In order to address the level and nature of the concerns of postpartum women in the first two weeks after delivery, the frequency and distribution of scores of the MCQ items were examined for the overall questionnaire and for each of the five subscales, You (Mother), Baby, Partner, Family, and Community. A range of possible scores showing the intensity of each concern for the total questionnaire and the subscales was determined by the mothers' responses on the Likert type scale. These scores were categorized as high, moderate, or low intensity based on a percentage of the possible total scores. For the possible total score and subscale scores, a high intensity score was considered to be 75% or more, a moderate intensity score was considered to be 50% to 74% and a low intensity score was considered to be between 25% to 49%. The level of concerns were grouped into six categories, two
categories each representing low, moderate, and high levels of concern. This method of categorizing findings is similar to those used in other studies, facilitating the identification of similarities and differences.

Since differences in concerns between primiparas and multiparas have been reported in previous studies, the concerns for each of these subgroups are also described separately. The highest-ranking maternal concerns for the overall questionnaire and each subscale are also reported. In addition, the highest ranking concerns for both the primipara and multipara subgroups are reviewed and differences described. The level of concerns for the total sample and the primiparas and multiparas is reported in Table 6. The items of greatest concern for the total sample and each subscale, for multiparas and primiparas are presented in Table 7. As well, a rank order of the Total concerns with their means are presented in Appendix G.

Overall maternal postpartum concerns. The overall maternal concerns ranged from 50 to 174 (M = 100.48, SD = 24.1). The median was 100. The majority of the sample had low (49.3%) and moderate (46.6%) levels of concern, with 4.1% having high concern levels. Primiparas reported Total concern scores ranging from 50 to 174 (M = 101.01, SD = 24.71). The median was 102.5. The majority of the primiparas had low (43.5%) and moderate (52.2%) levels of concern, with 4.3% having high level concerns. Total concern scores for multiparas ranged from 56 to 164.5 (M = 99.59, SD = 23.52). The median was 96. The majority of the multipara concern scores were at low (59.3%) or moderate (37.4%) levels, with 3.7% having high levels of concern.

The six highest ranked concerns, in order, for the total sample and the primiparas were infant feeding, fatigue, recognizing signs of illness, being a good mom, normal growth and
development, and emotional concern. These were also the most highly ranked concerns for the multiparas but the order varied. For the multiparas, the items normal growth and development and recognizing illness were the top two concerns and fatigue ranked fifth.

**Concerns related to You (mother).** The total scores on the You (mother) subscale (18 items) ranged from 18 to 72 (\(M = 38.6, \text{SD} = 9.8\)). The median was 38. The intensity of the concerns for the majority of women were low (41.1%) and moderate (52.1%) with 6.8% having high concern. For primiparas, the You concern scores ranged from 18 to 71 (\(M = 38.85, \text{SD} = 10.18\)). The median was 39. The majority of the sample had low (41.3%) or moderate (52.2%) levels of concern, while 6.5% had high levels of concern. For multiparas, You concern scores ranged from 20 to 60 (\(M = 38.34, \text{SD} = 10.81\)). The median was 38. The majority of the concern levels were low (40.7%) or moderate (51.9%) with 7.4% having high levels of concern.

Of the 18 items in the You subscale, the highest ranking type of concerns, in order, for the total sample and the primiparas were fatigue, being a good mother, emotional tension, breast soreness, and breast care. For the multiparas, the most important concerns, in order were: being a good mother, fatigue, return of figure to normal, breast soreness and exercise habits.
Table 6

Level of Maternal Postpartum Concerns

Overall Maternal Postpartum Concerns
Possible Range of Scores (50 - 200)

<table>
<thead>
<tr>
<th></th>
<th>Total Sample N = 73 (%)</th>
<th>Primiparas N = 46 (%)</th>
<th>Multiparas N = 27 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 - 74</td>
<td>8 (11.0%)</td>
<td>6 (13.0%)</td>
<td>2 (7.4%)</td>
</tr>
<tr>
<td>75 - 99</td>
<td>28 (38.3%)</td>
<td>14 (30.5%)</td>
<td>14 (51.9%)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 - 124</td>
<td>28 (38.4%)</td>
<td>20 (43.5%)</td>
<td>8 (29.6%)</td>
</tr>
<tr>
<td>125 - 149</td>
<td>6 (8.2%)</td>
<td>4 (8.7%)</td>
<td>2 (7.4%)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 - 174</td>
<td>3 (4.1%)</td>
<td>2 (4.3%)</td>
<td>1 (3.7%)</td>
</tr>
<tr>
<td>175 - 200</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Concerns Related to You (Mother)
Possible Range of Scores (18 - 72)

<table>
<thead>
<tr>
<th></th>
<th>Total Sample N = 73 (%)</th>
<th>Primiparas N = 46 (%)</th>
<th>Multiparas N = 27 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 26</td>
<td>7 (9.6%)</td>
<td>6 (13.0%)</td>
<td>1 (3.7%)</td>
</tr>
<tr>
<td>27 - 35</td>
<td>23 (31.5%)</td>
<td>13 (28.3%)</td>
<td>10 (37.0%)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 - 44</td>
<td>27 (37.0%)</td>
<td>17 (37.0%)</td>
<td>10 (37.0%)</td>
</tr>
<tr>
<td>45 - 53</td>
<td>11 (15.1%)</td>
<td>7 (15.2%)</td>
<td>4 (14.9%)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 - 62</td>
<td>4 (5.4%)</td>
<td>2 (4.3%)</td>
<td>2 (7.4%)</td>
</tr>
<tr>
<td>63 - 72</td>
<td>1 (1.4%)</td>
<td>1 (2.2%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>
Table 6 (Continued)

**Concerns Related to the Baby**

Range of Scores (11 - 44)

<table>
<thead>
<tr>
<th></th>
<th>Total Sample N = 73 (%)</th>
<th>Primiparas N = 46 (%)</th>
<th>Multiparas N = 27 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 15</td>
<td>6 ( 8.2%)</td>
<td>3 ( 6.5%)</td>
<td>4 (14.8%)</td>
</tr>
<tr>
<td>16 - 21</td>
<td>21 (28.8%)</td>
<td>12 (26.1%)</td>
<td>8 (29.6%)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 - 26</td>
<td>19 (26.0%)</td>
<td>12 (26.1%)</td>
<td>7 (26.0%)</td>
</tr>
<tr>
<td>27 - 32</td>
<td>15 (20.6%)</td>
<td>10 (21.7%)</td>
<td>5 (18.5%)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33 - 38</td>
<td>9 (12.3%)</td>
<td>7 (15.3%)</td>
<td>2 ( 7.4%)</td>
</tr>
<tr>
<td>39 - 44</td>
<td>3 ( 4.1%)</td>
<td>2 ( 4.3%)</td>
<td>1 ( 3.7%)</td>
</tr>
</tbody>
</table>

**Concerns Related to the Partner**

Possible Range of Scores (6 - 24)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - 8</td>
<td>21 (28.8%)</td>
<td>13 (28.3%)</td>
<td>8 (29.6%)</td>
</tr>
<tr>
<td>9 - 11</td>
<td>23 (31.5%)</td>
<td>13 (28.3%)</td>
<td>10 (37.1%)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - 14</td>
<td>12 (16.4%)</td>
<td>9 (19.5%)</td>
<td>3 (11.1%)</td>
</tr>
<tr>
<td>15 - 17</td>
<td>10 (13.7%)</td>
<td>7 (15.2%)</td>
<td>3 (11.1%)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 20</td>
<td>6 ( 8.2%)</td>
<td>4 ( 8.7%)</td>
<td>2 ( 7.4%)</td>
</tr>
<tr>
<td>21 - 24</td>
<td>1 ( 1.4%)</td>
<td>0 ( 0.0%)</td>
<td>1 ( 3.7%)</td>
</tr>
</tbody>
</table>

**Concerns Related to the Family**

Possible Range of Scores (6-24)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - 8</td>
<td>10 (13.7%)</td>
<td>9 (19.6%)</td>
<td>1 ( 3.7%)</td>
</tr>
<tr>
<td>9 - 11</td>
<td>27 (37.0%)</td>
<td>18 (39.1%)</td>
<td>9 (33.3%)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - 14</td>
<td>17 (23.3%)</td>
<td>11 (23.9%)</td>
<td>6 (22.3%)</td>
</tr>
<tr>
<td>15 - 17</td>
<td>11 (15.0%)</td>
<td>6 (13.1%)</td>
<td>5 (18.5%)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 20</td>
<td>6 ( 8.2%)</td>
<td>2 ( 4.3%)</td>
<td>4 (14.8%)</td>
</tr>
<tr>
<td>21 - 24</td>
<td>2 ( 2.8%)</td>
<td>0 ( 0.0%)</td>
<td>2 ( 7.4%)</td>
</tr>
</tbody>
</table>
Table 6 (continued)

Concerns Related to the Community
Range of Scores (9-36)

<table>
<thead>
<tr>
<th></th>
<th>Total Sample</th>
<th>Primiparas N = 46 (%)</th>
<th>Multiparas N = 27 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 73 (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 - 12</td>
<td>36 (49.3%)</td>
<td>20 (43.5%)</td>
<td>16 (59.3%)</td>
</tr>
<tr>
<td>13 - 17</td>
<td>19 (26.0%)</td>
<td>13 (28.2%)</td>
<td>6 (22.2%)</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 21</td>
<td>13 (17.9%)</td>
<td>9 (19.6%)</td>
<td>4 (14.8%)</td>
</tr>
<tr>
<td>22 - 26</td>
<td>4 ( 5.4%)</td>
<td>3 ( 6.5%)</td>
<td>1 ( 3.7%)</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 - 31</td>
<td>1 ( 1.4%)</td>
<td>1 ( 2.2%)</td>
<td>0 ( 0.0%)</td>
</tr>
<tr>
<td>31 - 36</td>
<td>0 ( 0.0%)</td>
<td>0 ( 0.0%)</td>
<td>0 ( 0.0%)</td>
</tr>
</tbody>
</table>

Concerns related to the Baby. The total scores on the Baby subscale (11 items) ranged from 11 to 44 (M = 24.5, SD = 7.1). The median was 24. The intensity of the concerns for the majority of the sample were low (37%) or moderate (46.6%), with 16.4% having high levels of concerns. The primiparas’ scores on the Baby subscale also ranged from 11 to 44 (M = 25.26, SD = 3.90). The median was 10.5. The majority of their concern scores were either at a low (32.6%) or moderate (47.8%) level, with 19.6% having high levels of concern. The multiparas’ scores ranged from 12 to 44 (M = 23.22, SD = 9.40). The median was 23. Almost 90% of multiparas’ scores fell into the low (44.4%) and moderate (45.5%) levels of concern with 11.1% categorized in the high level of concern.
Table 7

Top Concern Items of the Maternal Concerns Questionnaire for Total Sample, Primiparas and Multiparas

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Sample</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infant feeding</td>
<td>Infant feeding</td>
<td>Normal g &amp; d</td>
</tr>
<tr>
<td>2</td>
<td>Fatigue</td>
<td>Fatigue</td>
<td>Recognizing illness</td>
</tr>
<tr>
<td>3</td>
<td>Recognizing signs of illness</td>
<td>Recognizing illness</td>
<td>Infant feeding</td>
</tr>
<tr>
<td>4</td>
<td>Being a good mom</td>
<td>Being a good mom</td>
<td>Being a good mom</td>
</tr>
<tr>
<td>5</td>
<td>Normal growth/development</td>
<td>Normal g &amp; d</td>
<td>Fatigue</td>
</tr>
<tr>
<td>6</td>
<td>Emotional tension</td>
<td>Emotional tension</td>
<td>Emotional tension</td>
</tr>
<tr>
<td>7</td>
<td>Breast soreness</td>
<td>Breast soreness</td>
<td>Change in family lifestyle</td>
</tr>
<tr>
<td>8</td>
<td>Finances</td>
<td>Safety (accidents)</td>
<td>Finances</td>
</tr>
<tr>
<td>9</td>
<td>Safety (preventing accidents)</td>
<td>Finances</td>
<td>Safety</td>
</tr>
<tr>
<td>10</td>
<td>Care of breasts</td>
<td>Care of breasts</td>
<td>Return of figure</td>
</tr>
</tbody>
</table>

Top YOU Concern Items

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total sample</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fatigue</td>
<td>Fatigue</td>
<td>Being a good mom</td>
</tr>
<tr>
<td>2</td>
<td>Being a good mom</td>
<td>Being a good mom</td>
<td>Fatigue</td>
</tr>
<tr>
<td>3</td>
<td>Emotional tension</td>
<td>Emotional tension</td>
<td>Breast soreness</td>
</tr>
<tr>
<td>4</td>
<td>Breast soreness</td>
<td>Breast soreness</td>
<td>Return of figure</td>
</tr>
</tbody>
</table>

Top BABY Concerns Items

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Sample</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infant feeding</td>
<td>Infant feeding</td>
<td>Normal g &amp; d</td>
</tr>
<tr>
<td>2</td>
<td>Recognizing signs of illness</td>
<td>Recognizing illness</td>
<td>Recognizing illness</td>
</tr>
<tr>
<td>3</td>
<td>Normal growth and development</td>
<td>Normal g &amp; d</td>
<td>Infant feeding</td>
</tr>
<tr>
<td>4</td>
<td>Safety (preventing accidents)</td>
<td>Safety</td>
<td>Safety</td>
</tr>
</tbody>
</table>
Table 7 (Continued)

**Top PARTNER Concern Items**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Sample (*Item mean)</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Finding time to be alone together</td>
<td>Finding time to be alone together</td>
<td>Finding time to be alone together</td>
</tr>
<tr>
<td>2</td>
<td>Sexual Relations</td>
<td>Sexual Relations</td>
<td>Time for recreation</td>
</tr>
<tr>
<td>3</td>
<td>Finding time for recreation</td>
<td>Relationship with the baby’s father</td>
<td>Sexual relations</td>
</tr>
<tr>
<td>4</td>
<td>Relationship with baby’s father</td>
<td>Finding time for recreation</td>
<td>Relationship with baby’s father</td>
</tr>
</tbody>
</table>

**Top FAMILY Concern Items**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Sample</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Finances</td>
<td>Finances</td>
<td>Change in family’s lifestyle</td>
</tr>
<tr>
<td>2</td>
<td>Change in family’s lifestyle</td>
<td>Change in family’s lifestyles</td>
<td>Finances</td>
</tr>
<tr>
<td>3</td>
<td>Managing the demands of the house</td>
<td>Managing the demands of the household</td>
<td>Managing the demands of home</td>
</tr>
<tr>
<td>4</td>
<td>Setting limits on visitors</td>
<td>Setting limits on visitors</td>
<td>Time with other children</td>
</tr>
</tbody>
</table>

**Top COMMUNITY Concern Items**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Sample</th>
<th>Primiparas</th>
<th>Multiparas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ease of getting to stores</td>
<td>Advice from friends and relatives</td>
<td>Employment</td>
</tr>
<tr>
<td>2</td>
<td>Employment</td>
<td>Ease of getting to stores</td>
<td>Ease of getting to stores</td>
</tr>
<tr>
<td>3</td>
<td>Getting to health care facilities</td>
<td>Employment</td>
<td>Getting to health care facilities</td>
</tr>
<tr>
<td>4</td>
<td>Advice from relatives and friends</td>
<td>Availability of community resources</td>
<td>Advice from relatives and friends</td>
</tr>
</tbody>
</table>
Of the 11 items in the Baby subscale, the most important concerns for the total sample and the primiparas were infant feeding, recognizing signs of illness, normal growth and development, and safety. The multiparas in the sample recorded the same top concerns as the total sample but prioritized them differently. The most important concerns for multiparas in priority order were normal growth and development, recognizing signs of illness, infant feeding, and safety.

Concerns related to the Partner. The total scores on the Partner subscale ranged from 6 to 24 (M = 11.0, SD = 3.9). The median was 10. The majority of the sample had low (60.3%) and moderate (30.1%) level of concerns, with 9.6% having high concerns. Primiparas' scores ranged from 6 to 20 (M = 11.08, SD = 3.90). The median was 10.5. The majority of the primipara concerns were either low (56.6%) or moderate (34.7%) levels, with only 8.7% having high level concerns. For multiparas, the Partner scores ranged from 6 to 21 (M = 10.98, SD = 4.16). The median was 9. The majority of the multiparas' scores were in the low (66.7%) or moderate (22.2%) levels of concern, with 11.1% of the multiparas reporting high level of concerns.

Of the six items in this subscale, the highest-ranking concerns for the total sample, the primiparas and the multiparas were the same, but the order in each group varied. All three groups identified finding time to be alone together as their greatest concern. The total sample listed four highest ranking concerns, in descending order, as finding time to be alone together, sexual relations, finding time for recreation, and relationship with the baby’s father. For the primiparas, the most important concerns were finding time to be alone together, sexual relations, relationship with the baby’s father, and finding time for recreation. The
multiparas listed their most important concerns as finding time to be alone together, finding time for recreation, sexual relations, and the relationship with the baby’s father.

Concerns related to the Family. The total scores on the Family subscale (6 items) ranged from 6 to 24 (M = 12.1, SD = 3.7). The median was 11. The majority of the sample had low (50.7%) or moderate (38.3%) levels of concern, with 11.0 % having high levels of concern. For primiparas, the Family concerns ranged from 6 to 18 (M = 11.04, SD = 3.13). The median was 11. The majority of Family concerns were in the low (58.7%) or moderate (37.0%) levels, with 4.3% being at a high level. For multiparas, the scores ranged from 6 to 21 (M = 13.77, SD = 4.08). The median was 10. The majority of the multiparas had low (37%) or moderate (40.8%) levels of concern, with 22.2% being at a high level of concern.

Of the six items, the total sample and the primiparas shared the same types and rank of concern for the Family subscale. These included finances, change in family’s lifestyle, managing the demands of the household, and setting limits on visitors. For the multiparas, the order of the types of concerns and one of the concerns differed. The most important concerns in order included change in family’s lifestyle, finances, managing the demands of the household, and time with the other children.

Concerns related to the Community. The total scores on the 9 item Community subscale ranged from 9 to 36 (M = 14.2, SD = 4.67). The median was 13. The majority of the sample had low (75.3%) and moderate (23.3%) levels of concern, and 1.4 % had high concern levels. For primiparas, the Community concern scores ranged from 9 to 29 (M = 14.77, SD = 4.66). The median was 14. For the primiparas the majority of the Community concerns were in the low (71.7%) and moderate (26.1%) levels and 2.2% had high levels of
concern. For multiparas, the Community concern scores ranged from 9 to 24 ($M = 13.25$, $SD = 3.99$). The median was 12. All the women had low (81.5%) or moderate (18.5%) levels of concern, with no multiparous women expressing high levels of concern related to the Community.

Of the 9 items in this subscale, the same concerns were identified for the total sample and the multiparas but the ranking varied. The most important concerns, in order, for the total sample included ease of getting to stores, employment, getting to health care facilities, and advice from relatives and friends, while the multiparas ranked, in order, employment, ease of getting to stores, getting to health care facilities, and advice from relatives and friends as their greatest types of concerns in this subscale. For the primiparas, the order of the concerns as well as one of the concerns differed. Their top ranking types of concerns included advice from friends and relatives, ease of getting to stores, employment, availability of community resources.

Additional concerns reported by the women. In addition to the 50 items on the MCQ, the investigator asked participants to add concerns that were not included in the questionnaire and to comment on those items listed. As well, the investigator asked the participants for input on how nurses could provide assistance in relation to their postpartum concerns.

Twenty-two of the women (30%) commented on additional concerns. These comments were grouped to represent infant feeding, care, and behaviour ($n = 10$) and two mothers specifically mentioned the baby’s irregular breathing and concern about Sudden Infant Death Syndrome (S.I.D.S.). Other concerns identified included: long term effects of the mother’s high-risk condition on their newborns and themselves ($n = 3$), physical
restoration and comfort issues (n = 4), managing relatives and finances (n = 3), and identifying community resources (n = 2).

Sixteen (22%) women responded to the question of how the nurses could help them cope with their postpartum concerns. These women wanted the nurses to be consistent and practical when sharing information or giving reassurance (n = 7) especially related to the infant’s and mother’s care. They also suggested having more personal contact instead of viewing videos when learning how to care for their infant (n = 4), and that discussions on the reality of postpartum life at home (n = 2) would be beneficial. Others commented that the nurses should advocate for longer postpartum stays in the hospital to give new mothers time to recover physically and gain more confidence with infant care skills (n = 3).

Demographic and Perinatal Factors Associated with Maternal Concerns

The second research question examined the association of selected demographic and perinatal factors with women’s postpartum concerns. The selected demographic factors included age, years of education, marital status, ethnic origin, and income. In addition, the perinatal factors of parity, prenatal education, support during pregnancy and postpartum, gestation of pregnancy at delivery, infant birth weight, infant feeding method, and other perinatal characteristics were examined to determine associations with maternal concern.

Demographic Factors

The demographic variables examined were age, marital status, years of education, ethnic origin, and family income. Associations between maternal postpartum concerns and demographic variables were determined using the Kruskal-Wallis or Mann Whitney U to test for differences.
**Age.** Age was categorized into five age periods (19 to 25, 26 to 30, 31 to 34, 35 to 38, and over 38 years) and concerns were examined between women of these ages for their Total concerns and concerns specific to the five subscales. There was no significant difference between the age groups for Total concerns, however, there were differences in concerns related to the partner. The 19 to 25 year olds were significantly more concerned about their partner (mean rank = 14.94) than those who were over the age of 38 (mean rank = 8.04)(U = 18.5, \(p = .01\)).

**Marital status, education, ethnic origin, and family income.** There were no significant differences in Total concerns or concerns related to the subscales based on differences in marital status, education, ethnic origin, or family income.

**Perinatal Factors**

The perinatal variables examined were parity, previous high-risk pregnancies, hospitalization and losses, time in current pregnancy when identified as high-risk, activity restriction and hospitalization during this pregnancy, prenatal education, pregnancy and postpartum support, gestation of pregnancy at delivery, birth method, labour and delivery experience, gender of the baby, infant birth weight, and infant feeding. Associations between maternal postpartum concerns and perinatal factors were also determined using the Kruskal-Wallis, Mann Whitney U, or Spearman Rho statistical procedures.

**Parity.** There were no significant differences in Total concerns based on whether women were primiparas or multiparas, however the multiparas had significantly greater intensity of family concerns (mean rank = 45.65) than the primiparas (mean rank = 31.92)(U = 387.5, \(p = .007\)).
Prenatal education. Although there were no significant differences in Total concerns between those who had prenatal education and those who did not, those who had prenatal education had significantly less concern about family issues than those who did not (mean rank = 43.95, 33.10)(U = 343, p = .049). No other differences were noted.

Support during pregnancy and the postpartum period. Women rated the support they received from their partners, their families and the health care team during the prenatal and postpartum periods. During the pregnancy, there was a statistically significant negative relationship between Total concerns and partner support ($r_s = -.29, p = .02$). Similarly, negative relationships were evident for You (mother) ($r_s = -.23, p = .05$), Partner ($r_s = -.29, p = .02$), Family ($r_s = -.35, p = .002$), and Community ($r_s = -.27, p = .002$)(see Table 8). The less support the women received the greater the concern identified. During the postpartum period, there was a significant negative relationship between partner support and family concerns ($r_s = -.30, p = .01$).

In terms of support from family and from health care providers there were no significant relationships with maternal concerns during the pregnancy. However, in the postpartum period there was a significant negative relationship with partner concerns for both family ($r_s = -.24, p = .045$) and health care provider support ($r_s = -.281, p = .016$). The greater the support from family or health care provider, the concerns related to the partner were less intense..
Table 8

Spearman Rho Correlations between Support and Maternal Concerns Prenatally and Postpartum

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total</th>
<th>You</th>
<th>Baby</th>
<th>Partner</th>
<th>Family</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal support by partner</td>
<td>-.29*</td>
<td>-.23*</td>
<td>-.12</td>
<td>-.29*</td>
<td>-.35**</td>
<td>-.27*</td>
</tr>
<tr>
<td>Prenatal support by family</td>
<td>.03</td>
<td>.06</td>
<td>.08</td>
<td>-.08</td>
<td>-.01</td>
<td>-.03</td>
</tr>
<tr>
<td>Antepartum support by health care team</td>
<td>-.02</td>
<td>-.02</td>
<td>.11</td>
<td>-.18</td>
<td>-.06</td>
<td>-.16</td>
</tr>
<tr>
<td>Postpartum support by partner</td>
<td>-.21</td>
<td>-.19</td>
<td>-.04</td>
<td>-.22</td>
<td>-.30*</td>
<td>-.18</td>
</tr>
<tr>
<td>Postpartum support by family</td>
<td>-.17</td>
<td>-.18</td>
<td>-.12</td>
<td>-.24*</td>
<td>-.19</td>
<td>-.13</td>
</tr>
<tr>
<td>Postpartum support by health care team</td>
<td>-.15</td>
<td>-.14</td>
<td>-.01</td>
<td>-.28*</td>
<td>-.11</td>
<td>-.15</td>
</tr>
</tbody>
</table>

* p = < .05  
** p = < .01

Gestation of pregnancy at delivery. Gestation of pregnancy at delivery was categorized as 33 to 37 weeks (n = 21) and 38 to 42 weeks (n = 52) gestation. There were no significant differences for Total concerns between the gestation periods. However, those with a shorter gestation period (33 to 37 weeks) had significantly greater intensity of concerns regarding the baby than those who gave birth between 38 and 42 weeks gestation (mean ranks 45.26, 33.66) (U = 372.5, p = .02)
Infant birth weight. Birth weight was categorized into three subgroups (less than 2,500 grams, 2,501 to 4,000 grams and over 4,000 grams). Although there were no significant differences in Total concerns by birth weight, there were significant differences when it came to baby concerns among the three birth weight groups (H = 7.40, p = .025). On post hoc analysis, mothers whose babies weighed over 4,000 grams were less concerned than those whose babies weighed less than 2,500 grams (U = 6.0, p = .032) or those whose babies weighed between 2,501 and 4,000 grams (U = 107.5, p = .035).

Infant feeding method. When comparing mothers who exclusively breastfed and those who combined feeding methods (breast, formula feeding, and eyedropper), there were no differences in Total concerns, however in examining the subscales, those who breastfed had significantly less intensity of concern about the baby than those who used a combination of feeding methods (U = 348.5, p = .011).

Other perinatal characteristics. No associations were found between the following factors and the reported maternal postpartum concerns for previous high-risk pregnancies, hospitalizations and losses, timing of high-risk identification for current pregnancy, activity restriction and hospitalization during this pregnancy, birth method, labour and delivery experience; and gender of the baby.

Discussion of the Findings

The discussion of the findings is organized under the following headings: the characteristics of the sample, maternal postpartum concerns, and factors associated with maternal postpartum concerns. The results are discussed in relation to other research studies and the theoretical framework. Methodological issues related to the study are also discussed.
Characteristics of the Sample

Demographic Characteristics

The demographic characteristics of the women in this sample are similar to those identified in other Canadian and some American childbearing studies which used convenience sampling methods. The majority of the women are older, have some college or university education, and are married or living with their partners (Catty, Bradley, & Winslow, 1996; Clauson, 1992; Fishbein & Burggraf, 1998; Ford & Hodnett, 1990; Hatmaker & Kemp, 1998; Peterson-Palmberg, 1987; Smith, 1987).

The age of the women in this sample, that is over 18 years old and 41% over 34 years is similar to the population of high-risk women at BCWH. During the study period, over 95% of the BCWH high-risk population were over 18 years old and 35% of the population were over 34 years of age (W. Kearns, personal communication, August 18, 1999).

Living with a partner statistic for this sample was similar to other childbearing studies in that 90% of the women live with a partner. The education parameter of all women completing Grade 12 with many completing university is similar to recent studies by Carty et al. (1996) and Fishbein and Burggraf (1998), where 78% and 90%, respectively, of their samples had college or university education. However, Clauson (1992) and Peterson-Palmberg (1987) reported that 15% of their samples had less than Grade 12 education. The higher education level in the current study may reflect the fact that educated women are delaying childbearing. In addition, women who are more educated seem more likely to enroll in research studies as seen by the years of education that women had in the current sample and in other childbearing studies (Carty et al.; Fishbein & Burggraf).
The ethnicity of this sample was compared to the high-risk population at BCWH. At BCWH, 53% of the women who have been identified as high-risk are Caucasian, 32% Asian, 11% South East Asian and 3% First Nations. The sample in this study consisted of comparable numbers of South East Asian (10%) and First Nations (4%). However, the sample of 70% Caucasian women was greater and 16% for Asian women who participated was less than that of the current study. Many studies do not report ethnicity, but to meet the inclusion criteria of many research studies, participants most often must read and write English to complete survey instruments and this can influence the ethnic mix of the samples.

Income level was not reported in studies examining women’s postpartum concerns. Over 70% of the participants had combined incomes greater than $50,000 indicating a higher than average income level. A low annual income for a family of three in Vancouver is $27,000 (Raymond Lebou, personal communication, Stats Canada, July 20, 1999). Because of the higher age and educational level of the participants in this study, a high-income level would be expected.

Perinatal Characteristics

There have been no specific studies done on postpartum concerns of high-risk women, although studies have been completed on the concerns of low-risk postpartum women and on women’s experiences of high-risk pregnancy. The sample in this study included 27 multiparas and 46 primiparas. A review of studies related to postpartum women with low-risk and high-risk pregnancies identified that the proportions of primiparas and multiparas varied. However, unlike this sample most of the studies reviewed had similar numbers of multiparas and primiparas, or a
larger sample of multiparas (Clauson, 1992; Peterson-Palmberg, 1987; Fishbein & Burggraf, 1998). Only Carty et al. (1996) reported more primiparas than multiparas in her study.

The reasons cited for women in this study having high-risk pregnancies were consistent with those reported by other researchers (Clauson, 1992; Ford & Hodnett, 1990; Snyder, 1985) and were representative of the high-risk antepartum women seen at BCWH during the time of the study (BCWH, Antepartum Statistics, 1999). These conditions include advanced maternal age, premature rupture of membranes, pregnancy-induced hypertension, antepartum hemorrhage, and previous obstetrical problems such as infertility and cesarean birth.

Approximately 70% of women in this study reported receiving some type of prenatal education, which is comparable to other studies. It is not known if this is comparable to the population of high-risk women who deliver at BCWH. However most of the high-risk antepartum inpatients receive some type of prenatal education (T. Wellburn, personal communication, January 1999).

A number of studies report findings similar to this study related to prenatal and postpartum support for women from their partners, their families, and their health care providers (Harrison & Hicks, 1984; Smith, 1987; Tobert, 1986). Within the first two weeks post-delivery, Tobert noted that over 90% of the women had support from partners and family after delivery and 78% of the mothers had been in contact with a health care provider.

The 70% rate of breastfeeding for women in this sample is lower that the 80% rate for the population of women who deliver at BCWH. However, this study’s finding is similar to a study of postpartum concerns of low-risk postpartum women conducted in Vancouver (Tobert, 1986).
In summary, the study sample appeared to be reasonably representative of postpartum women who had experienced a high-risk pregnancy at BCWH during the data collection period. The age of the participants and the reasons for being considered high-, in this sample were similar to those of the hospital high-risk population. Although, the ethnic make-up of the sample differed from the hospital population, both groups still reported the majority of participants as Caucasian, and this was consistent with the literature on childbearing studies.

Maternal Concerns During the First Two Weeks Postpartum

The postpartum women in this study who experienced a high-risk pregnancy reported mostly low or moderate levels of Total concerns and concerns related to themselves and their babies, partners, families, and community. However, a sufficient number of women experienced high levels of concern. There are no other studies in the literature that have samples that specifically compare to these high-risk women. However, several studies have used the MCQ with low-risk postpartum women in the first two weeks after delivery. This section discusses the women’s Total postpartum concerns and the concerns identified in the five subscales where the concerns were highest for baby, then self and family and lower for partner and community.

Total Maternal Postpartum Concerns

In this study a few women experienced high levels of concern but most women reported overall concerns that were of low or moderate intensity. Given the high-risk nature of their pregnancies, it had been anticipated that the overall level of concerns for these postpartum mothers would be higher. One can only speculate as to the reasons for this unexpected finding. For example, many of the women’s concerns may have been moderated
by their age, since many were over 35 years old, their advanced educational level, the support they received from their partners and families, or perhaps it was because they birthed a healthy infant. No women who had infants that required admission to a NICU were included in this study. Weil (1981) suggested that after experiencing the concerns of a high-risk pregnancy, having a healthy baby makes concerns in the postpartum period seem less important.

Findings from two studies that used the MCQ with women who experienced low-risk pregnancies are variable. Moxon (1989) reported mostly low or moderate levels of concern among a primarily multiparous sample, while only 4% had high levels of concern on the fourth postpartum day. However, Peterson-Palmberg (1987) identified that 25% of new mothers in her study had high levels of overall concern at two weeks post-delivery. Unlike the women in this study, the women in Peterson-Palmberg’s study were much younger with almost half of the women being between 18 and 26 years old. They were also discharged from hospital within 48 hours of delivery and received very little follow-up from the community health care team. Both of these factors may have contributed to the high levels of concern in that sample of women.

It is also possible that the particular postpartum concerns of women experiencing a high-risk pregnancy were not adequately addressed in the MCQ, such as concerns related to the lasting effects of the high-risk condition on the mother or the baby. More in-depth exploration of postpartum concerns for this group may reveal other concerns that are important to these women.
The most important concerns for this sample of predominately primiparous mothers related to infant feeding, fatigue, recognizing signs of illness in the baby, and being a good mother. These concerns are similar to findings in other studies highlighting primiparas' concerns (Fishbein & Burggraf, 1998; Graef et al., 1988; Smith, 1989). Other studies reported return of figure to normal as most important (Gruis, 1977; Harrison and Hicks, 1983; Lemmer, 1987; Moxon, 1989; Peterson-Palmberg, 1987; Tobert 1986). For the multiparas and primiparas in this study, however, return of figure to normal ranked 10th and 13th respectively. This finding is discussed in the section describing mother’s concerns.

Concerns Related to You (Mother)

Although all the mothers had concerns related to themselves, approximately one-half of the mothers reported moderate concern levels and only a small number reported having concerns of high intensity. Multiparas and primiparas had similar levels of concern which may be the result of their common experience of a high-risk pregnancy and the resulting postpartum sequeli. For example, almost half the women delivered by cesarean birth. Fawcett (1981) suggests that a cesarean delivery may affect a mother’s postpartum recovery and influence her level of concern. The physical effects of the surgery such as increased pain and decreased mobility when combined with the effects of high-risk pregnancy including muscle weakness, dizziness, and fatigue will most likely increase the women’s concerns related to themselves (Tribotti et al., 1988).

In this study, the most important concerns reported in relation to themselves were fatigue and being a good mother. As noted previously, fatigue may be compounded by the events of the pregnancy and the nature of the birth experience. Studies of women
experiencing a low-risk pregnancy report fatigue as an uppermost concern (Gruis, 1977; Smith, 1987; Tobert, 1986) or a major concern (Fishbein & Burggraf, 1998; Muchl, 1983; Harrison & Hicks, 1983; Peterson-Palmberg, 1987; Ruchala & Halstead, 1994).

Women want to be good mothers but may doubt their ability to be successful as mothers when they have experienced the stress of high-risk pregnancy (Stainton, et al., 1992). Being a good mother was an important concern of women in a number of studies (Fishbein & Burggraf, 1998; Lemmer, 1987; Moxon, 1989; Tobert 1986).

Return of figure to normal was less of a concern in this study, as compared to the results of other studies where it was a major concern. One can only postulate the reason findings in this study differed. Perhaps it was because many of the women in this study are older and have waited longer to have a baby, so their concerns focused on the infant rather than on their body image. This study was conducted in 1999, when many women have established exercise regimes and are knowledgeable about ways of regaining their figures as they recover from pregnancy and delivery. However, this area was not explored with these women.

Concerns Related to the Baby.

Overall, the mothers’ highest levels of concern were related to their babies. Although the majority of the mothers identified low or moderate levels of concern, over 20% reported high levels of concern. Primiparas reported substantially greater intensity of concern than the multiparas, but 10% of multiparas still reported high levels of concern about their baby. It is understandable that first-time mothers may not have had experience with newborns. Consequently, they may have concerns regarding their infant care knowledge and skills. This
finding is similar to the levels of concern related to the baby in other studies (Mercer, 1981; Moxon, 1989; Peterson-Palmberg, 1987).

Even though all the mothers identified similar types of concerns about their babies, the concerns differed somewhat in the order of importance. The areas of greatest concern for all the mothers, including primiparas who made up 63% of the sample in this study, were infant feeding, recognizing signs of illness, normal growth and development, and safety. This is comparable to studies of primiparous women by Fishbein and Burggraf (1998) and Smith (1987). Recognizing signs of illness was identified as the most important concern in several studies (Davis et al., 1988; Moxon, 1989; Lemmer, 1987; Tobert, 1986) and was the second most important concern in this study.

Multiparas, in this study and those in the study by Peterson-Palmberg (1987), reported normal growth and development as their greatest concern. Perhaps multiparas are most interested in the behaviours of their babies, such as normal growth and development, because they have the skills to feed and care for their new baby, which the primiparas still need to learn. Or perhaps, following a high-risk pregnancy, the multiparas are looking for signs of normalcy in their new babies. This might account for the unexpected higher percentage of multiparas having high level concerns about the baby.

Concerns Related to the Partner

The majority of the women had low levels of concern about their partners. Demographically, 90% of the women were either married or living with partners and almost all of them reported feeling supported by their partners. Both these factors have the potential to decrease new mother's concerns. In today's society, partners are encouraged to participate
in all aspects of infant care. Even while in hospital the new mothers can see, first hand, the interactions of their partner with the baby and this may allay some of their concerns.

The items of greatest concern related to the partner were finding time to be alone together and those related to sexual relations. These concerns are similar to those found in other studies (Fishbein & Burggraf, 1998; Lemmer, 1987; Tobert, 1986). It is conceivable that after two weeks postpartum, many women begin to realize how much time the new baby requires and this likely raises concerns about how they will find sufficient time to be alone with their partners and how and when they will be able to reestablish a sexual relationship.

Concerns Related to the Family

Even though the majority of mothers expressed low levels of concern with regard to the family, a substantial number of multiparous women (22%) expressed high levels of concern in this area. The addition of a second child to the family may add to the complexity of existing relationships. The new dynamics within the family could also influence the concerns of mothers. Toddlers and young children require time and the attention of their mothers. This may concern new mothers as they try to meet the needs of their other children as well as a new infant. However, if the other members of the family are happy about the new baby, the concerns of integrating this new baby into the family will be reduced. Primiparas did not need to deal with issues surrounding siblings and this was reflected in the lower level of concerns they expressed in relation to their families.

The items of greatest concern for mothers related to the family were finances, change in the family’s lifestyle, and management of the demands of the household. Although the rank order of concerns is not consistent with other studies, the nature of the concerns identified are
similar to findings in other studies (Fishbein & Burggraf, 1998; Lemmer, 1987; Peterson-Palmberg, 1987).

It is understandable that finances may be of great concern to the women in this study who live in Vancouver, where the cost of living is one of the highest in Canada. It is also reasonable that if women chose to stay home after the birth of their infants, limited finances may increase the level of their concerns. In terms of managing the household, the birth of an infant requires a dramatic change particularly for first time mothers and fathers who may not realize the impact an infant makes on their lives (Becker, 1980). For multiparas, time for the other children in the family and integration of the new baby into the household can cause concern (Hiser, 1987).

Concerns Related to the Community.

Overall, these mothers had the least concern about the community. Over 75% of the women had low levels of concern in this area. Perhaps women in the early postpartum period are so busy dealing with immediate issues related to their infants or themselves, that concerns about the community, if any, are postponed. The women in this study also reported considerable support from their partners, families, and health care providers during the early postpartum period so they were not worried about accessing community resources.

The areas of most concern for new mothers related to the community were ease of getting to stores, local health care facilitates, and their employment. Women may not have been concerned about community resources because they were aware of follow-up programs available for them after discharge from hospital. This is similar to other Canadian studies where women reported equally low levels of concern about the community (Harrison &
Hicks, 1983; Tobert, 1986). Interestingly, findings from comparable studies conducted in the United States (US) reported higher levels of concern about the community which was likely due to less follow-up of the mothers on discharge (Patterson, 1987). A pilot study in the US of postpartum women provided with follow-up in the community reported substantially lower levels of postpartum concerns than those studies in which postpartum follow-up was not available (Brown, Towne, & York, 1996). Therefore the findings on maternal postpartum concerns, although reflecting lower intensity of concern than expected, reflected the types of concerns expected.

Demographic and Perinatal Factors Associated with Maternal Concerns

There were a number of significant associations identified between demographic and perinatal factors with maternal concerns. In this section, the demographic factor of age, and the perinatal factors of parity, prenatal education, support during pregnancy and postpartum, gestation of pregnancy at delivery, infant birth weight and infant feeding method will be discussed in relation to how they influenced maternal concerns.

Demographic Factors

Age. Although there were no differences in concerns by age for Total concerns, women who were 19 to 25 years old had significantly higher intensity of concerns about their partners than those who were over 38 years of age. Perhaps the older group of women had less concerns because they have had more life experiences, trusted their own abilities, and generally were more confident about the support of their partners. In their study, Kemp and Hatmaker (1989) reported that older women tended to have lower anxiety levels than younger women although they did not define the term older. Mercer (1986) reported that new
mothers over 30 had substantially higher levels of self-esteem and demonstrated more flexibility in child rearing. These traits could contribute to lower levels of concern in the 38 and older age group.

**Other demographic factors.** Although education, marital status, ethnic origin, and combined family income revealed no statistically significant associations, there were some interesting findings that still need to be explained. Education showed no significant relationship to maternal concerns, however participants in this sample had all completed grade 12. While this may be unusual, a woman’s level of education was not a factor which excluded her from this study. It is possible that a cohort of women who had less than grade 12 education might have reported more or different maternal concerns. This is supported by findings in other studies which reported that women who had not completed high school had more concerns than those women who had because of their lack of self-esteem and confidence (Hiser, 1987; Mercer, 1981; Pridham et al., 1991). Similar factors with this sample were evident in relation to the marital status, ethnic origin and family income. Most of the women in the study were married or living with a partner, were Caucasian and had an income of over $50,000. A different demographic make up of the sample may have more accurately demonstrated how these demographic factors might have influenced maternal concerns.

**Perinatal Factors**

**Parity.** Although there were no significant differences in Total concerns between primiparas and multiparas, there were substantial differences in the types of concerns they experienced. As mentioned previously, the primiparas greatest concerns were related to the
baby and secondly to themselves, where as the multiparas’ greatest concerns related to the family. The only significant relationship noted for parity and maternal concerns was that multiparas had significantly more family concerns than did the primiparas. This finding is supported studies by Hiser (1987) and Smith (1987) which examined postpartum concerns of multiparous women. In both studies, family issues were identified as the major concern.

In this study, the majority of the women were primiparas. Although both primiparas and multiparas had concerns about the baby, the intensity of the concerns for the primiparas were greater but not significantly so than those of the multiparas. Perhaps the multiparas experienced fewer concerns related to their infants because they had previous experience with baby care. In this study, the type of concerns differed between primiparas and multiparas. The primiparas were concerned about infant feeding and the multiparas were concerned about infant behaviour such as normal growth and development (Smith, 1987; Tobert, 1986).

Prenatal education. Prenatal education seemed to influence maternal concerns in that those women who did not receive prenatal education had higher levels of concern related to the family than those who had prenatal education. However it was primarily the multiparas who indicated that they had no prenatal education with this pregnancy. This finding may be more reflective of the womens’ concerns of integrating their new baby into an established family than the relationship to not receiving prenatal education.

Support during pregnancy and the postpartum period. The women in this study reported negative relationships between maternal concerns and perinatal support. As women received less support from their partners, families, and health care providers, their concerns increased in specific areas. Less support from partners in the prenatal period was associated
associated with having greater overall concerns as well as greater concerns related to themselves and their families, partners, and the community. The indication of less partner support by some women could reflect that the partner may not be able relate to what women are experiencing or they may be dealing with their own concerns about high-risk pregnancy. Feeling unsupported can lead to increased concerns for these women. Majewski (1987) found that women who didn’t have support from their partners had more difficulty making the transition to motherhood than those with supportive partners. During the postpartum period, the more support the women received from their partners the less concerns they had about their families.

During the prenatal period, significant maternal concerns were not related to support from either their families or health care providers. Those women who experiencing high-risk pregnancies were monitored closely by a health care team therefore it was understandable that they should feel supported. In addition, as the support from their families and the health care team increased the women reported fewer partner concerns. Briggs (1979) identified similar findings and suggested that one factor necessary for successful maternal role transition is the availability of informal and formal support.

Gestation of pregnancy at delivery. Mothers whose babies were born between 32 and 37 weeks gestation had significantly greater intensity of concerns about their babies than those mothers whose babies were born after 37 weeks. Even though the babies were not admitted to the NICU, it is understandable that these mothers would have concerns about their preterm infants. Gennaro (1998) also found that mothers who delivered their infants at term had fewer concerns than women who delivered there babies before 38 weeks.
Infant birth weight. Mothers of infants weighing over 4,000 grams had significantly less concern about their babies than those whose infants weighed less than 2,500 grams or between 2,500 and 4,000 grams. Though not a significant relationship, there was an indication from the data that the lower the birth weight of the baby the greater the intensity of concerns the mother experienced. Although 2,500 grams (six pounds) is considered an appropriate weight for a full term baby, women who have had high-risk pregnancies may report fewer concerns if their baby weighs more at birth. Infants who weigh less than 2,500 grams may be separated from their mothers for longer periods of time for a variety of reasons and this can interfere with the time a mother needs to become acquainted with and learn to care for her infant. Delayed involvement in the infant’s care has been shown to increase maternal concerns (Gay et al., 1988).

Infant feeding method. Infant feeding methods were shown to have a significant relationship to maternal concerns. Women who exclusively breastfed had much less concern about their babies than women who used a combination of feeding methods. Some of the babies being fed by a combination of methods may have been the smaller and younger babies who were given supplementation. Their mothers may then be concerned about their infants’ ingestion of breast milk substitutes. With the introduction of other feeding methods, breastfeeding initiation may have become more difficult, increasing infant feeding concerns for the mother.

Theoretical Framework.

The Gruis (1977) postpartum task framework provided an appropriate theoretical base to examine maternal concerns. The four maternal tasks identified by Gruis guided this study
in the following ways. Gruis’ first task of physical restoration supported the mother to take care of her own needs. She emphasized the need to minimize fatigue, in order to better cope with concerns related to the physical self such as breast soreness and pain related to episiotomies or cesarean incisions. Fatigue was the number one concern related to the mother in this study. Gruis suggests that once the mother’s physical and emotional needs are being met she is better prepared to learn about the needs of her infant.

Learning to meet the needs of the infant and developing a relationship, which are two of Gruis’ postpartum tasks, are important milestones in making the transition to motherhood. In this study, the greatest types and intensity of overall concerns identified by the women, particularly the primiparas, were related to feeding and caring for their infants. The multiparas also expressed concerns regarding their need to learn about their babies’ behaviour. Gruis’ fourth task, accommodating a new member into the family, was identified by the multiparas in this study as their most important area of concern. Both primiparas and multiparas were concerned about managing the demands of household and altering one’s lifestyle to integrate the new baby into the family.

One important topic area for postpartum women, not included in the Gruis maternal postpartum task framework is the psychological restoration of women after delivery. All women have concerns related to the pregnancy and labour and delivery that need to be resolved.

Summary

In this chapter the findings and a discussion of the results have been presented. The demographic characteristics of the 73 women who experienced a high-risk pregnancy and
participated in the study were reviewed. The women in the sample were older, with 41% over the age of 35, mostly married or living with a partner, with at least grade 12 education, about 70% were Caucasian, and the average combined family income was over $50,000. The major overall types of concerns were infant feeding, fatigue, recognizing signs of illness, being a good mother, normal growth and development, and emotional tension. Primiparas had concerns related to themselves and their babies and the multiparas had concerns related to their families and themselves. All the women in the study reported low levels of concern for the partner and the community.

A significant relationship between maternal age and maternal concerns was identified. Women over 38 had fewer concerns than those aged 19 to 25 years. All other demographic factors showed no significant relationships to maternal postpartum concerns.

Associations of perinatal factors with maternal concerns were also examined. With regard to parity, there was no substantial difference in the overall intensity of concerns, but primiparas experienced much greater concerns about baby and multiparas had much greater family concerns. Those women who did not receive prenatal education had higher levels of concern related to the family than those who did did but this may be a reflection of the multiparas in the sample. Mothers whose babies were born between 32 and 38 weeks of gestation had more concerns about their babies than those mothers whose babies were born after 37 weeks. Mothers of infants weighing over 4,000 grams mothers had fewer concerns about their babies than those whose infants were less than 2,500 grams or between 2,500 and 4,000 grams. Women who exclusively breastfed had much less concern about their babies than women who used a combination of feeding methods. During the perinatal period,
women had greater concerns about themselves, and their partners, families and community when they received little support from their partners. The findings were discussed in relation to the literature and other studies and methodological issues. Gruis' maternal postpartum framework was evaluated in relation to the maternal concerns and possible modifications were suggested.
CHAPTER FIVE

Summary, Conclusions, Implications for Nursing, and Recommendations for Research

Introduction

This chapter includes a summary of the study, a discussion of the limitations, and the conclusions of the findings. In addition, implications for nursing practice, theory, and education, and recommendations for future research are explored.

Summary

The purpose of this study was to identify and describe the postpartum concerns of women who experienced a high-risk pregnancy. The level and nature of maternal postpartum concerns during the first two weeks after delivery were investigated and associations between maternal concerns and a number of demographic and perinatal factors were explored.

The literature reviewed included publications, manuscripts and books specific to maternal postpartum concerns, high-risk pregnancy, and other factors associated with a woman's transition to motherhood. The literature showed that maternal concerns arise in the early postpartum period. In many studies the identified concerns related to the mother and her baby, partner, family, and community. High-risk pregnancy and its impact on the maternal tasks of pregnancy were also identified. The focus of these tasks for women who experienced a high-risk pregnancy depended on their experiences. High-risk pregnancy influenced not only the physical and psychological welfare of the mother, but also affected her family. Factors that impact on the perinatal period and influence the transition to motherhood were suggested as age, education, high-risk pregnancy, parity, time since delivery, prenatal education, nature of the birth experience, support systems, gestation of
pregnancy at delivery, infant birth weight, and infant feeding method. Several researchers discussed in their studies the transition to motherhood for women who had experienced a high-risk pregnancy. However, no research was identified that addressed the postpartum concerns of these women. In addition, no research was found that had examined the associations of demographic or perinatal factors to the postpartum concerns of women who had experienced a high-risk pregnancy.

The conceptual framework for this study was developed from Gruis’ postpartum task framework as well as demographic and perinatal factors shown to influence the childbearing population. The four developmental tasks, identified by Gruis (1977), that women undertake in the transition to motherhood are: restoring the physical self, learning to care for and meet the needs of a dependent infant, establishing a relationship with the infant, and altering one’s lifestyle and relationships to accommodate a new family member.

This study conducted in 1999 in an obstetrical tertiary care hospital in a large western Canadian city, used an exploratory descriptive, comparative design. The convenience sample consisted of 73 postpartum women who had experienced a high-risk pregnancy. The mean age of the women was 32.9 years, with 41% of the women being over the age of 35 years. Almost all the women were living with a partner and all the participants had completed grade 12, with many having some university graduate school education. Seventy percent of the women surveyed were Caucasian and the combined family income for 63% of the sample was over $50,000.

Sixty-three percent of the women were primiparas and 37% were multiparas. Almost half the women were identified as being at risk before conception and for one-third of the
women, risk factors were evident after 26 weeks of pregnancy. Prenatal education, defined as prenatal classes, reading, or both were reported by 71% of the total sample, and by 90% of the primiparas. Almost all the women indicated that they had received moderate to a great deal of support during the prenatal and postnatal periods from their partners, families, and health care providers.

Women delivered their infants between 33 and 42 weeks gestation with 59% of the women delivering between 38 and 40 weeks. The babies weighed between 1,644 and 4,621 grams, although 90% weighed over 2,500 grams. Seventy percent of the babies were exclusively breastfed, while the others were fed formula or expressed breast milk by a bottle or eye-dropper.

All the participants completed the MCQ (Bull, 1979) and a Participant Information Sheet, which included demographic and perinatal information. Analysis of the scores from the MCQ identified the types and intensity of maternal concerns for the Total concerns and each of the five subscales, delineated as You (mother), Baby, Partner, Family and Community.

Although most of the postpartum women experienced low and moderate levels of concern, a few women experienced high levels of concern. Areas of greatest to least concern were, ranked as, Baby, You (mother), Family, Partner, and Community. The types of concerns most important to all mothers were infant feeding, fatigue, recognizing signs of illness in the infant, being a good mother, normal growth and development, and emotional tension. The concerns specific to the infant that generated the most concern were infant feeding, recognizing signs of illness, and normal growth and development. The types of
concerns of greatest importance to the mother were fatigue, being a good mother, and emotional tension. The types of specific concerns related to the family were finances and changes in the family’s lifestyle and those of greatest concern related to the woman’s partner were finding time alone together and sexual relations. Although less important, the items of greatest concern related to the community were ease of getting to stores and employment.

A number of significant associations were shown between maternal concerns and demographic and perinatal factors. The concerns of primiparas and multiparas were examined separately. No significant differences were found between primiparas and multiparas scores on the Total concerns scale or the subscales other than the family subscale, where multiparas reported a greater intensity of concerns ($U = 387.5, p = .007$).

In terms of associations with demographic factors, younger women (19 and 25 years of age) were more intensely concerned about their partner than women over 38 years of age. There were no significant relationships between maternal concern and marital status, years of education, ethnic origin, or level of combined, annual family income.

Multiparas had significantly greater intensity of concerns related to family, which was identified by these women as a change in the family’s lifestyle. Those who did not take prenatal classes had significantly more family concerns than those who did ($U = 343, p = .049$). The majority of multiparas in this study did not receive prenatal education with the current pregnancy. Several significant negative relationships were found with regards to partner support during the antepartum period. The less support the women received from their partners during pregnancy the greater the concerns they experienced related to themselves, and their partners, families, and community. Significant relationships were not
found between maternal concerns and support from the family or the health care team during the prenatal period.

Three other significant relationships were associated with the women’s perceptions of support during the postpartum period. The less support mothers received from their partners the more concerns they had related to family. When support from family or from health care professionals decreased, the maternal concerns related to partners increased. There were no other significant relationships between maternal concerns and support from the husband, family, and health care team during the postpartum period.

Other significant findings related to gestation of pregnancy at delivery, the infant birth weight, and infant feeding method. Women who delivered between 33 and 37 weeks of gestation had significantly more concerns about the baby than women who delivered at 38 weeks or more ($U = 372.5, p = .02$). Women also reported greater concerns about their babies when their infants weighed less than 2,500 or between 2,500 grams and 4,000 grams than when the babies weighed over 4,000 grams. The women who exclusively breastfed their babies had significantly fewer infant concerns than those who combined feeding methods. There were no significant relationships of concern with the following perinatal characteristics: previous high-risk pregnancies, hospitalizations, and losses; time in pregnancy when risk was identified; activity restriction and hospitalization required during this pregnancy; the nature and length of labour and delivery experience; and the gender of the baby.

Though the MCQ had been tested in previous studies, was found to be easy and convenient to complete and appeared to capture the essence of the concerns some problems
were evident. This questionnaire could be used only with women who could read and write English. There was also a chance of response error due to confusion in circling the numbers on the Likert scale. In addition, the scale was limited to only four levels of responses which may have limited the breadth of intensity of the identified concerns. The information retrieved from the MCQ related to the nature and level of concerns, but there was no opportunity for the investigator to explore the reasons for the concerns. Also, it is assumed that the concerns identified on the questionnaire reflected the concerns most important for this population of high-risk women; but it may not have been sensitive to all concerns for these women.

The Gruis (1977) postpartum task framework provided a theoretical base to examine maternal concerns. During the early postpartum period, new mothers were concerned about themselves and their infants. Gruis’ framework is comprised of four postpartum tasks. The first postpartum task involves the physical restoration of the mother and includes dealing with concerns such as fatigue and breast soreness. Mothers expressed concerns about feeding and caring for their infants. Learning about infant needs and establishing a relationship with the infant are two other tasks in the Gruis framework. Gruis’ fourth task is accommodating the new baby into the family. Flexibility and a substantial reorganization of roles and lifestyle are required to accomplish this task successfully. The mother must accomplish these four tasks in order to make a successful transition to motherhood.

Most new mothers have concerns from the pregnancy and labour and delivery that need to be resolved. The task of physical restoration could be expanded to include the emotional concerns of new mothers and be renamed as postpartum restoration.
Limitations of the Study

There were a number of limitations in this study:

1. The use of convenience sampling limits the generalizability to populations with similar characteristics.

2. The sample size was not large enough or varied enough especially related to factors (e.g. education, ethnic origin) to test for significant differences among subgroups.

3. The concerns of the mothers were representative of only the first two weeks following delivery and did not account for their concerns within other time frames.

4. The instrument used to measure maternal concerns may not have captured other types of postpartum concerns for this population of women who experienced a high-risk pregnancy.

5. The instrument may not have been sensitive enough to accurately reflect the intensity level of the concern.

Conclusions

The following conclusions can be drawn from this study but given the limitations identified, the results of the study cannot be generalized. However, the findings do suggest some tentative conclusions about similarities and differences among the participants and associations with demographic and perinatal factors.

1. Overall, women who experience a high-risk pregnancy have low to moderate levels of postpartum concern, which is lower than initially anticipated for a high-risk group of new mothers. The mothers’ concerns, in order from greatest to least, relate to the baby, you (herself), family, partner and community.
2. The greatest types and intensity of concerns for the total sample are reflective of the concerns of the primiparas, the larger subgroup.

3. Younger women have greater intensity of concerns related to their partners than do women over 38 years of age.

4. The primiparas have higher levels of overall concern than multiparas and most of their concerns are about the baby and themselves. The multiparas greatest concerns are related to their family and themselves.

5. Women taking some type of prenatal education have fewer postpartum concerns than those who do not take prenatal education.

6. Women who have support from their partners, families and health care providers generally have fewer postpartum concerns than those who do not feel supported by their partners, families, and health care providers.

7. Women who deliver at 38 weeks or more of pregnancy have less concern about the baby than those who deliver before 38 weeks of pregnancy.

8. As the weight of the baby increases the level of the mother’s concern tends to decrease.

9. Women who breastfeed have fewer concerns about their babies than those who use a combination of methods to feed their infants.

Implications for Nursing Practice and Education

There are several important findings identified in the study which have implications for nursing practice and education. The postpartum women who have experienced a high-risk pregnancy in this study had similar postpartum concerns to those identified in studies with
low-risk postpartum women. Therefore, nurses may not need to differentiate between the two subgroups of women in their care.

Primiparas expressed greater concern about the baby and themselves and multiparas had greater concern related to the family and themselves. Being aware that there are differences in primiparas and multiparas could assist the nurse when doing clinical assessments and provide direction when teaching the woman and her family.

Recognition by nurses that demographic and perinatal factors such as age, parity, prenatal education, the age of the baby at delivery, the weight of the baby and the method for infant feeding can influence mothers’ concerns in the early postpartum period is important. Awareness of these factors can help nurses to provide individual support and more effective teaching.

Since partners, family, and health care providers are identified as important support for the new postpartum mother, it is important for the nurse to include the partner and the woman’s family, where possible, during teaching sessions. Communication between the hospital and community nurses, could improve the continuity of care and help the woman to receive the support she needs at home.

**Recommendations for Further Research**

This research study suggests areas for future research which may add to the knowledge about postpartum women who have experienced a high-risk pregnancy. Since the findings in this study relate only to the nature and level of mothers’ concerns a study using qualitative methods could give insight into why women identified the level and types of concerns they did. Studies using qualitative research approaches for women identified as experiencing a
high-risk pregnancy may identify other relevant concerns for this population that could be added to the MCQ.

It is recommended that the MCQ be used with groups of childbearing women who were not part of this study sample for example, mothers who were less than 32 weeks gestation at delivery, teenagers, women with less than grade 12 education, women with combined family income of less than $50,000 per year and other cultural groups.

Comparing the postpartum concerns of women who have experienced a high-risk pregnancy with an equivalent group of women who have experienced a low-risk pregnancy may assist in further identifying similarities and differences between the two populations. Other comparisons could include: women who have experienced vaginal deliveries with women who have had cesarean deliveries; those women hospitalized during pregnancy with those who were cared for on an outpatient basis; and for those women whose infants were admitted to NICU at birth with those who are admitted into the regular nursery.

Support during the perinatal period has been identified as an important factor for a successful transition to motherhood. More studies are needed to discover how mothers define support during the perinatal period and what part the partner, family, and health care team can play in helping postpartum women adapt to their new role as mothers.

Longitudinal studies are needed throughout the perinatal period to provide information about the changes in the nature and intensity of concerns during this time. Intervention studies could be done to target specific concerns during the antepartum period and it is hoped reduce the postpartum concerns of women.
In conclusion, this research has identified a number of other important studies that could be done to contribute to the knowledge about the postpartum concerns of women who experienced a high-risk pregnancy. Delayed childbearing as well as pregnancies complicated by chronic health problems, will cause an increase in the number of women experiencing high-risk pregnancies. Health care providers will need knowledge regarding the concerns of this group of women in order to provide individualized and more effective care both in hospital and in the community.
References


Appendix A

Participant Recruitment Letter
Appendix B

Participant Letter of Explanation about Completing the Questionnaires
Appendix C

Maternal Concerns Questionnaire
Maternal Concerns Questionnaire

Concerns expressed by some mothers after the birth of a baby are listed here. A concern is anything that is a question, worry or a problem to you. Please read each item, decide how much the item concerns you and then circle your response using the following scale:

1. **No concern**
   I have not thought about it or I have thought about it and am not worried; I have no concern

2. **Little concern**
   I have thought about it and am not worried; I have some concern or question.

3. **Moderate concern**
   I have thought about it; I am somewhat concerned.

4. **Much concern**
   I have thought a lot about it; I am very concerned

Date/Time of Delivery: ___________ Date Completed: ___________

### The first area of concern relates to YOU

<table>
<thead>
<tr>
<th>No Concern</th>
<th>Much Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food you eat</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>2. Exercise habits</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>3. Return of figure to normal</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>4. Return of menstrual period</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>5. Vaginal discharge</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>6. Discomfort from stitches (episiotomy)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>7. Constipation</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>8. Hemorrhoids</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>9. Breast soreness</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>10. Care of breasts</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>11. Fatigue</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>12. Emotional tension</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>13. Inability to concentrate</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>14. Your labor and deliver experience</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>15. Feelings of being tied down</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>16. “Baby blues” - feeling depressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>17. Finding time for personal interests</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>18. Being a good mother</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

### The next area relates to YOUR BABY

<table>
<thead>
<tr>
<th>No Concern</th>
<th>Much Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Infant’s physical appearance</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>20. Normal growth and development</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>21. Infant feeding (amount, how often)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>22. Physical care (diapering, cord care)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>23. Feeling comfortable handling baby</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>24. Interpreting baby’s behavior</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>25. Sleeping through baby’s cries</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>26. Recognizing signs of illness</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>27. Traveling with baby</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>28. Safety (preventing accidents)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>29. How to dress baby (clothing that is too warm or too cold for environment)</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

Please turn page over
<table>
<thead>
<tr>
<th>The next area relates to YOUR PARTNER</th>
<th>No Concern</th>
<th>Much Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Your relationship with baby's father</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>31 Partner being a good father</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>32 Finding time for recreation</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>33 Finding time to be alone together</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>34 Sexual relations</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>35 Family planning (birth control)</td>
<td>1 2 3 4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The next area relates to YOUR FAMILY</th>
<th>No Concern</th>
<th>Much Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 Managing the demands of the household</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>37 Change in the family's lifestyle</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>38 Setting limits on visitors</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>39 Finances</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>40 Jealousy of your older children to baby</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>41 Time you have to spend with your other children.</td>
<td>1 2 3 4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The last area relates to YOUR COMMUNITY</th>
<th>No Concern</th>
<th>Much Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>42 Change in relationships with single friends</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>43 Change in relationships with relatives</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>44 Change in relationships with married friends</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>45 Advice from relatives or friends</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>46 Getting to health care facilities (Doctor office, hospital, immunization clinics)</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>47 The availability of community resources (baby-sitter, parenting classes)</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>48 The ease of getting to stores (pharmacy, grocery store)</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>49 Employment outside the home</td>
<td>1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>50 Participation in organizations in the community (such as bowling, church)</td>
<td>1 2 3 4</td>
<td></td>
</tr>
</tbody>
</table>

1. Use the following space to (1) add concerns that are not listed; (2) say more about any of the items from the questionnaire. Add another page if you need to.

2. Please comment on how nurses could help you with your postpartum concerns.
Appendix D

Participant Information Form
Section 1. Current Pregnancy/Birth Experience

1. Due date ______________________
2. Date of delivery ______________________

3. When did you find out your pregnancy was at risk? ______________________
4. What was the risk? ______________________________________________________

5. Were you hospitalized with this pregnancy? ☐ Yes ☐ No
   If yes, how many weeks pregnant were you when you were hospitalized? ________
   If yes, how many days were you in hospital? __________

6. Was your activity restricted? ☐ Yes ☐ No
   If yes, how many hours a day? ________

7. Did you get any prenatal education ☐ Yes ☐ No
   If yes, what kind? ____________________________________________
   If classes, how many?__________ Where?___________

8. How long were you in labour? ________ hours.
9. How was your baby born? ☐ vaginal delivery ☐ cesarean birth
10. Were there any problems in labour or delivery? ☐ Yes ☐ No
    If yes, please describe:____________________________________________________________________

11. Sex of Baby: ☐ boy ☐ girl
12. How much did your baby weigh? ______________________
13. When in hospital, where was your baby cared for and for how many days?
    ☐ roomed-in ________ days.
    ☐ neonatal care nursery ________ days.

14. What day did you come home from the hospital? ________

15. How old was your baby when he/she came home from the hospital? ________
    If your baby is still in hospital please explain why. ____________________________________________

16. How is your baby being fed?
    ☐ Breast ☐ Bottle ☐ Both ☐ Other
17. Since discharge from hospital, have you had any contact with a community health nurse? If yes, please describe the nature of the contact.

__________________________________________________________________________

18. Since discharge from hospital, have you had any contact with any other health care professional? If yes, please describe the contact.

__________________________________________________________________________

Section 2 Previous Pregnancies & Birth Experiences
(if this was your first baby skip to section 3)

19. Number of previous pregnancies

20. Were any of these pregnancies “high risk”? □ Yes □ No
   If yes, please explain.

__________________________________________________________________________

21. Were you hospitalized during your previous pregnancies? □ Yes □ No
   If yes, for which pregnancy, for how long and why were you hospitalized?

__________________________________________________________________________

22. Describe any problems with previous labor and deliveries?

__________________________________________________________________________

23. Current ages of other children?

__________________________________________________________________________

24. How many weeks pregnant were you when you delivered each baby?
   (Oldest to youngest)

__________________________________________________________________________

25. Were there any problems in the first 2 weeks postpartum with your other baby(ies)?

__________________________________________________________________________

26. Please add any other information you wish to share?

__________________________________________________________________________
Section 3. Participant Information Data

27. Age:
- [ ] under 19
- [ ] 19 to 25
- [ ] 26 to 31
- [ ] 32 to 38
- [ ] over 38

28. Marital Status:
- [ ] Never married
- [ ] Married or have a partner
- [ ] Separated/divorced/widowed

29. How well did you feel supported during your pregnancy by:
   a) husband/partner
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot
   b) family/friends
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot
   c) health care providers
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot

30. How well did you feel supported after your baby was born by:
   a) husband/partner
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot
   b) family/friends
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot
   c) health care providers
      - [ ] Never/very little
      - [ ] Medium
      - [ ] A lot

30. Ethnic Origin:
- [ ] Caucasian
- [ ] South Asian
- [ ] Asian
- [ ] First Nations
- [ ] Other - describe ________________________________

31. Education:
   How many years did you go to school? __________

32. Combined Family Income: (last year)
- [ ] Less than $20,000
- [ ] Between $20,000 and $50,000
- [ ] Between $50,000 and $80,000
- [ ] Greater than $80,000
- [ ] Prefer not to answer

Would you like a summary of the study results? [ ] Yes [ ] No
Appendix E

Information Form for Non-Participants
Information Form
for Non-Participants

Please complete the following page, put it the envelope provided and return it to the box by the check-in window at the clinic. Please do not put any marks on the form that could identify you. Thank you for filling this out.

1. How many weeks pregnant are you? ______

2. Is this your first baby? Yes No

3. What is your age group? under 19 19-25 26-31 32-38 over 38

4. Marital Status:
   Never Married
   Married or have a partner
   Separated/divorced/widowed

5. How well do you feel supported during your pregnancy by:
   a) husband/partner   Never/very little  Medium  A lot
   b) family/friends    Never/very little  Medium  A lot
   c) health care providers Never/very little  Medium  A lot

6. Ethnic Origin:
   White
   South Asian
   Asian
   First Nations
   Other (Describe) ______________________

7. Education:
   How many years did you go to school? ______

Thank you very much for your time
Appendix F

Letter to Physician
Appendix G

Rank Order of Maternal Postpartum Concerns
Table 8

Rank Order of Maternal Postpartum Concerns

<table>
<thead>
<tr>
<th>Rank</th>
<th>Postpartum Concern Items</th>
<th>Mean Score*</th>
<th>Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infant feeding (amount, how often)</td>
<td>2.82</td>
<td>Baby</td>
</tr>
<tr>
<td>2</td>
<td>Fatigue</td>
<td>2.79</td>
<td>You</td>
</tr>
<tr>
<td>3</td>
<td>Recognizing signs of illness</td>
<td>2.78</td>
<td>Baby</td>
</tr>
<tr>
<td>4</td>
<td>Being a good mother</td>
<td>2.70</td>
<td>You</td>
</tr>
<tr>
<td>5</td>
<td>Normal growth and development</td>
<td>2.68</td>
<td>Baby</td>
</tr>
<tr>
<td>6</td>
<td>Emotional tension</td>
<td>2.51</td>
<td>You</td>
</tr>
<tr>
<td>7</td>
<td>Breast soreness</td>
<td>2.47</td>
<td>You</td>
</tr>
<tr>
<td>8</td>
<td>Finances</td>
<td>2.45</td>
<td>Family</td>
</tr>
<tr>
<td>9</td>
<td>Safety (preventing accidents)</td>
<td>2.45</td>
<td>Baby</td>
</tr>
<tr>
<td>10</td>
<td>Care of breasts</td>
<td>2.32</td>
<td>You</td>
</tr>
<tr>
<td>11</td>
<td>Return of figure to normal</td>
<td>2.30</td>
<td>You</td>
</tr>
<tr>
<td>12</td>
<td>Change in family’s lifestyle</td>
<td>2.30</td>
<td>Family</td>
</tr>
<tr>
<td>13</td>
<td>Exercise habits</td>
<td>2.23</td>
<td>You</td>
</tr>
<tr>
<td>14</td>
<td>Managing the demands of the household</td>
<td>2.22</td>
<td>Family</td>
</tr>
<tr>
<td>15</td>
<td>Your labour and delivery experience</td>
<td>2.22</td>
<td>You</td>
</tr>
<tr>
<td>16</td>
<td>Interpreting baby’s behaviour</td>
<td>2.21</td>
<td>Baby</td>
</tr>
<tr>
<td>17</td>
<td>Travelling with baby</td>
<td>2.18</td>
<td>Baby</td>
</tr>
<tr>
<td>18</td>
<td>Settling limits on visitors</td>
<td>2.16</td>
<td>Family</td>
</tr>
<tr>
<td>19</td>
<td>Food you eat</td>
<td>2.14</td>
<td>You</td>
</tr>
<tr>
<td>20</td>
<td>Finding time to be alone together</td>
<td>2.14</td>
<td>Partner</td>
</tr>
<tr>
<td>21</td>
<td>Constipation</td>
<td>2.11</td>
<td>You</td>
</tr>
<tr>
<td>22</td>
<td>Sleeping through baby’s cries</td>
<td>2.08</td>
<td>Baby</td>
</tr>
<tr>
<td>23</td>
<td>Discomfort from stitches</td>
<td>2.05</td>
<td>You</td>
</tr>
<tr>
<td>24</td>
<td>Finding time for personal interests</td>
<td>2.04</td>
<td>You</td>
</tr>
<tr>
<td>25</td>
<td>Physical care (diapering, cord care)</td>
<td>1.99</td>
<td>Baby</td>
</tr>
<tr>
<td>26</td>
<td>Sexual relations</td>
<td>1.99</td>
<td>Partner</td>
</tr>
<tr>
<td>27</td>
<td>Finding time for recreation</td>
<td>1.96</td>
<td>Partner</td>
</tr>
<tr>
<td>28</td>
<td>How to dress baby (clothing for weather)</td>
<td>1.95</td>
<td>Baby</td>
</tr>
<tr>
<td>29</td>
<td>“Baby blues” feeling depressed</td>
<td>1.92</td>
<td>You</td>
</tr>
<tr>
<td>30</td>
<td>Inability to concentrate</td>
<td>1.89</td>
<td>You</td>
</tr>
<tr>
<td>31</td>
<td>Your relationship with baby’s father</td>
<td>1.88</td>
<td>Partner</td>
</tr>
<tr>
<td>32</td>
<td>Vaginal discharge</td>
<td>1.85</td>
<td>You</td>
</tr>
<tr>
<td>33</td>
<td>The ease of getting to stores (grocery)</td>
<td>1.85</td>
<td>Community</td>
</tr>
<tr>
<td>34</td>
<td>Feelings of being tied down</td>
<td>1.85</td>
<td>You</td>
</tr>
<tr>
<td>35</td>
<td>Employment outside the home</td>
<td>1.83</td>
<td>Community</td>
</tr>
<tr>
<td>36</td>
<td>Hemorrhoids</td>
<td>1.77</td>
<td>You</td>
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</tbody>
</table>
Table 8 (Continued)

Rank Order of Maternal Postpartum Concerns

<table>
<thead>
<tr>
<th>Rank</th>
<th>Postpartum Concern Items</th>
<th>Mean Score*</th>
<th>Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>Getting to health care facilities (doctor’s office, hospital, immunization clinics)</td>
<td>1.75</td>
<td>Community</td>
</tr>
<tr>
<td>38</td>
<td>Advice from relatives and friends</td>
<td>1.75</td>
<td>Community</td>
</tr>
<tr>
<td>39</td>
<td>Feeling comfortable handling the baby</td>
<td>1.68</td>
<td>Baby</td>
</tr>
<tr>
<td>40</td>
<td>Infant’s physical appearance</td>
<td>1.68</td>
<td>Baby</td>
</tr>
<tr>
<td>41</td>
<td>Family planning (birth control)</td>
<td>1.64</td>
<td>Partner</td>
</tr>
<tr>
<td>42</td>
<td>The availability of community resources (babysitter, parenting classes)</td>
<td>1.62</td>
<td>Community</td>
</tr>
<tr>
<td>43</td>
<td>Time you have to spend with your other children</td>
<td>1.53</td>
<td>Family</td>
</tr>
<tr>
<td>44</td>
<td>Return of menstrual period</td>
<td>1.51</td>
<td>You</td>
</tr>
<tr>
<td>45</td>
<td>Partner being a good father</td>
<td>1.45</td>
<td>Partner</td>
</tr>
<tr>
<td>46</td>
<td>Change in relationship with single friends</td>
<td>1.45</td>
<td>Community</td>
</tr>
<tr>
<td>47</td>
<td>Jealousy of your older children to the baby</td>
<td>1.38</td>
<td>Family</td>
</tr>
<tr>
<td>48</td>
<td>Change in relationships with relatives</td>
<td>1.36</td>
<td>Community</td>
</tr>
<tr>
<td>49</td>
<td>Participation in organizations in the community</td>
<td>1.33</td>
<td>Community</td>
</tr>
<tr>
<td>50</td>
<td>Change in relationships with married friends</td>
<td>1.26</td>
<td>Community</td>
</tr>
</tbody>
</table>

* Lowest to highest possible scores for each item, 0 to 4.
Appendix H

Permission to use the Maternal Concerns Questionnaire