THE IMPACT OF A MATERNITY COOPERATIVE CARE PROGRAM ON MATERNAL AND INFANT COMPLICATIONS, MATERNAL COMPETENCE, SOCIAL SUPPORT, AND STRESS

Lenora Jane Duhn

School of Nursing, Faculty of Medicine

McGill University, Montreal

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Abstract

The purpose of this study was to assess the impact of a Maternity Cooperative Care Program (MCCP) on the prevalence of maternal and infant complications, maternal competence, social support, stress, and first-time mothers' descriptions of their postpartum experience. Forty-one healthy, primiparous mothers who participated in a MCCP and forty-three healthy, primiparous mothers who received traditional maternity care were asked to complete the Perceived Competence Questionnaire, the Personal Resource Questionnaire, "The Help I Get" Questionnaire (spousal support), and three numerical rating scales relating to stress in general, as well as self- and infant-care stress 24–48 hours postpartum while in hospital and over the telephone at two weeks postpartum. Ten randomly selected mothers from each group also answered twelve open-ended questions during a homevisit at 2-3 weeks postpartum. There were no statistically significant differences between the two groups for any of the outcome variables assessed. For both groups, competence with self- and infant-care increased over the two weeks postpartum, while support and stress remained stable. Interviews with the mothers revealed that the number of stressors increased once at home, while support continued to be of value in relieving stress and helping maternal adjustment and confidence. Results of a qualitative comparison between the groups suggests that the MCCP mothers felt more prepared to be discharged home, and identified their partner more often as an active participant during hospitalization.

Abrégé

Cette étude a pour but d'évaluer l'impact du Programme de Maternité & de Soins Coopératifs (PMSC) sur la prévalence des complications maternelles et infantiles, la compétence des mères, le support social, le stress ainsi que la description de l'expérience post-partum telle que décrite par les primipares. On demanda à quarante et une mères participant au PMSC et quarante trois mères recevant des soins traditionnels de remplir trois questionnaires: soit ceux sur la "Compétence Perçue", les "Ressources Personelles" ainsi que celui sur "l'Aide reçu" (support du conjoint). De plus, trois échelles numériques furent complétées par les parturientes à l'hôpital soit 24 à 48 heures après l'accouchement ainsi que deux semaines plus tard par téléphone. Les échelles avaient pour objectif de mesurer le niveau de stress en général, le stress relié à l'auto-soin ainsi que celui associé aux soins au nouveau-né. Dix mères choisies aléatoirement dans chacun des deux groupes furent sélectionnées afin de répondre à douze questions ouvertes lors d'une visite à domicile effectuée entre la 2 et 3 ième semaine post-partum. Les résultats démontrent qu'il n'y a aucune différence statistiquement significative entre ces deux groupes quant aux variables étudiées. Pour les deux groupes, la compétence d'auto-soin ainsi que celle concernant les soins à l'enfant ont augmenté au cours des deux semaines post-partum, bien que le support et le niveau de stress soient demeurés stables. Les entrevues avec les mères ont fait ressortir le fait que le nombre de facteurs de stress semblent croître lors du retour à la maison; de plus, le support semble réduire le stress vécu et aide les parturiantes à s'ajuster et à prendre confiance en elle. Les résultats de la

comparaison qualitative effectuée entre les deux groupes suggèrent que les mères au sein du PMSC se sont senties mieux préparer face au retour à la maison et identifièrent plus souvent leurs partenaires comme étant activement impliqués lors de l'hospitalisation.

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Introduction

Cooperative Care, that is, participation of a family member with the care of the hospitalized client, is one strategy that promotes consistent learning for hospitalized individuals and their care partners. The Cooperative Care philosophy brings the focus back to the family so that, although set in the hospital, families, as much as possible, are encouraged to care for themselves as they would at home. Perhaps more significantly, family members provide the support and care characteristically seen in the home, and as such are viewed as equal partners with the hospitalized individual in the learning process (Grieco, 1988).

The time spent in hospital after delivery has traditionally been the time for health care workers to assist mothers to learn to care for themselves and their infants (Gruis, 1977; McGregor, 1994). With reduced hospital stays, however, the learning component found in nurse-client collaboration has taken on greater importance (Gillerman & Beckham, 1991), and ways of empowering families with knowledge have become critical. In hospital, health care workers are faced with the task of assisting families to meet the demands of their new roles in a reduced amount of time. For many families, this learning process can be further compromised by the absence of extended families to aid and teach young families (Avant, 1981; Bull & Lawrence, 1985; Sumner & Fritsch, 1977).

The value of the family and educational components of Cooperative Care have been noted in the literature. Cornell (1995), as well as Gibson and Pulliam (1987), reported on the value of family support in the form of care partners.

Gibson and Pulliam (1987) noted that patients appreciated having a family member with them during their time in hospital. Cornell (1995) described a care-provider's perspective that included the benefit of not being separated from one's spouse during hospitalization and of feeling like a member of the health care team. The family-focused approach is supported by the notion that the family is the primary unit wherein the individual learns health (Bomar, 1990; Gottlieb & Rowat, 1987). Appreciating the interdependence of family members and the fact that they do not develop in isolation (Rankin & Weekes, 1989) underscores the importance of a family perspective.

In terms of the educational value of Cooperative Care, Roach and Woods (1993) reported that the patients in their study recognized the benefits of learning about self-care and health maintenance, as encouraged by the Cooperative Care Program, to help them once at home. Anderson and Poole (1983) noted no instances of patients taking the wrong medication or medication overdose during participation in a self-administered medication program. Chwalow, Mamon, Crosby, Grieco, Salkever, Fahey, and Levine (1990) found that not only were the Cooperative Care care partners in their study significantly more knowledgeable with regard to medication management than the traditional care subjects, they also reported the information provided to be more useful when compared to the control subjects. Cooperative Care respects the role of family in health care not only by encouraging the support they bring to the patient by their presence, but also by providing opportunities for family members to learn.

There is evidence supporting the rationale and philosophy of Cooperative

Care Programs with reports of increased knowledge (Chwalow et al., 1990), patient satisfaction (Weis, 1988; Williams, 1993) and cost benefits (Gibson & Pulliam, 1987; Woods, Saywell, & Benson, 1988), however, further clinical research to articulate the strengths and weaknesses of these programs is essential. This study specifically examined the impact of a Maternity Cooperative Care Program (MCCP) on first-time mothers and their infants. The prevalence of maternal and infant complications, as well as, mothers' perceptions of their competence with regard to self- and infant-care tasks, social support, and stress relating to their postpartum experience were investigated by comparing the responses of mothers participating in a Maternity Cooperative Care Program with those of similar mothers who received traditional maternity care. The overall postpartum experience of a smaller subgroup of mothers participating in each type of program was also examined in more detail.

Review of the Literature

The Cooperative Care Concept

Morehead and Morehead (1972) defined the term "cooperative" on a very simplistic level as, "to cooperate or to work together toward a common goal". Expanding this notion to the health care system, the concept of Cooperative Care includes the fostering of family participation in health care (Roach & Woods, 1993) through a positive, supportive learning environment, whereby the client is empowered by the collaborative efforts of professionals in different disciplines. Within the hospital setting Cooperative Care Programs are typically designed to enable the hospitalized individuals to stay with "care partners", who remain with them throughout their hospital stay, in a facility that attempts to replicate the comforts of home (Grieco, Garnett, Glassman, Valoon, & McClure, 1990). The aim of this multidisciplinary approach is to assist the family and client, through education, to maximize their ability to maintain and promote their health in the community (Chwalow, Mamon, Crosby, Grieco, Salkever, Fahey, & Levine, 1990).

Historical Development of Cooperative Care in Hospitals

While the notion of Cooperative Care in the hospital setting is a relatively new phenomenon in North America, its value has not been overlooked in the Third World countries. The fear of hospitals as a place where the dying go, and the hesitation of relinquishing the care of the sick, has prevaded in the Third World countries (Eldar & Eldar, 1984). For example, in Malawi, the role of the "guardian" and in the Philippines, the role of "watcher", share the same traditional

principle of taking the sick individual to receive care, helping with that care, and bringing the individual back to the community (Eldar & Eldar, 1984). While the health care facilities have not always been willing to accommodate individuals other than the sick, the family and cultural influences have encouraged this practice.

As early as 1925, under the influence of Sir James Spence, the importance of allowing mothers to stay with their children at the time of admission to hospital became an issue in England (Palmer, 1993). John Bowlby and James Robertson further supported this argument in the 1950's, and in 1959, with the introduction of the "Welfare of Children in Hospital" report, a key element was the inclusion of mothers in the care of their hospitalized children (Palmer, 1993).

A review by Eldar and Eldar (1984) noted the relaxation of hospital visiting hours in Britain during 1959. North America soon followed, and during the 1960's the visiting policy was examined and change was implemented, encouraging family and friends to have greater contact with the patient. As the regulations on visiting hours extended, and the recognition of the importance of the parental role in caring for ill children gained popularity, "Care-by-Parent" Units were implemented (Webb, Hull, & Madeley, 1985). It was found that having parents stay with their child during hospitalizations could benefit the child, parents, and ultimately health care professionals (Taylor & O'Connor, 1989). During 1966, the first unit specifically built for a Care-by-Parent Program was set-up in Lexington, Kentucky, while in Britain, the first Care-by-Parent Unit was started in Cardiff, at the University Hospital of Wales, in 1972 (Palmer,

1993). Palmer (1993) noted the great rewards of Care-by-Parent Units in their ability to decrease separation anxiety, thereby influencing the child's recovery in a positive way.

As the notion expanded, the concept of Cooperative Care in the adult setting was conceived. In 1979, the New York University Medical Center opened a Cooperative Care Unit for adults in an acute-care setting (Grieco et al., 1990). Several more hospitals followed New York's lead. Vanderbilt University Hospital opened a unit in 1982, encouraging self-care, but not requiring a "care partner" (Gibson & Pulliam, 1987). The Methodist Hospital of Indiana established a medical/surgical Cooperative Care Program in 1983 (Saywell, Woods, Benson, & Pike, 1989). Also during the 1980's, the Newark Beth Israel Medical Center implemented three self-care units (Shendell-Falik, 1990). In 1983, the Greater Southeast Community Hospital in Washington, D.C. followed suit (American Hospital Association, 1985), and with a similar Cooperative Care philosophy, the Pacific Presbyterian Medical Center and Planetree (a nonprofit health organization) in San Francisco joint-ventured to open the Planetree Model Hospital Unit in June 1985, emphasizing self-care (Giloth, 1990). Another Cooperative Care Unit was established in 1985, at the Medical Center Hospital of Vermont (Weis, 1988). Roach and Woods (1993) described the implementation of a Cooperative Care Unit in March 1990 at Dorn Veterans' Hospital, South Carolina. Shivley, Djupe, and Lester (1993) were part of a team that implemented a Care by Caregiver Program to allow caregivers the opportunity to care for elderly patients in hospital to assure that their transfer home would be

feasible. In July 1994, a 74-bed Cooperative Care Center was opened by the collaborative efforts of Rhode Island Hospital and the Women and Infants Hospital on their shared hospital campus (Cornell, 1995). The studies done by Grieco and colleagues (1990), as well as Saywell, Woods, Benson, and Pike (1989), focused on cost savings and shortened hospital stays with Cooperative Care. Shendell-Falik's (1990) study reported on shortened hospital stays, while Gibson and Pulliam (1987) stated financial savings. The remaining Cooperative Care Units outlined have not been rigorously evaluated, but rather patient and staff responses have been highlighted.

As the literature suggests, the trend toward Cooperative Care is continuing. However, a description of Calgary's Cooperative Care Program appears to be the only documentation on Canada's progress in this area (Williams, 1993).

Cooperative Care Programs Today

While the nature of the problem and the needs of the individual make each program unique, Cooperative Care Programs do have some commonalities. Regardless of the clientele, for example, obstetrical patients, gynecological patients, medical-surgical patients, or hospitalized children, common features link the various Cooperative Care Programs.

Education. The educational component is an important aspect of Cooperative Care (Gibson & Pulliam, 1987; Grieco, 1988). Although each type of Cooperative Care Program has specific educational aspects, most programs have the following goals: to help patients understand their medical situations, to

promote greater adherence to medical regime both in and out of the hospital; and to help patients control the risk factors that increase the recurrence of illness and hospitalization. It is believed that if these goals are met, patient anxiety will decrease and satisfaction increase. In keeping with this, is the notion that family members are often more receptive to learning than the hospitalized individual, who may be tired or stressed. It is, therefore, the "care partner" who tends to retain the health care information for future reference (Eldar & Eldar, 1984). Realizing health is learned (Gottlieb & Rowat, 1987), education of the client and family become key challenges in promoting the self-care activities associated with this type of program (Caporael-Katz, 1983).

Self-care. Another salient feature of this type of health care, is the notion of self-care. The idea of self-care within itself has many positive aspects. The function of Cooperative Care Programs, while providing education, is to encourage patients to care for themselves, possibly reinforcing learning within the security of a hospital setting. The principle underlying self-care is to help the patient become more accountable for his or her own health through collaborative efforts with health care professionals, thereby empowering the individual (Caporael-Katz, 1983). The importance of this can be seen not only during the individual's hospital stay, but following discharge as well (Chwalow et al., 1990). Findings also suggest that patients recover better when they have control over their situations, particularly when it comes to health care (American Hospital Association, 1985), and that health can be affected by the extent to which a person feels in control or mastery over a situation (Robertson & Minkler, 1994).

Care partner. With the individual family viewed as an open system, in constant interaction with each other and their environment, the individual cannot be examined without dealing with the family as well (Gottlieb & Rowat, 1987). In Cooperative Care Programs, the family member (husband, mother, father, or significant other) stays with the hospitalized individual. Their role is a supportive one, assisting the patient in meeting his/her needs, and taking part in the educational sessions. Together the individual and "care partner" learn and begin to implement the appropriate health care practices. Having an extra person to aid the hospitalized individual helps in the activities of daily living. Furthermore, the patient does not become isolated from his/her family, thereby making the transition to home much easier for all concerned (Eldar & Eldar, 1984; Grieco, 1988). Eldar and Eldar (1984) suggest that family members often feel less anxious and more helpful if they can take part in assisting the hospitalized individual. Monahan and Schkade (1985) caution that family involvement must be assessed individually however, as the results of their Care-by-Parent study indicated increasing anxiety for those parents with the most involvement in their children's care. Therefore, as the literature suggests, the integration of family into the patient's care, and the promotion of self-care is important for individual and family well-being, though must be assessed by each family's needs.

Physical setting. Most Cooperative Care Units are set in a hospital environment, yet reflect the personalized qualities of home (Grieco, 1988; Grieco et al., 1990). For example, the New York University Medical Center's Cooperative Care Unit is designed to provide comfort for both the hospitalized

individual and his or her "care partner". Lighting, color, privacy and personal space are just a few of the considerations taken into account (Giloth, 1990). Another Cooperative Care Program even put a notice on the wall banishing the white lab coat because of the "noise" they create in these colorful environments (Monahan & Schkade, 1985). Added features include locked beside tables (as patients take their own medications), and clocks for more accurate recording of medication intake (Lott, Blazey, & West, 1992; Roach & Woods, 1993). Most Cooperative Care Units also have social areas where educational classes can be taught, children can play, families can have meals together, and in general, people can socialize (Shendell-Falik, 1990).

A Model for the Evaluation of Cooperative Care Programs

As with any new program its effectiveness should be evaluated. Given the key element of self-care in Cooperative Care Programs, Chang's model (1980), which is in large part based on Orem's (1971) self-care framework, is appropriate for such evaluation. Chang recognizes the need to evaluate health care professionals in their ability to facilitate self-care, as well as the client's perception of the care received. The author considers three dimensions: client characteristics, and health care professional characteristics, that together influence the third dimension, client outcomes. Although this model neglects to include family care givers, cost to the client and outcomes for the health care system, these were added to the model to better evaluate Cooperative Care Programs (see Figure 1 for conceptual model).

Client variables. The first major dimension considered in the model

Figure 1 Evaluation and Outcomes of Cooperative Care Programs

* Based on Chang's model (1980) which is based on Orem's (1971) framework and notion of self-care. Variables in brackets are those added for the purposes of this study. Variables in bold are those assessed in this study.

CLIENT VARIABLES:

* Demographic variables
* Health status
* Attitudes, perceptions, expectations
* Knowledge/previous experience
* (Social Support)

HEALTH CARE VARIABLES:

* Medical-technical component of care
* Psychosocial component of care
* Client participation and educational component of care
* Type of health care professional

OUTCOME VARIABLES:

CLIENT:

* Satisfaction with care
* **Knowledge and technical competence**
* Adherence to care plan
* **(Health status)**
* **(Social Support)**
* (Costs)

(HEALTH CARE SYSTEM):

* (financial costs)
* (satisfaction with job)

involves client variables. Chang (1980) identifies certain characteristics that can influence a person's needs and perceptions of health. These include demographic variables, health status, attitudes, perceptions, and expectations, and knowledge or previous experience. These characteristics are believed to directly influence one's response to illness, treatment, and perception of care. Due to their influence on client outcomes, these dimensions, along with social support are necessary considerations in evaluating Cooperative Care Programs.

Health care variables. Characteristics of the health care professional in assisting with self-care comprise the second dimension of Chang's model, and have been summarized as health care variables for the purpose of this study. Chang (1980) identifies four components of this element: the medical-technical components of care; the psychosocial aspect of care; client participation and educational component of care; and type of health care professional. The medical/technical component involves the professional's approach and practice of health care in aiding individuals as they rally against stressors to their health. The psychosocial component includes management of the client's feelings toward health, treatments, and environmental factors. Client participation focuses on the health care professional's assistance in motivating individuals to assume responsibility for their care and includes an educational component whereby the professional imparts health care knowledge. Finally, the type of health care professional providing the care (eg. physician, nurse) may influence patient satisfaction and perception of care. All these factors should be considered during the evaluation process.

Client outcome variables. Chang (1980) divides client outcomes into several dimensions. The first involves the client's satisfaction with the care received, which Chang (1980) describes as an important measure of quality of care. Another important client outcome is competence, including the knowledge and skills clients have in maintaining well-being and recognizing deviations from this state. A third element is the client's adherence to a self-care plan. Health status as an outcome variable, including well-being and safety, was added for the purpose of this study. Finally, level of social support, identified by Gjerdingen and Chaloner (1994) as related to health outcomes, was included. Costs to clients, such as lost work days, was also included in the model as it was recognized that stress due to absence from the workplace may impact on the client and care partner. Together, these concepts are important in analyzing client outcomes.

Health care system outcome variables. Although Chang (1980) did not identify health care system outcome variables in the model, they have been included here because of their importance. These variables include costs to the health care system from a financial standpoint, and staff job satisfaction, very real concerns in society today. Given that health care funding is on the decline, how programs impact on spending becomes an important issue. Nursing job satisfaction and retention has also been noted in the literature as essential for effective delivery of care (Guild, Ledwin, Sanford, & Winter, 1994).

Client Outcomes of Cooperative Care Programs

Evidence reported in the literature suggests that the general response to

Cooperative Care, as practiced in a variety of settings, is a positive one. Studies have revealed positive effects on: client and care partner satisfaction; client knowledge relating to health care practices; client competence with self-care tasks; and adherence to health care plans. Acceptable levels of client safety have been demonstrated, as well as the importance of social support.

Satisfaction. Client and care partner satisfaction with Cooperative Care Programs has received much attention. Results from a variety of settings have generally been positive (Chwalow et al., 1990; Cornell, 1995; Gibson & Pulliam, 1987; Giloth, 1990; Roach & Woods, 1993; Sainsbury, Gray, Cleary, Davies, & Rowlandson, 1986; Weis, 1988; Williams, 1993). While the literature evidences few experimental studies, the descriptive surveys to date present data supporting the view that these programs are favourable to clients and their families.

Knowledge. Improved client knowledge is another identified positive outcome of Cooperative Care Programs. Chwalow and colleagues (1990) analyzed the medical/surgical Cooperative Care Program at the New York University Medical Center, and assessed clients' knowledge of their health. The experimental design randomly assigned patients to either the Cooperative Care Unit or traditional care units. The subjects were interviewed at a screening interview while in hospital (experimental n=283; control n=300), one month (experimental n=190; control n= 180) and six months (experimental n=159; control n=144) post-hospital discharge by telephone, and by a mail survey at nine (experimental n=102; control n=85) and twelve months (experimental n=77; control n=69). The two groups were comparable on all major dimensions, such

as sociodemographic variables, other than length of hospital stay. Analysis of the cognitive impact of the interventions revealed that the experimental subjects and their care partners found the information provided to be significantly more useful when compared to the controls even though both groups indicated they knew enough about how to care for their illness. The experimental care partners were also significantly more knowledgeable with regard to medication management than the controls. The researchers concluded that Cooperative Care, as practiced in that setting, offers educational advantages. Further research is indicated, however, given that there may have been subject bias for those transferred to the Cooperative Care Unit versus those that remained on the traditional unit, as well as the fact that how subjects' knowledge was analyzed is not clearly indicated.

The literature presents evidence suggesting improved patient understanding regarding their health care with the implementation of Cooperative Care Programs. Giloth (1990) reviewed the literature to identify the range of educational, organizational, and environmental strategies being used in health care facilities to encourage patient involvement and promote patient education. She concluded that, while patient involvement appears to be a key factor in contributing to the effectiveness of patient education, further implementation and research are needed to draw substantial conclusions.

Competence. Several studies have also examined the impact of Cooperative Care Programs on competence with self-care. Chwalow and colleagues (1990) noted no significant differences in client compliance with dietary regimen and mediation intake between the 190 experimental patients who

participated in the New York University Medical Center's medical-surgical Cooperative Care Program and 180 control patients at one month post-discharge, although this sample size indicates a decrease from the 263 experimental and 300 control subjects originally recruited into the study. Approximately 97% of the patients in both groups indicated they knew enough in terms of caring for themselves and their illness. They report that 95% of the patients and care partners had the ability to accept and perform self-management tasks that were demonstrated prior to discharge. The authors noted a 95-100% level of participation among patients and care partners for involvement in increasingly managing the responsibility of their diet, physical activity, and medication-taking. The suggestion is that while self-reported competence was not greater with a Cooperative Care Program, it was not compromised.

Monahan and Schkade (1985) assessed the Care-by-Parent Program at the Texas Scottish Rite Hospital by comparing Care-by-Parent settings to Care-by-Nurse settings. They found that quality of care was not compromised by allowing the parent to be the primary caretaker. The sample consisted of 44 mother-child pairs, and assessments were made based on the child's weight changes during hospitalization, skin conditions during hospitalization, urine samples collected by parents and nurses, and parents' anxiety levels (it was felt that anxiety would be less if parents were involved in their child's care). Analysis of variance revealed that weight changes were not reflective of Care-by-Parent or Care-by-Nurse, skin conditions evidenced no significant differences between groups, and with regard to urine collection, Chi-squared tests revealed that for pedi-bag collections, fewer

contaminated specimens were collected by the nurses, but with catheter collections there were no significant differences between collectors.

Webb and colleagues (1985) interviewed eighty parents, whose children were admitted to an acute medical ward at the Queen's Medical Center in Nottingham, regarding what they considered they could do while their child was hospitalized and if they would use Care-by-Parent Units if available. While the staff often thought the parents could do more than they did, the parents thought they could do even more than what the staff had expressed. Forty-eight parents stated they would have used a Care-by-Parent Unit had one been available, and 60% of the children had one parent stay with them during their hospital stay. The researchers concluded that most parents are prepared to do more than simply support and entertain their hospitalized child.

The literature provides examples of descriptive studies indicating that patients are provided consistent education in Cooperative Care Programs, enabling them to be competent in self-care tasks (Roach & Woods, 1993; Weis, 1988; Williams, 1993). It has also been suggested that many family members want greater involvement in providing care to the hospitalized individual, and once educated, can give effective care. Ruzicki (1989) notes that practice is essential to health behaviour change. The link has been made between involvement/teaching and competence, allowing for self-care and autonomy, a goal of Cooperative Care Programs.

Adherence to care plan. Chang's (1980) model also identifies adherence to care plan as a client outcome variable. Chwalow and colleagues (1990)

assessed adherence to a treatment plan at the New York University Medical Center's Cooperative Care Unit. Linked with the notion of competence, they noted that behavioural outcomes of the program at one month indicated that both experimental and control groups conscientiously followed their treatment plan and no significant differences were noted. At the six month follow-up however, 85% of the Cooperative Care patients were able to discontinue smoking, whereas only 66% of the control group had stopped. Overall, in terms of preventative practice, both groups demonstrated adequate self-care practices, though a significantly higher number of Cooperative Care patients discontinued smoking. These results suggest that, as with patient competence, patient adherence to treatment does not decrease with Cooperative Care, and may actually increase.

Health status. An outcome to be considered in assessing any new program is the patient's health status; however, few studies have focused on this aspect of Cooperative Care. Lubic and Ernst (1978), in their survey of over 300 deliveries in the Cooperative Care-like Program at the Childbearing Center in New York, NY, reported no maternal complications and three neonatal deaths, none of which were due to inadequate medical care.

Anderson and Poole (1983) reported on self-administered medication on the postpartum unit at the Swedish Hospital Medical Center in Seattle, Washington. The program was initiated in 1978, and patients, once instructed, are given the responsibility of charting and monitoring their medication intake. At the time of writing, no instances of medication overdose or taking of the wrong medication was reported, although details of how this was monitored and

the number of patients surveyed are not provided. While this study outlines only one aspect of Cooperative Care Programs, its results indicate that such programs can be successful.

Chwalow and colleagues (1990) also evaluated the health of clients at the New York University Medical Center's Cooperative Care Unit by assessing functional status. As a way of evaluating their program, they used functional status scales at one, six, nine, and twelve months post-hospitalization. These scales assessed activities of daily living, instrumental activities of daily living, mobility, and social/communication activities. Their results suggest no significant differences in health and functional status at the indicated time frames between the experimental and control groups. The six and twelve month follow-up analyses, indicated the groups were also similar on subsequent hospitalizations, emergency room visits, ambulatory care visits, and home care utilization.

Monahan and Schkade (1985) examined the care-provider's anxiety when assessing the Care-by-Parent Program at the Texas Scottish Rite Hospital. Through the use of a 5-item questionnaire, parental anxiety was monitored, revealing that greater involvement with the child's care did not significantly decrease parental anxiety, in fact, parents with the most involvement in their children's care expressed increasing anxiety over time as compared to those who were less involved in direct care. The authors conclude that, while giving responsibility to parents for their child during hospitalization does not compromise the care received, it may be too overwhelming for some parents, and

so, must be assessed individually.

Other sources in the literature suggest that the potential stress of hospitalization and ultimate discharge home can be reduced with Cooperative Care Programs. Cornell (1995) described, from a care-provider's perspective, the initial anxiety in accepting the responsibilities of Cooperative Care, but further reports how the experience evolved to be satisfying, and aided the transition home. A popular philosophy in the literature focuses on the belief that involving families in their care decreases the stress of hospitalization and aids families more effectively once discharged (American Hospital Association, 1985; Giloth, 1990; Grieco, 1988; Williams, 1993). Grieco (1988) cited an example of a care partner's belief that his/her presence helped and comforted the hospitalized individual. Roach and Woods (1993) noted patient satisfaction with Cooperative Care, particularly in maintaining care once at home. Weis (1988) noted that the patients appreciated the opportunity to learn about aspects of their care, and that they were often discharged earlier than was initially expected.

The literature provides some evidence that Cooperative Care Programs can be safe alternatives for patients, provided they meet certain criteria. These programs do, however, need further studies to strengthen this argument.

Social support. An extensive review of the literature revealed limited quantitative studies of the impact of Cooperative Care Programs on patients' perceptions of their social support. Several descriptive and anecdotal reports, however, highlight the value of family support in the form of care partners (Cornell, 1995; Gibson & Pulliam, 1987; Grieco, 1988; Weis, 1988). Also,

Shendell-Falik (1990) noted that providing the opportunity for the family to support one another is important in times of stress. Chwalow and colleagues (1990) reported an example of instrumental support by noting that at the end of the study, 82% of the experimental patients cited the care partner as helpful in aiding the individual to follow their dietary regimen, whereas only 66% of the controls reported this result. Descriptive studies of Care-by-Parent Units suggest they facilitate the parent's abilities to provide instrumental and emotional support to their hospitalized child (Cleary, Gray, Hall, Rowlandson, Sainsbury, & Davies, 1986; Sainsbury et al., 1986; Webb et al., 1985). While the benefit of having a family member or significant other present during hospitalization to provide comfort and support seems logical, this notion requires further examination.

Health Care System Outcomes

Clearly, the most reported aspect of Cooperative Care Programs is the financial outcome. As well, in terms of health care system outcomes, staff satisfaction studies have been identified in the literature.

Cost outcomes. Gibson and Pulliam (1987) analyzed the medical/surgical Cooperative Care Unit at the Vanderbilt University Hospital in Tennessee. This descriptive study reviewed the 34-bed unit, whose requirement for a care partner was not mandatory. The patients were typically those having minor surgery or chronic illnesses such as diabetes or COPD. How the results were actually obtained is not outlined in detail, although they reported that the cost per day to patients is two-thirds the cost of traditional hospital rooms. The authors stated that the unit's income was covering its expenses, and additional funding has come

from donations and gifts. It is important to note that this study reflects the health care system in the United States, different in many ways from the system in Canada.

Woods and colleagues (1988) described the 19-bed Cooperative Care Unit at the Methodist Hospital of Indiana. They compared the cost of obstetric care delivered in the traditional maternity unit to that of care delivered in the medical/surgical Cooperative Care Unit that also accepted postpartum families. Data was obtained from the hospital's computerized discharge information based on a time frame between March 1, 1985 to February 28, 1986. This comparative survey assessed 576 Cooperative Care patients matched with 1,107 traditional care patients who had the same primary diagnoses and who were discharged within the same time frame. In 1986 a cost savings of $80,640 for the 576 patients using the Cooperative Care Unit was noted. Although not a randomized study, the results indicated that for normal or complex deliveries (excluding patients requiring intra-abdominal surgery), there were significant reductions in cost with the Cooperative Care Unit, due to reduced supplies and routine nursing services.

In April 1979, the New York University Medical Center opened its first medical/surgical Cooperative Care Unit. Grieco and colleagues (1990) described the comparison between the unit's first ten years against predictions made prior to its opening. It was hypothesized that the cost per day would be 30-32% lower for Cooperative Care patients and their care partners. In the years 1981-83 a controlled study was conducted involving direct admissions and transfer patients

to Cooperative Care. Of the 461 patients, 389 were available for analysis, and the total costs for the experimental and control groups, as well as their average cost per day and per hospitalization were reviewed. Their results indicated that the Cooperative Care patients had an 11.7% lower cost per hospitalization than the traditional unit patients, and the mean cost of all the Cooperative Care patients per day was 15.6% lower compared to the controls. Furthermore, their 1988-89 operating budget was 37.5% lower for Cooperative Care than traditional care. Based on their findings, Grieco and colleagues (1990) suggest the Cooperative Care Unit at the New York University Medical Center is cost effective.

Saywell and colleagues (1989) compared the cost of gynecologic care in the Cooperative Care Unit at the Methodist Hospital of Indiana, and the cost for similar patients in their traditional inpatient setting. This comparative survey had a sample size of 203 subjects, selected from the hospital's discharge information, which included 68 Cooperative Care patients and 135 traditional care patients. The mean costs for the two groups were analyzed with the Student's t-test, indicating no significant cost differences. However, the authors noted that Cooperative Care patients under the care of physicians who frequently used the unit had approximately $450 lower costs than other Cooperative Care patients. They hypothesized that these savings may arise from these physicians transferring their patients earlier to the unit, creating a greater cost reduction.

Overall, the literature attributes savings mainly to shortened hospital stays and/or reduction in routine nursing and health care services (Evans & Robinson, 1983; Grieco, Garnett, Glassman, Valoon, & McClure, 1990; Monahan &

Schkade, 1985; Murray-Leslie, Jackson, & Oakley-Roberts, 1991; Smith, 1994; Taylor & O'Connor, 1989; Teschke, 1990; Woods, Saywell, & Benson, 1988). Therefore, although cost was not initially included in Chang's model (1980), its importance cannot be overlooked.

Staff satisfaction. Staff satisfaction with Cooperative Care Programs has also been reviewed in several anecdotal reports. Sainsbury and colleagues (1986) assessed the Care-by-Parent Unit at the University Hospital of Wales. Thirty-two families were studied, and the nurses of those families reported that they enjoyed their teaching and supervisory role in thirty of the cases. It was also reported that they felt their relationships with the parents were more positive in the Care-by-Parent setting as opposed to traditional care. In general, the present literature suggests that nurses, physicians, and administrators have had positive experiences with Cooperative Care (Anderson & Poole, 1983; Chwalow et al., 1990; Roach & Woods, 1993; Weis, 1988; Williams, 1993). A common link made in these studies is that patients enjoy these programs and this in turn, is reflected in staff satisfaction.

Client Outcomes of Maternity Cooperative Care Programs

An extensive review of the literature revealed only two studies examining the Cooperative Care concept specifically in the maternity setting. Lubic and Ernst (1978), as stated earlier, reported on the safety record of the Childbearing Center in New York since its opening in 1975. In the over 300 births occurring between 1975 and 1978 there were no emergencies, such as hemorrhage or cord prolapse. Although this center was an out-of-hospital unit, it did incorporate the

Cooperative Care concept. Benefits included decreased health care costs, as well as increased opportunity for family members to learn aspects of health care while in a home-like environment.

Woods and colleagues (1988) studied the cost of obstetric care at the Methodist Hospital of Indiana. They compared the cost of obstetric care in their Cooperative Care Unit to the cost of obstetric care in the traditional setting. After analyzing 1,683 patients, their results suggested that the Cooperative Care patients had significantly lower hospital costs. They highlighted the main reason for the reduction in these costs was reduced routine nursing services. They concluded that obstetrical care in a Cooperative Care setting is an economically advantageous alternative to the traditional hospital setting.

An extensive review of the literature revealed no studies examining the impact of Cooperative Care on the competence of the postpartum family. However, findings from other patient populations suggest that participating in Cooperative Care Programs is associated with positive feelings of competence (Chwalow et al., 1990; Monahan & Schkade, 1985; Roach & Woods, 1993; Weis, 1988). This is supported by Chang (1980) as well, who suggested that while knowledge and being competent does not necessarily guarantee compliance with health care practices, it is a prerequisite for self-care, and as self-care is a feature of Cooperative Care, competence is required.

The postpartum period has been identified as a time of transition, when women face not only physical recovery, but as well, they must master new role behaviours (Sheehan, 1981; Walker, Crain, & Thompson, 1986a). The literature

suggests many variables may affect an individual's transition to a role, one of which is competency (Mercer, 1986; Nye & Gecas, 1976). With regard to new mothers, Mercer (1985a) specifically defined maternal role attainment as a process of acquiring competence in the role as mother. There is agreement in the literature regarding the link between maternal adjustment or attachment and mothering capability/competence (Flagler, 1990; Mercer & Ferketich, 1994; Rutledge & Pridham, 1987). The infant's development is promoted by the mother's maternal role competence, involving her skills and interactions in caring for her infant (Mercer, 1985a; Mercer, 1986; Mercer & Ferketich, 1994). There is also the suggestion that a mother's confidence is linked to how she perceives her competence, that can affect the response she has to her infant (Bullock & Pridham, 1988; Mercer & Ferketich, 1994; Walker, Crain, & Thompson, 1986a, 1986b). Entwisle and Doering (1981) suggested a link between a mother's competence in caring for her infant and her feelings of truly feeling like a mother, while Pridham and Chang (1985) noted a positive relationship between a mother's parenting satisfaction and her perceived problem-solving competence regarding infant-care. As well, Sheehan's (1981) pilot study of six primigravidas indicated that becoming a mother was a crisis for the women, and their main concern was attaining competency in mothering. As well, Mercer (1985a) noted that feelings of incompetency, as a result of not mastering role skills, was the second most frequent challenge identified by the mothers. Mercer (1981) highlighted the notion that when the mother experiences a sense of confidence and competence in her performance as a mother, this signifies the endpoint of maternal role

attainment, maternal identity as articulated by Rubin (1967). Given that the postpartum period is a time of transition and even crisis for new parents (Avant, 1988; Holmes & Rahe, 1967), often associated with feelings of insecurity and worry (Moss, 1981; Sheehan, 1981) with high levels of stress (Edwards, 1974; Gruis, 1977), competence becomes an important consideration.

A recent review of the literature revealed no studies assessing the impact of Cooperative Care on the mother's perceived level of social support in the postpartum. However, descriptive and experimental studies on medical/surgical Cooperative Care Programs and Care-by-Parent Units have noted the significance of a supportive network in relation to positive health outcomes (Chwalow et al., 1990; Cleary et al., 1986; Sainsbury et al., 1986; Taylor & O'Connor, 1989). Pender (1987) supported this notion in recognizing social networks (be it family or organized social systems of helping professionals) as potentially influencing health status, while Murray and Zentner (1985), as well as Entwisle and Doering (1981), noted that spouses depend on each other and they must collaborate if the family is to survive.

The importance of support has been linked to the postpartum family highlighting the fact that perceived social support, typically emotional and instrumental support, is positively associated with postpartum outcomes (Cronenwett, 1985a). Cronenwett (1985a), in a study of fifty couples, noted significant positive correlations between emotional support and confidence in ability to cope with the tasks of parenting, as well as, satisfaction with parenting and infant care, however, the correlational design of the study does not allow for

cause-and-effect relationships. VonWindeguth and Urbano (1989) found a significant relationship between a mother's perceived level of social support and mother-child interaction, suggesting the adequacy of a mother's social support may be of significance to her effectiveness in parenting. Teti and Gelfand (1991) noted that although, there was no significant relationship between social-marital supports and maternal competence, when maternal self-efficacy was statistically controlled, the association did approach significance ($p = .055$). Dormire, Strauss, and Clarke (1989) also noted that, for the 18 mothers who participated in their descriptive correlational study, social support and parent-infant interactions were positively related. They also noted that while there was no statistically significant relationship between total social support and total parent stress, the expected negative association was observed. Total functional support (affect, affirmation, and aid) did have a significant negative correlation with the stress subscale, sense of competence, in the parenting domain of the Parenting Stress Index, suggesting a relationship between support and a mother's confidence in her role as parent.

Younger (1991) collected data from 101 mothers and found a significant negative correlation between social support and parenting stress. Younger (1991) noted, however, that social support no longer had a significant effect on parenting stress when personality was also considered. Nevertheless, the author suggested that because social support and personality were significantly correlated, and the negative correlation between parenting stress and personality remained, perhaps social support networks depend on one's personality.

Crnic, Greenberg, Robinson, and Ragozin (1984) assessed maternal stress and social support in their longitudinal study. Data were collected at infant ages one, four, eight, twelve, and eighteen months from an initial sample of 105 mother-infant pairs. Their results indicated that support and negative life stress had a significant impact on maternal life satisfaction and satisfaction with parenting. They noted that mothers with more support and less stress report significantly greater satisfaction with parenting. Of particular note was the finding that the influences of social support and stress on the mother-infant relationship were stronger during the early postpartum months. In a previous reporting of the study results (Crnic, Greenberg, Ragozin, Robinson, and Basham, 1983), they also suggested that the mother's satisfaction with the quality of their partner's support, rather than the amount, produced the positive effects on the mother's satisfaction with parenting.

As Sumner and Fritsch (1977) stated, all parents profit from support and at the vulnerable time of transition that the birth of a child brings, support, such as health care resources, becomes particularly important and necessary, especially as a preventive health measure. Their descriptive survey tracked the number of calls made to area medical centers, nursery, and a consultive nurses' station by new parents. They found that of the eligible primiparas, approximately 88% made calls requesting information relating to themselves or their babies. The authors hypothesized that, for many, simply the validation and support that they were doing alright was the reason these mothers called in the early postpartum period. The forty-one mothers in Smith's (1989) descriptive survey were asked to

complete a mail-back questionnaire developed by Gruis (1977) outlining their concerns and the resources used at one month post-delivery. The subjects' partners were the most frequently reported postpartum resource, which the researcher suggested, identified the importance of providing a family-centered approach to maternity care that includes partners in the teaching. The study's small sample size, however, does limit the generalizability of the results. Harrison and Hicks (1983) as well as Hiser (1987) reported a similar finding that husbands were the most frequently used resource or were seen as the main support in the early postpartum period. The importance of the husband's support was also seen in the study by Lennon, Wasserman, and Allen (1991), who reported increased depressive symptoms in women whose husbands were less involved in auxiliary child care tasks. Gottlieb and Mendelson (1995) had a similar finding, noting that mothers receiving general support from their husband tended to be less angry.

Gjerdingen and Chaloner (1994), in their prospective, longitudinal study of 436 recently employed mothers, noted the importance of spousal support. The mothers were interviewed at 1, 3, 6, 9, and 12 months after the birth of their first child. The results indicated that the subjects perceived significant declines over the year, not only in how often husbands, friends, and relatives expressed caring, but as well, there were declines in how often friends and relatives helped in practical ways. After the first month, the mothers perceived a significant decrease in the number of people who could help or lend assistance. Women reported their share of household responsibilities increased over the year,

corresponding with decreased satisfaction with their husband's contribution regarding household tasks, although husbands increased their level of participation with child care. The result of this study is even more compelling given the fact that the mother's mental well-being throughout most of the year was linked with her satisfaction regarding her spouse's contribution to household chores.

Cronenwett (1985a) suggested that a father's participation in child care impacts on how a mother perceives the quality of her spousal relationship, while Hall and Carty's (1993) qualitative study articulated the link made by women regarding their spouse's involvement at home during the postpartum period with effective family integration and enhanced family relationships. The literature suggests the importance of including fathers in infant-care teaching to heighten their awareness of the need to provide instrumental and emotional support. Given that this is the philosophy in the Maternity Cooperative Care Programs, studies are now required to examine their impact on the levels of social support perceived by new parents.

Studies examining the impact of Cooperative Care on the stress of the postpartum family were not identified in the literature, however, studies focusing on stress and self-care units were noted. De Weerdt and colleagues (1989), in their study of an education program that focused on active self-care behaviour, noted no significant change in level of anxiety in any of the study groups, suggesting the program was not able to lower the level of anxiety. Monahan and Schkade (1985) found that parents in a Care-by-Parent Unit expressed increasing

anxiety over time. However, the literature also suggests less stress and anxiety with Cooperative Care, often due to the help of a care partner and/or increased patient control (Grieco, 1988; American Hospital Association, 1985; Teschke, 1990; Weis, 1988; Williams, 1993).

Evidence suggests that the early postpartum period is a stressful time for families (Edwards, 1974; Gruis, 1977; Rubin, 1961; Sheehan, 1981). Most notably, Gruis' (1977) descriptive survey of forty new mothers highlighted their concerns of the postpartum period. Baby feeding, fatigue, physical discomforts, physical care of the baby, baby behaviour, and emotional tension are just a few of the concerns mothers have identified in the postpartum period (Bull, 1981; Smith, 1989). DiMatteo, Kahn, and Berry (1993) also noted stressors encountered post-delivery by new mothers, such as financial pressures and postpartum depression, supporting the notion of the postpartum period as a potentially stressful transition.

Several studies suggest a link between a mother's perception of her competence, social support, and postpartum stress (Crnic et al., 1984; Dormire et al., 1989). Pridham, Lytton, Chang, and Rutledge's (1991) correlational survey of 108 new mothers on the second postpartum day, highlighted the fact that preparation for birthing, support during labour and delivery, and usefulness of postpartum learning resources made a contribution to infant- and self-care capability, suggesting the importance of heightened awareness of these variables in the clinical setting. In the theoretical literature, Lazarus and Folkman (1984) presented the notion that cognitive factors play a key role in determining the impact of a stressful event. They suggested that events are first appraised

(primary appraisal) as to their impact or significance to the individual and his/her well-being. An example of this is seen in how a mother perceives or interprets her birth experience, which is influenced by the immediate postpartum experience (Rutledge & Pridham, 1987). Secondary appraisal involves assessing one's resources, such as perception of ability or competence and social support, in order that coping with the event is possible (Lazarus & Folkman, 1984). Rutledge and Pridham (1987) suggested that a mother's perception of competence in her parenting role is an example of secondary appraisal, and may be an important factor in how the mother adapts to parenting tasks.

Reece (1993) used a longitudinal descriptive design to assess the relationships between social support and the early maternal experience in primiparas aged 35 years and older. The data, collected during the last trimester of pregnancy and at one month postpartum, revealed that functional support from spouse and family had significantly positive associations with self-evaluation in parenting, and functional support, as well as average parenting support, were inversely related to stress. Mercer and Ferketich (1990) tested a theoretical causal model to determine the effects of stress on family functioning. This comparative, longitudinal study had similar findings to that of Reece (1993), revealing that, for both high obstetrical-risk and low obstetrical-risk women in the study, perceived support and negative life events stress during early parenthood had direct effects on family functioning. However, in another study of high obstetrical-risk women (n=121) and low obstetrical-risk women (n=182), Mercer and Ferketich (1994) reported an unexpected finding in the failure of either

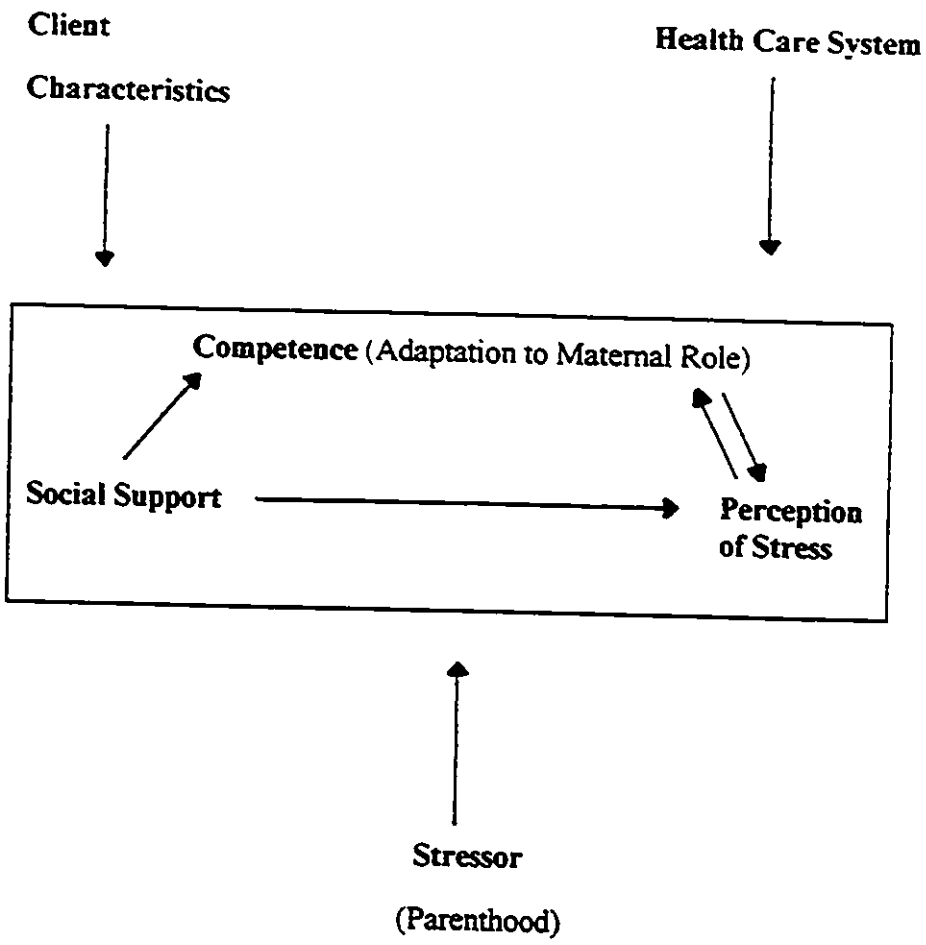
perceived or received social support and stress to explain maternal competency at any test period (postpartal hospitalization, 1, 4, and 8 months postbirth), a finding that does not agree with other literature regarding the positive effects of support on parenting. Mercer and Ferketich (1994) did find that state anxiety was a major predictor of maternal competence for both groups during postpartal hospitalization.

Dormire and colleagues (1989) interviewed a convenience sample of 18 young mothers between the fourth and fifth postpartum weeks. The study was designed to assess social support in relation to the quality of interaction between mother and infant, as well as how social support might be linked to parental stress. The results of the study indicate a relationship between support and maternal competence. Less effective parenting behaviours were noted when the perception of stress was high, and though not significant, the authors reported a negative association between total parent stress and overall social support. It must be noted that the exploratory nature of the study design and small sample size limit generalizability of the findings. The results, however, as well as those of others in the literature (McKim, 1993), identify links between the concepts of competence, support, and stress. McKim's (1993) descriptive study noted that mothers who reported they needed more informational support and did not receive it, were more stressed and less confident in caring for their infant. The quantitative and qualitative data collected in Mercer's (1985a) longitudinal study of 242 subjects, suggested that the role partner/infant behaviours (support) influences the stress of maternal role-taking, and that the challenge of acquiring

competence in the mothering role and meeting the stresses that come with the task was not bound by certain age groups. Therefore, work to date suggests a relationship between competence, social support, and stress (see Figure 2). Studies are now required to examine the impact of Cooperative Care on the competence, social support, and stress of new parents.

Finally, no studies were found comparing the impressions and feelings concerning their postpartum experience of families participating in Maternity Cooperative Care Programs with families receiving traditional care. Issues such as their perspectives, concerns, and likes and dislikes have yet to be analyzed qualitatively so that continued implementation of these programs can be justified and/or improvements made. Further investigation of the postpartum experience is warranted to elicit the changing health care needs of young families.

Figure 2: Conceptual Map of Maternal Competence, Social Support, and Stress in the Postpartum



Methods

Overall Objective

The overall aim of this study was to compare the experience of those mothers participating in a Maternity Cooperative Care Program with those participating in a more traditional program by assessing the prevalence of maternal and infant complications, perceived maternal competence, social support, and stress, and by collecting descriptions of the postpartum experience from first-time mothers receiving each type of care. This information is required in order to gain a better understanding of the outcomes of such programs. The focus of this initial study was restricted to the mothers; although the need to study both parents was recognized, this was felt to be beyond the scope of this study.

Research Questions

This study addressed the following specific questions:

1) For first-time mothers and their infants participating in Maternity Cooperative Care and similar mother/infant pairs receiving traditional care, is there a significant difference in the number of maternal and infant complications during the first two weeks postpartum?
2) For first-time mothers participating in Maternity Cooperative Care and similar mothers receiving traditional care, is there a significant difference in perceived competence with self- and infant-care activities during the first two weeks postpartum?
3) For first-time mothers participating in Maternity Cooperative Care and similar mothers receiving traditional care, is there a significant difference in

perceived social support in general and perceived spousal support during the first two weeks postpartum?

4) For first-time mothers participating in Maternity Cooperative Care and similar mothers receiving traditional care, is there a significant difference in perceived stress in general, as well as stress related to self- and infant-care during the first two weeks postpartum?

5) In general, how do first-time mothers participating in Maternity Cooperative Care and similar mothers receiving traditional care describe the postpartum experience?

Research Design and Sample

This study had two parts: the first part of the study utilized a two-group repeated measures comparative survey design to assess the impact of a Maternity Cooperative Care Program on maternal and infant complications, and maternal competence, social support, and stress during the first two weeks postpartum. Mothers had to meet the following criteria: 1) first-time mothers (parity can influence the subjects' experience of pregnancy) (Condon & Esuvaranathan, 1990); 2) 20-35 years of age (women younger than 20 years of age tend to have different concerns or beliefs, and as well, older women bring different ideas and skills to the experience) (Mercer, 1985a; Moss, 1981); 3) English-speaking; 4) qualify for Maternity Cooperative Care (see Appendix A for these criteria); and 5) involved husband or father of the baby. The "experimental" group consisted of 41 mothers who received Cooperative Care during the postpartum period. Only mothers whose care partner was her husband or father of the baby were accepted

into the study. If the Cooperative Care subjects received a homevisit from the hospital nurse they were removed from the study, as a preliminary survey revealed that very few received such visits, and only when concerns could not be handled by phone, suggesting a potential difference from those who had not received a visit. Forty-three mothers who received traditional care formed the comparison group. If the traditional care mothers received a follow-up phone call from the hospital nurse, they were removed from the study as this was not the typical protocol for traditional care at the time of the study.

In the second part of the study, to gain a better understanding of the overall postpartum experience, a descriptive, qualitative design was used. A subsample of 10 mothers from each treatment group in the first part of the study comprised the sample for this part of the study.

Treatment/Setting

Cooperative care. Subjects receiving Maternity Cooperative Care were selected from those participating in a Maternity Cooperative Care Program (MCCP) at a large urban teaching hospital. The unit had fifteen private rooms, and accepted only low risk postpartum families. The key feature of this program was the inclusion of a care partner during the hospital stay. Before this study, approximately 35% of the mothers had care partners stay the entire hospitalization, and of those, 90% were the infant's father, but could have been any other significant individual (L. Pelletier, Assistant Head Nurse-MCCP, personal communication, May 2, 1995). The care partners were encouraged to stay for at least the first twelve hours after delivery but there were no minimum

requirements. As the program recognizes that the family's hospital stay is health-related and not illness-related, some routines were altered, such as the taking of vital signs (ie. once a day after the first 12 hours as opposed to every 4-8 hours, unless indicated). The aim of these changes in routine was to create a greater sense of normalcy during the early stages of this life transition. The ultimate goal of the program was that the mother and her care partner learn, perform infant-care tasks, take care of their own needs, and ultimately carry out activities of daily living as they would at home.

The physician, with input from the case room nurse, determined whether patients met the admission criteria for the Cooperative Care Program, and was available at any time if a medical problem was encountered. Maternal and infant assessments were completed in the family's room. The nurse/family ratio was approximately one to five-seven, depending on the shift. The nurse's role had a large component of family health care teaching, that was necessary to enable families to gradually assume responsibility for their care. This was thought to enhance the coping ability of the family upon discharge, usually 36 to 48 hours postpartum. The families were then followed by a hospital-based postnatal service during the first three days at home or if needed, until they were linked with a community health service, usually occurring between two and three weeks postpartum. All mothers received at least one phone call from the hospital nurse after discharge, and a telephone line was open daily for questions regarding mother- and infant-care. A hospital clinic was also open daily, and home visits by the hospital nurse could be arranged if needed.

With regard to education, the MCCP was structured to increase the client's independence, with focus on maternal- and infant-care, as well as family development. The teaching began before delivery for most families, whereby they toured the Maternity Cooperative Care Unit, and were given information about the nature of the program (Appendix B). The program attempted to individualize the information sessions given to families while in hospital, and the topics included infant-care and feeding, medications, maternal recovery, and physical and social adjustments that might be required when at home. Every effort was made to give information consistently to both mother and care partner, making the MCCP's approach to health care education unique and distinct from traditional health care. Practice with infant care tasks under the supervision of a nurse aided in facilitating this learning process and was further heightened with the use of audiovisual aids and brochures, as well as group sessions to encourage support and interaction among families. The baby's first bath provides an example of this, whereby the couple first watched a video either at the daily baby bath class or individually in their room, and then performed the task themselves with the nurse periodically supervising. This gave the families a chance to learn through hands-on experience. Every opportunity to educate was taken, so that typical nursing routines, such as taking vital signs, were explained and provided mothers with the chance to learn about care for themselves and their babies. Another example includes the fact that all were encouraged to attend a daily discharge class that allowed for group interaction, and if the mothers were not able to attend, it was common to see fathers there alone receiving the

information.

The environment offered another unique feature in that the physical setting of this MCCP attempted to facilitate self-care and autonomy by the exclusive use of private rooms. Patients were expected to pay the cost of a private room, however the cost of smaller private rooms were comparable to standard semi-private hospital rooms. Public patients were not excluded from the program either, as lack of space in the hospital's other postpartum unit often meant transferring patients to the MCCP without extra costs to these patients. Each room was equipped with two adult beds, a crib and necessary infant care equipment, as well as a dining table and medication cabinet. The families in the program were encouraged to provide 24 hour care and supervision of their infant as they would at home. As such, approximately one hour after delivery, both mother and infant were admitted to the unit together maintaining family unity and promoting the learning process from the very beginning. If either the mother or infant were in need of closer observation after admission to the unit, the nursery on the high risk unit was available, although its use was not encouraged unless medically indicated. Meals were brought to the floor and couples had the choice of having their meals in their rooms or in the dining room/education center with other families. Throughout most of the study period breakfast was provided for the care partners, so that the family had at least one opportunity to have a meal together.

Finally, self-medication was emphasized on the MCCP. In keeping with the notion of families assuming total responsibility for their care after appropriate

teaching, the control over their own medication was another task they were encouraged to learn. Personal cabinets allowed the mothers to store their medications safely, and help was given to establish an appropriate pattern of medication administration that could be continued at home.

The MCCP was perhaps best described by its Assistant Head Nurse (L. Pelletier, Assistant Head Nurse-MCCP, personal communication, May 2, 1995) when she reported it to be a transition unit between delivery and home where families learn as much as possible by doing their own care. With a teamwork approach, the nurse was there to help families find solutions, not give them, so that families received insight into how to deal with their individual health situation and strategies to access available resources if needed when at home. These features made the MCCP distinct (see Table 1 for a summary of the differences between the MCCP and traditional care).

Traditional care. Mothers receiving traditional care (TC) were admitted to a postpartum unit at a large urban teaching hospital serving a similar population to those receiving Cooperative Care. Due to changes taking place on this unit at the time of this study, 31 mothers had one nurse who cared for them, and a different nurse who cared for the baby; 11 had combined mother/baby care; and one subject received both styles of care. The nurse's role on this unit was more traditional compared to that in the MCCP. Assistance with activities of daily living, and infant supervision by nursery staff were part of the postpartum care offered. Medications were given by the nurse and remained under her supervision. The nurse's role typically involved "doing for" the mothers, instead

Table 1: A Summary of the Differences Between the MCCP and Traditional Care (at the time of study)

Maternity Cooperative Care	Traditional Care
* care partner expected	* no care partner expected
* consistent teaching to partner & mother	* teaching typically to mother
* group teaching sessions (baby bath & discharge class)	* no formal group classes
* self-medication	* no self-medication
* private rooms only	* ward, semi-private & private rooms
* low-risk postpartum mothers	* high & low-risk postpartum mothers
* mother &infant admitted to the unit together after delivery	* mother admitted to unit & infant admitted to nursery after delivery
* self-care & hands-on learning expected	* independence encouraged
* baby roomed-in entire time	* baby typically returned to nursery at night
* written information & videos	* written information & limited access to videos
* teaching/social room	* no teaching/social room
* nurse/family ratio 1:5-7	* nurse/family ratio 1:4-5
* discharge 36-48 hours postpartum	* discharge 48-72 hours postpartum

of the mothers "doing for themselves". Nurses on this unit cared for fewer families compared to the MCCP (approximately one nurse per four-five mother/infant pairs).

Education on the traditional unit attempted to individualize the learning based on the mother's needs. The goal here too, was to increase patient autonomy, but no consistent effort was made to include the father or significant other in learning sessions concerning infant and maternal care, or discharge preparations. The mother was treated as the primary care-giver, and learned and practiced these tasks with the aid of the nurse. Having no formal group sessions, teaching methods were based on the nurse's preference whereby, for example, some nurses gathered their own patients for baby bath demonstrations, or the mothers were taught individually. Attempts were made here too, to provide a health-focus and support independence, for example, extra efforts to remove intravenous therapy were encouraged, increasing mobility.

Discharge was usually on the second or third day postpartum, however, by the final stages of the study many primiparas were being discharged within 36 to 48 hours post-delivery. Primiparas were discharged within 24 hours upon request, if they had no medical complications; however, those who left within 24 hours in both the MCCP or traditional care were disqualified from the study as this was not the norm in either hospital at the study's initiation. A drop-in clinic was available to all traditional care mothers if needed, though its creation was designed more for those families leaving within 24 hours. Mid-way through the study, nurses on the postpartum unit also initiated a "WARMLINE" telephone

service so that any new mother could call with questions. As for these families receiving traditional care, community health services provided care once the mothers were home, if required.

The traditional unit had a mixture of private, semi-private, and 4-bed rooms. Fathers or partners were encouraged to remain as much as possible and had flexible, unrestricted visiting hours, however, there was no specific place for them to stay overnight. During the study, the unrestricted visiting hours for any visitor were changed (officially posted as "all day" for husband/partner; grandparents and siblings 0700-2030 hours; and general visiting from 1500-2030 hours), limiting the hours of visitation at the request of the patients. Meals were taken to the patients in their rooms, and infant assessments were typically done in the nursery. The first 32 mothers in this study were encouraged to "room-in" with their babies during the day, but the infants typically returned to the nursery at night. Due to hospital changes and a trend toward a family-centered approach to care, the remaining 11 subjects had their babies "room-in" with them the entire time. This type of care was encouraged unless the mothers were medically unable to provide this care (ie. caesarean-section delivery), in which case their infant was cared for in the "holding" nursery until the mother was able to manage the care. It was only the last 11 subjects who were admitted directly to the unit after delivery with their infants, similar to the MCCP, while the previous subjects had their infants taken to the nursery initially after delivery.

Overall, the two programs offer different approaches to postpartum care. Both programs promote infant and maternal well-being, however, the feature

distinguishing Cooperative Care from traditional care is the consistent involvement of not only the mother but also the care partner. The encouragement of the care partner to stay throughout the entire hospitalization, and consistent involvement in the learning process signifies the uniqueness of the MCCP.

Instruments

Maternal and infant complications. Maternal and infant complications were assessed at two weeks postpartum over the telephone. The mothers were questioned by the researcher concerning any maternal or infant health complications they experienced and perceived as complications, requiring them to seek medical attention during their two postpartum weeks at home (ie. "Have you experienced any difficulties, problems or concerns relating to your health that required medical attention while at home, and if so, what were they?"). Maternal and infant complications, as identified by the mothers, are specifically defined in Appendix C. The researcher then entered a "YES" or "NO" on the demographic profile questionnaire (Appendix D) to answer the question regarding maternal and infant complications. This took approximately one minute to complete, but depended on the response.

Perceived competence. Mothers' perceptions of their competence regarding self-care and infant-care were measured with the Perceived Competence Questionnaire (PCQ) from the Birthing Questionnaire developed by Pridham and Schutz (1981, 1983) and updated by Rutledge and Pridham (1987) (Appendix E). This self-administered tool assesses how competent mothers perceive themselves to be in terms of their ability to care for themselves, and to

care for and feed their infant. The tool contains 7 self-care items, 7 general infant-feeding items, 5 bottle-feeding items, 13 breastfeeding items, and 12 infant-care items other than feeding. Each item consists of a question concerning how well prepared the mother feels performing various activities and is followed by a Likert-type scale with the choice responses: 1-"not at all", 2-"slightly", 3-"somewhat", 4-"quite a bit", 5-"to a great extent", and 6-"completely". The instrument takes ten minutes to complete. The authors granted permission to use this tool (Appendix F).

Rutledge and Pridham (1987) utilized the infant-feeding and care portion of the PCQ in their descriptive study of 140 primiparous and multiparous mothers. They examined the relationship between the early postpartum experience and mothers' perception of their competence with infant-feeding and care. Each mother completed the questionnaire in hospital within six days postpartum (mean day of completion = 2.39, SD = 1.21) and received a total perceived competence score for infant feeding and care. The total perceived competence score for infant-feeding and care was the mean of the sum of the general infant-feeding, infant-care, bottle-feeding and/or breastfeeding items. The specific items included in the total perceived competence score for infant-feeding and care varied for each mother depending on the method of infant-feeding. The internal consistency of the infant-feeding and care items making up the total competence score was assessed separately. The standardized Cronbach's alpha coefficients were: infant-feeding in general = .91, infant-care = .94, bottle-feeding = .92, and breastfeeding = .99.

Rutledge and Pridham (1987) also examined the convergent validity of the total perceived competence score for infant-feeding and care. Total perceived competence scores for infant-feeding and care from 138 mothers were correlated with two questions on the PCQ. One item measured the mothers' overall perception of competence for infant-feeding ("How competent are you to feed your infant?"), and the other measured the mothers' overall perception of competence for infant-care ("How competent are you to care for your infant?"). The correlation coefficients ranged from .55 to .74 depending on the question and method of infant-feeding.

In the present study, the internal consistency of the self-care portion of the tool was assessed by subjecting the scores obtained from the 84 mothers during the first 24-48 hours postpartum to reliability analysis, revealing a standardized Cronbach's alpha of .86. Convergent validity of the total perceived self-care competence score was also assessed. Item #11 on the PCQ ("How competent do you think you are to take care of yourself?") was correlated with the total perceived self-care competence scores to reveal a correlation coefficient of .73.

In this study, a total perceived competence score for self-care, and total perceived competence score for infant-feeding and care were calculated using the PCQ. The scores from each subject on items #10a-g were totalled and divided by the number completed to obtain an individual mean total self-care competence score. A total perceived competence score for infant-feeding and care was calculated by totalling the scores from the relevant infant-feeding and care items (infant-feeding in general = 4a-g; bottle-feeding = 5a-e; breastfeeding = 6a-m;

infant-care tasks other than feeding = 8a-m). The total score obtained for each subject was then divided by the number of items completed to obtain an individual mean total infant-feeding and care competence score. For both mean scores the highest possible score is 6, indicating the mother perceives herself to be completely competent on every item answered.

Perceived social support. Mothers' perceptions of their social support overall were measured using Part II of the Personal Resource Questionnaire 1985 (PRQ85) (Brandt & Weinert, 1981; Weinert, 1987) (Appendix G). This self-administered 25-item Likert scale was developed based on Weiss' (1974) conceptualization of perceived social support that includes multiple dimensions of perceived social support, that is, intimacy, social integration, nurturance, worth, and assistance. The questionnaire has five items for each of the five dimensions and answers on a 7-point scale from "strongly agree" to "strongly disagree". Ratings are totalled and total scores range from 25 to 175 with increasing total scores indicating higher levels of perceived social support. The instrument takes five minutes to complete. Permission to use this instrument was obtained from the authors (Appendix F).

This tool has been used extensively and its psychometric properties assessed in maternal and other populations (Aaronson, 1989; Brandt & Weinert, 1981; vonWindeguth & Urbano, 1989). Aaronson (1989) used the PRQ to assess perceived social support and its effect on health behaviours in 529 pregnant women. Thirty-three adolescent mother-child pairs and 33 older mother-child pairs completed the PRQ in vonWindeguth and Urbano's (1989) study of

perceived social support and the mothering experience during their child's first year of life. Weinert and Brandt (1987) studied several psychometric properties of the PRQ on a sample of 75 female and 25 male college graduates, aged 30-37 years old. It has demonstrated good internal consistency with reliability coefficients (Cronbach's alpha) ranging from .88 in Aaronson's (1989) study, and .89 in vonWindeguth and Urbano's (1989) study, to .93 in Weinert and Brandt's (1987) study. Reliability for the subscales has ranged from 0.70 to 0.88 (Weinert & Brandt, 1987). Weinert and Brandt (1987) reported that test-retest reliability was $r = .72$ over a four to six week period.

A panel of experts had established the content validity of the PRQ (Brandt & Weinert, 1981), however, in assessing this tool further with factor analysis, Weinert (1987) identified the PRQ as a three-factor structure (intimacy/assistance, integration/affirmation, and reciprocity), instead of the original five-factor construct. Convergence, a component of construct validity, was assessed by Gibson and Weinert (personal communication, May 12, 1992) in their cross-sectional study of 100 men and women obtained through church groups, clubs, and personal contacts. The analysis revealed a significant correlation between the PRQ85 and the Social Support Scales (Lin, Dean, & Ensel, 1981) ($r = .49$, $p < .001$). There was also significant correlations between the PRQ85 and the Cost and Reciprocity Index support subscale (Tilden, 1984) ($r = .52$, $p < .001$), as well as the Inventory of Socially Supportive Behaviours (Barrera, Sandler, & Ramsey, 1981) ($r = .40$, $p < .001$). Weinert and Tilden (1990) also examined construct validity in their study of 333 well adults whose

spouses had multiple sclerosis. Correlations for the PRQ85 with the Cost and Reciprocity Index, the Family APGAR (Smilkstein, 1978), and the Spanier Dyadic Adjustment Scale (Spanier, 1976) ranged between r = .37 to .55. Discriminance, another strategy for assessing construct validity, was assessed by Weinert and Tilden (1990) in their study of 99 white, urban, middle-class individuals (66 women, 33 men). They found a significant negative correlation between the PRQ85 and the Profile of Mood States (POMS) (McNair, Lorr, & Doppleman, 1971) (r = -.31, p < .001). A similar result was found when Gibson and Weinert (personal communication, May 12, 1992) correlated the PRQ85 with the POMS (r = -.29, p < .01).

Spousal support was specifically measured using five items from "The Help I Get" Questionnaire (HIGQ) (Appendix H). The HIGQ is an 11-item self-report questionnaire that was developed by Pridham and VanRiper (1994) based on structured interview questions used with mothers in an earlier study (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983) to learn about the support they received in general. To measure the amount of help mothers receive specifically from fathers and their satisfaction with this help, Pridham and VanRiper (1994) added five items to those Crnic and colleagues (1983) had reported using, and for the purposes of this study, only those five items were used. Pridham and VanRiper (1994) presented these five items in their study of fathers' help and its relationship to maternal experience and behaviour. The questions were formulated on the basis of data obtained from daily logs kept by 63 mothers during the first 90 days of their infant's life. The questionnaire consists of 9-point

graphic rating scales with end points marked (1) "no help" to (9) "a great deal of help". Scores obtained from each are summed to give a total help score. A fifth item measures overall satisfaction with the help received. For this study a 5-point scale was used for this item with responses ranging from (1) "very dissatisfied" to (5) "very satisfied". By multiplying the total help score with this rating, the final score for the mother's assessment of help overall is obtained. Pridham and VanRiper's (1994) justification for weighting or correcting the total help score followed the logic of that used by Ferrans and Powers (1985) who measured quality of life by weighting every aspect of quality of life by its meaningfulness to the subject. The instrument took the mothers in this study approximately two minutes to complete.

In their longitudinal study, Pridham and VanRiper (1994) used data from a larger study that included 114 adult mothers, all at least 18 years of age, with infants that were either preterm (n = 61) with history of lung disease or were born at term (n = 53) and were healthy. Mothers' perception of the help they received from their husband/partner and how satisfied they were with that help was examined when the infants were 1, 4, 8, and 12 months post-term age. Internal consistency was examined for the set of items included in the total help score and alpha coefficients ranged from .86 to .88. Intra-correlation (test-retest) coefficients, which the authors state as stable across time, ranged from .53 to .80 during the first post-term year.

Perceived stress. Mothers' perceived level of stress/well-being was measured using a self-administered numerical rating scale. Mothers were asked

to circle a number between one and nine that best represented in general, how stressed they were feeling at present (Appendix I). This rating scale had endpoints labelled (1) "not at all stressed" and (9) "extremely stressed" Numerical rating scales were also used to assess stress that mothers perceived to be associated with caring for themselves and their infant (Appendix J). Mothers were asked to indicate the number between one and nine, with extremes labelled (1) "not at all stressful" to (9) "extremely stressful", that best represented where they perceived their stress to be in relation to self- and infant-care demands. These scales took the subjects two minutes to complete.

Numerical rating scales have been used with other concepts similar to stress, such as pain. Downie, Leatham, Rhind, Wright, Branco, and Anderson (1978) studied 104 patients with rheumatic diseases. The subjects rated their pain on a 4-point simple descriptive scale (SDS), an 11-point numerical rating scale (NRS), and a 10 cm long visual analogue scale (VAS) that were presented in random order after responding to diversional questions. The numerical rating scale was noted to have less measurement error than the other two scales, and correlated well with the SDS (r = .88) and with the VAS (r = .91).

Demographic, possible extraneous, and treatment variables. Group equivalence was assessed based on several demographic and other variables. The researcher assessed these variables by administering a demographic profile questionnaire (Appendix D), and several numerical rating scales (Appendix K) to the subjects. The questionnaire and scales together took approximately fifteen minutes to complete. Variable definitions are included in Appendix C. Some of

the demographic variables assessed were: maternal age, previous infant care experience, cultural background, the number of years the couple has been together, and socioeconomic status.

Mercer (1985a) reported increased competency in maternal role behaviours with increasing maternal age. The subjects in Mercer's (1985a) study were divided into three groups: 15-19 years old, 20-29 years old, and 30-42 years old. Maternal caretaking (competency) behaviour means over time showed that the women 20 to 42 years of age were similar in their results, and were consistently higher than the younger women in their competence levels. Mercer (1985a) also noted that the teenagers seemed to be more affected by the increased role skill and infant demands than the older women. Therefore, in this study the age range was limited to 20 to 35 years, and maternal age was also compared between the two study groups.

Lazarus and Folkman (1984) suggest that problem-solving skills represent one coping resource that people use to deal with a stressful event, and that these problem-solving skills are based on other resources such as various life experiences and a person's store of knowledge. Given that an individual's experience may include previous infant care-taking that may impact their coping ability with their own infant, this variable was monitored. This study also limited the sample to primiparas to reduce the differences among subjects relating to previous infant-care experience. The literature also highlights the notion that preparation for infant-care can aid maternal adjustment, competency, and postpartum stress (Edwards, 1974), and therefore was assessed by questioning

subjects regarding their attendance at prenatal classes.

Mercer (1986) notes that one of the possible variables influencing maternal role attainment includes the women's ethnic background or culture, suggesting that norms and values regarding motherhood and mothering benaviours differ from culture to culture. Therefore, culture was assessed and compared between the two study groups in this study.

Entwisle and Doering (1981) suggest that relatively settled couples may have a different birth experience than couples who are not as settled. They highlight that each couple faces different challenges associated with parenthood, one factor that may influence the uniqueness of each experience is the duration of the couple's relationship prior to the birth. Mercer, Ferketich, and DeJoseph (1993) also note that childbirth may cause more disruption for men if it occurs later in their relationship. Therefore, the number of years a couple has been together was assessed and compared between the study groups.

As a significant relationship between maternal socioeconomic status (SES) and maternal identity or role behaviour has been noted in the literature (Walker, Crain, & Thompson, 1986a, 1986b), SES was also measured and compared between the two study groups. Socioeconomic status was assessed using the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). Scores were computed after assigning a number to the subject's education and occupation, and then multiplying each by a fixed number. These two values were then totalled, 66 being the highest possible score and social ranking. Reliability of this tool depends on the respondent's accurate reporting, and to validate the

scales used for education and occupation. 1970 United States Census data were used (Hollingshead, 1975). The correlation between median years of school completed by occupational score and sex for the Civilian Labor Force was $\underline{r}$ = .835 (males) and $\underline{r}$ = .849 (females) (Hollingshead, 1975). To establish criterion-related validity, scores assigned to occupational groups in this Index were compared with the prestige scores developed by the National Opinion Research Center (NORC), to reveal a Pearson Product Moment Correlation of $\underline{r}$ = .927. A copy of this Index can be found in Appendix L.

Possible extraneous variables assessed were: pregnancy stress, labour and delivery stress, and method of infant feeding. Younger (1991) hypothesized that parenting stress would be impacted by the stress of pregnancy, and labour and delivery stress, but found an association with only pregnancy stress. Mercer (1985b, 1986) however, does suggest a relationship between perception of the birth experience and mothering behaviours. Two self-administered numerical rating scales were used to assess pregnancy, and labour and delivery stress. Mothers were asked how stressful they found their pregnancy, and labour and delivery experience. Subjects then circled their response on two 9-point numerical rating scales between two extremes labelled (1) "not at all stressful" and (9) "extremely stressful" for each experience (Appendix K).

Infant-feeding was another variable considered. Mercer and Stainton (1984) noted breast-feeding mothers reported their birth experiences more positively than bottle-feeding mothers, suggesting the need to monitor this pattern. This variable is specifically defined in Appendix C.

Some of the treatment variables measured were: length of hospital stay for the mothers, and length of time spent in hospital by fathers/care partners. Given that an element of the Maternity Cooperative Care program is early discharge, tracking this policy was necessary to determine the actual length of stay in the MCCP so that it might be compared to the traditonal unit, and the expected difference noted.

Mothers were also asked to estimate the amount of time the fathers spent in the hospital during labour and following the birth of the baby. This was necessary to monitor in order to investigate if care partners in the MCCP actually did spend time participating in the program, and to discover how this compared with fathers in the traditional care unit.

Open-ended questions. The second part of the study involved questioning a subsample of ten subjects from each group regarding their postpartum experience. The following open-ended questions were included:

1) What has your experience been like in the MCCP or in the traditional care unit?

2) What did you like about your postpartum time in the hospital?

3) What did you dislike about your postpartum experience in the hospital?

4) What were you expecting regarding the experience and/or wanted to have happen, and how has it actually been?

5) What was the help you received while in hospital from either hospital staff or family like, and how was it either good or bad for you?

6) What has your time at home since the baby's birth been like for you?

7) What are your concerns, if any, and what are the most important?

8) Is there anything you are having difficulty with at this time, and if so, how are you dealing with the problem?

9) What is helping you to adjust to your role as mother?

10) How has your hospital experience influenced how you are managing at home in caring for yourself and your baby?

11) What was your labour and delivery like?

12) Did you think that labour and delivery would be the most stressful part and that once that was over, life after with the baby would be easy?

Procedure

Strict ethical standards were maintained throughout the duration of this study. The McGill School of Nursing and the ethics committees of the two participating hospitals approved the protocol.

Recruitment of the subjects took place at two large, urban teaching hospitals serving similar urban populations, one with a Maternity Cooperative Care Unit and one with a traditional care unit. At the Maternity Cooperative Care Unit all mothers going home the next day were asked to attend a discharge class that provided the opportunity for nurses to introduce the researcher and for the researcher to speak to most of the mothers on the unit. The researcher addressed the class either before or after the discharge class, and explained the study, giving those that qualified a recruitment form (Appendix M). If mothers were interested in participating they either verbally told the researcher or wrote their name and room number on the recruitment form and returned it to the nurse or researcher.

If mothers refused to participate, they usually told the researcher or their nurse and provided some brief explanation for their decision. If they agreed to participate, a time most convenient to complete the in-hospital questionnaire was arranged between the subject and researcher.

As the traditional unit did not have any group classes for mothers, the recruitment process was different. The unit clerk, together with the nurses on the unit identified eligible candidates who were then asked by either the nurse or the unit clerk if they would be interested in seeing a researcher to explain the study being conducted. Reasons for refusal were usually given verbally, but were not always obtained. Those who agreed to see the researcher were given an explanation individually and any questions answered. Mothers were then given a recuitment form where they could write their answer regarding participation and any reason they might have for not participating, however, most individuals gave a verbal response.

All mothers agreeing to participate in the study were interviewed in-hospital between 24 and 48 hours postpartum. Mothers were never interviewed on the day of discharge as it was felt that the stress of going home might impact on the study. The researcher explained that participation was voluntary, that they could withdraw at any time, and that confidentiality would be maintained throughout by using code numbers instead of names. If a mother agreed to participate in the study, the researcher then asked her to sign a consent form (Appendix N), and both the researcher and subject received a copy. The researcher then administered the demographic questionnaire, as well as the PCQ,

PRQ, HIGQ, and the numerical rating scales relating to stress. The researcher first explained the questionnaires, and then remained with the subjects while they completed the items, in case there were any questions. On average, it took the subjects 35 minutes to complete the interview. Copies of all questionnaires were left in a sealed envelope with the subjects to use at the second and final sampling time at approximately two weeks postpartum.

On the 14th day postpartum the subjects were telephoned and asked to complete the same instruments as completed in the hospital. Thirty-four of the 41 (82.9%) Cooperative Care subjects were able to complete the interview on the 14th day postpartum, and 37 of the 43 (86.0%) traditional care subjects were able to complete the interview on the 14th day postpartum. While most mothers had kept their questionnaire package, some did not have them and so were read the questions over the phone by the researcher. Typically it took 15 minutes to complete the questions by phone.

The two week postpartum sampling time was chosen because evidence suggests that the first week or two at home after the delivery is often a particularly difficult period of adjustment for new families (Gruis, 1977). One of the main objectives of the MCCP is to better prepare families for this transition so a comparison between study groups at this time was necessary. It was also hypothesized that the effects of the hospital experience may diminish significantly beyond two weeks postpartum.

The open-ended questions regarding the mothers' postpartum experience were done with ten mothers from each hospital. Twenty subjects were randomly

coded prior to recruitment so that all subjects agreed to the possibility of a visit, but not all received one. The visit was arranged after completion of the telephone questionnaire, and was scheduled between two and three weeks postpartum. It averaged an hour in duration and the researcher wrote the responses as the subjects' described their experiences.

This procedure was pilot tested on the first five subjects from each hospital to ensure convenience for the subjects and appropriateness of the data collection process. No major changes to the procedure, and only minor changes to the final demographic questions enabled these subjects to be included in the final sample.

Data Analysis

All analyses were computed using the Statistical Package for Social Sciences (SPSS) (Norusis, 1988). To determine group equivalence, the two treatment groups were compared using a Student's t-test or a Chi-squared analysis on the demographic, possible extraneous, and treatment variables including the following: maternal age, previous infant care experience, cultural background, the number of years the couple has been together, socioeconomic status, pregnancy and labour stress, method of infant feeding, length of hospital stay for mothers, and time spent in the hospital by father/care partner.

To answer the first research question regarding maternal and infant complications after discharge, the two study groups were compared using a Chi-squared analysis based on their YES/NO responses at two weeks postpartum. To answer the second research question regarding perceived self- and infant-care

competence, total self- and infant-care scores from the PCQ at each sampling time were determined and the mean scores for each treatment group at each time calculated. For the third research question addressing perceived social support in general and perceived support from the partner, total scores from the PRQ were calculated to assess perceived social support in general. For perceived support from partner, a score from the four partner support items on the HIGQ was calculated and then multiplied by the score obtained from the satisfaction with help item to obtain an overall perceived assessment of help score. For the fourth research question, maternal stress in general was assessed with a numerical rating scale and as well, stress related to self-care and infant-care with two more rating scales. Total scores from the numerical rating scales were subjected to the same analysis. For each questionnaire, mean scores for each treatment group at each sampling time were calculated and compared with a 2x2 (group by time) repeated measures analysis of variance. For all analyses, a p value of less than .05 was considered evidence of statistical significance.

The last research question was addressed with open-ended questions. An initial review of these data suggested that the two study groups' descriptions of their experiences were very similar. Therefore, the data from both groups were first analyzed together to extract patterns relating to all the mothers' postpartum experiences. The responses of the subjects were read without being mindful of the question asked, so that an overall flavour or impression of the mothers' thoughts could be captured. The interview data were then further organized into categories to elicit an overall description of the material obtained and the general

themes noted. The themes were confirmed by a second reader who was asked to generate themes from the data of five randomly selected subjects. These themes were then compared to those developed by the researcher to confirm the final results. Finally, each theme was compared between the study groups to identify potential differences.

Results

The purpose of this study was to examine the impact of a Maternity Cooperative Care Program on first-time mothers during the first two weeks postpartum. The prevalence of maternal and infant complications, as well as, maternal perceived competence, social support, and stress were compared between those participating in such a program and a similar group of mothers who received traditional care. The postpartum experience of mothers participating in each type of program was also described.

Study Sample

One hundred eighty-seven mothers were approached to participate in the study, 89 in Cooperative Care and 98 in traditional care. Forty-four in Cooperative Care and 53 in traditional care refused to participate. Of the refusals at the Cooperative Care Unit, 12 (27.3%) reported having "too many other things to deal with", 9 (20.5%) stated they were "too tired or too late in the day to be interviewed" and 7 (15.9%) felt "it was not a priority and were to busy with the baby". At the traditional care unit, 13 (24.5%) reported "not interested", 11 (20.8%) were "too tired", and 10 (18.9%) felt they had "too many other things to deal with or too much going on". Four in the Cooperative Care group and two in the traditional care group were not included in the data analysis after failing to meet the study criteria once recruited. The final sample consisted of 84 first-time mothers, 41 in Cooperative Care and 43 in traditional care. With this sample size, an alpha of .05 and a power of .80, and using a 2x2 (group by time) repeated measures analysis of variance (Polit & Hungler, 1991), this study was able to

detect a moderate or larger effect (ETA-squared = .06).

The final sample of 84 mothers were interviewed in hospital between 24-48 hours postpartum, and again on the 14th or 15th day postpartum (one was interviewed on the 18th day postpartum). Demographic and other possible extraneous variables were compared between the groups to identify any variables that might impact on the study outcomes. The demographic variables were similar between the two groups (Table 2). The mothers were typically married, Caucasian, English-speaking, with an average age of 28 years. The groups also were similar with respect to most of the possible extraneous variables examined (Table 3). The groups, however, were significantly different regarding the time of day the mothers delivered (MCCP = 14 between 07-1500 hours, 20 between 1501-2300 hours, 7 between 2301-0659 hours; TC = 17 between 07-1500 hours, 10 between 1501-2300 hours, 16 between 2301-0659 hours), and the time of day interviewed in hospital (MCCP = 4 between 08-1800 hours, 37 between 1801-2300 hours; TC = 34 between 08-1800 hours, 9 between 1801-2300 hours).

Treatment variables were those variables that were related to the types of hospital care received and were examined to determine if the groups did receive the expected different treatments (Table 4). The groups were significantly different on length of time the mothers spent on the postpartum unit (MCCP = 45.7 hours; TC = 51.7 hours), and the length of time the subjects' partners spent on the postpartum unit (MCCP = 34.1 hours; TC = 20.4 hours). One MCCP subject was an outlier for length of stay on the postpartum unit (90.0 hours) and for length of time her care partner spent on the postpartum unit (85.5 hours), but

Table 2: Comparison of Cooperative Care Group (n=41) to Traditional Care Group (n=43) on Demographic Variables

Demographic Variables	MEAN (SD)	Median	Range	t Value*	p
Subject's age					
MCCP (n=41)	28.2 (3.10)	28.0	22-35	0.17	ns
TC (n=43)	28.1 (3.63)	29.0	21-35		
Subject's partner's age					
MCCP (n=41)	30.6 (4.61)	30.0	23-45	-0.02	ns
TC (n=43)	30.7 (5.53)	30.0	21-46		
Hollingshead score					
MCCP (n=41)	48.5 (12.85)	49.0	17-66	0.44	ns
TC (n=43)	47.4 (11.30)	50.0	22-63		
Years couple living together					
MCCP (n=43)	2.6 (1.73)	2.50	0-8	0.06	ns
TC (n=41)	2.6 (1.89)	2.00	0-10		

Note:
MCCP = Maternity Cooperative Care Program TC = Traditional Care
* Two-Tailed T-Test for independent means ns = $p > .05$

Demographic Variables	MCCP n (%)	TC n (%)	χ^2(df)*	p
Marital status				
1. Living together	38 (92.7)	42 (97.7)	$\chi^2(1) =$ 0.32	ns
2. Not living together	3 (7.3)	1 (2.3)		
Ethnicity of subject				
1. Caucasian	34 (82.9)	35 (81.4)	$\chi^2(4) =$ 3.47	ns
2. Asian	2 (4.9)	0 (0.0)		
3. Black	0 (0.0)	1 (2.3)		
4. Latin American	2 (4.9)	2 (4.7)		
5. other	3 (7.3)	5 (11.6)		

Note: MCCP = Maternity Cooperative Care Program (n=41)
TC = Traditional Care (n=43)
* Chi-Squared Analysis ns = $p > .05$

(Table 2 continues)

(Table 2 continued)

Demographic Variables	MCCP n (%)	TC n (%)	χ^2(df)*	p
Ethnicity of subject's partner				
1. Caucasian	34 (82.9)	35 (81.4)	$\chi^2(4)$ = 1.37	ns
2. Asian	1 (2.4)	0 (0.0)		
3. Black	1 (2.4)	1 (2.3)		
4. Latin American	1 (2.4)	1 (2.3)		
5. other	4 (9.8)	6 (14.0)		
First language spoken for subject				
1. English	23 (56.1)	18 (41.9)	$\chi^2(2)$ = 1.79	ns
2. French	5 (12.2)	8 (18.6)		
3. other	13 (31.7)	17 (39.5)		
First language spoken for subject's partner				
1. English	21 (51.2)	22 (51.2)	$\chi^2(2)$ = 0.01	ns
2. French	6 (14.6)	6 (14.0)		
3. other	14 (34.1)	15 (34.9)		
Planned pregnancy	39 (95.1)	38 (88.4)	$\chi^2(1)$ = 0.52	ns
Prenatal classes				
1. Yes (most classes)	27 (65.9)	33 (76.7)	$\chi^2(1)$ = 0.74	ns
2. No (none)	14 (34.1)	10 (23.3)		
Previous experience with infant care	22 (53.7)	18 (41.9)	$\chi^2(1)$ = 0.75	ns

Note:
MCCP = Maternity Cooperative Care Program (n=41)
TC = Traditional Care (n=43)

ns = $p > .05$
* Chi-Squared Analysis

Table 3: Comparison of Cooperative Care Group (n=41) to Traditional Care Group (n=43) on Possible Extraneous Variables

POSSIBLE EXTRANEOUS VARIABLES	MEAN (SD)	Median	Range	t Value*	p
Pregnancy stress scores (max. = 9)					
MCCP (n=41)	3.5 (2.16)	3.0	1.0-9.0	-0.57	ns
TC (n=43)	3.8 (2.66)	3.0	1.0-9.0		
Labour & delivery stress scores (max. = 9)					
MCCP (n=41)	5.5 (2.38)	5.0	1.0-9.0	-1.14	ns
TC (n=43)	6.1 (2.47)	7.0	1.0-9.0		
Labour time (hours)					
MCCP (n=41)	12.4 (5.94)	10.7	3.2-31.2	0.27	ns
TC (n=43)	12.1 (5.82)	11.2	3.5-26.5		
Time partner present during labour (hours)					
MCCP (n=41)	12.1 (5.75)	10.7	3.2-31.2	0.35	ns
TC (n=43)	11.6 (5.99)	10.7	0.0-26.5		
Number of calls made to subject by community nurse					
MCCP (n=41)	0.6 (0.50)	1.0	0.0-1.0	1.46	ns
TC (n=43)	0.4 (0.54)	0.0	0.0-2.0		

Note:
MCCP = Maternity Cooperative Care Program TC = Traditional Care
* Two Tailed T-Test for independent means ns = $p > .05$

(Table 3 continues)

(Table 3 continued)

POSSIBLE EXTRANEOUS VARIABLES	MEAN (SD)	Median	Range	t Value*	p
Number of homevisits by community nurse					
MCCP (n=41)	0.4 (0.49)	0.0	0.0-1.0	0.16	ns
TC (n=43)	0.3 (0.48)	0.0	0.0-1.0		
Number of return visits to hospital					
MCCP (n=41)	0.3 (0.61)	0.0	0.0-2.0	0.94	ns
TC (n=43)	0.2 (0.41)	0.0	0.0-1.0		
Hours postpartum interviewed in hospital					
MCCP (n=41)	31.1 (6.27)	29.5	24.0-46.5	-1.59	ns
TC (n=43)	33.4 (6.82)	32.7	24.0-47.7		

Note:
MCCP = Maternity Cooperative Care Program TC = Traditional Care
* Two-Tailed T-test for independent means ns = p > .05

POSSIBLE EXTRANEOUS VARIABLES	MCCP n (%)	TC n (%)	χ^2(df)*	p
Delivery time				
1. 0700-1500 hours	14 (34.1)	17 (39.5)	$\chi^2(2) =$ 7.1	< .05
2. 1501-2300 hours	20 (48.8)	10 (23.3)		
3. 2301-0659 hours	7 (17.1)	16 (37.2)		
Infant feeding in hospital				
1. Breastfeeding majority of feeds	39 (95.1)	37 (86.0)	$\chi^2(1) =$ 1.1	ns
2. Formula feeding only	2 (4.9)	6 (14.0)		

Note:
MCCP = Maternity Cooperative Care Program (n=41) ns = p > .05
TC = Traditional Care (n=43) * Chi-Squared Analysis

(Table 3 continues)

(Table 3 continued)

POSSIBLE EXTRANEOUS VARIABLES	MCCP n (%)	TC n (%)	χ^2(df)*	p
Infant feeding at home				
1. Breastfeeding majority of feeds	33 (80.5)	31 (72.1)	$\chi^2(1) =$ 0.42	ns
2. Formula feeding only	8 (19.5)	12 (27.9)		
Reason for choosing each hospital for delivery				
1. Obstetrician affiliated with and/or recommended hospital	28 (68.3)	32 (74.4)	$\chi^2(1) =$ 0.14	ns
2. other	13 (31.7)	11 (25.6)		
Time of day interviewed in hospital				
1. 0800-1800 hours	4 (9.8)	34 (79.1)	$\chi^2(1) =$ 37.95	< .05
2. 1801-2300 hours	37 (90.2)	9 (20.9)		
Partner present at hospital interview				
1. Yes	18 (43.9)	11 (25.6)	$\chi^2(2) =$ 3.13	ns
2. No	14 (34.1)	19 (44.2)		
3. Some of the time	9 (22.0)	13 (30.2)		
Time of day interviewed at home				
1. 0800-1300 hours	14 (34.1)	17 (39.5)	$\chi^2(2) =$ 0.28	ns
2. 1301-1800 hours	15 (36.6)	14 (32.6)		
3. 1801-2300 hours	12 (29.3)	12 (27.9)		
Number of days postpartum interviewed at home				
1. 14th day	34 (82.9)	37 (86.0)	$\chi^2(1) =$ 0.16	ns
2. 15th or 18th day	7 (17.1)	6 (14.0)		

Note:
MCCP = Maternity Cooperative Care Program (n=41)
TC = Traditional Care (n=43)
* Chi-Squared Analysis ns = p > .05

Table 4: Comparison of Cooperative Care Group (n=41) to Traditional Care Group (n=43) on Treatment Variables

TREATMENT VARIABLES	MEAN (SD)	Median	Range	t Value*	p
Length of time subject on postpartum unit (hours)					
MCCP (n=41)	45.7 (10.02)	43.5	34.5-90.0	-2.91	< .05
TC (n=43)	51.7 (8.99)	50.0	32.0-69.5		
Hours of mother's postpartal stay where partner present					
MCCP (n=41)	34.1 (15.35) ≅ 74% of stay	36.5	1.5-85.5	4.89	< .05
TC (n=43)	20.4 (9.51) ≅ 38% of stay	20.0	6.0-42.5		
Number of calls made to subject by hospital nurse					
MCCP (n=41)	1.4 (0.77)	1.0	1.0-5.0	no variance	
TC (n=43)	0.0 (0.00)	0.0	0.0		

Note:
MCCP = Maternity Cooperative Care
TC = Traditional Care
* Two-Tailed T-Test for independent means
ns = p > .05

TREATMENT VARIABLES	MCCP n (%)	TC n (%)	χ^2(df)*	p
Partner present at delivery				
1. Yes	39 (95.1)	40 (93.0)	$\chi^2(1) =$ 1.19	ns
2. No	0 (0.0)	3 (7.0)		
Missing	2 (4.9)			
Room at hospital				
1. Private (most of time)	41 (100.0)	9 (20.9)	$\chi^2(1) =$ 51.23	< .05
2. other	0 (0.0)	34 (79.1)		

Note:
MCCP = Maternity Cooperative Care Program (n=41)
TC = Traditional Care (n=43)
ns = p > .05
* Chi-Squared Analysis

was within 2 standard deviations of the mean score for each of the other variables tested, except for self-care competence at two weeks postpartum, and therefore, was included in the analyses. The care partners in the MCCP stayed approximately 74% of the mothers' stay, while the traditional care fathers stayed approximately 38% of the mothers' stay in hospital. The groups were also different on the type of room they occupied while in hospital (MCCP = 41private; TC = 9 private, 34 other), and the number of calls the hospital nurse made to the mother after discharge (MCCP = 1.4 calls; TC = 0 calls), but were the same regarding the presence of the subject's partner at the moment of delivery.

Maternal and Infant Complications

Maternal complications. Maternal complications were measured at two weeks postpartum based on a "YES/NO" response from the subjects regarding their medical health status (see Table 5). The Chi-squared analysis revealed that the two study groups were not different on the number of complications reported ($\chi^2(1) = .0$, $p > .05$). Three of the MCCP mothers reported complications, and two of the traditional care mothers noted complications. Among the MCCP mothers, the main complications were mastitis and breast abscess, as well as lower abdominal pain. In the traditional care group, the two complaints regarded a rash due to the mother's pregnancy, and another mother had to return to the hospital for a dilation and curettage (D&C) procedure.

Infant complications. Infant complications were measured at two weeks postpartum based on a "YES/NO" response from the subjects regarding their infant's health (see Table 5). The Chi-squared analysis revealed that the two

Table 5: Summary of Maternal and Infant Complications

Maternal Complications:

Type of Health Complication	MCCP	TC
1. Mastitis	2	0
2. Lower Abdominal Pain	1	0
3. Breast Abscess	1	0
4. Rash Relating to Pregnancy	0	1
5. Dilation & Curettage (D&C)	0	1

Infant Complications:

Type of Health Complication	MCCP	TC
1. Colic	3	3
2. Jaundice	2	4
3. Eye Infection	3	2
4. Nasal Congestion	1	0
5. Vomiting and/or Not Feeding Well	1	1
6. Returned to hospital regarding infant's health but medical reason not given	1	0
7. Concern relating to infant's urine	0	1

Note:
MCCP = Maternity Cooperative Care Program (n=41)
TC = Traditional Care (n=43)

study groups were not different regarding the number of infant complications ($\chi^2(1) = .0$, $p > .05$). Among the ten mothers in the MCCP and eleven mothers from traditional care reporting infant complications, the main complaints in both groups related to jaundice, colic, and eye infections.

Perceived Competence

Perceived self-care competence. Perceived competence with self-care activities was assessed by the Perceived Competence Questionnaire (PCQ). The mean self-care competence scores for the two groups at 24-48 hours postpartum and at two weeks postpartum are presented in Table 6. A two-group univariate Repeated Measures Analysis of Variance (rm ANOVA) of the mean self-care competence scores with time (day two, week two) as the repeated factor revealed that the groups were not significantly different ($F(1, 82) = .4$, $p > .05$). Self-care competence scores did increase significantly between day two and week two in the entire sample ($F(1, 82) = 49.0$, $p < .05$). Also, the increase in self-care competence scores was significantly higher for the traditional care group ($F(1, 82) = 4.4$, $p < .05$).

Given that the groups were significantly different on the mothers' time of delivery and time of interview in hospital, and that the increase in self-care competence scores was significantly higher for the traditional group, a three-way ANOVA was performed to determine if these variables were responsible for the differing rates of change in self-care competence scores over time observed between the two groups. The three-way ANOVA indicated no significant main effect ($F(2, 78) = .68$, $p > .05$), no significant two-way interaction [type of

Table 6: Maternal Competence, Social Support, and Stress Scores: Summary of Univariate Repeated Measures Analysis of Variance

Outcome Variables & Treatment Groups	Time 1 Scores: (24-48 hours postpartum) Mean (SD)	Time 2 Scores: (2 weeks postpartum) Mean (SD)	ANOVA RESULTS		
			Group	Time	Group × Time
Perceived Self-Care Competence (maximum possible score = 6)			$F(1, 82) = .4$ *** ns	$F(1, 82) = 49.0$, $p < .05$	$F(1, 82) = 4.4$, $p < .05$
* MCCP	4.7 (0.73)	5.0 (0.62)			
** TC	4.4 (0.86)	5.1 (0.56)			
Perceived Infant-Care Competence (maximum possible score = 6)			$F(1, 82) = 2.6$ *** ns	$F(1, 82) = 167.8$, $p < .05$	$F(1, 82) = 0$ *** ns
* MCCP	4.1 (0.71)	5.0 (0.57)			
** TC	3.9 (0.81)	4.7 (0.67)			
Perceived Social Support in General (maximum possible score = 175)			$F(1, 82) = 0$ *** ns	$F(1, 82) = 1.7$ *** ns	$F(1, 82) = .4$ *** ns
* MCCP	156.2 (15.95)	156.8 (14.26)			
** TC	156.1 (10.24)	157.7 (12.27)			

* MCCP = Maternity Cooperative Care Program (n=41)
** TC = Traditional Care (n=43)
*** ns = not statistically significant ($p > .05$)

(Table 6 continues)

(Table 6 continued)

Outcome Variables & Treatment Groups	Time 1 Scores: (24-48 hours postpartum) Mean (SD)	Time 2 Scores: (2 weeks postpartum) Mean (SD)	ANOVA RESULTS Group	Time	Group × Time
Perceived Partner Support (maximum possible score = 180)			$F(1, 82) = .6$ *** ns	$F(1, 82) = 2.0$ *** ns	$F(1, 82) = 2.2$ *** ns
* MCCP	158.1 (30.06)	148.7 (37.70)			
** TC	148.1 (32.11)	148.3 (36.05)			
Perceived Stress in General (maximum possible score = 9)			$F(1, 82) = .5$ *** ns	$F(1, 82) = .6$ *** ns	$F(1, 82) = .1$ *** ns
* MCCP	3.6 (2.24)	3.9 (1.97)			
** TC	3.4 (2.07)	3.5 (2.02)			
Perceived Self-Care Stress (maximum possible score = 9)			$F(1, 82) = 1.1$ *** ns	$F(1, 82) = .4$ *** ns	$F(1, 82) = .2$ *** ns
* MCCP	3.0 (2.01)	3.0 (2.10)			
** TC	2.5 (1.70)	2.8 (1.96)			
Perceived Infant-Care Stress (maximum possible score = 9)			$F(1, 82) = 0$ *** ns	$F(1, 82) = 3.6$ *** ns	$F(1, 82) = 2.2$ *** ns
* MCCP	3.8 (2.22)	3.7 (2.22)			
** TC	4.1 (2.17)	3.3 (1.81)			

* MCCP = Maternity Cooperative Care Program (n=41)
** TC = Traditional Care (n=43)
*** ns = not statistically significant ($p > .05$)

hospital program by delivery time ($F(2, 78) = 1.25$, $p > .05$); delivery time by time ($F(2, 78) = .09$, $p > .05$)], and no significant three-way interaction [type of hospital program by time by delivery time ($F(2, 78) = 1.04$, $p > .05$)] involving delivery time. The significant two-way interaction between type of hospital program by time remained significant ($F(1, 78) = 5.06$, $p < .05$), suggesting that delivery time did not impact on the rate of change in self-care competence scores between hospital groups. Another three-way ANOVA indicated no significant main effect ($F(1, 80) = .04$, $p > .05$), no significant two-way interaction [type of hospital program by time of interview ($F(1, 80) = 1.33$, $p > .05$); time by time of interview ($F(1, 80) = 2.63$, $p > .05$)], and no significant three-way interaction [type of hospital program by time by time of interview ($F(1, 80) = .30$, $p > .05$)] involving time of interview. The significant two-way interaction between type of hospital program and time remained ($F(1, 80) = 6.84$, $p < .05$), suggesting that time of interview did not impact the rate of change in self-care competence scores between the hospital groups.

Perceived infant-care competence. Mothers' perceptions of competence with infant-care activities were also assessed by the Perceived Competence Questionnaire. The mean infant-care competence scores for the entire sample at 24–48 hours postpartum and at two weeks postpartum are displayed in Table 6. A two-group rm ANOVA of the mean infant-care competence scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = 2.6$, $p > .05$), but infant-care competence scores did increase significantly between day two and week two for the entire sample

($F(1, 82) = 167.8$, $p < .05$). The rate of change was not significantly different between groups ($F(1, 82) = 0$, $p > .05$).

Perceived Social Support

Perceived social support in general. The second research question examined the mothers' perceptions of social support. The Personal Resource Questionnaire- Part II (PRQ) was used to measure social support in general. The mean social support scores for the entire sample at 24-48 hours postpartum and two weeks postpartum are presented in Table 6. A two-group rm ANOVA of the mean social support scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = 0$, $p > .05$). The social support scores did not significantly change between day two and week two for the entire sample ($F(1, 82) = 1.7$, $p > .05$), and as such, the rate of change was not significantly different between groups ($F(1, 82) = .4$, $p > .05$).

Perceived spousal support. This study included an assessment of mothers' perceptions of spousal/partner support. Five items from "The Help I Get" Questionnaire (HIGQ) were used to determine support from husband or partner. The mean assessment of help overall scores for the entire sample at 24-48 hours postpartum and at two weeks postpartum are presented in Table 6. A two-group rm ANOVA of the mean assessment of help overall scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = .6$, $p > .05$). Assessment of help overall did not significantly change between day two and week two in the entire sample ($F(1, 82) = 2.0$, $p > .05$) and as such, the rate of change was not significantly different

between the groups ($F(1, 82) = 2.2$, $p > .05$).

Perceived Stress

Perceived stress in general. The third research question examined the mothers' perceptions of stress. The level of stress in general was assessed with a numerical rating scale. The mean general stress scores for the entire sample at 24–48 hours postpartum and two weeks postpartum are presented in Table 6. A two-group rm ANOVA of the mean general stress scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = .5$, $p > .05$). General stress did not significantly change between day two and week two in the entire sample ($F(1, 82) = .6$, $p > .05$), and as such, the rate of change was not significantly different between the groups ($F(1, 82) = .1$, $p > .05$).

Perceived self-care stress. Mothers' perceptions of the stress associated with self-care was assessed by a numerical rating scale. The mean self-care stress scores for the entire sample at 24–48 hours postpartum and two weeks postpartum are presented in Table 6. A two-group rm ANOVA of the mean self-care stress scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = 1.1$, $p > .05$). Self-care stress did not significantly change between day two and week two in the entire sample ($F(1, 82) = .4$, $p > .05$) and as such, the rate of change was not significantly different between the groups ($F(1, 82) = .2$, $p > .05$).

Perceived infant-care stress. Mothers' perceptions of stress associated with infant-care activities were assessed as well, with a numerical rating scale.

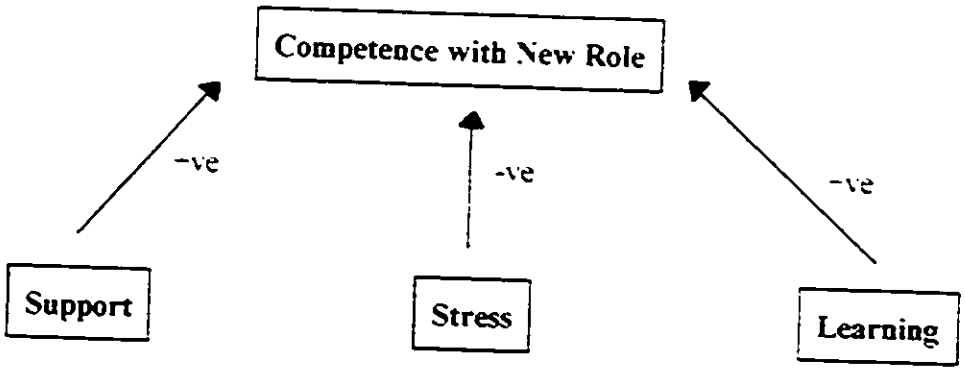
The mean infant-care stress scores for the entire sample at 24–48 hours postpartum and two weeks postpartum are presented in Table 6. A two-group rm ANOVA of the mean infant-care stress scores with time (day two, week two) as the repeated factor revealed that the treatment groups were not significantly different ($F(1, 82) = 0$, $p > .05$). A trend was noted toward a decline in the infant-care stress scores for the entire sample from time 1 to time 2, but this decline did not quite reach statistical significance ($F(1, 82) = 3.6$, $p = .06$). The rate of change was not significantly different between the treatment groups ($F(1, 82) = 2.2$, $p > .05$).

The Postpartum Experience

Study sample. Ten subjects from each hospital were chosen at random to receive a homevisit between the 15th and 25th day postpartum, with most receiving a visit on the 17th day. One subject selected for a homevisit could not be contacted and was replaced with another subject also selected at random. The duration of each visit averaged one hour, and the interview was semi-structured with twelve questions relating to their birth and postpartum experience. An initial review of the raw data suggested that descriptions from each group were very similar. Therefore, for this part of the study, the data from both groups were analyzed together with no attention given to the subjects' hospital care. The words and phrases used by the mothers to describe both their postpartum in-hospital and home experiences, were subjected to content analysis (Strauss & Corbin, 1990) and are summarized in a conceptual map in Figure 3. For two themes, however, there were distinct differences between the groups and these

Figure 3: Conceptual Map of Qualitative Data In Hospital and At Home

In Hospital Data:

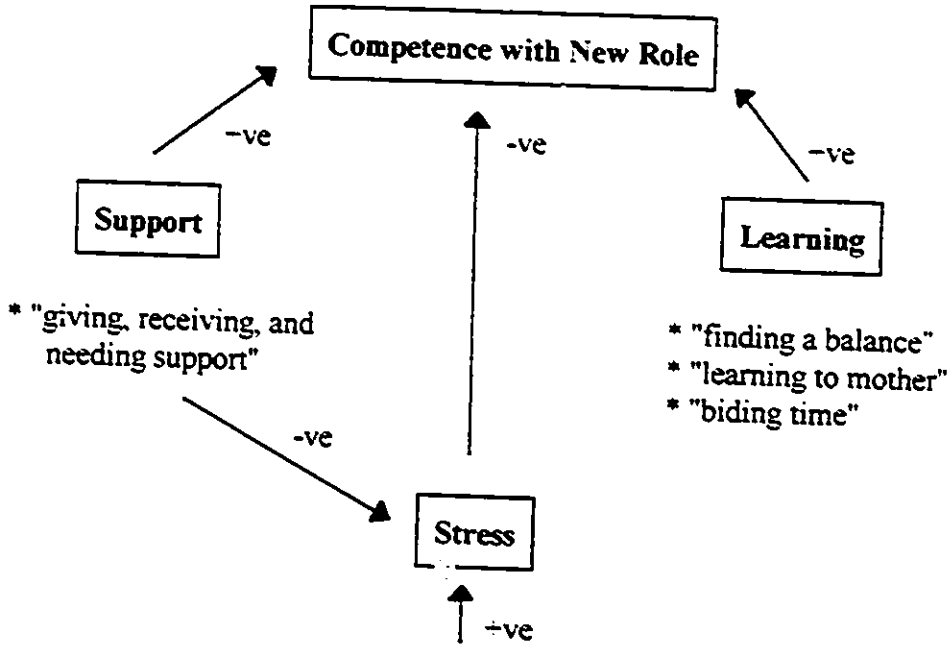


* "feeling cared for"
* "feeling awestruck"
* "feeling safe and secure"

* "feeling pain and fatigue"
* lack of "being in control"

* "getting ready"

At Home Data:



Note: "+ve" indicates increases and "-ve" indicates decreases

themes are presented separately for each group

The Postpartum Hospital Experience

The major themes that emerged from the mothers' experiences in-hospital revolved around four closely interrelated concepts: 1) competence and adjustment with their new role as mother; 2) support; 3) learning; and 4) stress (see Figure 3). The women frequently reported that the support from their husband, the baby, their extended family, and/or the health care staff enhanced their feelings of competence as a mother. This notion is highlighted in the emerging themes: "feeling cared for", "feeling awestruck", and "feeling safe and secure". Another positive influence on competence was learning, specifically learning by hands on experience, described in the theme "getting ready". The final notions described by the mothers, the stress of physical pain and lack of control, suggest a potential negative impact on competence and adaptation. These are articulated in the themes: "feeling pain and fatigue" and "being in control".

Feeling cared for. In describing the hospital postpartum time, many mothers focused on the care they received, and the need they had to feel cared for by the health care staff and their family. The care received was characterized as a need for attention, of not wanting to be alone, and a need to know someone was there to share with them. This need was seen in an example of one mother stating that she wanted her husband to be at the hospital at 7 am just to be there with her, to be the focus of his attention, and share the experience on some level with him. For many, feeling comforted and supported by the nurses was seen as a personal need, and the hospital experience was viewed negatively if they reported feelings

of abandonment or lack of caring. Benefits of the hospital experience included being able to relate to the nurses and develop some kind of rapport with the staff. Despite the challenge of learning to take care of the baby and themselves, feeling they were "understood" and "encouraged" by the nurses reduced their stress. One mother recalled feelings of worry regarding how slowly she had bathed her baby, but felt relieved when the nurse reassured her it would go better the next time. Several mothers remembered their experience in a positive way because the nurses were always "available", "friendly", and would "come and check" on them without having to be called first. One mother was left with a positive impression of the care she received after recalling how nervous she was about feeding her baby, but found the nurses' knowledge and helpful attitudes enabled her to relax and meet this challenge. Mothers that viewed their hospital time negatively, typically reported that the nurses were not "attentive" to their needs and/or that the care they received was "rushed" and there was "not alot of presence" from the nurses. Another negative impression about the care included a lack of consistency in the physical care given by the health care staff.

Feeling awestruck. The early postpartum days, for many of the mothers, were described as a time of unbelievability. One mother stated, "I couldn't believe the baby was mine", while another reported feeling "on cloud nine". Several mothers described their first days as a mother as "amazing", "like being in a dream", and that being in the hospital provided the opportunity to "let it sink in" that the baby has arrived. For some, it was not until after the first 24 hours postpartum that the attention of the mother was focused on the baby, and one

mother felt that it was not until the first day after delivery that she "fell in love with him [baby]". One mother reported a constant desire just to look at the baby even though she knew she needed to sleep.

Feeling safe and secure. For most mothers the hospital time after delivery was looked upon as a time of recovery, of being taken care of while still maintaining control over the experience, and of knowing professional assistance could be sought if needed. The safety of the hospital was described positively by one mother as it allowed her to "ease into motherhood". While for some this need was not met, there was still a sense and an expectation that the hospital would provide security, and that they were looking to the health care staff "for all the answers". For both groups, the physical environment was remembered, and while more often that not suggestions were made for improvement, the most common request was for privacy and personal space. Privacy was a fundamental issue and one mother declared that "having a private room is key", as this would allow for more freedom regarding visitors, space for significant others to stay, and the seclusion to care for and bond with the baby. The process of labour and delivery, as well as the first days with the baby were seen as stressful and challenging events, often eased by the feelings of knowing one was in a safe, supportive environment.

Getting ready. The postpartum hospital experience was also seen as an active time of preparing, a time for learning, and of taking the necessary steps to get ready for discharge home. In describing their postpartum hospital experience, many mothers recalled feelings of readiness to be discharged home. One mother

reported that she did not feel panic when she got home, as her hospital experience had prepared her for that event. Another felt well-prepared to go home because she had been "thrown right into it [caring for the baby]" from delivery, and felt that learning about herself and the baby in hospital made the experience "invaluable". Upon reflection, one mother felt that having learned how to care for herself in hospital had helped her heal faster once at home as she had followed the health care advice offered. Several subjects commented that the information received in hospital made it easier to cope at home with their new lifestyle. In describing a positive postpartum hospital experience, feeling confident and capable were key factors. One mother specifically stated that she liked the fact that the nurses were concerned about teaching her as much as possible, especially regarding life at home with the baby.

When negative comments were made in relation to the hospital postpartum time, it typically included a sense of not being prepared to go home, receiving "no solid advice", many different opinions, and/or "contradictory" instruction, resulting in feelings of fear and a lack of confidence. While some mothers appreciated a variety of options to draw upon in meeting their challenges, many regarded it as being inconsistent, resulting in confusion. They wanted one solution until they had mastered the essentials of baby care.

Recognizing that the first weeks at home would involve challenges for each mother, many needed and/or were prepared to meet this task having gained confidence, as much experience with the baby as possible, and knowledge in hospital. Each mother in her own way had an agenda with the expectation that

the hospital would provide guidance and that they would receive answers as to how to care for the baby and themselves, and or that this was the opportunity to ask for help regarding health care issues

Feeling pain and fatigue. In describing the early postpartum days, many mothers focused on the issue of feeling tired and or being in pain. Common comments ranged from "really exhausted when first had baby" and "left hospital feeling tired" to very sick with "physical pain of headache". Many mothers wished they could have stayed longer in hospital, and some wondered if sending their baby to the nursery their first night might have eased their fatigue before going home. Strategies to alleviate this stressor reported by the mothers included having significant others present during hospital stay ("happy that I had someone because I needed it"), having the nurses help out with the baby allowing the mother to rest, and finding comfort in the support the nurses gave in attempting to reduce the physical pain. Negative comments were noted when the mothers felt they should have been informed about their physical condition in greater detail and been taught how they could aid their own healing process.

Being in control. In the descriptions of the mothers' hospital experiences, references were made with regard to feeling in control of their postpartum time. While most viewed their labour and delivery as an event that they had limited control over, the hospital postpartum experience was viewed as a time when their control and decision-making responsibilities were regained. For one mother, after changing to a private room, the freedom to control that environment and care for herself and her baby in that setting changed from a negative experience to

"everything I wanted it to be". Positive experiences were described in reference to having the nurses do what the mothers requested, such as, calling them to feed the baby at night if they were not rooming-in or having the freedom to care for themself, such as, taking a shower immediately after delivery if that was the decision they made. Another favoured the fact that the nurses offered advice, but let her make her "own experience and decisions". Several other mothers echoed this idea, stating that while it was important to access the nurse's skills when needed, it was equally important to be left on their own and shape those early postpartum days. One mother particularly wanted to do all the care for her baby, as she felt that being in charge of this responsibility from the very beginning would make her time at home less stressful. A negative experience was described by one mother who did not feel in control of her postpartum hospital time, and was disturbed by the fact that she felt as though she was being "forced to do things", instead of her needs being listened to and respected. These feelings reflect the notion that the mothers were needing and beginning to feel confident and competent about their situation, and felt stressed when this need for control and decision-making responsibility was not respected.

The Postpartum Home Experience

The themes emerging from the mothers' postpartum home experiences focus on the factors that impacted on their role as a competent mother and the stress of meeting the demands of this role effectively (see Figure 3). In terms of stress, multiple demands, the change in lifestyle, the baby's needs, visitors, finances, fatigue, and lack of instrumental and emotional support, as well as

feeling incompetent in their role, all impacted on their perceptions of themselves as successful, new mothers. These notions are highlighted in the themes "the overwhelming responsibility", "the changing lifestyle", "cocooning" and "fighting fatigue". Interrelated with the notion of stress was the concept of support. The mothers' words reflected the idea that support had a positive impact on their feelings of competence in being an effective mother, while instrumental support aided in fighting fatigue, both decreasing stress. These notions are specifically articulated in the theme: "giving, receiving and needing support". Learning was also interrelated with stress and feelings of competence. Being in control and learning to mother, as well as believing that learning requires time, increased feelings of competence while decreasing stress. The impact of learning is outlined in the themes: "finding a balance", "learning to mother", and "biding time".

The overwhelming responsibility. The first days at home were, for many mothers, the time when the awareness of the demand and responsibility that comes with being a parent was truly realized. Some mothers never expected the first week at home to be as difficult as what they experienced, and one mother felt she was "being pulled in every direction". While many did feel prepared to go home, once in that situation "all doubts returned". Several mothers stated that they were "nervous" about being alone with the baby, and that even though they knew technically how to care for the baby, the realization that they were solely responsible for this infant was frightening, especially as it was their baby. The mothers questioned their ability to care for their baby, felt there was no room for

error, and some suddenly felt helpless. Fear that something would happen to the baby, such as it would choke or stop breathing, was a concern of the mothers and was heightened once away from the safety of the hospital. The baby's crying tried the patience of some mothers and as one woman said, "it [the crying] starts to get to you". Many had not anticipated that breastfeeding would be a challenging, full-time job, and were overwhelmed by how "time consuming" it was, often causing them to question whether they should continue. From very practical issues such as feeding and calming the baby, to future planning for the baby such as daycare, all notions reflected that the mothers' foremost concerns linked to their infant. These immediate infant care concerns, as well as future thinking, suggested that the broad scope of this responsibility elevated the resultant emotions. To illustrate the postpartum experience one woman described labour and delivery as a "little step" compared to the "big hurdle" of life with the baby.

Combined with their fears relating to the baby's well-being was the added responsibility of caring for themselves, others and the home which, for many mothers, often felt like too much to handle all at once. Finding time to care for oneself became a challenge, and as one mother stated, "taking a shower is a treat". Many mothers stressed the difficulty of maintaining the housework, and one mother felt it was hard to be patient when "you feel like you're doing all the work". One mother felt that she needed "help with everything", and another felt that "cooking was the hardest part". Some found the greatest challenge was to maintain their own health in order to care for the baby, and fought depression and the "baby blues". Most mothers felt an added responsibility to maintain a strong

relationship with their husband, that they wanted to keep him involved, and did not want him to feel neglected. One mother felt particularly stressed because she sensed that her husband still expected his meal to be ready after work, and she was having difficulty meeting this need. Some expressed a desire not to "forget us as a couple", and worried about adjusting as a couple. New financial concern was another cause for feeling overwhelmed with responsibility.

The changing lifestyle. While for some mothers the responsibility may not have been overwhelming, none could disagree that their whole life had changed, and as one mother stated, she had entered a "different phase" complete with new choices, new schedules, and new roles. This new lifestyle was described as a "rollercoaster ride", full of "ups and downs", with "trying times" and "great moments". By the end of the first week the sense of permanency in caring for the baby takes hold, and as one mother articulated, there were feelings of being "stuck, but not in a bad way", and a feeling of not being able to "just pick up and go". Some mothers felt "housebound", "cooped up" and found it "difficult to be in doors so much", while others who did go out stated they found themselves returning "very fast" in order to be with the baby once again. Some mothers were glad not to have to return to their previous employment, while one mother stated that she "missed" her job and found caring for the baby at home "quite boring".

The new schedule associated with this lifestyle caused some mothers to question when they would find time for themselves again. One mother stated that she could not imagine herself "doing crafts or any other interests again", while

another was disheartened by the fact that she could not even have dinner with her husband as she had before the baby. Some women began questioning whether they would actually like being a mother, and whether they were going to be a good mother. The lifestyle change also impacted on how some of the mothers saw themselves, and several feared that they would lose their own identity.

From getting up at night, to trying to fit all the chores into a daily schedule, to simply having another person in the house, the baby's presence impacted on the couple's lifestyle. Even the husbands' schedule was affected in that several fathers were coming straight home from work instead of doing other activities and as one mother articulated, she and her husband had been "fighting" the necessary adjustments they needed to make with the baby's arrival. The shift from seeing themselves as a couple, to seeing themselves as responsible parents while still remaining a couple, was stated as a change and a challenge. These changes in their old way of living caused many to feel that "adjusting is tough".

The lifestyle change included making new priorities such that the baby came first and everything else was secondary. Several mothers reported the notion of "letting things go" such as cleaning, and that the baby's needs "come first". This was viewed as a necessary attitude for both the mother and father, and as "only temporary". This attitude worked well if the husband was "independent" and/or particularly involved in the baby's care, but caused some mothers feelings of guilt that their husband was being neglected if that same attitude was not shared. Another attitude adopted for this lifestyle involved forcing oneself to be patient or to relax when feeling stressed and to have a positive outlook on life.

Techniques to relax included going to see a movie, walking, a car ride, taking a bath, and one mother made it a rule that, while it might be easy to do, she did not "want to be in pajamas all day" Finally, for some their changing lifestyle evoked an attitude of "just deal with it [life with the baby]" and "go with the flow"

Other compensating adjustments were made for this new life. The mothers reported having people over to their house instead of going out, in order that they could watch over the baby while still socializing with friends. Breastfeeding forced some mothers to change their eating habits, while one mother stated that her decision to switch to bottlefeeding made adjusting to life with the baby easier for her. The greatest challenge for some, was simply to accept the help of others and allow others to care for the baby. A necessary adjustment for the couple involved "getting help" or "asking for help" such as getting a babysitter. All of these changes in attitudes, roles, routines, and priorities reflected the evolving structure of the couple's new life with their baby.

Cocooning. For several mothers there was a need in the immediate postpartum just to be alone with the baby and settle into some type of routine. One mother reported that she liked "only being with the baby" in order to get to know him and another stated that having had visitors her first week at home, her second week was better because she was "with the baby all the time". There was a need to limit visitors and one mother in particular expressed that she wished "people [visitors] would give us time alone at the beginning [first week at home]" as she found the visits disruptive and that "bonding was better in hospital". One mother who had delivered during a holiday season found it particularly stressful

having visitors, noting that life was easier with the baby once the holiday was over. Others found it "hard" with all the phone calls and people "dying just to see a newborn". Mothers reported that "visiting was the worst part" when they were not prepared to entertain, that it was "tiring", and one mother stated that even with her parents staying to help it was sometimes "stressful". Another mother described a situation where she had too many visitors, with everyone wanting to give the baby its bottle, forcing her "to take charge" and limit the number of people visiting. Others reported that it was easier having people make "short visits", while some preferred "almost no visitors at all" during the first weeks at home. Some mothers wanted specific qualities in their visitors, such as being "competent" in baby care (otherwise they were "in the way"), that they were "not intruding" with their help, and that it was best if it was someone they were "close to" such as an immediate family member. One mother also described a difficulty she had when her husband did not sense her need to limit the number of visitors they received once at home. For most, the realization of being a "family now", and the sharing of "positive moments" between the three family members, were often facilitated by the new family having time on its own to the limitation or exclusion of visitors. One mother summarized that which several others conceded, stating she "would have liked to have been in a cocoon", to care and come to know her developing family.

Fighting fatigue. The physical stress of fatigue was an issue that continued in the early postpartum period at home especially as many returned from the hospital already tired. Many reported feeling "so tired", "exhausted",

that "sleep deprivation was hard to get use to", and that even though the hospital had exposed them to sleepless nights, it was "still hard". Some found they were "mixing up day and night", that they "hadn't anticipated being tired and in pain", that it was "hard to get up" for feedings, and described the time at home as "long days". While some did report it was "not as tiring" as expected, that they were "coping better " than they thought without sleep, and found "energy" they did not know they had, many viewed the alteration in sleep as the "main thing" and most difficult change. Many reported that if they did not sleep well they did not feel well, and how it affects them "influences everybody". One mother reported that in addition to dealing with their new life, it "did not help" if she was feeling tired. For some mothers feeling tired meant being "short-tempered", "upset easily", and an inability "to see things rationally". One mother stated that "lack of sleep has lots to do with" her feelings of depression or feeling "down". For some fatigue was related to "worrying" about the baby, as noted by one mother who found it difficult to leave her baby to sleep. One mother was afraid she was going to do something wrong at night when she was feeling most exhausted.

For many mothers a high priority was to get more sleep. The solution to this often included learning "to relax" and sleeping whenever possible. Some mothers mentioned being able to rest if someone else was caring for the baby, such as their husband, parents, or a babysitter. Other strategies included going to bed in the early evening, drinking "coffee", chewing "gum", and one mother reported that taking a bath or walking "picks me [the subject] up". For mothers who were bottlefeeding, their husbands were helping with the feedings to allow

the mothers to rest, and one breastfeeding mother was contemplating introducing a bottle so that she too, could get more rest. Other mothers were expecting their sleep pattern to improve once the baby was on a more predictable schedule, while others were getting "use to it [the sleep schedule]" and were finding the quality of their sleep improved, having adjusted to their lifestyle. Indeed, each in their own way was striving to feel rested and healthy for their baby and themselves.

Giving, receiving, and needing support. Many mothers talked about the different forms of support they experienced. One mother noted how satisfying it was that she had something to give while "not expecting anything in return" from the baby. Several other mothers felt that being able to breastfeed their baby was important and something they wanted do to for the baby's well-being. One mother felt "very important to the baby" as only she could feed the baby, and felt that breastfeeding was "quite special" because it meant she was the sole provider for the baby in this regard. Another mother remarked that caring for the baby was a "pleasant demand", while others delighted in knowing that the baby was theirs, and found comfort in "sitting and staring" at the baby, so that while they were giving support they also received it from the baby in its expressions and reactions.

While a few mothers reported managing with limited help from their family, many mothers noted that having support from their husbands and families made a difference. Many mentioned that their husband's encouragement was important, and one mother stated that, had her husband not been "supportive" and given her "coaching", she might have given up breastfeeding. Many mothers stated that having their husband home the first postpartum week "helped", and

one woman found that "taking turns" with her husband in caring for the baby as they had in hospital gave her relief. Another mother reported that having her husband and mother "do everything", such as make decisions, was helpful as they were "more calm and not in pain". One mother stated that talking with her husband and mother made her feel better, while others mentioned that it was helpful when their husbands were "patient", or were verbally supportive in providing positive feedback with regard to the baby's care. Feeling supported often meant being understood, as one mother noted it "helps hearing his [her husband's] understanding". Another example of support specifically from the husband was reported by one mother when she stated her husband "takes over [the baby's care] when he sees I'm frustrated", while another noted that the ability of her husband to recognize when she needed "time out" and to take a "shift" in caring for the baby was most helpful. One mother who switched to bottlefeeding reported that "it is better now because two people are caring for the baby", suggesting that her husband was able to participate to a greater extent in the baby's care. One husband was reported to have called his wife during the day to find out how she was feeling and if she needed anything, which the mother found very supportive and considerate. In essence, having a partner who was "there for the baby", "helpful with the baby's care", and there "just to talk to" was of importance for many mothers, making them feel reassured and supported.

Family was often referred to in general when the mothers described examples of support. Many echoed the sentiment of one mother that "having an adult in the house makes a difference", and having help with such things as

meals, laundry, cleaning, household chores, and baby care from any family member made "it [the first postpartum week] easier" and was "very helpful". The help from family members was valuable as they gave "advice", "encouragement", "energy", came "to help when I [the mother] needed them", and/or their presence, which one mother articulated as her family "just being there". One mother stated that with the birth of her child there was "more love around", and that she appreciated her family's concern for her health and how they "mother" her.

Talking with friends and professionals was cited as a source of support. One mother stated that "having friends to talk to made it [adjusting] easier". Several mothers reported that talking with friends about "different concerns and feelings" was helpful and reassuring. The reactions of friends and professionals to the baby and its well-being were also considered, and provided comfort if the review was favourable. Many found their visit to the pediatrician helpful and felt reassured to know the baby was thriving. Others reported that the postnatal "follow-up" was beneficial, and simply knowing they would receive a phone call from a health care professional provided comfort and security.

Negative postpartum experiences often reflected feeling a lack of support. Many mothers needed someone to reassure them they were effective mothers. When there was no feedback some mothers wondered, "Am I doing this right?" and felt unsure. One mother found it difficult because her family did not live nearby, and as she noted, "you want family around". There were difficulties if mothers expected, but did not feel support from their husbands with regard to meals and cleaning, causing some to feel "lonely". A conflict of opinions

between one mother and her mother-in-law, left the mother feeling a lack of support and respect regarding the way she was caring for her baby. For one mother who received very little instrumental help, she felt that having someone with her during the first week at home "to cook and clean, would have made it [adjusting] easier". Another mother stated that having someone she was "close to", who she could talk to and who could help with chores would have provided relief and comfort. Comments such as "no help so it was hard" and "he [husband] doesn't see when I need help", echoed the need of mothers to feel supported.

Finding a balance. To meet the challenges of their new lifestyle, several mothers verbalized a strong desire to establish a routine or pattern to their life, that it might have more stability and predictability. There was a need to gain control over this new situation, and to find some sense of balance or structure. There was a need to "bring back the old [life] a little", and a wish to bring "things back to normal". One mother felt frustrated as she did not know what was going to happen from one hour to the next, and stated she would feel better when this lifestyle was "not new". Another believed that once her baby got on a schedule they would "both be more comfortable". Comments that the mothers made, such as "feeling stronger" were linked with notions such as "things falling into place", "not so overwhelmed", "more in control", and "getting use to things". One mother reported feeling more self-confident when she knew what her baby's reactions meant and she could "anticipate" those reactions.

Feeling positive about the postpartum experience was often linked with being able to "juggle the schedule", and make decisions, having become

empowered by accomplishments in their new role. One mother reported relief knowing that each day's successes could be repeated another day if in a similar situation. Another reported that organizing her environment as much as possible was important, and once doing that she "was fine". One mother worried, when she first came home, about "every little noise" the baby made, but found that as time passed, she was not as startled by the sounds and reported that she was "getting better at that [being worried about the sounds]", a step in gaining control. For some, they were still struggling to find that balance, and felt that life would be better when they got "more comfortable with things". Taking charge of their life schedule in one form or another, reflected the hope of establishing control in what felt like an overwhelming situation at times.

Learning to mother. Many mothers described how they were learning to mother and care for their baby as well as how comfortable they were in that role. The actual learning itself, in whatever shape or form it took, was important to the mothers. One mother articulated that the first few days at home were worse because she was "lacking opinions" about the baby's care, and another felt confused because her husband, after reading about baby care, had conflicting ideas with her own. Questions such as: "Am I doing this [baby's care] right?" and "Am I doing the right thing at the right time?" were asked by the mothers. One mother felt particularly disadvantaged having had headaches in the hospital that left her feeling as though she had not had enough time with the baby and had to "start over at home" and "learn for" herself. For most, the more they knew the easier the task became as seen in the statement, "learning more about

breastfeeding makes it easier", and as one mother stated, "getting information" made it less stressful at home. One mother reported feeling scared when she did not know why her baby was crying, while another expressed helplessness in "not knowing what to do with the baby sometimes". There were wishes such as "I wish I could speed up the [baby's] bath", small steps of improvement such as one mother's experience of "improving daily" whereby she knew more about her baby, and there were moments when it all came together such as one mother's statement that it was "very fulfilling when I can calm him [baby]", reassuring her that she was "doing OK".

Many mothers reported different forms of learning. One common method of learning was through "trial and error". Mothers stated they were "learning by doing", that caring for the baby was "really hands on" learning, and that the "time spent doing it [baby care]" helped their learning. Many mentioned reading books, contacting their doctors and/or going for a check-up, "taking all the resources" such as community services, and receiving postpartum follow-up calls, all of which, by demonstration or verbal feedback, provided the necessary answers. Several mothers received advice about baby care in talking with their own mothers, sisters or learning through "other people's experiences", and often found "a quick solution". This advice was welcomed if the ideas were not forced, as many needed to take the advice and then decide what was best for their situation. For some, the care of their baby was seen as instinctual and they knew how to handle situations because "instinct kicks in". Prior babysitting was reported to have helped some mothers, and several mothers mentioned that they were

"repeating the same gestures" as their own mothers, which was "helpful and reassuring". Others found that role-modeling, after watching their own mothers in action with their baby, was useful by seeing how they "handle situations", and/or by watching other mothers handle situations they learned whether or not they wanted to imitate the same care. Some reported that prenatal classes were useful but "not too much", and that their hospital learning made some things easier to handle. Finally, the mothers often learned how effective their mothering was based on the response of other people toward their baby, as well as the baby's responses and well-being.

Biding time. The postpartum time was often seen as a stressful period and given this, many mothers were looking for ways to help them adjust, one of these was the belief that "time" would help. Among many of the mothers there was a certain acceptance that with the passing of time life would get better and their lives would settle into routine once again. One mother stated she was "waiting for time to help" her, while another was able to cope by simply "knowing it will get better". For others there was a sense of taking it "day by day" and "one day at a time", believing that with the passing of each day it "gets easier". A strategy in adjusting to their new lifestyle was often articulated as "need time" and the "time you spend doing it [baby care]" will make it easier. One mother with a colicky baby took consolence in the fact that friends had told her time would pass much faster than she would realize, and she had rationalized that "in a few weeks things will be better". Another believed her mother's words that it was "going to get better", and knowing her mother had gone through a similar experience, took

comfort, believing her words to be true. Others were witness to the fact that their schedules were improving as stated by one mother who found that after two weeks she could finally "call it [baby care] fun". One mother described a difficult time she and her husband had bathing the baby, but felt confident they would "come through this [new task]" given time. There was even anticipation that things would be even more interesting when the baby was older, and as one woman articulated, she could not wait for the time when the baby was "more receptive". Time was seen as a process through which would come confidence, resulting in a decrease in stress. For many, the philosophy that with the passing of time things would get better, that it "takes time to adjust", and that time helps a person adjust, provided hope during those challenging new days of life with a baby.

Qualitative Comparisons

To gain insight into group differences based on the themes derived from the collective data, the identified themes were compared between the two study groups. Differences between the groups regarding the themes "getting ready" and "feeling safe and secure" were noted. While the two groups were similar in their reports of what their lives were like at two weeks postpartum, their in hospital accounts suggest some differences.

The first difference noted between the groups relates to the theme "getting ready". There was a greater sense from the Maternity Cooperative Care mothers that they were prepared to go home, and had accomplished the task of successfully preparing for discharge. Comments from the traditional care group

suggested that they "didn't feel prepared" to return home, and would have liked more teaching and preparation for discharge. One traditional care mother reported that upon her discharge from the hospital she "left scared". While the mothers in the Maternity Cooperative Care group had similar concerns regarding what their life would be like once at home, they typically reported a greater sense of confidence with respect to discharge that many related to the fact that they had spent all their time with the baby and therefore, felt they knew what to expect.

While both groups did expect and feel the need to learn and actively be prepared for home, the groups differed as to how these expectations were met. Reports from the traditional care mothers suggested that their hospital experience was "rushed", that they "felt abandoned", and that they would have liked more health care teaching. One traditional care mother expressed frustration that she was never told about her stitches and had to ask how to use a sitz bath, while another reported wishing she had been been more informed about her self care, such as caring for her stitches and hemorrhoids. The Maternity Cooperative Care mothers more often reported satisfaction with the teaching received, and favoured the fact that they could and were encouraged to use this knowledge in the practical care of their infant 24 hours a day while in hospital. Several MCCP mothers mentioned the positive aspects of the discharge class, and the fact that they did not feel abandoned upon discharge, but had a sense of what life at home would hold for them. One MCCP mother articulated what many also verbalized, by stating that she appreciated the concern the nurses had with teaching as much as possible, and valued the fact that the nurses supported her in her efforts to care

for her baby, rather than the nurses doing the care. From this comparison, evidence suggests that the MCCP mothers felt more prepared to go home and were more confident with the teaching received, although both groups expected the hospital experience to aid them in getting ready.

The second theme where a difference was noted between the groups related to the issue of "feeling safe and secure". Almost all of the mothers in the traditional care group reported a wish that they had stayed in a private room while in hospital and for those few who did switch to a private room, they articulated that the change made a difference in making their experience a more positive one. For many, the reason this change to a private room was a positive experience related to the fact that their husbands could stay without inconveniencing anyone, and that it offered a freedom and privacy to establish a bond with their infant. One mother noted that being in a semi-private room made it hard for family to help due to the limited space and need to respect the feelings of a roommate. Several mothers from the traditional care group expressed a wish that their husbands were more present, noting that this made them feel supported and not abandoned, whereas this was not an issue with the MCCP mothers.

While most of the mothers in both groups noted a strong sense of support from their husbands at home, suggesting that their partner's assistance is important, the MCCP mothers reported more partner support in hospital. The MCCP group typically mentioned the benefit of having their husband stay with them during the hospitalization, where they had accommodations for the partner. When asked what they liked most about their stay in the hospital, many

highlighted the fact that their husband could stay as positive. Unlike the traditional care mothers, the MCCP mothers' descriptions of the hospital experience included the father as a prominent factor in the experience, and more often referred to themselves as part of a couple when describing hospital events, such as it was "good to have the baby with us". The traditional care mothers reported hospital events more in terms of their individual experiences, with the husbands and families visiting, but not as seemingly integral members of the small details of the day-to-day experience. One MCCP mother noted while it is potentially easy to exclude the father, she felt it was easier for her husband once at home, having been a participant in hospital. While both groups valued the support they received, the difference between the groups relating to "feeling safe and secure" lies in the fact that the MCCP mothers reported a more consistent partner presence, perhaps related to the privacy of the rooms and the nature of the program.

Discussion

This study examined the impact of a Maternity Cooperative Care Program on first-time mothers from the perspective of a modified version of Chang's model (1980) for the evaluation of self-care programs. Mothers participating in a MCCP were compared with a similar group receiving traditional maternity care on several variables crucial to the model. The specific questions posed were:

1) Is there a significant difference in the number of mothers reporting maternal and infant complications?

2) Is there a significant difference in perceived competence with self- and infant-care activities?

3) Is there a significant difference in perceived social support and perceived spousal support?

4) Is there a significant difference in perceived stress in general, as well as self- and infant-care stress?

5) How do mothers in each program describe their postpartum experience?

Based on previous reports of Cooperative Care Programs for a variety of patient populations, it was expected that the mothers participating in Cooperative Care in this study would experience the same number of maternal and infant complications, and would score as well, if not better on the maternal competence, social support, and stress measures compared to the mothers who received traditional care. The major findings of this study supported these hypotheses. There was no significant statistical difference between the Maternity Cooperative Care group and the traditional care group regarding the number of mothers

reporting either maternal or infant complications, and on maternal self-care and infant-care competence, social support and stress at two days postpartum and at two weeks postpartum. These findings are clinically significant given that they support the theory that Cooperative Care is just as beneficial and effective as traditional care, while offering a more cost effective program. A second finding relates to the fact that, while competence increased over the two weeks postpartum, support and stress remained stable. This finding causes one to wonder why stress did not decrease as competence increased? The qualitative findings, however, provide insight into these results as the mothers' reports suggested that, while competence may have increased, there were other stressors encountered in the postpartum that perhaps resulted in the continued stress. Both of these results provide guidance for the practice of nursing.

Maternal and Infant Complications

A feature of Chang's model (1980) regarding self-care programs includes the client's health status. MCCP mothers and traditional care mothers were not significantly different regarding the number of mothers experiencing maternal complications, nor regarding the number of infant complications. This finding suggests that the mothers in the MCCP did not experience any increased health risks having participated in the program, nor did their infants, supporting the findings of other researchers assessing self-care programs.

While the literature does identify health status outcomes regarding Cooperative Care with other populations (Chwalow et al., 1990; Monahan & Schkade, 1985), the literature is limited on Maternity Cooperative Care Programs.

Lubic and Ernst (1978) reported that their Maternity Cooperative Care-like Program at the Childbearing Center in New York did not pose a health risk for its participants, suggesting the program to be a safe alternative to traditional maternity care. Although Lubic and Ernst (1978) did not compare the care to traditional maternity care, they reviewed the safety record of the Center between 1975 and 1978, during which time there were over 300 births. Lubic and Ernst's (1978) findings, indicating no maternal complications and three neonatal deaths that were unrelated to the medical care, suggests a similar result to this study in that mothers participating in the Maternity Cooperative Care Program were not at any greater health risk than mothers receiving traditional care.

In the present study, the fact that the study groups were comparable regarding maternal and infant complications during the first two weeks postpartum is noteworthy. These findings indicate that Maternity Cooperative Care is as safe as traditional methods of care. This demonstrated safety, combined with possible increases in cost effectiveness (Evans & Robinson, 1983; Gibson & Pulliam, 1987; Grieco et al., 1990; Saywell, Woods, Benson, & Pike, 1989; Teschke, 1990; Woods et al., 1988) makes Maternity Cooperative Care Programs an attractive alternative. Although cost was not a focus of this study, the shorter average hospital stay (Cooperative Care = 45.7 hours; traditional care = 51.7 hours), and larger nurse/client ratio (Cooperative Care = 1:5-7; traditional care = 1:4-5) for the Cooperative Care group compared to the traditional care group suggests that the Cooperative Care Program was more cost effective.

If care that does not compromise health outcomes can be offered at a

lower cost to the health care system, as the findings of this study suggest, then such programs are of much value. The average MCCP hospital stay might even have been shorter in duration, except that one subject stayed longer due to medical reasons.

Competence

To maximize health outcomes once clients return to the community, one of the main goals of Cooperative Care is to ensure adequate client knowledge and competence to perform self-care tasks. Assessment of these variables is essential to any evaluation of the effectiveness of such programs. In this comparative study of mothers participating in a MCCP and those receiving traditional care, comparison with self- or infant-care was measured with the PCQ (Pridham & Schutz, 1981, 1983; Rutledge & Pridham, 1987). The similarity of scores from this study with those reported elsewhere supports the validity of the PCQ as used here. The competence scores, specifically relating to infant-care and feeding in this study were comparable to those found by Rutledge and Pridham (1987) whose subjects completed the questionnaires within six days of the birth of their infants, with a mean day of completion of 2.39 days. Rutledge and Pridham (1987) found that perceived competence scores regarding infant-feeding and infant-care ranged between 1.8 and 6, with a median score of 4.91, while mean scores at two days postpartum in this study were 4.1 for the Maternity Cooperative Care mothers and 3.9 for the traditional care mothers, and at two weeks postpartum were 5.0 for the Maternity Cooperative Care mothers and 4.7 for the traditional care mothers. Furthermore, the increase in self-care and infant-

care competence over the two weeks postpartum, as noted in both the quantitative and qualitative results, is similar to findings of other studies (Mercer, 1985a; Pridham & Chang, 1991).

The valuable finding regarding maternal competence in this study is that no significant differences were noted at either sampling time in the perceived competence with either self- or infant-care scores as measured with the PCQ. The qualitative results of the comparison between the groups regarding the identified theme "getting ready", however, suggests a difference between the groups. The consistent teaching of both self-care and infant-care issues received by the MCCP mothers was reported to be of value, whereas many traditional care mothers felt a need to be more informed and prepared for discharge, despite the fact that their hospital stay on average was longer. The reports of the benefits of the discharge class, and of combining knowledge with practical experien.. (ie. 24 hour baby care in hospital) by the MCCP mothers lends clinical support to the theory of Cooperative Care. While not evidenced in the quantitative results, these reports suggest that the MCCP mothers felt more confident and benefitted more from having participated in this program. Given that the quantitative instruments regarding competence did not specifically address preparing for discharge home and feeling ready to go home, or question what was considered helpful in terms of their learning, this may be a possible explanation for the lack of quantitative differences noted between the groups, even though the qualitative results were different.

Overall, these findings that the MCCP is at least as effective if not better

than traditional care in promoting maternal competence with self- and infant-care, support the findings of others with different patient populations. Several descriptive studies suggest that the consistent education provided in Cooperative Care Programs enables clients to be competent in self-care tasks (Roach & Woods, 1993; Weis, 1988; Williams, 1993). The findings of two comparative survey studies further indicate that subjects participating in Cooperative Care Programs are at least as competent in performing self- or child-care tasks as those receiving a more traditional type of care (Chwalow et al., 1990; Monahan & Schkade, 1985). The findings of this study of new mothers are in agreement with those of Chwalow and colleagues (1990) on a medical/surgical patient population, and those of Monahan and Schkade (1985) in a Care-by-Parent setting, in that competence was not compromised by participation in the MCCP and may even be improved.

The suggestion that client competence with self- and infant-care tasks is similar or perhaps better when one participates in a Maternity Cooperative Care Program compared to traditional care is significant. As highlighted previously, Cooperative Care has been reported in the literature as an economical health care alternative (Grieco et al., 1990; Teschke, 1990; Woods et al., 1988). Given that this study supports the fact that self- and infant-care competence were not compromised for those participating in Cooperative Care, combined with the literature's suggestion that Cooperative Care is economically advantageous, indicates such programs deserve consideration in the clinical setting.

Regarding maternal competence, there was one significant difference

between the two groups: a difference in the rate of change in the self-care competence scores across time was noted. The rate of change was significantly higher for the traditional care group compared with the Maternity Cooperative Care group after two weeks postpartum. The traditional care mean self-care competence scores increased from 4.4 to 5.1 compared with the Maternity Cooperative Care group mean self-care competence scores that increased from 4.7 to 5.0 across the two weeks postpartum. A possible explanation for the greater increase in the self-care competence scores of the mothers in traditional care may be related to the fact that these mothers gained more confidence over the two weeks at home, whereas mothers in the Maternity Cooperative Care group were already beginning to feel capable and confident in performing self-care tasks upon discharge, a hypothesis supported by the qualitative results. Therefore, the Cooperative Care mothers may have reached a level of independence and competency earlier, reflecting more consistent, stable scores across time.

Descriptions from the mothers' hospital and home experiences lend support and suggestions for Cooperative Care. While in hospital, many of the mothers reported the need to learn and gain control of their new life in a safe, private environment. Learning hands on was reported both in hospital and at home as a key in facilitating competency. The need and willingness to learn as much as possible, particularly in preparation for going home, was uppermost in many of the mothers' minds. The Maternity Cooperative Care Program is, therefore, supported for its recognition in aiding the family by providing privacy

and the opportunity to learn, while continued creative ways of assisting the family to deal with fatigue and pain that may impede their learning capability, as well as listening to their learning needs, provide future challenges.

Support

Mothers participating in the Maternity Cooperative Care Program in this study, compared to their counterparts who received traditional care, did not report any significantly different levels of support in general or support from their partners either in hospital or after two weeks at home. No significant differences were noted at either sampling time in the perceived social support in general scores as measured with the PRQ85, or perceived spousal support as measured with the HIGQ.

The comparison of the qualitative data between the study groups regarding support, however, indicated a difference relating to the theme "feeling safe and secure". The result indicated that part of feeling safe and secure in hospital included the privacy of having one's own room. While most of the traditional care mothers did not benefit from this type of accommodation, they typically wished it had been a possibility in order that husbands could stay comfortably. As this was not a problem in the MCCP, mothers typically reported more of a presence from their husbands, which is supported by the quantitative data indicating that the MCCP partners did stay a greater percentage of the mothers' stay, and the number of hours at the hospital was also higher than the traditional care group. While both groups reported the importance of husband support at home, hospital support from husbands was more prominent for the

MCCP mothers. Although the quantitative results suggest no difference between the groups on support during their time in hospital, the mothers' reports indicate greater partner support for those in MCCP. A possible explanation for the difference between the qualitative and quantitative results may relate to the fact that the quantitative instruments did not specifically address the partner's presence and the meaning of that presence to the mothers. Given the value acknowledged by both groups relating to the benefits of partner support, encouraging and providing the opportunity for this to occur is important, and as the MCCP mothers' qualitative descriptions highlight the fact that this is evident with Cooperative Care, suggests its clinical significance.

Overall, the suggestion from the quantitative findings indicate that, as with competence, while maternal perceived support was not significantly improved with Cooperative Care, it was not compromised either. The qualitative results, however, further suggest that support may be enhanced and heightened with Cooperative Care.

The significance of the quantitative finding that the Maternity Cooperative Care group and traditional care group were not different in their perceived levels of support in general or support from partner, and that the MCCP mothers may actually feel more supported, as noted from the qualitative data, is of interest. As with competence, it further supports the fact that Cooperative Care does not compromise patient outcomes. As highlighted previously, results of Cooperative Care studies have suggested economic savings with this type of health care program (Teschke, 1990; Woods et al., 1988), and given the fact that the results

of this study indicate no decline in terms of competence levels, as well as levels of support, then this finding is of value in promoting Cooperative Care. The qualitative result that the MCCP mothers reported a greater partner presence while in hospital, typically referring to "us" when describing their experience, supports the clinical importance of nursing the family as a unit, as suggested in the McGill Model of Nursing (Gottlieb & Rowat, 1987). Given the fact that Cooperative Care fosters the opportunity for the nurse to focus on the family as the unit of concern, recognizing that health is learned within the family (Gottlieb & Rowat, 1987), also suggests its merit as a health care alternative.

Cornell (1995), Gibson and Pulliam (1987), as well as Grieco (1988) highlight patient and care partner reports of the value of family support during hospitalization, although few quantitative studies are found in the literature. Social support, in the form of instrumental support, was addressed by Chwalow and colleagues (1990) in their study of the impact of Cooperative Care on medical/surgical patients and their families. Their findings of a greater percentage of patients in the Cooperative Care group (82%) compared to the traditional care group (66%) citing their partner as useful in aiding the patient to follow their dietary regimen suggests that perceived instrumental support was higher with Cooperative Care.

There are at least two possible reasons why higher scores for perceived support from the partner in Cooperative Care was not noted in this study. First, both groups were already at higher than average levels. All the mothers in this sample scored high in terms of support in general as measured by the PRQ85.

Weinert (1987) reported mean scores of 139 to 143 with the PRQ85 from a combined sample of 248 middle-class men and women, while this study reported scores ranging from 156 to 158. Spousal support scores were also high in this study, with scores ranging from 118 to 127 (satisfaction item from the HIGQ adjusted from a 5-point to a 4-point scale to compare with Pridham and Van Riper's (1994) 4-point scale), with the highest possible score being 144. Pridham and Van Riper (1994) reported lower spousal support scores at one month during the infant's first post-term year, with a mean value of 54.04 for 44 women in the healthy term group, and noted that mothers stated the help they got was somewhat unsatisfactory. Second, immediate family support in both groups, eager to see the newborn, may have influenced the results. The birth event is typically seen as a happy, healthy occurrence generally attracting a family gathering, unlike surgery or a medical crisis, which may deter some family members given its illness orientation. Given the fact that this was a Maternity Cooperative Care Program, as opposed to another type of Cooperative Care Program, such as on a medical/surgical unit, and that the birth event typically may have attracted more support in both groups, increased support levels in the MCCP group may not have been justified.

The qualitative data in this study reinforced the importance of support to all of these mothers, and while supportive examples were noted both in hospital and at home, mothers typically reported more circumstances of supportive help at home, a finding that compares to Cronenwett's (1985b) study whereby women perceived an increase in support from their spouse and friends with children at 5

months postpartum compared to the time prior to their pregnancy. Most notably, mothers mentioned their husbands or partners, and the various forms of support received, such as encouragement, help with the baby's care, empathy, or simply just being there to listen and share the moment, all of which were examples of support that the mothers valued. Family support was also cited as important, but often with conditions that it not interfere with the nuclear family's own development and need to make their own decisions.

Stress

The impact of Cooperative Care on the hospitalized individual's perceived level of stress has not been reported in terms of quantitative results, although descriptive studies highlight patient and care partner reports of positive hospital and transition to home experiences (Cornell, 1995; Gibson & Pulliam, 1987; Williams, 1993). Eldar and Eldar (1984) suggest that family members' participation in the care of the hospitalized individual helps to alleviate their worries and makes them feel useful. It has also been suggested that the patient does not become isolated from his/her family when the family is involved in the patient's hospitalization, making the transition home less stressful (Eldar & Eldar, 1984; Grieco, 1988). Monahan and Schkade's (1985) comparative study of a Care-by-Parent versus Care-by-Nurse Program assessed care partner (ie. parental) anxiety and found that the level was not significantly lower for parents in Care-by-Parent versus traditional care. The children's anxiety was not assessed. The findings of this study corroborate those of Monahan and Schkade's (1985), in that mothers in the Maternity Cooperative Care group compared to those in the

traditional care group did not report any significantly different levels of stress at two days or two weeks postpartum. When this was further broken down into stress associated with self-care and infant-care tasks the results were the same.

The result regarding similar stress scores between the two study groups at two days and two weeks postpartum is meaningful. The results indicate that the Maternity Cooperative Care mothers were no more stressed than their counterparts in the traditional care program. Given the fact that their stress levels were not increased after having participated in the Cooperative Care Program, and that, as previously mentioned, their competence and support was not compromised, together with the fact that Cooperative Care has been identified as a more economical health care alternative, these findings are significant in supporting its continuation.

There are possible explanations as to why MCCP scores for stress were not lower than those for traditional care. First, all of the mean stress scores in both groups were already relatively low, only ranging from 2.5 to 4.1, with the highest possible stress score being 9.0. Although not increasing in stress, the results reflect those of Bull (1981) in that self and baby stressors did continue after one week at home. Another possible explanation relates to the fact that if competence, support, and stress are associated, as has been suggested in the literature (Dormire et al., 1989), then logically if the groups were not different on competence and support scores, then stress scores would not be different between the groups as well, which was indicated in this study.

There is the suggestion in the literature that one of the most stressful

circumstances for a woman is probably that time immediately following her discharge from the hospital after the birth of her infant until approximately one month postpartum (Gruis, 1977; Moss, 1981; Sumner & Fritsch, 1977). Bull (1981) studied 30 first-time mothers on the third day postpartum and again after one week at home, to find that the frequency and intensity of concerns related to the mothers' physical discomfort decreased, but concerns related to emotional self increased over the study period. Bull (1981) also found that infant behaviours continued to be of moderate to much concern, although concerns related to physical care of the baby decreased, suggesting that self and baby stressors continue after one week at home. This study supports these findings with regard to the fact that stress did not decrease in either study group, even though competence increased, suggesting that the potential stress associated with establishing competency may have been replaced by other stressors once competency was obtained and as new experiences were encountered at home.

Although the stress levels did not change over time for either group, as evidenced in the quantitative results, the qualitative data revealed that the nature of the stressors changed from hospital to home. While the mothers did report stressors during hospitalization, such as pain and lack of control, these stressors were heightened once the mothers were at home, to include stressors such as increased fatigue, household demands, baby's needs, visitors, and finances. Although the mothers did report a sense of control, balance, and adjustment beginning to take shape by the end of the two weeks postpartum, their descriptions matched those found in the literature suggesting the challenge and

stressful times associated with the immediate postpartum (Gruis, 1977; Sheehan, 1981). Overall, mothers in this study articulated that as the two weeks postpartum progressed, competence and feeling capable were associated with decreased anxiety, and support continued to be a key factor in reducing stress, particularly fatigue, and aiding maternal adjustment.

Competence, Support, and Stress

McCubbin and Patterson (1983) characterized parenthood, the stressor, as a life event that would or could potentially impact on the family unit and change its social system. The literature suggests that coping with transitions (such as the one to parenthood), can be influenced and mediated by coping resources, two of which include: (1) problem-solving skills (competency), and (2) social support (Lazarus & Folkman, 1984). Studies in the postpartum literature that have assessed competence, support, and stress together, while typically reporting one month post-delivery results, have noted relationships among the variables suggesting decreased stress with positive perceptions of competence and support (Dormire et al., 1989; Reece, 1993). The evidence suggests that mothers with more support and less stress are more satisfied with parenting (Crnic et al., 1984). While Mercer and Ferketich (1994) noted the failure of either support or stress to explain maternal competency at postpartal hospitalization, 1, 4, or 8 months post-delivery, they state that the finding was unexpected. The qualitative data in this study supports that of other researchers in the finding that competence, support, and stress are associated. The mothers articulated that, while many times they felt stressed by the multiple demands of being a new mother, it was often

qualified by the fact that they were receiving assistance or encouragement from someone, which made things seem not as difficult. The anxiety of being a new mother was also lessened when they received verbal support suggesting that they were successful, and feeling capable or competent as a mother lessened the stress of the transition to motherhood.

The significance of emphasizing the relationship between competence, support, and stress deserves consideration. Recognizing the interrelatedness of these variables suggests clinical importance in terms of how nurses interact and work with families. The mothers' words highlight the value they place on becoming skilled and effective mothers, while needing to be surrounded by supportive educators. This finding provides insight into the expectation and need new mothers have regarding the assistance they require to cope with the transition to motherhood.

The findings of the interrelatedness of competence, support, and stress are supported in the quantitative analysis from this study as well (see Appendix O for a Correlation Matrix). Given that the qualitative results suggest a link between the concepts, one would expect the pattern to continue over time. The results of the quantitative data highlight that there were no differences between the groups on any of these variables, suggesting that the pattern was the same in terms of the way it affected both study groups at two days postpartum and over the two weeks postpartum.

Study Limitations

In assessing this study, several limitations should be highlighted. First,

the refusal rate was quite high (51.87%), which hinders the representativeness of this sample as being truly reflective of the maternity population. One possible explanation for the high rates could be related to the fact that hospital interviews occurred during a very limited time frame due to the early discharges, while still allowing time for the families to be with their newborn during their hospitalization. It was felt however, that the hospital data were important in order that comparisons across the early postpartum period could be analyzed.

A second limitation can be found in the study sample. Given the small sample size that included only English-speaking primiparas, the ability to generalize the results of this study are limited. Although the power would have improved with a larger sample size, given that the study was part of a Masters degree, data collection was limited.

Also, the qualitative comparisons must be regarded cautiously. The fact that the Cooperative Care mothers were interviewed earlier in the study than the traditional care mothers, although the questions asked did not change over time, must be taken into account.

Finally, duration of the treatment program may have been a limitation affecting the study results. Given that the Cooperative Care patients were discharged 36-48 hours postpartum, perhaps this time frame was too limited to have an impact on the final results. De Weerdt, Visser, Kok, and Van der Veen (1989) suggested that the relatively short duration of their program limited the influence of their diabetic education program that focused on self-care. The results of this study may have improved with a longer hospital stay; however, this

is not reality in the clinical setting.

Implications for Nursing

Recognizing Cooperative Care as a reasonable health care alternative, one must also consider the nursing implications. The results of this study suggest a focus on how nurses work with new mothers during the first two weeks postpartum. The demands of Cooperative Care, which supports patient participation in health care, requires a professional nurse whose roles include clinical educator, advocate, and coordinator (Lott, Blazey, & West, 1992). As Pesznecker, Zerwekh, and Horn (1989) note, a key to encouraging self-care practices among families involves a health care provider that teaches, gathers resources, and provides support. Roach and Woods (1993) highlight the importance of patient learning and independent functioning of patients in their own care. They also note that fundamental to this learning is the ability of the nurse to not only teach, for example, how to perform dressing changes or take medications, but as well provide underlying theory, such as why certain tasks should be performed as instructed or why a particular medication is required. Caporael-Katz (1983) identified that self-care programs necessitate nurses skilled in self-care techniques and issues, with expertise in basic health promotion knowledge, learner-centered education, and group dynamics. Weis (1988) articulated a similar notion by stating that the ideal staff for Cooperative Care programs would consist of Masters prepared nurses with several years of clinical experience and a commitment to education. The author also recognized, however, that Baccalaureate and Diploma nurses as well as some Licensed

Practical nurses have demonstrated effective patient and family teaching.

While traditionally this wellness-oriented and self-care philosophy would have required increased hospital staff (Grieco et al., 1990), the literature indicates reduced nursing staff with Cooperative Care due to the aid of the care partners (Teschke, 1990) and lower patient acuity levels (Saywell et al., 1989). It is also worthy to note however, that the literature identifies the demand of teaching and providing support for Cooperative Care patients (Cleary et al., 1986), and recognizes that considerable time is needed for preparing, teaching, assessing, and supporting patients in health care skills (Palmer, 1993). Taylor and O'Connor (1989) state that nurses and doctors often spend more time answering questions and explaining procedures, while Anderson and Poole (1983) note that nursing time in terms of medication administration has not been reduced with a patient self-administered medication program. Overall, the nursing implication in relation to Cooperative Care suggests that nurses require skills as health promoters and health educators in their expanded role, which many have found to be a satisfying, new role (Williams, 1993).

Another issue with regard to nursing implications is suggested based on the qualitative results relating to the theme "getting ready". The reports of the value of learning "hands on", the need to "get ready" and prepare for home life after discharge, as well as the dislike of being "forced to do things" and of receiving "contradictory" information, emphasizes the importance of listening to patients' needs and opinions to provide effective, consistent care and teaching. It highlights the importance mothers feel with regard to being competent as

mothers, and focuses attention on the need to provide health care teaching, but in a way that may be uniquely defined by each family and their needs.

The findings regarding support have implications for nursing practice. The value placed on immediate family support both in hospital and at home by the mothers suggests that nursing include family members in their teaching and encourage their participation in the family event. Heightening families' awareness that they may wish to spend time alone as a new family unit or "cocoon" needs to be presented as a positive, normal requirement for some families that deserves respect. Providing the opportunity for all, from health care professionals to relatives, to support the new family is key. The qualitative data highlighted three types of nursing support that the mothers valued while in hospital. First, informational support was a high priority for the mothers in both groups. Second, emotional support was also reported, reflecting the mothers' needs to feel encouraged and understood by the nurses. Finally, the mothers also valued feedback and affirmation that they were doing OK by the nurses, suggesting the importance of appraisal support.

Nursing implications are suggested in the result that, although competence increases over the first weeks at home with a new baby, stress levels may not decrease. The qualitative data in this study highlight the fact that there are many stressors women are challenged by in the postpartum, such as physiological changes, fatigue, household responsibilities, and relationships with friends and family, which increases in competence do not necessarily relieve. The suggestion is that, while it remains important to heighten mothers' competence, nurses need

to focus on other issues as well that create stress for mothers in the early postpartum.

The interrelatedness of competence, support, and stress has implications for nursing practice. Nurses need to be cognizant of the importance of support to families and aware of how it may impact on a mother's feelings of competence. Individualized teaching, with a supportive style should guide one's practice. Knowledge of an individual's feelings of stress, as well as support may also be of value and require consideration in order that success in obtaining competence is achieved.

Suggestions for Future Research

Future research regarding Cooperative Care Units could be guided in several directions. Hospital cost savings with the implementation of Cooperative Care have been reported in the literature (Grieco et al., 1990; Teschke, 1990), however, more studies are needed, especially in Canada, where the health care system is different from the United States. A cost comparison with this particular study group would be of value to challenge the results documented in the literature and provide statistics for a Canadian Maternity Cooperative Care setting. Future studies should also consider the overall impact of Cooperative Care on families, particularly caregivers. What is the cost to the family for their participation in Cooperative Care Programs? A qualitative study assessing care partners and how Cooperative Care affects them financially, as well as emotionally, physically and psychologically would be of value.

It is possible that Cooperative Care may affect care partners more

dramatically than the hospitalized individual, and that significant differences may result if this group is examined. Chwalow and colleagues (1990) found that the experimental (Cooperative Care) care partners were significantly more knowledgeable with regard to medication management than the control (traditional care) care partners. As the main difference between Maternity Cooperative Care and traditional care is the more consistent involvement of the care partner in the education process, it is possible that fathers participating in Maternity Cooperative Care Programs may perceive themselves to be more competent with mother- and infant-care tasks than their counterparts receiving traditional care. Given that Chwalow and colleagues (1990) found that care partners were significantly more knowledgeable compared to traditional care subjects, suggests further investigation regarding the impact of Maternity Cooperative Care Programs on care partners and their perceived level of competence.

A comparison of the impressions of Cooperative Care patients versus the feelings of traditional care patients is another area for future investigation. In the maternity setting, fathers, as well as multiparas need to be interviewed to gain insight into their thoughts regarding Cooperative Care. Research is also required to illicit greater detail regarding other factors that contribute to competence in the early postpartum, and how these factors may be incorporated into Cooperative Care Programs.

Future research could be guided by gaining greater insight into the need for families to "cocoon" and develop as a family unit. How this relates to their

hospital stay and early postpartum days at home requires attention. A more in-depth qualitative comparison of the support experiences between Cooperative Care and traditional care would also be beneficial to highlight the similarities and differences in support as perceived by the families in each setting.

The findings relating to stress lend guidance to future research. Further investigation into the changing stress levels in the early postpartum is warranted, and more comparisons between descriptions of Cooperative Care mothers' stressors versus traditional care mothers' stressors would also be of value. Understanding how these stressors are affected by hospitalization and the early weeks at home would aid professionals in assisting families to cope with and potentially decrease the stressors they encounter as a new family unit.

Conclusion

Our knowledge of the impact of Maternity Cooperative Care Programs on families is limited. The findings of this study demonstrated that overall, mothers' perceived competence with self- and infant-care, social support, and stress during the first two weeks postpartum were not negatively impacted by having participated in a Maternity Cooperative Care Program. Further research is needed to gain additional insight into Maternity Cooperative Care Programs. This study examined only forty-one English-speaking primiparas; the impact of Maternity Cooperative Care now needs to be assessed on multiparas as well as fathers or significant others. An important next step would be a qualitative study on the cost impact of Maternity Cooperative Care (such as lost days of work, and the physical and emotional stressors) on families, specifically care partners. Future studies regarding the economic factor of Canadian Maternity Cooperative Care Programs both to the health care system and families are necessary.

An examination of the relationships between competence, support, and stress in the early postpartum days, is also warranted. This study noted that while competence increased over time, stress and support remained stable. The qualitative data suggest that other stressors influenced this result, and while continued teaching is necessary to promote competence, the impact of other stressors in the mothers' lives must not be overlooked. Factors that influence the increasing competence scores also needs further investigation, to determine whether it is time, learning from experience, or other factors that aid competence. As a better understanding of these concepts evolve, interventions can be

implemented to assist families in the early days after the birth of their infant.

Overall, this study supports the continued implementation of Cooperative Care Programs. Given the cost effectiveness of Cooperative Care as reported in the literature, and the fact that health care outcomes were not compromised in this study and other studies in the literature, Cooperative Care Programs are a reasonable health care alternative. With regard to Maternity Cooperative Care Programs in particular, we now have one study supporting the safety of such programs and another demonstrating the improved cost effectiveness when compared to more traditional programs. The findings of this study suggest that mothers in a Maternity Cooperative Care Program had the same level of maternal and infant complications, and maternal perceived competence, support, and stress as those receiving traditional care, therefore, this method of care is worthy of consideration, although more studies are needed.

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ROYAL VICTORIA HOSPITAL
DEPARTMENT OF OBSTETRICS

MATERNITY COOPERATIVE CARE UNIT

ADMISSION CRITERIA

In order for a family to be admitted on the unit, the following criteria must be met:

1. All clients may participate in the orientation program provided by RVH regarding the use of the Maternity Cooperative Care Unit. Assessment, educational care goals and action plans mailed prior to admission (32 to 36 weeks gestation) should be completed.

2. All clients admitted to the Maternity Cooperative Care Unit are encouraged but are not obliged to be accompanied by one adult support person (care partner) for at least 12-24 hours following birth and as needed for the rest of the stay.

3. No existing obstetrical complications requiring close postpartum observation or monitoring for mother or newborn (see exclusion criteria).

4. All clients and their care partners must understand that if the mother's status changes to one necessitating closer observation transfer to the regular postpartum unit will be necessary.

NOTE: If a mother and baby on the regular postpartum unit are stable, transfer to maternity cooperative care unit will be possible after discussion between the patient's nurse and the nurse in-charge on the maternity cooperative care unit.

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MATERNITY COOPERATIVE CARE UNIT

ADMISSION CRITERIA

MOTHER

- Mother with normal postpartum blood loss.
- Mother with stable vital signs (a mild elevation of temperature related to dehydration could (without signs of infection) go to Maternity Cooperative Care Unit).
- Mother that needs 3 to 4 doses of I/V antibiotics without any other complications could go to Maternity Cooperative Care Unit.
- Mother that had a vaginal birth after cesarean section and has a normal fundus and lochia could go to Maternity Cooperative Care Unit.
- Mother with mild pre-eclamptic toxemia (140/90 and less during labour) could go to Maternity Cooperative Care Unit.
- Mother with class A. diabetes (controlled by diet) could go to Maternity Cooperative Care Unit.
- Mother with history of mitral valve prolapse since many years and well controlled could go to Maternity Cooperative Care Unit.
- Mother with fourth degree tear but ambulating well who does not need strong analgesics for pain could go to the Maternity Cooperative Care Unit.

BABY

- No need for bagging or intubation at birth.
- Pink color with or without accroycyanosis.
- Tonus firm and strong.
- Weight > 2500 g unless doing well after pediatrician's physical exam (active, alert, good cry).
- Gestational age > 37 weeks unless baby is doing well after pediatrician's physical exam (active, alert, good cry).
- Vital signs within normal range: P: 120-160, RR: 30-60.
- No significant grunting, retractions or nasal flaring.
- No abnormalities needing further assessment.
- Apgar more than 6 at 1 min of life (otherwise needs a few hours of observation in F7W Nursery).

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MATERNITY COOPERATIVE CARE UNIT

EXCLUSION CRITERIA

SOCIAL FACTORS

1. Substance abuse
2. If language barrier → the client might be excluded from the self-medication program. Mother will go to regular unit if unable to communicate with nurses. (Unless care partner is present at all times and speaks French or English)

PRE-EXISTING MATERNAL DISEASE

1. Chronic hypertension (BP > 140/90, medication, BP q2h, etc.)
2. Moderate to severe renal disease
3. Severe cardiac illnesses (angina, etc.)
4. History of toxemia (VS q1h, urine dipstick q1h, medication)
5. Insulin-dependant diabetes
6. Anemia
7. Tuberculosis
8. Chronic or acute pulmonary disease with active treatment
9. Psychiatric disease requiring major tranquilizers
10. Epileptic mother

PREVIOUS OBSTETRICAL HISTORY

1. Severe postpartum hemorrhage

PRESENT PREGNANCY

1. Severe pregnancy induced hypertension
2. Multiple pregnancy (unless care partner 24 hours/day or babies are in NICU)
3. Any maternal illness which in the opinion of the medical staff would increase the health risk of the mother or the infant
4. Gestational age < 37 weeks or weight < 2500 g needs at least a few hours of observation in NICU. After stabilization (few hours) in NICU, baby can go to Maternity Cooperative Care Unit (mother could go to Cooperative Care Unit).

EXCLUSION CRITERIA (CON'T)

LABOUR AND DELIVERY

1. Delivery by cesarean
2. Delivery by mid-forceps
3. Length of labour > 30 hours for primip and > 24 hours for multip, unless care partner present
4. Fourth degree laceration with bruising or very swollen and very painful perineum, hematoma (needing IM analgesics)
5. Urinary retention requiring foley catheter
6. Uterine atony in immediate post-partum period
7. Spinal headaches
8. Precipitate delivery without Syntocinon IV

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INFORMATION

REGARDING THE

MATERNITY SERVICES

AT

THE ROYAL VICTORIA HOSPITAL

Childbirth is a unique and important life event. We are pleased that you have chosen to give birth to your baby at the Royal Victoria Hospital.

We believe in family centered maternity care and encourage those who are important to you to share this experience.

Childbearing requires parents to take on new roles, to re-orient relationships and to acquire the knowledge and skills needed to provide for a new family member.

The staff will have a flexible approach towards your care during your hospital stay. Your involvement will be encouraged in an environment that offers complete professional support.

In the following pages you will find explanations regarding your hospital stay.

1. ***Information on our Postnatal Services***
2. ***Request for Admission***
3. ***Patient and Family Data Base***
4. ***Checklist of Learning Needs***
5. ***List of What to Bring for Your Hospital Stay***

1. INFORMATION ON OUR POSTNATAL SERVICES

A) THE MATERNITY COOPERATIVE CARE UNIT (M.C.C.U.)

B) THE POSTPARTUM UNIT

C) THE POSTNATAL FOLLOW-UP SERVICE

A) THE MATERNITY COOPERATIVE CARE UNIT (M.C.C.U)			
▸ CRITERIA to be Admitted	▸ GOALS of the M.C.C.U.	▸ PARTICULARITIES	▸ ROLE of the Nurse
• Vaginal birth without complications. • Healthy mother.	• To promote active participation for you and your care partner. • To provide early opportunities for bonding with your baby while maintaining your comfort and rest needs. • To enable you to gain confidence in your ability to care for your baby as a family unit.	• Located on F7 East of the Women's Pavilion. • Fifteen (15) private rooms. • Home-like environment (table, chairs, beds for both mother and care partner*). • The baby is present in your room at all times. • Possibility for care partner to stay at all times. • A light breakfast is available for the care partner. A refrigerator and microwaves are also available. • No rigid hospital routines. • Self-medication program.	• The Nurse Clinician works as a teacher and as a guide for parents. Always available, the Nurse Clinician will show parents how to take care of their newborn baby but the mother is the primary caregiver for herself and her baby under the supervision of nursing. • The ultimate aim of the Nurse Clinician is to encourage the development of family bonds and to prepare family members for their new roles.

* What is a care partner: A person of your choice (usually the baby's father), a family member or a friend. The care partner moves into your living quarters with you and assists you with your personal care, routine needs and baby's care. The care partner is encouraged to participate in our various educational sessions. You are encouraged to have a care partner, but it is not a requirement for admission to the unit.

1. INFORMATION ON OUR POSTNATAL SERVICES

A) THE MATERNITY COOPERATIVE CARE UNIT (M.C.C.U.)

B) THE POSTPARTUM UNIT

C) THE POSTNATAL FOLLOW-UP SERVICE

B) THE POSTPARTUM UNIT			
▸ CRITERIA to be Admitted	▸ GOALS of the Postpartum Unit	▸ PARTICULARITIES	▸ ROLE of the Nurse
• Vaginal birth with complications • Cesarean Birth	• To promote active participation for you and your care partner. • To provide early opportunities for bonding with your baby while maintaining your comfort and rest needs. • To enable you to gain confidence in your ability to care for your baby as a family unit.	• Located on F7 West of the Women's Pavilion. • 10 private rooms 4 semi-private rooms 2 ward rooms • Possibility for a care partner to stay at all times if you have a private room. • Baby is rooming-in with mother as soon as both mother and baby's physical conditions allow it. • The nursery is available only for babies who need special observation or mothers whose condition necessitates rest.	• The nurse promotes health and physical well-being for the family. • The parents are given the opportunity for caring for their baby in as much as the mother's condition allows it. • The ultimate aim of the nurse is to encourage the development of family bonds and to prepare family members for their new roles.

1. INFORMATION ON OUR POSTNATAL SERVICES

A) THE MATERNITY COOPERATIVE CARE UNIT (M.C.C.U.)

B) THE POSTPARTUM UNIT

C) THE POSTNATAL FOLLOW-UP SERVICE

C) POSTNATAL FOLLOW-UP SERVICE (P.N.F.U.S.)			
AFETR YOUR RETURN HOME			
▸ CRITERIA for follow-up	▸ GOALS of the P.N.F.U.S.	▸ PARTICULARITIES	▸ ROLE of the nurse
• Automatic follow-up for all families.	• The postnatal follow-up service was designed to help make the transition between your hospital stay and arrival home as easy as possible. • The hospital will provide you with early follow-up until contact has been established with your local community service center (C.L.S.C.).	The service consists of: • A telephone call the day following discharge. • A telephone information line opened daily from 08:00 to 15:45 for any questions addressing mother/infant care (842-1231 local 5914). • A hospital clinic opened daily <u>by appointment</u> for assessment of mother/infant concerns (F7.67). • A home visit (if needed) arranged at the time of discharge and confirmed by phone the next morning.	The nurse clinician working on the service will be able to: 1) Answer your questions concerning mother and infant care. 2) Answer your breastfeeding questions. 3) Assess you and your infant's needs. 4) Offer appropriate teaching/support. 5) Refer you to other services if required.

P.S.: If you have any questions about the Maternity Services at the R.V.H., information sessions are available. For more details/questions contact F7East at 842-1231 local 4775 or Mrs. Toula Hatherall at 696-0142. Please take note that tours of the Women's Pavilion are possible. Mrs. Hatherall will inform you of possible dates and associated costs.

2. *REQUEST FOR ADMISSION*

- The request for admission is a pink sheet that you have to fill out and send by mail as soon as possible.

3. *PATIENT AND FAMILY DATA BASE*

- This form needs to be filled according to the guidelines. It will help us to identify your particular health needs and family characteristics.
- The Data Base should be given to the nurse who will work with you during your labor and delivery (DO NOT MAIL, PLEASE).

4. *CHECKLIST OF LEARNING NEEDS*

- Please, fill the first section entitled **"Prenatal"** and mark a "check sign (✓)" under **DISC** or **READ** for each subject.

  DISC means that you have discussed with a nurse or your doctor prenatally about the subject.

  READ means that you have read about it during your pregnancy.
- The **"Postnatal"** section will be done with your nurse after the birth of your baby. This way, the teaching will be adapted to your experience and knowledge.
- This form should be given to the nurse who will work with you on the postpartum floor (DO NOT MAIL, PLEASE).

5. *LIST OF WHAT TO BRING FOR YOUR HOSPITAL STAY*

a) Evolution of pregnancy sheet (it is your physician's responsibility to provide you with this sheet near the end of your pregnancy)

b) Patient and Family Data Base

c) Checklist of Learning Needs

d) Articles for Mother and Baby

Mother:

- Sanitary napkins (napkin dispenser available on unit if needed: Cost 0.50¢/napkin)
- Box of Kleenex tissue
- Your favourite soap and shampoo
- A rubber ring and/or a foam cushion (may increase your comfort)
- Extra pillows with colored pillow cases (2)
- Sitz bath (if you have one at home)
- Breast pads for nursing mothers
- Two (2) nightgowns and one pair of slippers
- Night clothes for your care partner and slippers
- Maternity bra and underwear
- Clothes for your return home
- A pen
- Humidifier in winter time (optional)
- Fan in summer time (optional)

Baby:

- Diapers (box of 24)
- Baby's clothes for hospital stay (optional)
- Car seat for your return home
- Pacifier (optional)
- Baby clothes and blanket for your return home

Please note that with restrictions on hospital budgets we are unable to provide these items. Thank you for your understanding and cooperation.

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Appendix C

Study Variable Definitions

** After the items were explained, all data were collected from the subject and/or subject's partner where applicable, and based on their perception.

1) Age = Number of years old
2) Marital status = married, common-law, engaged/not living together
3) Years of education = number of years in school beginning from grade 1
4) Level of education = the highest level of completed studies
5) Ethnic background = ethnicity of individual as defined by linking themself to a country
6) First and second language = the first language spoken by the individual, as well as the most dominant second language spoken if applicable
7) Occupation = present employment status
8) Planned pregnancy = subjects were asked for a YES/NO response as to whether this particular pregnancy was planned or not
9) Labour time for subject = was calculated based on admission to hospital time and actual delivery time
10) Length of time partner present during labour = was calculated based on reported time partner was present from admission to hospital time and delivery time
11) Length of time subject on postpartum unit = time calculated based on reported admission to postpartum unit until discharge time
12) Length of time partner present on postpartum unit = was calculated based on reported time partner present from admission to postpartum unit until discharge time
13) Partner present at delivery = subjects were asked for a YES/NO response as to whether their partner was with them the actual moment of delivery
14) Expected date of delivery = the reported date of when the subject expected to deliver (if gave dates by both menstrual calculation and ultrasound, the date the subject perceived to be most accurate was the one recorded)
15) Method of infant-feeding in hospital and at home = (1) breastfeeding meant providing breastmilk for the majority of infant-feedings each day, and may have been supplemented with water or formula; (2) formula-feeding meant providing formula for the majority of infant-feedings each day
16) Prenatal classes = (1) yes, attended most of the classes if not all of them; (2) no, attended none of the classes

Appendix C

Study Variable Definitions

17) Previous experience with infant-care = subjects were asked for a YES NO response as to whether or not they considered themselves as having had prior experience in caring for an infant

18) Maternal complications = any complication that the individual perceived as a medical complication once returning home and required them to return to the hospital and/or go and see their physician (ie. body rash relating to pregnancy requiring prescribed cream; D&C required for removal of remains of placenta; abdominal pain and/or breast abscess requiring individual to return to hospital)

19) Infant complications = any infant complication that the infant's mother perceived as a medical complication once returning home and required them to return to hospital (ie. jaundice and had to return to hospital which may or may not have included blood-testing; infant not feeding/failure to thrive; colic = many episodes of uncontrollable infant crying; eye infection; difficulty with or cessation of breathing related to hiccups or congestion; several episodes of vomiting requiring medical attention)

20) Type of room at hospital = private room; other (semi-private room, 4-bed room)

Appendix D

Medical and Demographic Profile Questionnaire

Date:_____

Subject Identification Number:_____

Subject's Age:_____

Subject's Spouse/Partner's Age:_____

Marital Status:_____

Subject's Years of Education:_____

Subject's Highest Level of Education Completed:_____

Subject's Partner's Years of Education:_____

Subject's Partner's Highest Level of Education Completed:_____

Subject's Ethnic Background:_____

Subject's Partner's Ethnic Background:_____

First Language Spoken for Subject:_____

Second Language Spoken for Subject:_____

First Language Spoken for Subject's Partner:_____

Second Language Spoken for Subject's Partner:_____

Number of Years as a Couple Prior to Living Together:_____

Number of Years as a Couple Living Together:_____

Subject's Occupation:_____

Subject's Partner's Occupation:_____

Was this a Planned Pregnancy? (YES/NO) _____

Admission to Hospital Date and Time:_____

Delivery Date and Time:_____

Admission to Postpartum Unit Date and Time:_____

Discharge Date and Time:_____

Length of Time Subject on Postpartum Unit (in Hours):_____

Length of Time Partner with Subject from Admission to Hospital until Delivery (in Hours):_____

Length of Time Partner with Subject on Postpartum Unit until Discharge (in Hours):_____

Appendix D

Medical and Demographic Profile Questionnaire

Date:_____

Subject Identification Number:_____

Partner Present at Moment of Delivery (YES/NO):_____

Expected Date of Delivery (by menstrual dates and or ultrasound):_____

Infant's Birth Weight:_____

Infant's Sex:_____

Method of Infant-feeding in Hospital:_____

Method of Infant-feeding at Home:_____

Type of Hospital Care (Cooperative Care or Traditional Care):_____

Did You Receive Any Form of Postnatal Follow-up Care (YES/NO):_____

Number of Phone Calls From Hospital Nurse After Discharge:_____

Number of Phone Calls From Community Nurse After Discharge:_____

Number of Phone Calls Subject Made to Any Health Care Service After Discharge:_____

Number of Homevisits Hospital Nurse Made After Discharge:_____

Number of Homevisits Community Nurse Made After Discharge:_____

Number of Visits to Hospital by Subject After Discharge:_____

Number of Visits to Community Services by Subject After Discharge:_____

Prenatal Classes (YES/NO):_____

Any Previous Experience With Infant-care (YES/NO):_____

Any Maternal Complications After Discharge (YES/NO):_____

Any Infant Complications After Discharge (YES/NO):_____

Why Did You Choose to Deliver at this Hospital:_____

Did You Receive a Tour of the Postpartum Unit Prior to Delivery (YES/NO):_____

Did You Receive Any Written Information about the Postpartum Unit Prior to Delivery (YES/NO):_____

Time of Day Interviewed in Hospital:_____

Date and Time of Day Interviewed at Home:_____

Type of Room at Hospital:_____

Partner Present During Hospital Interview:_____

Number of Hours Postpartum Interviewed in Hospital:_____

Appendix E

PERCEIVED COMPETENCE QUESTIONNAIRE

Below are some questions about you and your baby. Please read each question carefully and circle th response to the right which best describes HOW YOU HAVE BEEN FEELING TODAY.

The numbers refer to these phrases.

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Quite a bit
5 = To a great extent
6 = Completely

		Not at all	Slightly	Somewhat	Quite a bit	To a great extent	Completely
1.	How satisfied are you with the way you relate to your baby and your baby's needs?	1	2	3	4	5	6
2.	How well do you think you know your baby?	1	2	3	4	5	6
3.	How satisfying has being the parent of a new baby been for you?	1	2	3	4	5	6
4.	How well prepared do you think you are to deal with each of the following matters during feeding?						
	a. How to hold your baby while feeding	1	2	3	4	5	6
	b. How to tell when your baby is hungry	1	2	3	4	5	6
	c. How to tell when your baby has had enough to eat at each feeding	1	2	3	4	5	6
	d. How to burp your baby	1	2	3	4	5	6
	e. How often to feed your baby	1	2	3	4	5	6
	f. What to expect in regard to your baby establishing a regular feeding schedule	1	2	3	4	5	6
	g. How to tell whether your baby is getting enough to eat overall	1	2	3	4	5	6

The numbers refer to these phrases.

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Quite a bit
5 = To a great extent
6 = Completely

		Not at all	Slightly	Somewhat	Quite a bit	To a great extent	Completely
5.	If you are bottle feeding or are breast feeding and plan to give a bottle of either formula or breast milk occasionally, please answer the following question: How well prepared are you to handle each of the following aspects of bottle feeding?						
	a. Caring for the feeding bottles and nipples	1	2	3	4	5	6
	b. Adjusting the milk flow from the bottle when feeding your baby	1	2	3	4	5	6
	c. Deciding what kind of formula to use	1	2	3	4	5	6
	d. Preparing the formula	1	2	3	4	5	6
	e. How much formula to give at one feeding	1	2	3	4	5	6

MOTHERS WHO ARE BOTTLE FEEDING THEIR BABIES SHOULD SKIP TO QUESTION 7.

The numbers refer to these phrases.

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Quite a bit
5 = To a great extent
6 = Completely

		Not at all	Slightly	Somewhat	Quite a bit	To a great extent	Completely
6.	How well prepared do you think you are for each of these aspects of breast feeding your baby?						
a.	How to care for your nipples	1	2	3	4	5	6
b.	How to maintain or increase your milk supply	1	2	3	4	5	6
c.	How to help your milk let down	1	2	3	4	5	6
d.	How to get your baby to start breast feeding (latch on to your nipple)	1	2	3	4	5	6
e.	What to do when your breasts are too full (engorged)	1	2	3	4	5	6
f.	What to do when your nipples leak milk	1	2	3	4	5	6
g.	What to do when the baby seems to want to feed very frequently	1	2	3	4	5	6
h.	Knowing which medications affect breast milk	1	2	3	4	5	6
i.	Knowing which foods in your diet may affect your breast fed baby	1	2	3	4	5	6
j.	Recognizing a breast infection	1	2	3	4	5	6
k.	Giving an occasional bottle feeding	1	2	3	4	5	6
l.	Collecting and storing breast milk for bottle feeding	1	2	3	4	5	6
m.	Breaking the baby's suction to release the nipple	1	2	3	4	5	6

The numbers refer to these phrases.

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Quite a bit
5 = To a great extent
6 = Completely

		Not at all	Slightly	Somewhat	Quite a bit	To a great extent	Completely
7.	How competent do you think you are to feed your baby?	1	2	3	4	5	6
8.	How well prepared do you think you are for each of the following infant care tasks?						
a.	Diaper care, including washing of cloth diapers, care of diaper rash, when to change diapers etc	1	2	3	4	5	6
b.	Bathing your baby, including water temperature, use of soap, oil, etc., and frequency	1	2	3	4	5	6
c.	Taking care of your baby's cord and/or circumcision	1	2	3	4	5	6
d.	Deciding how to clothe or dress your baby appropriately for the weather conditions	1	2	3	4	5	6
e.	Deciding when it's okay to take your baby outside	1	2	3	4	5	6
f.	Figuring out what your baby's cry means	1	2	3	4	5	6
g.	Playing with your baby	1	2	3	4	5	6
h.	Knowing what to expect regarding your baby's development (for example, how well your baby sees, when your baby will smile)	1	2	3	4	5	6
i.	Managing day-to-day problems your baby may have (for example, diaper rash, spitting up, colic)	1	2	3	4	5	6
j.	Recognizing when your baby is ill	1	2	3	4	5	6
k.	Knowing when you should call or see the doctor about your baby	1	2	3	4	5	6
m.	Knowing how to keep your baby safe (for example, appropriate travel arrangements, clothing and toys)	1	2	3	4	5	6

The numbers refer to these phrases.

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Quite a bit
5 = To a great extent
6 = Completely

		Not at all	Slightly	Somewhat	Quite a bit	To a great extent	Completely
9.	How competent do you think you are to be in charge of the care of your baby?	1	2	3	4	5	6
10.	How well prepared do you think you are for each of the following self-care tasks?						
	a. Knowing what to do if you have a fever or feel ill	1	2	3	4	5	6
	b. Knowing what method of birth control to use and when	1	2	3	4	5	6
	c. Knowing what to expect in terms of how much energy you'll have when you go home/how much help you will need	1	2	3	4	5	6
	d. Dealing with the changes in your body (e.g., in your abdomen, breasts, perineum) now that you have delivered your baby	1	2	3	4	5	6
	e. Resolving your thoughts and feelings about labor and delivery issues (e.g., pain control, loss of control, being dependent on others)	1	2	3	4	5	6
	f. Knowing what medications you should take, when, and in what amounts	1	2	3	4	5	6
	g. Knowing what foods you should eat and in what amounts	1	2	3	4	5	6
11.	How competent do you think you are to take care of yourself?	1	2	3	4	5	6

PERSONAL RESOURCE QUESTIONNAIRE (PRQ85)

Below are some statements with which some people agree and others disagree. Please read each statement carefully and circle the response to the right which best describes HOW YOU HAVE BEEN FEELING RECENTLY.

The numbers refer to these phrases.

1 = Strongly disagree
2 = Disagree
3 = Somewhat disagree
4 = Neutral
5 = Somewhat agree
6 = Agree
7 = Strongly agree

STATEMENTS							
a. There is someone I feel close to who makes me feel secure	1	2	3	4	5	6	7
b. I belong to a group in which I feel important	1	2	3	4	5	6	7
c. People let me know that I do well at my work (job, homemaking)	1	2	3	4	5	6	7
d. I can't count on my relatives and friends to help me with problems	1	2	3	4	5	6	7
e. I have enough contact with the person who makes me feel special	1	2	3	4	5	6	7
f. I spend time with others who have the same interests that I do	1	2	3	4	5	6	7
g. There is little opportunity in my life to be giving and caring to another person	1	2	3	4	5	6	7
h. Others let me know that they enjoy working with me (job, committees, projects)	1	2	3	4	5	6	7
i. There are people who are available if I needed help over an extended period of time	1	2	3	4	5	6	7
j. There is no one to talk to about how I am feeling	1	2	3	4	5	6	7
k. Among my group of friends we do favors for each other	1	2	3	4	5	6	7

1 = STRONGLY DISAGREE
2 = DISAGREE
3 = SOMEWHAT DISAGREE
4 = NEUTRAL
5 = SOMEWHAT AGREE
6 = AGREE
7 = STRONGLY AGREE

STATEMENTS							
l. I have the opportunity to encourage others to develop their interests and skills	1	2	3	4	5	6	7
m. My family lets me know that I am important for keeping the family running	1	2	3	4	5	6	7
n. I have relatives or friends that will help me out even if I can't pay them back	1	2	3	4	5	6	7
o. When I am upset there is someone I can be with who lets me be myself	1	2	3	4	5	6	7
p. I feel no one has the same problems as I	1	2	3	4	5	6	7
q. I enjoy doing little "extra" things that make another person's life more pleasant	1	2	3	4	5	6	7
r. I know that others appreciate me as a person	1	2	3	4	5	6	7
s. There is someone who loves and cares about me	1	2	3	4	5	6	7
t. I have people to share social events and fun activities with	1	2	3	4	5	6	7
u. I am responsible for helping provide for another person's needs	1	2	3	4	5	6	7
v. If I need advice there is someone who would assist me to work out a plan for dealing with the situation	1	2	3	4	5	6	7
w. I have a sense of being needed by another person	1	2	3	4	5	6	7
x. People think that I'm not as good a friend as I should be	1	2	3	4	5	6	7
y. If I got sick, there is someone to give me advice about caring for myself	1	2	3	4	5	6	7

Appendix H: Five Spousal Support Items from "The Help I Get" Questionnaire (HIGQ) (Pridham & Van Riper, 1994)

Below are some questions. Please read each statement carefully and circle the number which best describes HOW YOU HAVE BEEN FEELING RECENTLY.

Spousal/partner support:

A) On the whole, how much help does your husband/partner give you figuring out how to deal with problems concerning the baby's care? (circle your response)

1	2	3	4	5	6	7	8	9
No Help								**A Great Deal of Help**

B) How much encouragement and reassurance about how well you are doing in caring for your baby does your husband/partner give you? (circle your response)

1	2	3	4	5	6	7	8	9
No Help								**A Great Deal of Help**

C) In general, how much help do you get from your husband/partner with the baby's care? (circle your response)

1	2	3	4	5	6	7	8	9
No Help								**A Great Deal of Help**

D) How much help do you get from your husband/partner with housework, meals, and shopping? (circle your response)

1	2	3	4	5	6	7	8	9
No Help								**A Great Deal of Help**

Satisfaction:

E) How satisfied are you with the help you get from your husband/partner? (circle your response)

1	2	3	4	5
Very Dissatisfied				**Very Satisfied**

Appendix I
Perceived Stress in General (Numerical Rating Scale)

** Below is a question about how stressed you are feeling. Please read the question and circle the number at the place which best shows your answer to the following question.

How stressed do you feel in general at the present time?

1	2	3	4	5	6	7	8	9
Not at all stressed								**Extremely stressed**

Appendix J

Perceived Self-Care and Infant-Care Stress (Numerical Rating Scale)

** Below are some questions about you and your baby. Please read each question carefully and circle the number at the place which best shows your answer to the following questions.

How stressful is it for you to care for yourself?

1	2	3	4	5	6	7	8	9
Not at all stressful								**Extremely stressful**

How stressful is it for you to care for your baby?

1	2	3	4	5	6	7	8	9
Not at all stressful								**Extremely stressful**

Appendix K
Perceived Pregnancy and Labour and Delivery Stress (Numerical Rating Scale)

** Below are some questions about your birth experience. Please read the questions carefully and circle the number at the place which best shows your answer to the following questions.

How stressful was your pregnancy?

1	2	3	4	5	6	7	8	9
Not at all stressful								**Extremely stressful**

How stressful was your labour and delivery?

1	2	3	4	5	6	7	8	9
Not at all stressful								**Extremely stressful**

FOUR FACTOR INDEX OF SOCIAL STATUS

I. Introduction

Characterization of the status structure of society is a general problem in sociology. For many years sociologists have discussed the issue of how to determine the positions individuals or nuclear families occupy in the status structure of a given society. Several measures have been devised to solve this problem,[1] but consensus has not been reached on the methodological procedures that best estimate the positions individuals or nuclear families occupy in the status structure of complex industrial, urban societies.[2]

In the early 1940s, I made a systematic examination of status in a middle-western community.[3] In 1948 I began to study the social structure of the New Haven area, a highly urbanized, industrial community. Two years later, I constructed an index designed to measure social status in this community, based on the use of education, occupation, and area of residence taken from a cross-sectional sample of nuclear families living there. The procedures followed in the development of that index are described in Social Class and Mental Illness.[4]

In the following years I analyzed data from a five percent sample of nuclear families resident in the New Haven community in 1951 and found that area of residence contributed very little to the estimated status position of a nuclear family: the multiple correlation between estimated status and education and occupation was .975. This correlation indicated that area of residence could be dropped as an indicator of status.[5] In 1957 I published privately a pamphlet demonstrating that education and occupation could be used to construct an index of social status.[6]

The Two Factor Index of Social Position has been widely used, but, with the social and cultural changes that have occurred since its publication, it stands in need of revision. The major points of criticism directed toward it are: it is now dated; the range of occupations used is too narrow; and the family's status position is based on data about the head of the household.[7] The Four Factor Index of Social Status presented here is designed to meet these deficiencies.

II. The New Index

The new index takes into consideration the fact that social status is a multidimensional concept. It is premised upon three basic assumptions: (1) A differentiated, unequal status structure exists in our society. (2) The primary factors indicative of status are the occupation an individual engages in and the years of schooling he or she has completed; other salient factors are sex and marital status. (3) These factors may be combined so that a researcher can quickly, reliably, and meaningfully estimate the status positions individuals and members of nuclear families occupy in our society.[8]

The four factors used in the new index are: education, occupation, sex, and marital status. Education changes during childhood and youth, but it generally stabilizes in the adult years; the years of schooling an individual has completed are believed to be reflected in acquired knowledge and cultural

tastes. Moreover, education is a prerequisite to entry into occupations that carry higher prestige in the social system. Occupation may change in the early years of adult life, but it too tends to become stable as a person grows into the late twenties and on into the thirties. It is presumed to be indicative of the skill and power individuals possess as they perform the maintenance functions in society. The sex of an individual remains constant throughout the course of the life cycle, but it plays an important part in the roles individuals play in the performance of maintenance functions in the society. Marital status defines the relationship of an adult male or female to the family system; it may or may not be stable from the early adult years on into old age. Both males and females participate in the educational process, mainly during the childhood and adolescent years.[9] Most adult males enter the labor force and fill occupational roles; in contemporary industrial society, more and more females are entering the labor force. Marital status is important in the calculation of social status because of differences in the ways adult family members participate in the economic system.[10] One spouse may be a full-time participant in the labor force while the other is not gainfully employed outside the home. However, as the years pass, the proportion of intact nuclear families with both spouses gainfully employed increases. Other families may be headed by a single, widowed, separated, or divorced male or female who is now or in the past has been gainfully employed. This index takes into consideration the several categories.

III. Estimation of Social Status

Information on each of the four factors is easily gathered in an empirical study. The sex of a respondent is observable directly and is assumed to be what appearances indicate. The other factors require inquiry and evaluation. The use of each factor in the estimation of status is described in the following sections.

A. Marital Status

1. Married and Living with Spouse

a. One spouse, male or female, gainfully employed; other spouse not employed. The estimated social position of this type of nuclear family is calculated on the basis of the employed member's education and occupation.

b. Both spouses gainfully employed. The education and occupation of each spouse is used to estimate the status position of the nuclear family.

It is assumed that the education and occupation of each spouse constitutes an equal proportion of the nuclear family's status. In the absence of theoretical and empirical evidence, a rule of thumb is followed, that is, education and occupation scores for the husband and wife are summed and divided by two. Research has indicated that the prestige of occupations is similar for males and females and that education is essentially the same for males and females in the same occupation.[11] In accordance with this finding, the combined score for the two spouses is assigned as the status score of the

family.

2. Family Without Spouse

Nuclear families or households may be headed by persons who have never married, divorced persons, persons permanently separated from a spouse, or widowed persons. Households falling into this category present the researcher with various alternatives:

a. When the head has never been married, the status score is calculated by the use of the head's occupation and education.

b. When a divorced person is employed full time in a gainful occupation, the occupation and education of the present head of the household should be used to calculate the status score.

c. When a separated or divorced person is receiving support payments from an absent, present or former, spouse, but is not gainfully employed, the status score should be calculated from the education and occupation of the supporting spouse.

d. When a widow or widower who is not gainfully employed is living on the income from the deceased spouse's estate, the status score should be computed on the education and occupation of the deceased spouse during the time he or she was gainfully employed.

B. Retired Persons

For retired persons, the status score should be calculated from the education and occupation of the person before he, she, or they retired. The factor of marital status should be handled in the same way that it is for nuclear families with one or both spouses active in the labor force.

C. The Educational Factor

The years of school a respondent has completed are scored on a seven-point scale, premised upon the assumption that men and women who possess different levels of education have different tastes and tend to exhibit different behavior patterns. The years of school an individual has completed are grouped in the same way as in the earlier Two Factor Index of Social Position.[12] The amount of formal education a person has completed is scored as follows:

Level of School Completed	Score
less than seventh grade	1
junior high school (9th grade)	2
partial high school (10th or 11th grade)	3
high school graduate (whether private preparatory, parochial, trade, or public school)	4
partial college (at least one year) or specialized training	5
standard college or university graduation	6
graduate professional training (graduate degree)	7

D. The Occupational Factor

The occupation a person ordinarily pursues during gainful employment is graded on a nine-step scale. Wherever possible, the scale has been keyed to the occupational titles used by the United States Census in 1970, and the three-digit code assigned by the census is given.[13] However, the occupational titles assigned by the census are not precise enough to delineate several occupational categories, especially proprietors of businesses, the military, farmers, and persons dependent upon welfare. Therefore, the occupational scale has departed from the titles and codes used by the census for a number of occupations and occupational groups.

OCCUPATIONAL SCALE

Score 9 Higher Executives, Proprietors of Large Businesses, and Major Professionals

a. Higher executives: chairpersons, presidents, vice-presidents, assistant vice-presidents, secretaries, treasurers;

b. Commissioned officers in the military: majors, lieutenant commanders, and above, or equivalent;

c. Government officials, federal, state, and local: members of the United States Congress, members of the state legislature, governors, state officials, mayors, city managers;

d. Proprietors of businesses valued at $250,000 and more;[14]

e. Owners of farms valued at

f. Major professionals (census code list).

Occupational Title	Census Code
Actuaries	034
Aeronautical engineers	006
Architects	002
Astronautical engineers	006
Astronomers	053
Atmospheric scientists	043
Bank officers	202
Biologic scientists	044
Chemical engineers	010
Chemists	045
Civil engineers	010
Dentists	062
Economists	091
Electrical/electronic engineers	012
Engineers, not elsewhere classified[15]	023
Financial managers	202
Geologists	051
Health administrators	212
Judges	030
Lawyers	031
Life scientists, n.e.c.	054
Marine scientists	052
Materials engineers	015
Mathematicians	035
Mechanical engineers	014
Metallurgical engineers	015
Mining engineers	020
Optometrists	063
Petroleum engineers	021
Physical scientists, n.e.c.	054
Physicians	065

Score 9 (continued)

Physicists	053
Political scientists	092
Psychologists	093
Social scientists, n.e.c.	096
Sociologists	094
Space scientists	043
Teachers, college/university, including coaches	102-140
Urban and regional planners	095
Veterinarians	072

Score 8 Administrators, Lesser Professionals, Proprietors of Medium-Sized Businesses

a. Administrative officers in large concerns: district managers, executive assistants, personnel managers, production managers;

b. Proprietors of businesses valued between $100,000 and $250,000;

c. Owners and operators of farms valued between $100,000 and $250,000;

d. Commissioned officers in the military; lieutenants, captains, lieutenants, s.g., and j.g., or equivalent;

e. Lesser professionals (census code list).

Occupational title	Census code
Accountants	001
Administrators, college	235
Administrators, elementary/secondary school	240
Administrators, public administration, n.e.c.	222
Archivists	033
Assessors, local public administration	201
Authors	181
Chiropractors	061
Clergymen	086
Computer specialists, n.e.c.	005
Computer systems analysts	004
Controllers, local public administration	201
Curators	033
Editors	184
Farm management advisors	024
Industrial engineers	013
Labor relations workers	056
Librarians	032
Musicians/composers	185
Nurses, registered	075
Officials, public administration, n.e.c.	222

Score 8 (continued)

Personnel workers	056
Pharmacists	064
Pilots, airplane	163
Podiatrists	071
Sales engineers	022
Statisticians	036
Teachers, secondary school	144
Treasurers, local public administration, n.e.c.	201

Score 7 Smaller Business Owners, Farm Owners, Managers, Minor Professionals

a. Owners of smaller businesses valued at $75,000 to $100,000;

b. Farm owners/operators with farms valued at $75,000 to $100,000;

c. Managers (census code list);

d. Minor professionals (census code list);

e. Entertainers and artists.

Occupational title	Census code
Actors	175
Agricultural scientists	042
Announcers, radio/television	193
Appraisers, real estate	363
Artists	194
Buyers, wholesale/retail trade	205
Computer programmers	003
Credit persons	210
Designers	183
Entertainers, n.e.c.	194
Funeral directors	211
Health practitioners, n.e.c.	073
Insurance adjusters, examiners, investigators	326
Insurance agents, brokers, underwriters	265
Managers, administration, n.e.c.	245
Managers, residential building	216
Managers, office, n.e.c.	220
Officers, lodges, societies, unions	223
Officers/pilots, pursers, shipping	221
Operations/systems researchers/analysts	055
Painters	190
Postmasters, mail supervisors	224
Public relations persons	192
Publicity writers	192
Purchasing agents, buyers, n.e.c.	225

Score 7 (continued)

Real estate brokers/agents	270
Reporters	184
Sales managers, except retail trade	233
Sales representatives, manufacturing industries	281
Sculptors	190
Social workers	100
Stock/bond salesmen	271
Surveyors	161
Teachers, except college/university/secondary school	141-143
Teachers, except college/university, n.e.c.	145
Vocational/educational counsellors	174
Writers, n.e.c.	194

Score 6 Technicians, Semiprofessionals, Small Business Owners

a. Technicians (census code list);

b. Semiprofessionals: army, m/sgt., navy, c.p.o., clergymen (not professionally trained), interpreters (court);

c. Owners of businesses valued at $50,000 to $75,000;

d. Farm owners/operators with farms valued at $50,000 to $75,000.

Occupational title	Census code
Administrators, except farm--allocated	246
Advertising agents/salesmen	260
Air traffic controllers	164
Athletes/kindred workers	180
Buyers, farm products	203
Computer/peripheral equipment operators	343
Conservationists	025
Dental hygienists	081
Dental laboratory technicians	426
Department heads, retail trade	231
Dietitians	074
Draftsmen	152
Embalmers	165
Flight engineers	170
Foremen, n.e.c.	441
Foresters	025
Home management advisors	026
Inspectors, construction, public administration	213
Inspectors, except construction, public administration	215
Managers, except farm--allocated	246
Opticians, lens grinders/polishers	506
Payroll/timekeeping clerks	360
Photographers	191

Score 6 (continued)

Professional, technical, kindred workers--allocated	196
Religious workers, n.e.c.	090
Research workers, not specified	195
Sales managers, retail trade	231
Sales representatives, wholesale trade	282
Secretaries, legal	370
Secretaries, medical	371
Secretaries, n.e.c.	372
Sheriffs/bailiffs	965
Shippers, farm products	203
Stenographers	376
Teacher aides, except school monitors	382
Technicians	150-162
Therapists	076
Tool programmers, numerical control	172

Score 5 Clerical and Sales Workers, Small Farm and Business Owners

a. Clerical workers (census code list);

b. Sales workers (census code list);

c. Owners of small business valued at $25,000 to $50,000;

d. Owners of small farms valued at $25,000 to $50,000.

Occupational title	Census code
Auctioneers	261
Bank tellers	301
Billing clerks	303
Bookkeepers	305
Bookkeeping/billing machine operators	341
Calculating machine operators	342
Cashiers	310
Clerical assistants, social welfare	311
Clerical workers, miscellaneous	394
Clerical/kindred workers---	396
Clerical supervisors, n.e.c.	312
Clerks, statistical	375
Collectors, bill-account	313
Dental assistants	921
Estimators, n.e.c.	321
Health trainees	923
Investigators, n.e.c.	321
Key punch operators	345
Library assistants/attendants	330
Recreation workers	101

Score 5 (continued)

Tabulating machine operators	350
Telegraph operators	384
Telephone operators	385
Therapy assistants	084
Typists	391

Score 4 Smaller Business Owners, Skilled Manual Workers, Craftsmen, and Tenant Farmers

a. Owners of small businesses and farms valued at less than $25,000;

b. Tenant farmers owning farm machinery and livestock;

c. Skilled manual workers and craftsmen (census code list);

d. Noncommissioned officers in the military below the rank of master sergeant and C.P.O.

Occupational title	Census code
Airline cabin attendants	931
Automobile accessories installers	401
Bakers	402
Blacksmiths	403
Boilermakers	404
Bookbinders	405
Brakemen, railroad	712
Brickmasons/stonemasons	410
Brickmason/stonemason apprentices	411
Cabinetmakers	413
Carpenters	415
Carpenter apprentices	416
Carpet installers	420
Cement/concrete finishers	421
Checkers/examiners/inspectors, manufacturing	610
Clerks, shipping/receiving	374
Compositors/typesetters	422
Conductors, railroad	226
Constables	963
Counter clerks, except food	314
Decorators/window dressers	425
Demonstrators	262
Detectives	964
Dispatchers/starters, vehicles	315
Drillers, earth	614
Dry wall installers/lathers	615
Duplicating machine operators, n.e.c.	344
Electricians	430

Score 4 (continued)

Electrician apprentices	431
Electric power linemen/cablemen	433
Electrotypers	434
Engineers, locomotive	455
Engineers, stationary	545
Engravers, except photoengravers	435
Enumerators	320
Expediters	323
Firemen, fire protection	961
Firemen, locomotive	456
Floor layers	440
Foremen, farm	821
Forgemen/hammermen	442
Furriers	444
Glaziers	445
Heat treaters/annealers/temperers	446
Heaters, metal	626
Housekeepers, except private household	950
Inspectors, n.e.c.	452
Inspectors/scalers/graders, log and lumber	450
Interviewers	331
Jewelers/watchmakers	453
Job and diesetters, metal	454
Lithographers	515
Loom fixers	483
Machinists	461
Machinist apprentices	462
Mail carriers, post office	331
Mail handlers, except post office	332
Managers, bar/restaurant/cafeteria	230
Marshals, law enforcement	963
Mechanics	470-495
Meter readers	334
Millers, grain/flour/feed	501
Millwrights	355
Molders, metal	503
Molder apprentices	504
Office machine operators, n.e.c.	514
Patternmakers/modelmakers	522
Photoengravers	515
Plasterers	520
Plasterer apprentices	521
Plumbers/pipefitters	522
Plumber/pipefitter apprentices	523
Power station operators	525
Postal clerks	361
Practical nurses	926
Piano/organ tuners/repairmen	516
Pressmen, plate printers, printing trade	530
Pressmen apprentices	531
Projectionists, motion picture	505

Score 4 (continued)

Printing trade apprentices, except pressmen	423
Proof readers	362
Radio operators	171
Receptionists	364
Repairmen	471-486
Rollers/finishers, metal	533
Sheetmetal workers	533
Sheetmetal worker apprentices	536
Stereotypers	434
Stock clerks/storekeepers	381
Stone cutters/carvers	546
Structural metal workers	550
Superintendents, building	216
Switchmen, railroad	713
Tailors	551
Telephone linemen/splicers	552
Telephone installers/repairmen	554
Ticket/station/express agents	390
Tile setters	560
Tool and diemakers	561
Tool and diemaker apprentices	562
Weighers	392
Welders/flame cutters	680

Score 3 Machine Operators and Semiskilled Workers (census code list)

Occupational title	Census code
Animal caretakers	740
Asbestos/insulation workers	601
Assemblers	602
Barbers	935
Blasters/powdermen	603
Boardinghouse/lodginghouse keepers	940
Boatmen/canalmen	701
Bottling operatives	604
Bulldozer operators	412
Bus drivers	703
Canning operatives	604
Carding, lapping, combing operatives	670
Chauffeurs	714
Child care workers, except private household	942
Conductors/motormen, urban rail transit	704
Cranemen/derrickmen/hoistmen	424
Cutting operatives	612
Deliverymen	704
Dressmakers/seamstresses, except factory	613
Drill press operatives	650
Dyers	620

Score 3 (continued)

Excavating/grading/road machine operators except bulldozer	436
Farm services laborers, self-employed	824
File clerks	325
Filers/polishers/sanders/buffers	621
Fishermen/oystermen	752
Forklift/tow motor operatives	706
Furnacemen/smelters/pourers	622
Furniture/wood finishers	443
Graders/sorters/manufacturing	623
Grinding machine operatives	651
Guards/watchmen	962
Hairdressers/cosmetologists	944
Health aides, except nursing	922
Housekeepers, private household	982
Knitters/loopers/toppers	671
Lathe/milling machine operatives	652
Machine operatives, miscellaneous specified	690
Machine Operatives, n.e.c.	692
Meat cutters/butchers, except manufacturing	631
Meat cutters, butchers, manufacturing	633
Metal platers	635
Midwives (lay)	924
Milliners	640
Mine operatives	640
Mixing operatives	710
Motormen, mine/factory/logging camp, etc.	710
Nursing aides/attendants	925
Oilers/greasers, except auto	642
Operatives, miscellaneous	694
Operatives, not specified	695
Operatives, except transport---allocated	696
Orderlies	925
Painters, construction/maintenance	510
Painter apprentices	511
Painters, manufactured articles	644
Paperhangers	512
Photographic process workers	645
Precision machine operatives, n.e.c.	653
Pressers/ironers, clothing	611
Punch/stamping press operatives	656
Riveters/fasteners	660
Roofers/slaters	534
Routemen	705
Sailors/deckhands	661
Sawyers	662
Service workers, except private household---allocated	976
Sewers/stitchers	663
Shoemaking machine operatives	664
Shoe repairmen	542
Sign painters/letterers	543
Spinners/twisters/winders	672

Score 3 (continued)

Solderers	665
Stationary firemen	666
Surveying, chainmen/rodmen/axmen	605
Taxicab drivers	714
Textile operatives, n.e.c.	674
Transport equipment operatives---allocated	726
Truck drivers	715
Upholsterers	563
Weavers	673
Welfare service aides	954
Enlisted members of the armed services (other than noncommissioned officers)	---

Score 2 Unskilled Workers (census code list)

Occupational title	Census code
Bartenders	910
Busboys	911
Carpenter's helpers	750
Child care workers, private household	980
Construction laborers, except carpenters' helpers	751
Cooks, private household	981
Cooks, except private household	912
Crossing guards/bridge tenders	960
Elevator operators	943
Food service, n.e.c., except private household	916
Freight/materials handlers	753
Garage workers/gas station attendants	623
Garbage collectors	754
Gardeners/groundskeepers, except farm	755
Hucksters/peddlers	264
Laborers, except farm---allocated	796
Laborers, miscellaneous	780
Laborers, not specified	785
Laundry/drycleaning operatives, n.e.c.	630
Lumbermen/raftsmen/woodchoppers	761
Meat wrappers, retail trade	634
Messengers	333
Office boys	333
Packers/wrappers, n.e.c.	643
Parking attendants	711
School monitors	952
Waiters	915
Warehousemen, n.e.c.	770

Score 1 Farm Laborers/Menial Service Workers (census code list)

Occupational title	Census code
Attendants, personal service, n.e.c.	933
Attendants, recreation/amusement	932
Baggage porters/bellhops	934
Bootblacks	941
Chambermaids, maids, except private household	901
Cleaners/charwomen	902
Dishwashers	913
Farm laborers, wage workers	931
Farm laborers/farm foremen/kindred workers---allocated	846
Janitors/sextons	903
Laundresses, private household	983
Maids/servants, private household	984
Newsboys	266
Personal service apprentices	945
Private household workers---allocated	986
Produce graders/sorters, except factory/farm	625
Stockhandlers	762
Teamsters	763
Vehicle washers/equipment cleaners	764
Ushers, recreation/amusement	953
Dependent upon welfare---no regular occupation	---

IV. The Estimation of Status

The status score of an individual or a nuclear family unit is estimated by combining information on sex, marital status, education, and occupation. The status score of an individual is calculated by multiplying the scale value for occupation by a weight of five (5) and the scale value for education by a weight of three (3).[16] To calculate the status score for a nuclear family it is necessary to determine the education, occupation, and marital status of its head or heads and their relationship to the labor force in the present, or for retired persons in the past. Two examples illustrate this point:

A. John Smith lives with his spouse who is a housewife.[17] He is the manager of a supermarket. He completed high school and one year of business college. His status score is computed as follows:

Factor	Scale score	Factor weight	Score x Weight
occupation	6	5	30
education	5	3	15
		total score	45

B. The Peter Paul family's score is computed differently because both Peter and his wife are gainfully employed. Peter is an installer for the telephone

company. His wife is employed as a clerk in an insurance company office. Peter completed high school. His wife completed high school and one year of business college. The scores for each are calculated as follows:

Peter Paul

Factor	Scale score	Factor weight	Score x Weight
occupation	4	5	20
education	4	3	12
		total score	32

Mary Paul

Factor	Scale score	Factor weight	Score x Weight
occupation	5	5	25
education	5	3	15
		total score	40

To determine the Peter Paul family's social status, the scores for each spouse are summed and the total is divided by two:

Peter Paul	32
Mary Paul	40
total score	72 divided by 2 = 36.

The total score for the family is higher than that for Peter alone, but lower than for Mary alone. When two spouses are gainfully employed the husband's or the wife's education and occupation may raise or lower the calculated score for the family.

Appendix M

Recruitment Form

A Study of the Experience of Mothers After Birth

My name is Lenora Duhn. I am a Master of Nursing Science student at McGill University. I am looking for volunteers to be part of my study of mothers after the birth of their first baby. The purpose of this study is to see if the care a mother receives after birth has an effect on her ability to look after herself and her baby. Also, what the support from family and friends has been like, as well as how she perceives her stress will be studied. I hope this study will give information to the Health Care System to help in improving the care mothers receive after the birth of their baby.

I would like to meet with you to talk about this study further and see if you would like to be part of the project. If you agree to meet with me please show this by printing your name and room number below. **By meeting with me this in no way means you have to be part of the study, and if you do not want to volunteer, it will not in any way affect your present or future health care.**

Name:

Room Number:

Please indicate, if you wish, what are the reasons you chose not to participate in this study:_____

_____

THANK YOU FOR YOUR HELP

Appendix N

Consent Form
McGill University-School of Nursing

Consent to Participate in a Nursing Research Project Entitled:
"Evaluation of Postpartum Maternity Care"

As part of a Master of Science degree at McGill University-School of Nursing, this study will look at the experience families have with maternity care after birth.

NATURE OF THE STUDY

1. I understand that I will be asked by the person doing the study (researcher) to fill-in a package of questionnaires, which will take about 30-40 minutes to finish. I will be asked to fill-in this questionnaire package 2 times:
   i) shortly after signing this form in hospital
   ii) over the telephone at about two weeks after my baby's birth
I understand that I may also be chosen randomly (like drawing a number) to talk more about the time after my baby's birth. This interview will take place in my home and be made at a time that is easy for me, at about two to three weeks after the birth.

2. I understand that all information is confidential and to be used only for the purpose of this study, and that my name or hospital number will not be used (ie. I will be referred to only by code number).

3. I understand that being part of this study is entirely voluntary, that I can drop out of it at any time by telling any nurse or the researcher, and that if I do drop out it will not in any way affect my present or future health care.

4. I understand that I will receive a copy of this signed consent form and another copy will be kept by the researcher.

5. I understand that what is learned from this study will not help me directly, but may help others in the future who receive maternity care.

6. I understand that there are no known risks related to this study, other than the loss of my time that it will take to complete the questions.

7. At all times I will receive care in keeping with accepted nursing and medical practice and my best interests will come first over the goals of the study.

8. I have read and understand this form and have discussed the study with the researcher so that I am familiar with it to give my informed consent to participate in this study.

9. I,_____, voluntarily consent to participate in this study conducted at St. Mary's Hospital and the Royal Victoria Hospital by Lenora Duhn (933-5438) to examine the experience I have had with the care I received after the birth of my baby.

Date:_____ Participant's signature:_____

Researcher:_____

Consent Form
St. Mary's Hospital-Maternity Unit
McGill University-School of Nursing

Consent to Participate in a Nursing Research Project Entitled: "Evaluation of Postpartum Maternity Care"

As part of a Master of Science degree at McGill University-School of Nursing, this study will look at the experience families have with maternity care after birth.

NATURE OF THE STUDY

1. I understand that I will be asked by the person doing the study (researcher) to fill-in a package of questionnaires, which will take about 30-40 minutes to finish. I will be asked to fill-in this questionnaire 2 times:
   i) shortly after signing this form in hospital
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2. I understand that all information is confidential and to be used only for the purpose of this study, and that my name or hospital number will not be used (ie. I will be referred to only by code number).

3. I understand that being part of this study is entirely voluntary, that I can drop out of it at any time by telling any nurse or the researcher, and that if I do drop out it will not in any way affect my present or future health care. I may also talk with Monique Robitaille, patient representative for St. Mary's (345-3518), if I have any problems with the study.

4. I understand that I will receive a copy of this signed consent form and another copy will be kept by the researcher.

5. I understand that what is learned from this study will not help me directly, but may help others in the future who receive maternity care.

6. I understand that there are no known risks related to this study, other than the loss of my time that it will take to complete the questions.

Consent Form
St. Mary's Hospital-Maternity Unit
McGill University- School of Nursing

Consent to Participate in a Nursing Research Project Entitled:
"Evaluation of Postpartum Maternity Care"

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Date:_____ Participant's signature:_____

Researcher:_____

Appendix O: Correlation Matrix for Study Variables

	General Stress (Time 2)	Self-Care Stress (Time 1)	Self-Care Stress (Time 2)	Infant-Care Stress (Time 1)	Infant-Care Stress (Time 2)	General Support (Time 1)	General Support (Time 2)	Self-Care Competence (Time 1)	Self-Care Competence (Time 2)	Infant-Care Competence (Time 1)	Infant-Care Competence (Time 2)	Partner Support (Time 1)	Partner Support (Time 2)
General Stress (Time 1)	.44 **	.43 **	.32 *	.58 **	.39 **	-.32 *	-.26 *	-.09	-.29 *	-.17	-.15	-.09	-.11
General Stress (Time 2)		.30 *	.52 **	.47 **	.77 **	-.16	-.28 *	-.12	-.52 **	-.30 *	-.44 **	-.06	-.08
Self-Care Stress (Time 1)			.37 **	.40 **	.24	-.33 *	-.37 **	-.32 *	-.41 **	-.23	-.22	-.11	-.15
Self-Care Stress (Time 2)				.34 **	.55 **	-.28 *	-.40 **	-.26 *	-.61 **	-.38 **	-.36 **	-.09	-.08
Infant-Care Stress (Time 1)					.51 **	-.18	-.16	-.30 *	-.40 **	-.46 **	-.48 **	-.14	-.19
Infant-Care Stress (Time 2)						-.08	-.28 *	-.21	-.48 **	-.49 **	-.56 **	-.19	-.12
General Support (Time 1)							.83 **	.34 **	.41 **	.11	.15	.35 **	.34 **
General Support (Time 2)								.35 **	.54 **	.21	.34 **	.40 **	.39 **
Self-Care Competence (Time 1)									.47 **	.54 **	.43 **	.23	.16
Self-Care Competence (Time 2)										.38 **	.62 **	.18	.23

Note:
N=84
1-tailed Significance: * = .01, ** = .001
Time 1 = 24-48 hours postpartum, Time 2 = 2 weeks postpartum

(Appendix O continued)

Appendix O continued

	General Stress (Time 2)	Self-Care Stress (Time 1)	Self-Care Stress (Time 2)	Infant-Care Stress (Time 1)	Infant-Care Stress (Time 2)	General Support (Time 1)	General Support (Time 2)	Self-Care Compe-tence (Time 1)	Self-Care Compe-tence (Time 2)	Infant-Care Compe-tence (Time 1)	Infant-Care Compe-tence (Time 2)	Partner Support (Time 1)	Partner Support (Time 2)
Infant-Care Competence (Time 1)											66 **	13	14
Infant-Care Competence (Time 2)												14	16
Partner Support (Time 1)													61 **
Partner Support (Time 2)													

Note:
N=84
1-tailed Significance: * = .01, ** = .001
Time 1 = 24-48 hours postpartum, Time 2 = 2 weeks postpartum