THAT'S WHAT THEY'RE FOR:

SOCIAL SUPPORT IN THE ADAPTATION TO BREASTFEEDING -

A HEALTH PROMOTION MODEL

by

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for the degree of Doctor of Education
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Ontario Institute for Studies in Education of the
University of Toronto

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ABSTRACT

This study builds on the research that suggests the declining rates of breastfeeding are partly due to the weakening of informal systems (e.g., family networks) and the dependence upon non-supportive formal systems (e.g., hospital practices). Two research questions were addressed:

1. Are first-time mothers who wean early more likely to lack an informal social support network and be more influenced by the formal system than those who prolong breastfeeding?
2. At each of the five stages (preconception, prenatal, neonatal, postnatal, and post-discharge), who are the key supports and what is the nature of the social support utilized by first-time mothers to meet their breastfeeding needs?

Eighty-six first-time mothers completed surveys, half of whom weaned at less than six months, and half of whom breastfed for at least six months. Six women from each group participated in semi-structured interviews. The survey data were analyzed first by a principal component factor analysis, followed by a

regression analysis in which the support factors and demographic variables were used to predict the duration of breastfeeding.

Findings from the study indicate that significant predictors in the prolonged duration of breastfeeding are the prolonged duration of marriage and hospital procedures. Women who wean early are more likely than those who prolong breastfeeding to lack an informal support system and to be more influenced by actions in the formal system that hinder the lactation process. To meet their needs, women who prolong breastfeeding are more likely to use informational support from breastfeeding clinics, instrumental and emotional support from their spouse/partner, and informational and emotional support from maternity nurses and medical doctors.

Based on the results, the Social Support–Wellness Model was developed to promote breastfeeding. The model consists of four major components: identifying the five distinct stages in the breastfeeding process (preconception, prenatal, neonatal, postnatal, and post-discharge); identifying the sources of support in the informal and formal systems which impede as well as facilitate lactation at each of the stages; identifying the nature of the support; and identifying interventions for target groups at the specific stages. A more generalized form of the model is also presented for the development of health promotion strategies for other wellness behaviours. Implications for social policy, adult education and research are discussed.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

CHAPTER 1: INTRODUCTION

Purpose of the Study

The purpose of this study is to examine the role of social support in the adaptation to breastfeeding by first-time mothers. The objectives are two-fold: the study will investigate the informal and formal social support systems which influence the lactation process. In addition, it will explore the sources of social support and the nature of the support used to meet breastfeeding needs in each of the following stages -- preconception, prenatal, neonatal, postnatal, and post-discharge. Data from the research will be used to develop a health promotion model for breastfeeding.

Background to the Study

There is strong evidence that breastfeeding has extensive medical and psychological benefits to both the infant and mother (Health Canada, 1990; International Children's Centre, 1979; Jelliffe & Jelliffe, 1971; World Health Organization, 1981). The Canadian Paediatric Society and the Ontario Public Health Association (in Bourgoin et al., 1997), as well as the World Health Organization (1981) recommend the duration of lactation to be a minimum of six months. Yet, the national average of breastfeeding is far below this optimal rate. A 1990 report in Health and Welfare Canada (in Barber et al., 1997) showed that eighty percent of Canadian women initiate breastfeeding, but fewer than thirty

percent of women continue to breastfeed past three months' postpartum. The greatest decline occur during the first six weeks, the period in which breastfeeding is being established.

The literature suggests that social support is a critical component in facilitating the adaptation to breastfeeding. Yet, health promotion models do not highlight social support as a key element. Since health promotion models focus on strategies which are intended to promote a change to a healthier behaviour, behaviour change theories are often relied upon as outlined by a paper published by the Centre for Health Promotion (Hyndman et al., 1993). The overwhelming majority of these models, however, focus on factors other than social support. Little, if any, consideration is given to social support factors. That is, they do not target promotion strategies on the *support system* of the individual for whom the behaviour is being promoted. Rather, they target characteristics of the identified individual or of the larger community as the key variables in adopting a promoted behaviour.

Individual behaviour theories, such as the Stages of Change Theory (Prochaska & DiClemente, 1982; 1992) rely completely on the individual's readiness for adopting a healthier behaviour. Social support factors are not a key component.

Similarly, interpersonal behaviour theories, such as Social Learning Theory (Bandura, 1977, 1986) highlight factors such as modelling and observed behaviour as the key element in producing a desired behaviour. Since Social Learning theory recognizes that other people and social norms can have a significant influence on

whether the individual adopts a new behaviour, it does acknowledge the need to provide social support in the environment, as well as provide role models for observational learning. However, in determining the adaptation to a health promotion behaviour, this theory primarily focuses on such individual variables as behavioural capability, beliefs, attitudes and values, expectations, emotional coping responses, and self-efficacy.

The Community Organization Approach (Labonté, 1990; Minkler, 1990) focuses on accessing the community for problem or goal identification, mobilizing community resources, and implementing strategies to reach its goals. Although community involvement is a necessary component in health promotion, this model does not appear to address specific issues as experienced by the individual, which might differ from those identified by the larger community. For example, social support factors at the micro level (family and peers) might be different from those identified at the mezzo level (community) (Erickson, 1984; Gottlieb, 1981).

The Diffusion of Innovation Theory (Rogers, 1983) focuses on the person's readiness to adopt new practices without adequately considering external factors which might affect the ability or willingness to adopt a new practice. Moreover, this model focuses strictly on the adoption of a new behaviour rather than whether the behaviour is maintained over time. As an example, this model would focus on internal factors which influence the woman's decision and initiation of breastfeeding, but not on external factors which influence the continued duration of lactation.

Similarly, the Behavioural Community Psychology Theory (Elder et al. in Hyndman et al., 1993) does not take into consideration social support factors. Rather, since it is based on the behaviour modification principle, its focus is on personal characteristics, such as the individual's responses to reinforcement in his/her willingness to adopt a healthier behaviour.

The Social Marketing Approach (Kotler, 1982; Kotler & Zaltman, 1971) focuses on the implementation of a health promotion program, usually via a mass media campaign. It uses audience analysis and audience segmentation (Lefebvre & Flora, 1988) to target the most appropriate segments of the population. As such, this model stresses the need to gain a greater understanding of the target population. However, it does not focus on socio-environmental factors, or deal with the individual's complex behaviours, or teach complex skills in adopting the promoted behaviour (Hyndman et al., 1993). Rather, it promotes mass campaigns in making a behavioural change. As such, this model may "blame the victim" by appearing to hold people responsible for their own health while ignoring social and environmental factors that may keep them from adopting the promoted behaviours (Hyndman et al., 1993). For example, the practice of bottle-feeding may not be due to the woman's ignorance or unwillingness to breastfeed, but rather from the lack of adequate maternity benefits or lack of social support which hinder her commitment to breastfeeding.

The Behavioural Change Model (Puska et al. in Hyndman et al., 1993), which focuses on both internal factors and external factors, is the only major health

promotion model which specifically acknowledges the necessity of providing social support to help people maintain healthier behaviours. It identifies the need for information, education, training and persuasion to help individuals choose and maintain the promoted behaviour. At the same time, it emphasizes the importance of social support in order that the adopted behaviour can be maintained.

In summarizing the general health promotion models, the following conclusions can be drawn:

Firstly, there is not an adequate emphasis on social support as a key component in health promotion. These models may be helpful in explaining the *adoption* of a behaviour, but they do not necessarily address factors which would influence a *maintenance* of the behaviour. Vague reference is made to the need for environmental changes and community organization, but the models do not highlight the need to identify elements which would promote the maintenance of the desired behaviour. In particular, social support (namely the sources, nature and timing of the support) is not highlighted sufficiently.

Secondly, health promotion models and theories appear to promote primarily the change of a premorbid behaviour such as alcohol use, smoking, and a high-fat diet which is a health risk. Alcohol and smoking cessation and weight reduction programs are designed to reduce the risk of ill-health. Health promotion, however, is not limited only to activities which have a premorbid risk (Rootman & Raeburn, 1994). Since health is defined as a "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (World Health

Organization in Downie et al., 1990:2), breastfeeding can be construed as a healthy activity. Although bottle-feeding is not necessarily a health risk to the same degree that smoking or alcohol use are, breastfeeding does provide relative health benefits. Accordingly, breastfeeding is a worthwhile behaviour to promote not only because it reduces the risk of ill-health but more so because it enhances positive health.

Yet, there is a dearth of literature on health promotion models for breastfeeding. Although there are various programs and services to promote breastfeeding, there is no actual health promotion model specific to breastfeeding. A key element to consider in the design of a health promotion model for breastfeeding is the maintenance of breastfeeding. Unlike most behaviours, such as smoking or weight control, which can be adopted or stopped at any time, breastfeeding has a physiological component which is based on the supply and demand principle. Accordingly, the behaviour of breastfeeding must be adopted shortly, if not immediately upon birth. It is critical that this behaviour be maintained as, once terminated, it is difficult, if not impossible, to relactate. Furthermore, it is the prolonged duration of breastfeeding that affects the continued health of the infant and mother. The Canadian Paediatric Society, the Ontario Public Health Association (in Bourgoin et al., 1997) and the World Health Organization (1981) recommend the duration of lactation to be a minimum of six months.

Therefore, a health promotion model for breastfeeding must consider factors which not only promote the decision, preparation, initiation, and establishment of breastfeeding, but also which promote the maintenance of the behaviour. Health

promotion strategies which target the support systems of the individual, namely the first-time mother, must be incorporated in the design of a health promotion model for breastfeeding.

However, there are some areas in which the existing research on breastfeeding and social support need further development (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Isabella & Isabella, 1991; Matich & Sims, 1992). Existing studies are lacking in two essential areas. Firstly, most women make their decision about an infant feeding method well before delivery and even prior to pregnancy (Doren, 1995; Entwistle et al., 1982; Fredrickson, 1995; Switzky et al., 1979). Yet, existing research has typically examined the use of social support in breastfeeding in a general fashion. More significantly, existing research has studied social support exclusively in the postnatal period. In an evaluation of breastfeeding promotion programs, Tognetti (1988) concludes that not enough studies focus on specific aspects of breastfeeding such as the timing of interventions. However, in order to determine the timing of interventions, one must determine the sources and nature of obstruction and facilitation at various points. Yet, not one study differentiates the sources and nature of support in *specific stages* of the perinatal period, namely, the preconception, prenatal, neonatal, postnatal, and post-discharge stages.

Secondly, the literature differs in its identification of the actual *sources* and *nature* of the support used by women for successful lactation (Baranowski et al., 1983; Bourgoin et al., 1997; Bryant, 1982; Isabella & Isabella, 1991; Martin,

1986; Matich & Sims, 1992). The source of support refers to anyone who provides assistance to the woman in her adaptation to breastfeeding. This may include people in the informal support network such as the spouse/partner, relatives and friends, and/or people in the formal system such as healthcare professionals. The nature of support refers to the type of assistance that is provided to the woman in order to facilitate the adaptation to breastfeeding. This may include the provision of instrumental, emotional and/or informational support.

The sources and nature of support vary according to physical, psychological, social and environmental factors. For example, certain demographic variables such as older maternal age, marriage, higher income, and higher maternal education are more likely to be associated with breastfeeding (Bourgoin et al., 1997; Grossman et al., 1990; Isabella & Isabella, 1991; Kaufman & Hall, 1989; Martin, 1986; Matich & Sims, 1992). Peers are the most influential source of social support for adolescent mothers, husbands are most supportive for middle-class women, and mothers are most supportive for lower-class women (Matich & Sims, 1992). The sources and nature of support also varies between different cultural and national groups (Kent, 1981). For example, Puerto Rican and Cuban mothers consider the maternal grandmother as an important source of information on infant feeding while Anglo women rely mostly on advice from friends and healthcare professionals (Bryant, 1982). Black Americans use support from a close friend, Mexican Americans' source of support is the maternal grandmother, and Anglo Americans use the male partner (Baranowski et al., 1983). American Japanese are strongly influenced by the

mother's mother, childbirth classes and mothers' support groups (Hongo, 1994). The Chinese in Hong Kong use relatives and friends in their adaptation to breastfeeding, whereas those who bottle-feed are more influenced by the mass media and healthcare professionals (Hung et al., 1985). Results of these studies reinforce the view that different groups use different sources and type of social support in their adaptation to breastfeeding. Accordingly, several authors (Baranowski et al., 1983; Barber et al., 1997; Bryant, 1982; UNICEF/EAPRO, 1985) emphasize that more data on social support in specific subgroups are needed in order to understand the factors that affect breastfeeding rates.

Existing research typically examines the use of social support and breastfeeding in multipara women, without making a distinction for first-time mothers. Yet literature indicates that women who successfully breastfeed their first infant are more likely to breastfeed subsequent children (Isabella & Isabella, 1991; Martin, 1986; Matich & Sims, 1992). The rationale is that first-time mothers are more likely to have new concerns about the unaccustomed issues of childcare including infant feeding and nutrition. They may be more susceptible to advice and may be more open to new ideas than older more experienced women (Tognetti, 1988). As such, improving the prevalence of breastfeeding among first-time mothers is likely to increase the overall breastfeeding rate. Thus, first-time mothers are a subgroup which warrants further research in the area of social support and breastfeeding.

Most of the research on social support and breastfeeding employs

quantitative methodologies, primarily via questionnaires and surveys. Although such studies provide important data, there is no opportunity for the participants to elaborate on responses from their own frame of reference (Bogdan & Taylor, 1984). Thus, these studies are limited in addressing some of the critical issues that impact on breastfeeding women.

Qualitative methodologies provide a means of inquiry that circumvents some of the gaps of prior research. Using a qualitative approach provides a more integrated and holistic perspective on the experiences of women and enables participants to explain and describe events and circumstances that have not as yet been adequately explored (Spradley & McCurdy, 1972). As such, the qualitative data derived from this study, in conjunction with quantitative data, should add to the existing literature on social support and breastfeeding. Elements of social support are clearly factors which must be incorporated in a health promotion model for breastfeeding. Notwithstanding the earlier criticism of existing health promotion models, the model to be developed from this study will build upon existing approaches, but will endeavour to address issues that are specific to breastfeeding and more generally, issues that pertain to the encouragement and maintenance of behaviours that are healthy.

Potential Value of the Study

Direct insight into the experiences of breastfeeding first-time mothers will be of theoretical and practical significance for healthcare professionals and educators

who work directly with women and their families throughout the perinatal period. Hochbaum et al. (1992) emphasize the necessity of developing a model that is useful to practitioners in order that health promotion implementation is effective. The proposed model will address the specific sources, nature and timing of social support identified by first-time mothers. As such, professionals in the public health field will find the results of this study and the model useful when developing health promotion campaigns and educational programs for this population.

Health education is an integral strategy to health promotion. Health education is defined as "the sum total of all influences that collectively determine knowledge, belief and behaviours related to the promotion, maintenance and restoration of health in individuals and communities. These influences comprise formal and informal education in the family, in the school and in society at large, as well as in the special context of health service activities" (Smith in Downie et al., 1990:27-8). Mullen et al. (1995) also look to the healthcare setting, community, worksite and school as major settings for health education and promotion programs. In particular, healthcare sites enhance the efficacy of health education because healthcare professionals are generally considered to be credible sources of health information. Thus, this study will examine both informal and formal sources of support. The results should help to determine the most appropriate targets for health education when developing health promotion strategies.

The research indicates that intervention is most effective if it is targeted at the most significant persons in the woman's social support system (Baranowski et

al., 1983; Bryant, 1982; Isabella & Isabella, 1991; Matich & Sims, 1992; UNICEF/EAPRO, 1985). As such, health promotion would be more effective with the accurate identification of the key supports at each stage. In addition, the point of intervention may be a critical factor in determining the effectiveness of intervention strategies. Accordingly, it is necessary to understand factors which promote the decision to breastfeed, particularly in the preconception and prenatal stages. It is equally important to understand factors which affect the initiation and duration of breastfeeding as the lactation process can be either impeded or facilitated in the neonatal, postnatal and post-discharge stages. The proposed model, therefore, would be of practical significance when developing effective promotion strategies.

An assumption in this study is that the practice of breastfeeding is a tradition normally acquired through informal support systems, most notably via intergenerational modelling, knowledge and social support. As such, breastfeeding would be more likely with the existence of a strong informal support network (Hongo, 1994; Isabella & Isabella, 1991; Jelliffe & Jelliffe, 1974; Palmer, 1988; World Health Organization, 1981). However, this informal social system may be lacking in a highly industrialized Western society, and be replaced by a formal social system. Yet, a paradoxical finding consistent in the literature is that women who rely most on the formal system for infant-feeding support are the least likely to breastfeed successfully (Forman, 1988; Winikoff, 1988). Rather, existing formal sources of social support may actually obstruct the adaptation to successful lactation (Campbell, 1982; Hung et al., 1985; Palmer, 1988; World Health Organization,

1981). This study will explore this issue as the evidence suggests that current formal support systems may be impeding successful lactation. This research will also analyze how this limitation of formal support systems can be overcome.

Definitions

Social Support:

There is a lack of agreement about the operational and conceptual definition with regard to the nature, meaning and measurement of social support (Gottlieb, 1981). Part of this disagreement stems from the various terms applied to social support. Included are mutual-help groups, natural helping networks (Mitchell, 1969), natural support systems (Hirsch, 1980), personal networks, social-support networks (Erickson, 1984), and the micro, mezzo, and macro levels of social support (Gottlieb, 1981). An all-inclusive definition of social support is provided by Erickson (1984):

> The set of relationships contained in a personal network [includes] a focal person, everyone the focal person knows or interacts with, the set of relationships between those individuals and the focal person, and the set of relationships that exist independently of the focal person....The network is, in effect, the social universe of the person. (p. 188)

For the purpose of this study, the social support system is divided into two distinct categories. The informal social support system consists of people with whom the woman may have a personal relationship, such as the spouse/partner, family, and friends. The formal social support system consists of people with whom the woman may have a professional relationship, and is limited to conventional

healthcare professionals, such as medical doctors and nurses as opposed to midwives. The reason for this restriction is that the promotion of lactation is part of the midwife's practice. In addition, since the majority of North American women have their babies delivered in a hospital by a medical doctor, the study would be more representative of the general population by focusing on the conventional hospital setting. The formal system also includes the "system" itself, such as hospital policies within the conventional healthcare system, the workplace, and the popular mass media.

The nature of social support refers to the provision of instrumental, emotional, and/or informational assistance given to the lactating woman. Examples of instrumental support are assistance in childcare and housework duties. Examples of emotional support are encouraging a positive attitude and confidence about breastfeeding. Examples of informational support include explanation of the physiology of lactation and proper positioning of the infant during breastfeeding.

Adaptation:

Adaptation is defined as the adjustment of the individual to environmental conditions. It can be defined as "the process of meeting an individual's biological, psychological and social needs, under recurrently changing circumstances" (Pfeiffer, 1977:650). In this study, adaptation refers to social support systems which meet a woman's lactation needs at various points in time.

Breastfeeding:

Breastfeeding refers to the practice of women feeding their child via their breasts. Equivalent terms to breastfeeding are lactation and nursing.

Bottle-feeding:

Although breastmilk also can be given via a bottle, bottle-feeding refers to the practice of feeding infants and babies breastmilk substitutes that are commercially produced. Equivalent terms to bottle-feeding are the provision of formula and artificial milk.

Weaning:

Weaning refers to the time when an infant or baby completely stops feeding from the mother's breasts. Exclusive breastfeeding refers to the feeding of breastmilk without any supplementation whatsoever. Partial weaning refers to the supplementation of breastmilk with formula or other foods. Incidence of breastfeeding refers to the baby's initial feeding from the mother's breasts. Duration of breastfeeding refers to the time span from birth until weaning.

Health Promotion:

Health promotion is defined as that which "comprises efforts to enhance positive health and reduce the risk of ill-health, through the overlapping spheres of health education, prevention, and health protection" (Downie et al., 1990:2). The

overall goal of health promotion is "the balanced enhancement of physical, mental and social facets of positive health, coupled with the prevention of physical, mental and social ill-health" (Downie et al., 1990:26).

Perinatal Stages:

The preconception stage refers to the period prior to conception. The prenatal stage refers to the period from conception to birth. The neonatal stage refers to the period immediately after birth to the first few hours of life, usually when the baby and mother are still in the labour and delivery room. The postnatal stage refers to the period after birth, when the baby and mother are in the maternity ward, and before discharge from the hospital. The post-discharge stage refers to the time after the mother and baby are discharged from the hospital.

Breastfeeding Women:

Breastfeeding women or mothers refer to females who have the intention to breastfeed their biological baby. Early weaners refer to women who weaned their baby within the first six months. Prolonged breastfeeders refer to women who breastfed their baby for at least six months. Six months is selected as a minimum because infants are usually ready to start solids around that time, and it is also the recommended minimum duration for exclusive breastfeeding (Canadian Paediatric Society in Bourgoin et al., 1997; World Health Organization, 1981).

Presentation of the Study

This dissertation will consist of eight chapters. Chapter 1 has provided an overview of this study. Chapter 2 presents a literature review on the physiology and history of breastfeeding. Chapter 3 highlights the role of the informal social support system in the adaptation to breastfeeding. Chapter 4 identifies specific factors in the formal social system which may obstruct breastfeeding. Chapter 5 provides a formulation of the research questions based on the literature review. Chapter 6 describes the methodology and Chapter 7 presents an analysis of the results. Chapter 8 provides a discussion of the results as well as the conclusion and recommendations. Within Chapter 8, a health promotion model is presented that interprets the role of social support in breastfeeding. In addition, intervention strategies that follow from the model are discussed.

CHAPTER 2: BREASTFEEDING

This chapter describes the physiology of breastfeeding, the benefits of breastfeeding to the infant and the mother, and the historical context of breastfeeding.

Physiology of Breastfeeding

Humans are animals who suckle their young via their mammary glands, hence the designation of humans as mammals. Breastfeeding is a biological, evolutionary process which has been imperative for the survival of the human species. To understand the factors which facilitate and impede the adaptation to breastfeeding, it is necessary to have a basic comprehension of the physiology of lactation. Tampering with any step of the lactation process adversely affects lactation success.

Lactation depends on a group of reflexes which trigger the secretion of certain hormones. Prolactin is the key hormone for initiating and maintaining the milk output, and it is this hormone which is stimulated by suckling. Immediately after the delivery of the placenta, prolactin is released into the mother's bloodstream. This action prompts the breast to produce the early milk called colostrum, which is high in anti-infective and nutritional properties. The maintenance of prolactin depends on the baby's suckling. If breastfeeding does not occur, prolactin output will decrease, the mechanisms of secretion will cease, and the milk will eventually

disappear (Neville & Neifert, 1983; Palmer, 1988).

Another hormone, oxytocin, controls the let-down reflex which facilitates the flow of milk. As biologist Short (in Palmer, 1988:48) aptly describes, "oxytocin serves today's meal and prolactin prepares tomorrow's". Like prolactin, oxytocin from the brain is secreted when the nerves in the nipple area are stimulated.

The production of breastmilk, therefore, is based on the supply and demand principle. The more frequently and more vigorously the baby suckles, the more milk is produced. A healthy, hungry baby produces the appropriate amount by suckling as needed. The baby's appetite and thirst are essential to make her/him suckle strongly and stimulate the breastmilk flow. Prelacteal feeds, such as the provision of formula or sucrose, and time-limited feedings cause infrequent suckling which result in lower milk production (Campbell, 1982; Hongo, 1994; Hung et al., 1985; Palmer, 1988).

The baby's suckling reflex is another important element in the breastfeeding process. This reflex can be sabotaged if being put to the breast is delayed, or if artificial nipples in the form of pacifiers or bottle-feeding are introduced before breastfeeding is well-established. Proper positioning is extremely important. Improper positioning interferes with the baby's suckling, which damages the nipples, causes poor stimulation, and results in diminished milk production (Hongo, 1994; La Leche League, 1991; Newman, 1990; Palmer, 1988).

The whole process of breastfeeding can be affected by stress, which will cause another hormone, adrenaline, to inhibit the circulation of oxytocin. The let-

down reflex is easily achieved when the mother is rested and relaxed. Conversely, it can be inhibited when the mother is faced with stress (Isabella & Isabella, 1991; Matich & Sims, 1992; Palmer, 1988). Stress can be exacerbated by the lack of social support. Lack of emotional support can lead to feelings of shame or embarrassment at feeding, or cause the mother to lack faith in her ability to feed. Lack of informational support, such as appropriate knowledge, can obstruct lactation success. Lack of instrumental support, such as assistance with daily life activities, would easily exhaust the mother and hence inhibit lactation.

Thus, although breastfeeding in humans is an interactive, interdependent process between the baby and mother, it is not totally instinctual. For breastfeeding to be well-established, the process needs to be learned via observation of breastfeeding as an everyday activity. Practice and knowledge from others are critical to success (Ellis, 1983; Entwistle et al., 1982; Hongo, 1994; Isabella & Isabella, 1991; Merrill, 1987; Palmer, 1988). It is also essential to have strong systems that provide emotional, instrumental, and informational support. A lack of such support makes lactation difficult, if not impossible, to achieve.

Benefits of Breastfeeding

Despite the claim that formula is a suitable substitute to breastmilk, artificial milk cannot duplicate the many advantages of breastfeeding. The physiological and psychological benefits of breastfeeding for both mothers and babies are well documented by numerous authors (Campbell, 1982; Isabella & Isabella, 1991;

Jelliffe & Jelliffe, 1971; Lawrence, 1989; Minchin, 1985; Neville & Neifert, 1983; World Health Organization, 1981).

The United States Department of Health and Human Services (in Isabella & Isabella, 1991) summarizes the benefits of breastfeeding:

> Breastfeeding is the optimal way of nurturing full-term infants while simultaneously benefiting the lactating mother. The advantage of breastfeeding range from biochemical, immunologic, enzymatic, and endocrinologic to psycho-social, developmental, hygienic, and economic. Human milk contains the ideal balance of nutrients, enzymes, immunoglobulins, anti-infective and anti-inflammatory substances, hormones, and growth factors. Further, breastmilk changes to match the changing needs of the infant. Breastfeeding provides for a time of intense maternal-infant interaction. Lactation also facilitates the physiologic return to the prepregnant state for the mother while suppressing ovulation for many. (p. 10)

Similarly, Health Canada (1990) promotes the advantages of breastfeeding, including superior nutrition, convenience, economy, and an enriched experience.

Benefits to the Infant:

(a) nutritional benefits:

Due to their immature digestive system, human infants depend on breastmilk for nutritional requirements (Campbell, 1982; La Leche League, 1991; Neville & Neifert, 1983). The Ontario Public Health Association (in Bourgoin et al., 1997:238) proclaims that "breastmilk is the ideal exclusive food source for infants during the first six months of life". The Canadian Paediatric Society (in Bourgoin et al., 1997) and the La Leche League (1991) agree that breastmilk supplies all the necessary nutrients in the proper proportion, and thus recommend that infants should

be exclusively breastfed for at least the first six months.

Breastmilk is perfectly suited to the nutritional needs of the infant as its consistency changes over the course of a single feeding as well as over the course of the child's development (La Leche League, 1991). It is impossible to overfeed or underfeed breastfed babies as the baby regulates the flow and amount by her/his suckling. In contrast, during bottle-feeding, the caregiver tends to regulate when and how much the baby feeds, and the consistency of the milk remains the same regardless of the age and developmental stage of the infant (Gaull, 1979; International Children's Centre, 1979; Jelliffe & Jelliffe, 1978; Jelliffe & Jelliffe, 1971; La Leche League, 1991; Mohrbacher & Torgus, 1989). In addition, only mother's milk contains all the elements essential for the development of the brain, which occurs rapidly during the first few weeks and months of life (International Children's Centre, 1979).

(b) medical benefits:

Since a baby's immunity system is not fully developed at birth, s/he depends on breastmilk for immunity (Campbell, 1982). The baby is reliant on the antibodies s/he acquired in the uterus, transferred from the mother across the placenta. The protective factors in breastmilk provide an intermediate immunology system while the baby's own antibodies are developed as the placental ones gradually disappear (Jelliffe & Jelliffe, 1971; Mohrbacher & Torgus, 1989; Palmer, 1988; Pitt, 1979).

About half of the newborn's immunities come from the colostrum, that is, the

premilk fluid present in the mother's breasts during late pregnancy and the first postpartum days. Through this fluid, the mother's antibodies are passed on to the baby which protects her/him from infections (La Leche League, 1991; Pitt, 1979). Colostrum also has a laxative effect to help the baby pass meconium; this makes her/him feel hungry, and thus encourages her/him to suckle and stimulate the mother's milk supply. Colostrum also lowers the likelihood of jaundice by decreasing the absorption of bilirubin, which is potentially toxic and can cause cell damage (Mohrbacher & Torgus, 1989).

Breastmilk provides immunological protection as high levels of antibodies are present throughout the first year of lactation and maintained through the second year (La Leche League, 1991). If the mother is exposed to bacteria or viruses, she will start manufacturing her own antibodies. These antibodies will be transferred to the breast, which is part of the immunological network. Thus, the antibodies in breastmilk protect the baby from disease (Jelliffe & Jelliffe, 1971; Mohrbacher & Torgus, 1989; Pitt, 1979; World Health Organization, 1981).

Breastmilk enhances the effectiveness of synthetic vaccines as it prolongs the period of natural immunities to mumps, measles, polio and other diseases (Palmer, 1988). It reduces the predisposition to future disease, keeps the baby well-hydrated, and speeds recovery during illness (Jelliffe & Jelliffe, 1971). Breastmilk decreases the risk of ear infection, allergies, atherosclerosis, and obesity (International Children's Centre, 1979). It also promotes proper jaw, teeth and speech development (La Leche League, 1991; Mohrbacher & Torgus, 1989).

Furthermore, breastmilk is protective against SIDS (sudden infant death syndrome), acute gastroenteritis, and upper respiratory illnesses (La Leche League, 1991). Breastfed babies (even if for a short time) have a lower incidence of wheezing, prolonged colds, diarrhea, vomiting, eczema and asthma (International Children's Centre, 1979; La Leche League, 1991). Breastmilk also acts as a protective agent against symptoms of celiac disease in childhood (Falth-Magnusson et al., 1996).

Only two studies raise questions about the medical benefits of breastmilk. One study in Northern Italy concludes that breastfeeding do not have a protective effect on the risk of infant diabetes (Meloni et al., 1997). The other study concludes that extended breastfeeding past nine months may increase the risk of mineralization defects in healthy children, possibly because of environmental contaminants that interfere with tooth development (Alaluusua et al., 1996).

A major advantage to breastfeeding is that it does not pose the medical risks of bottle-feeding. Bottle-feeding has been known to increase the risks of infant morbidity and mortality. Bottle-feeding requires sterile bottles, sterile water and accurate measuring. But in poor areas, formula is diluted in an attempt to offset its high cost. Mismanagement of formula and/or contaminated water result in infant malnutrition and disease, especially diarrhea which often leads to dehydration and death (Campbell, 1982).

Accordingly, in disadvantaged environments, breastfeeding provides a safety net for babies. Breastmilk is safe as it cannot be diluted, and there is no need to

worry about contaminated water (Campbell, 1982; International Children's Centre, 1979; Palmer, 1988; World Health Organization, 1981). Also, neither the mother's malnutrition or lack of knowledge of nutrition are major concerns, because even if she is undernourished, the essential elements of breastmilk, such as proteins and calcium, are maintained (International Children's Centre, 1979; Isabella & Isabella, 1991; World Health Organization, 1981).

Even under sanitary conditions, bottle-feeding can present risks as ingredients in the formula itself can be contaminated. Even among families who have the income and hygienic facilities to provide a safe properly diluted formula, studies show an increase in bottle-related infant morbidity and hospitalization rates (Cunningham, 1977; Larsen & Homer, 1978). Furthermore, Aksit et al.'s (1997) study concludes that for infants, breastmilk is safer than commercial formulas because of the lower contamination risk of aflatoxin. In addition, Palmer (1988) provides an extensive list of formula mishaps which have resulted in morbidity and mortality including infection, malnutrition, brain damage and anaemia. This list is by no means exhaustive, as it includes only the known mishaps.

(c) psychosocial development:

Since breastfeeding is an interactive, interdependent process, it requires intense maternal-infant contact (Isabella & Isabella, 1991). The role that breastfeeding plays in promoting interactions between mothers and their babies is important, especially since interactions are precursors of later social and emotional

development (Tronick et al. in Epstein, 1993). A baby's interaction with her/his mother is the earliest formation of social relationships.

Breastfeeding enhances infant development as oral, tactile, and visual stimulation are provided naturally in the breastfeeding position (Epstein, 1993). Since the baby takes her/his own time in suckling, s/he can interact with her/his mother to her/his satisfaction. The baby is tucked closely to the mother, hands are free for petting and frequent touching, eye contact is frequently maintained as the mother's face is the focal point, and hand-eye coordination is enhanced as s/he is being switched from one breast to the other (Epstein, 1993; Hongo, 1994; Mohrbacher & Torgus, 1989).

In contrast, the bottle-feeding experience may limit mother-infant interactions. When the bottle is propped, or when the baby holds the bottle her/himself, the mother need not be in close proximity. In addition, the baby's hands are occupied if s/he is holding the bottle her/himself, which restricts free movement for touching (Hongo, 1994; Mohrbacher & Torgus, 1989). In bottle-feeding or time-limited breastfeeding, the session can be finished relatively quickly without giving the baby the time to satisfactorily fulfil social, tactile, oral, and visual needs (Epstein, 1993).

Benefits to the Mother:

(a) medical benefits:

The physiological benefits to breastfeeding mothers are numerous. There is

a decreased risk of haemorrhaging after birth due to a release of hormones which contract the uterus and speed the mother's healing from birth (Campbell, 1982; La Leche League, 1991; Jelliffe & Jelliffe, 1971). Breastfeeding promotes natural weight loss by using an extra five hundred calories a day (Health Canada, 1990; Mohrbacher & Torgus, 1989). Breastfeeding is associated with a marked reduction in the risk of developing breast, ovarian, uterine, and cervical cancer (Jelliffe & Jelliffe, 1971; Neville & Neifert, 1983; World Health Organization, 1981). In addition, breastfeeding has a preventive effect on developing osteoporosis and urinary tract infections in both the mother and baby (Mohrbacher & Torgus, 1989). Depending on such factors as frequency, duration, and other supplements, breastfeeding also delays the return of fertility (Isabella & Isabella, 1991; La Leche League, 1991; Mohrbacher & Torgus, 1989; Palmer, 1988).

(b) psychological benefits:

Breastfeeding can enhance a woman's experience of mothering. Women appear to adjust to their new role as mothers and experience less postpartum depression when they breastfeed (La Leche League, 1991). When babies suck the woman's nipples, two powerful hormones -- prolactin and oxytocin -- are released. Prolactin, the hormone which produces milk, is a natural tranquilizer, and makes nursing more pleasurable for mothers. Oxytocin, the hormone which causes the let-down reflex and ejects milk, is also said to trigger nurturing behaviour (Jelliffe & Jelliffe, 1978; La Leche League, 1991). Thus, no matter how harried mothers may

feel, the hormones produced during breastfeeding, combined with the necessity of slowing down to breastfeed, promote a relaxing effect on the mother.

Epstein (1993) analyzed videotapes of breastfeeding sessions between several mother and child dyads. She concludes that breastfeeding provides an opportunity for babies to have individual, intimate and private time with their mothers. Accordingly, breastfeeding increases the frequency of interactions that otherwise might not have occurred. Frequent breastfeeding interactions provide opportunities for mothers to develop a sensitivity to their babies' cues. During these interactions, which are characterized by warm and sensitive mothering styles, both mothers and babies express positive regard for one another. Other studies also confirm that frequent interactions with the baby via breastfeeding promote bonding and thus enhance the mothering role (Newton, 1971). Repeatedly, breastfeeding mothers identify that a main advantage to nursing is the increased opportunity to sit down and have physical contact and form a bond with their babies (Buckley, 1992; Grossman et al., 1990).

The convenience of breastfeeding contributes to the enhancement of the mother's psychological well-being. Breastmilk is free, readily available at the right temperature when mother and baby are together, and the burden of carrying extra bottle-feeding paraphernalia is not necessary (Health Canada, 1990). As such, the baby's hunger is satisfied immediately as there is no need to find sterilized water or warm the bottle (La Leche League, 1991). In turn, being able to reduce the baby's frustration by meeting her/his needs immediately enhances the maternal-child bond,

as well as the woman's confidence and satisfaction in her mothering role (Mohrbacher & Torgus, 1989).

Benefits to Society:

Since breastfeeding has a preventive effect on infant and maternal illnesses, there would be a decrease in medical costs. In addition, since breastfeeding is a life-sustaining and life-enhancing activity performed by women in which the producer is the consumer, women's work would be promoted as generative and productive, and thus valuable in society (Waring, 1986). Moreover, if breastfeeding is valued, the nutritional status of women would improve since lactation would be viewed as life-sustaining. As such, breastfeeding reinforces the humanitarian values of nurturing, bonding and close interactions which would benefit society as a whole (Mies & Shiva, 1993; Waring, 1986).

Breastfeeding is free and thus would not consume the family budget. Breastfeeding does not require water or fuel for sterilization, nor production of formula and associated bottle-feeding paraphernalia, such as bottles, nipples, caps, cleaning brushes, and pots for sterilizing (Shiva, 1993). As such, the environment would be relatively untouched by breastfeeding. In addition, breastmilk is susceptible to certain environmental toxins such as DDT and PCBs (Byczkowski et al., 1994; Rall, 1979). Thus, if breastfeeding is valued as a life-sustaining and life-enhancing activity, there might be greater reluctance to have widespread environmental pollution and destruction.

Historical Context of Breastfeeding

Breastfeeding, the only form of infant feeding until recently, has declined drastically over the past hundred years. McKilligan's (in Bourgoin et al., 1997) report in 1991 indicates that although eighty percent of Ontario mothers initiate breastfeeding, less than fifty percent still breastfeed at six months' postpartum. A 1990 report by Health and Welfare Canada (in Barber et al., 1997) indicates that close to eighty percent of Canadian women initiate breastfeeding, but fewer than thirty percent of infants continue to be breastfed by three months of age. The greatest decline occur during the first six weeks, the period in which breastfeeding is being established.

The decline of breastfeeding and the related ascendance of bottle-feeding must be understood in the context of the power, control and authority of men and male-dominated institutions over women.

Historically, women were perceived as producers of knowledge and life, including the production of children and breastmilk. In fact, women have been closely and actively involved with nature over the centuries in the production, maintenance and enhancement of life. As Mies (1986:54) states: "In the course of history, women observe the changes in their own bodies and acquired through observation and experiment a vast body of experiential knowledge about the functions of their bodies, about the rhythms of menstruation, about pregnancy and childbirth."

Women appropriated their own generative and productive forces and passed

them onto their daughters. They were not helpless victims of the generative forces of their bodies but learned to influence them. Women understood that pregnancy, childbirth and lactation are interconnected parts of the whole. Tampering with any component would have an effect on the rest of the biological system (Mies, 1986). As such, women's activity in producing children and breastmilk has been a conscious social activity and includes skills which are acquired through work and reflection. The activity of women in bearing and rearing children, therefore, must be understood as work. To interpret it otherwise would perceive pregnancy, childbirth and lactation as purely physiological functions, separate from the sphere of conscious human influence (Mies, 1986; Shiva, 1993; Waring, 1986).

Scientific and Industrial Revolutions:

As patriarchal institutions and values became dominant, women's knowledge and control of their bodies were undermined. By denouncing female nature as sinful, the state and church justified the torture and ultimate burning of millions of women who were characterized as witches. The witch hunt, which took place between the 14th and 18th centuries, sought to control women's sexual and reproductive behaviour and power. Many of the so-called witches attacked and murdered were midwives and abortionists (Mies, 1986).

With the denunciation and murder of women healers and midwives, women's knowledge and autonomy were reduced. Women's bodies came to be perceived as identical to animal bodies, that is, to be purely physiological and

outside of women's knowledge and conscious action. Women were defined as passive in their relation to nature, that is, pregnancy, childbirth and lactation were seen as purely biological events which "happen" to them and were outside of their control. This shift in perception was a prerequisite for the professionalization of male doctors, a process which firmly established the superiority of expert male knowledge over female experience and knowledge (Ehrenreich & English, 1978; Mies, 1986). In fact, obstetrics became the first surgical specialty to be taught and practiced by male doctors in American medical schools in the 18th century (Luce et al., 1998).

This was one aspect of a more general scientific revolution which established the absolute hegemony of androcentric, hierarchical and dualistic thinking in the Western world. Reason and emotion, body and mind were seen as separate, even in opposition. Reason, associated with white Western man, became the measure of humanness. Women, nature and other peoples were defined as less than human. Scientific reason became the only recognized form of knowledge. All other knowledge was devalued and discounted. Women, nature and non-white peoples became matter to control and use (Miles, 1996). Central to this domination and subjugation was an arbitrary barrier between knowledge (the specialist) and ignorance (the non-specialist) (Ehrenreich & English, 1978; Shiva, 1993). The Scientific Revolution circumscribed the capacity of humans to know nature by devaluing and excluding other knowers and other ways of knowing. This division of specialist versus non-specialist knowledge promoted the notion that experts and

specialists were the only legitimate seekers and producers of knowledge (Shiva, 1993).

Through this patriarchal civilizing process, a new image of women was created. It was only after the destruction of the witches represented as "bad women" that a new image of the "good woman" could be created (end of the 18th century). Mies (1986:134) argues: "It seems that real living, strong and independent women had first to be physically destroyed and subdued before the women of the new bourgeois class could be molded to a new romantic ideal of womanhood. An ideal in which the frail, submissive sentimental woman, one dependent on the man as 'breadwinner and protector', woman as the epitome of the world of feelings rather than of reason, plays the main role." This new ideal of ethereal and non-rational womanhood was necessary for the new sexual and social division of labour -- the division between production and reproduction, production and consumption, work and other spheres of life – central to industrial capitalism.

With the ascent of science, technology and the expert, and the enclosure of women in the private sphere, the intergenerational transmission of women's knowledge was gradually obliterated. This resulted in women's loss of confidence in their own bodies and an increased reliance on medical and scientific expertise (Campbell, 1982; Ehrenreich & English, 1978; Mies, 1986; Shiva, 1993).

The discovery of a milk substitute suitable for infants occurred in 1866. This discovery was spurred by technological advances associated with the Industrial Revolution (Campbell, 1982). With the Industrial Revolution came urbanization,

reduced family size, and an increase of women in the workforce (Hung et al., 1985; Tzuriel & Weller, 1986). The process of urbanization fostered the emergence of the nuclear family. The related reduction in kin resulted in a loss of intergenerational knowledge on pregnancy, childbirth and the intricacies of lactation. Increasingly, the mothers of new mothers were bottle-fed themselves, and grandmothers with knowledge to share were inaccessible or unavailable (Ellis, 1983; Merrill, 1987). Not only did an absence of role models reduced the chance of observing how to breastfeed, it served to transmit a powerful message that bottle-feeding was the social norm and that breastfeeding was unacceptable (Campbell, 1982; Ellis, 1983; Mies, 1986; Palmer, 1988).

Healthcare:

With the loss of women's knowledge and role modelling, women became increasingly dependent on scientific and expert knowledge, particularly with a shift from home births to hospital births. In 1900, five percent of births in the United States occurred in the hospital, but by 1935, seventy-five percent of births occurred in the hospital (Luce et al., 1998). As such, women were encouraged to follow the advice of healthcare professionals. However, despite proclamations on the value of breastfeeding, the advice and practices within the healthcare system inhibited lactation success. Healthcare professionals and institutions contributed to a climate of doubt. Rather than trusting their own bodies and the natural progression of pregnancy and childbirth, women were encouraged to rely on technological

procedures to monitor their progress (Luce et al., 1998). Thus, instead of labour and delivery taking its natural course, modern scientific techniques controlled the process. For example, hospital policies included the routine practice of saline drips which interfered with mobility, which is essential for the natural progression of labour. Medications were often given to the woman either to slow down or to speed up labour. Hospitals often required women to be in the supine position during delivery which countered natural gravity during the labour process. These medical practices often resulted in prolonged labour. Consequently, forceps were used or a cesearean section was performed, which might have been avoided if the labour and delivery process had taken its natural course (Kahn, 1995; Luce et al., 1998).

Not only did the use of anaesthetics and cesearean sections interfere with the initiation of breastfeeding, but other routine hospital procedures further inhibited lactation success. These included long intervals of mother-infant separation immediately after birth, use of pacifiers and bottle nipples, routine orders for initial feedings with glucose water or formula before the mother's milk comes in, and the requirement of medical clearance for breastfeeding (Campbell, 1982; Hung et al., 1985; Palmer, 1988). All these practices diminished the baby's need for vigorous and frequent suckling which are essential for the stimulation and maintenance of milk production. Moreover, healthcare professionals often recommended formula as the solution to breastfeeding difficulties, which only served to exacerbate the difficulties, as well as diminish milk supply (Arnup, 1994).

Once the mother's milk dries up, the price of formula can be manipulated

because it is difficult to relactate. Baby formula is a high volume item that is often presold to new mothers via physician and hospital endorsement (Campbell, 1982; Palmer, 1988). As such, company-sponsored clinics and hospitals routinely dispensed formula packages to physicians who promoted the strengths of bottle-feeding over breastfeeding (Campbell, 1982). Furthermore, promotion tactics such as posters and formula gift packages carried the implicit endorsement and credibility of the medical profession (Hung et al., 1985). The proliferation of both free samples to hospital staff and patients and automatic bottle distribution resulted in a change of attitudes, which solidly entrenched the practice of bottle-feeding.

Moreover, women were made to doubt their maternal skills and knowledge. Maternal ignorance was stressed, with the message that infant feeding was too complicated a matter to be left to the mother's discretion, and that it was necessary to promote maternal education via consultation with childcare manuals, public health nurses and medical doctors (Arnup, 1994). However, healthcare manuals increasingly included sufficient information to enable women to select the option of bottle-feeding. Mothers may view the detailed photographs and instructions as a silent endorsement of the more scientific method of bottle-feeding and may opt for that method in preference to breastfeeding (Arnup, 1994). Industrialization and the scientific approach encouraged rigid routines in which precise measurements and scheduling were promoted. Manuals emphasized bottle-feeding at precise intervals with exact volumes of milk intake. Even if a woman was breastfeeding, she was encouraged to feed at precisely scheduled intervals as well as limit the feeding time

per breast. Guilt was instilled if the baby failed to gain in accordance with the weight charts, at which time the medical advice for formula intake was strictly adhered to (Arnup, 1994). Due to the supply and demand principle of lactation, infrequent feedings and time-limited feedings serve to understimulate the breasts, resulting in diminished milk production (Jelliffe & Jelliffe, 1978; La Leche League, 1991; Palmer, 1988).

Science and the obsession with cleanliness and hygiene reinforced the inclination towards bottle-feeding. Lactating women were advised to regularly clean their nipples with soap which only served to damage the nipples and cause pain when nursing, and in turn led to a reluctance to continue with breastfeeding (Campbell, 1982; Jelliffe & Jelliffe, 1978; La Leche League, 1991; Palmer, 1988). Furthermore, the practice of sterilizing bottles, nipples and water made bottle-feeding seem to be more hygienic than breastfeeding, with the assumption that breastmilk (woman's fluid) was dirty, and that bottle-feeding must therefore be healthier for infants (Campbell, 1982; Mies, 1986).

As such, a dichotomy was created between tradition and modernity, with tradition representing all that is oppressive, entrenched and stagnant (non-specialist knowledge), and modernity representing all that is changing and liberating (specialist knowledge). Bottle-feeding was promoted as more progressive, appealing and acceptable than breastfeeding, which was viewed as traditional and thus regressive (Ehrenreich & English, 1978; Shiva, 1993).

Women's Work:

After World War II, women in advanced patriarchal capitalist society were further entrenched in their roles as housewives, consumers and sex objects (Campbell, 1982; Mies, 1986; Palmer, 1988; Rossiter, 1988; Shiva, 1993; Waring, 1986). Initially, after World War II, women were encouraged to leave the labour force. In an effort to encourage women to stay home, guilt was instilled in women by blaming them for infant mortality rates by not breastfeeding. Rather than recommending changes to women's employment conditions such as shorter working hours, flexible schedules, total maternity benefits, or daycare facilities in order that breastfeeding was possible, women were instead encouraged to stay home to breastfeed. Yet, once women stayed home and thus were already out of the paid labour force, they received the conflicting message that bottle-feeding was the ideal choice (Arnup, 1994).

Maintaining relations of domination between women and men depends to a considerable extent on seeing women as caretakers. The activity of caretaking was devalued and it was promoted as common sense, normal and natural. Housework became a new ideology for the further domestication of women. By defining women universally as housewives, it was possible not only to cheapen their labour but also to gain political and ideological control over them. Thus, despite the mass entry of women into the labour force during this period, housework and childcare remained predominantly performed by women (Miles, 1996). Since these activities were constricted within the private sphere (due to the isolation of mothers), women's

work was made socially invisible. As such, on a global scale, women were exploited as their work in the home was devalued and unpaid (Mies, 1986; Rossiter, 1988; Shiva, 1993; Waring, 1986).

With the mother remaining in the home, the household was discovered as a profitable market for a range of new gadgets such as bottle-feeding products (Mies & Shiva, 1993). The modern division of labour not only divided the world into producers and consumers, but it also divided women internally and class-wise into producers and consumers. This relationship was structured in such a way that women in the Third World countries were objectively, not subjectively, linked to women in the West through the commodities which the latter buy (Mies, 1986). For example, Western women were depicted as modern and progressive women. Their image was that of the "good woman", that is, as consumers, housewives, mothers and sex objects. Women became the objects and subjects of consumerism. Their role was to buy more goods and commodities for their families, their children, the household, and for their role as sex objects. As Mies (1986) aptly proclaims:

> In order to market the commodities this produces, it needs women in the metropoles as specialists in consumption because without consumption or purchase of commodities, no realization of capital! To mobilize women to fulfil their duty as consumers has become one of the main strategies of capital in the industrialized countries. (p. 125)

The role of housewife-consumers in the West, therefore, was to do "consumptive work". They were the main agents of domestic consumption who provide the necessary market for the commodities produced (Mies, 1986).

Women were also prescribed the role of sex object. The reproductive role of

the breasts as a nurturing agent was suppressed in favour of maintaining their sexual attraction (Ellis, 1983; Jelliffe & Jelliffe, 1978; Tzuriel & Weller, 1986). Women were conditioned to believe that breasts were to be sexual attributes, and that it was necessary to maintain this physical allure if they were to keep a man. As a result, women were increasingly reluctant to breastfeed because of social embarrassment, feelings of modesty, concern for its effect on their bodies, and on their relationship with their spouse (Campbell, 1982; Mies, 1986).

The image of the Western woman, and the model of consumption that was associated with it came to symbolize progress. The development and proliferation of mass advertising during this time further promoted this image. The portrayal of bottle-feeding in movies and television, as well as advertisements, posters, promotions, and other aggressive marketing of formula made bottle-feeding difficult to resist (Hongo, 1994; Hung et al., 1985). Bottle-feeding was another means of hiding the human's biological origins (Campbell, 1982). The depiction of semi-nude women breastfeeding in less industrially developed countries reinforced the desire to be more sophisticated and not "uncivilized" (Ellis, 1983). Media images often were of emaciated women of colour with babies at their breasts rather than of healthy babies feeding from women in developed Western countries (Campbell, 1982; Palmer, 1988; World Health Organization, 1981).

Accordingly, breastfeeding was not seen as normal for infants. At first, bottle-feeding was practised primarily by the middle and upper classes in the West. However, since lower-class women aspired to be upwardly mobile, they emulated

this practice. In the same fashion, women in developing countries emulated the "enlightened" Western society, and they aspired to the status of the Western housewife, who had been discovered as promoters of Third World capitalism (Campbell, 1982; Mies, 1986; Palmer, 1988; Waring, 1986). Bottle-feeding, therefore, was embraced by women on a global scale.

From 1970s:

From the 1970s, there has been a slight shift back to breastfeeding as many of the previously unrecognized benefits of breastfeeding received greater publicity (Hung et al., 1985; Kaplowitz & Olson, 1983). A number of factors contributed to this shift. Prominent among these was the work of La Leche League (1991), an international advocacy organization which strongly promotes the practice of breastfeeding. This league was founded by a group of six women in 1957 in Franklin Park, Illinois, at a time when breastfeeding was unfashionable. Even the term "breastfeeding" was deemed to be publicly offensive; hence the name of the organization, as "la leche" means "milk" in Spanish. La Leche League realized the importance of intergenerational learning on how to mother, and provided a forum on various aspects of motherhood, particularly in the art of breastfeeding (Merrill, 1987).

Some aspects of the feminist movement strengthened the move towards breastfeeding. The women's health movement in the 1970s encouraged women to understand and reclaim control over their bodies and to denounce their use as sexual

objects. It demystified the medical establishment by questioning conventional medical care, emphasized wellness rather than illness, prevention rather than unnecessary medical intervention, and the necessity of active patient participation in healthcare. Women were encouraged to exercise their right as health consumers, and were made aware of the necessity for consciousness-raising and collective activism in order for changes to the patriarchal capitalist structure to occur (Pincus & Luce, 1998; The Boston Women's Health Book Collective, 1998).

Moreover, in the early 1970s, nurse-midwives expanded their practices and formed the new independent midwife movement. This movement consciously resisted the experts' claims of a monopoly on knowledge, and opposed hospital bureaucracy and the proliferation of medical technology and procedures. Rather, the midwife movement advocated for women to reclaim ownership of their bodies, and argued that pregnancy, labour and childbirth were a natural progression that did not need to be "managed" by the healthcare establishment (The Boston Women's Health Book Collective, 1998). The La Leche League, the midwife movement and the women's health movement all advocated for changes to hospital procedures, such as having skin-to-skin contact immediately after birth, rooming in, demand feeding, and no prelacteal supplementation (La Leche League, 1991).

Negative publicity for bottle-feeding from various groups such as the La Leche League and the World Health Organization (Campbell, 1982; Jelliffe & Jelliffe, 1978; La Leche League, 1991; World Health Organization, 1981) further helped to increase the prevalence of breastfeeding. Reports on the increase in infant

morbidity and mortality caused by bottle-feeding in Third World countries had previously been documented, but had not been available to the general public. However, in 1974, a highly publicized controversy on breastmilk substitutes brought the formula issue into the limelight. The London-based group "War on Want" stimulated public outrage when it published a pamphlet entitled "The Baby Killer: An investigation into the promotion and sale of powdered baby milk". Their logo consisted of an emaciated baby in a bottle (Palmer, 1988:235). Although Nestlé won its lawsuit for libel against the group, it received a stern reprimand from the judge saying that it had to reform its marketing procedures and tactics (Campbell, 1982).

As these factors contributed to a return to breastfeeding in the Western countries, formula companies increasingly targeted underdeveloped countries in order to capture a larger market (Palmer, 1988). Consequently, WHO (World Health Organization) and UNICEF (United Nations Children's Fund) convened with governments, formula industries, professional associations and non-governmental organizations in 1979 to strategize on how to counter the decline in breastfeeding. They recommended that governments and international agencies continue to promote breastfeeding, paying special attention to the role of the healthcare system, the needs of mothers in employment and the role of community and government in providing support for breastfeeding (Grant, 1988). Most significant was the development of the International Code of Marketing of Breast-milk Substitutes in 1981 (World Health Organization, 1981a).

There were a number of professional associations involved in national and international efforts to promote breastfeeding throughout the world. Educational efforts were usually directed towards the general public and to healthcare professionals (O'Hollaren Arango, 1988). Moreover, international agencies such as the International Labor Organization have played a major role in setting the international standards to protect working mothers, such as extended maternity leave, breastfeeding breaks at the worksite, and flexible work schedules for new mothers (Gibbons, 1988).

In Canada, the Canadian Paediatric Society and Health and Welfare Canada published a position paper in the Canadian Journal of Paediatrics in 1978 which became the catalyst for a national commitment to the promotion of breastfeeding (Myres, 1988). In addition, Health and Welfare Canada, along with other professional organizations, developed a resource kit aimed at key health professionals within the hospital system who would be influential in developing and implementing policies and procedures consistent with the WHO Code. In particular, the focus was on guidelines on the role of maternity services in promoting breastfeeding such as rooming in, demand feeding and eliminating bottles and breastmilk substitutes (Jolly, 1990; Teply, 1979).

However, despite the concerted international and national efforts at promoting breastfeeding, lactation rates declined in the 1980s. Hospitals continued to receive financial inducements from formula companies for using their brand of formula despite official policies which prohibit such arrangements. Some hospitals

did not follow the guidelines on the role of maternity services. According to the 1991 Ross Laboratories Survey, sixty-two percent of North American women were breastfeeding in hospitals in 1982, but the rate had declined to fifty-two percent by 1989 (Arnup, 1994).

Summary of Breastfeeding

Breastfeeding has many known benefits to the infant and mother which, in turn, benefit society as a whole. Infants receive nutritional, medical and psychosocial advantages from breastfeeding, while lactating women gain medical and psychosocial benefits.

Mothers' lactation is a behaviour learned through observation and practice, and is stimulated by the baby's demand for milk. Any attempts to interfere with this demand risk sabotaging lactation success.

Many factors within the patriarchal capitalist society have contributed to the dramatic decline in breastfeeding both in developed and underdeveloped countries. These include the rise of science, technology and medical expertise, as well as industrialization and modernization. Formula-making companies have aggressively promoted the view that not only is bottle-feeding a suitable substitute to breastfeeding, but also that it is a more desirable and acceptable form of infant feeding. The healthcare system adopted practices which effectively interfered with the establishment of lactation. As such, the practice of breastfeeding skipped nearly a generation of women, resulting in a loss of intergenerational knowledge and public

role models.

Formula manufacturers originally targeted the middle and upper classes in Western society because they had the disposable income to purchase their bottle-feeding products. Affluent women acquiesced to the portrayal of bottle-feeding as more hygienic, prestigious, and a more enlightened and civilized behaviour than breastfeeding. Lower-class women emulated this practice, as they strove for the glamour and sophistication associated with bottle-feeding. But as other factors have contributed to a return to breastfeeding in Western countries, formula companies increasingly have targeted underdeveloped countries in order to capture a larger market (Palmer, 1988). As such, formula conglomerates have managed to successfully promote bottle-feeding throughout the world.

The growth of both the childbirth and bottle-feeding industries is linked to the development of capitalism and the related system of accounting (Shiva, 1993; Waring, 1986). Specifically, breastmilk has no market value; it is not classified as a food by planners or agronomists as it does not grow agriculturally and is not purchased in a processed container (Waring, 1986). Moreover, women's time is not valued, such as travelling to purchase bottle-feeding products, or the time it takes to prepare formula, or the time it takes to breastfeed. Rather, what is considered to be of value are the medical services needed for childbirth, namely the expensive technologies, the rise in obstetrics, paediatrics and other healthcare professionals, and the value in the production of formula and bottle-feeding paraphernalia. The devaluation of regeneration, therefore, is not revealed as destruction; instead

producers, consumers and commodities signal growth (Waring, 1986). Bottle-feeding, therefore, provides surplus value at the expense of the infant, mother, society and the environment.

It is important to note that in some cases, medical interventions and formula do have their merits. There is no doubt that such practices have saved some infants and women from certain death. However, this small percentage of women who legitimately need surgery during childbirth or who physiologically cannot breastfeed does not justify the widespread practice of unnecessary medical interventions or aggressive marketing of formula. For example, in traditional societies, the vast majority of childbirth are performed by midwives in the familiar surroundings of the woman's home, and hospitals are reserved for complicated pregnancies (Jordan, 1978). In 1900, five percent of births in the United States occurred in the hospital. By 1935, seventy-five percent of births in the United States were performed by medical doctors in the hospital, and this trend increased to ninety-eight percent by the 1990s (Luce et al., 1998). This reversing trend reinforces the concept that only specialist knowledge is valued, as it maintains a patriarchal capitalist social order.

Despite national and international proclamations, legislation and efforts to improve the prevalence of breastfeeding, the breastfeeding rate is still not at its optimal level. Thus, not only is breastfeeding impeded by interrelated factors in the patriarchal capitalist society, but the practice of bottle-feeding itself reinforces and maintains patriarchal capitalism. It is acknowledged that poverty may be the major obstacle to breastfeeding and more knowledge is needed on the reasons for women's

infant feeding practices and the social and economic context in which such choices are made. Unless there are radical changes in the social structure itself, breastfeeding may not reach its optimal level in spite of international and national breastfeeding campaigns, as the practice of bottle-feeding is integral to patriarchal capitalism. Nevertheless, the support of breastfeeding is crucial. It is important for the health of babies, the autonomy and dignity of women, the recognition of their work, and the move toward a more life-centred and egalitarian society. This thesis will study the impact of social support on the duration of breastfeeding. The focus of this study is to investigate the informal and formal social support systems which facilitate the adaptation to breastfeeding, as well as those which obstruct successful lactation.

CHAPTER 3: INFORMAL SOCIAL SUPPORT SYSTEM

It is widely held that social support is essential to the successful adaptation to major life transitions such as breastfeeding. But a woman's attitude to breastfeeding also is affected by the general parenting role, particularly in first-time motherhood. Therefore, this chapter begins with a discussion of the dynamics of parenthood for both the woman and the family system. Following this, specific components of social support in the adaptation to breastfeeding will be discussed, namely, the quantity, quality, sources, nature, and timing.

The Dynamics of Parenthood

Adjustment to parenthood, marital satisfaction and maternal confidence are associated with prolonged breastfeeding duration (Isabella & Isabella, 1991; Matich & Sims, 1992). Studies repeatedly identify informal sources of support, in particular the spouse and the mother's mother, as the major factors in facilitating successful lactation (Baranowski et al., 1983; Bryant, 1982; Kaufman & Hall, 1989; Hongo, 1994; Hung et al., 1985). As such, it is important to examine the effect of the transition to parenthood on both the mother and on the family system as it relates to breastfeeding.

Parenthood can be conceptualized as a normative crisis in the developmental life cycle (Carter & McGoldrick, 1980; Erikson, 1982; Goldberg et al., 1985; Satir et al., 1975). Regardless of age, stage of development, or marital status, parenthood

(including pregnancy) is considered one of the most stressful events (Bibring & Valenstein, 1976; Dohrewend & Dohrewend, 1974; Erikson, 1982; Walter, 1986). Parenthood is a continual process of adjustment to various changing demands on the individual and on the family system (Goldberg et al., 1985; Hobbs, 1965; Steffensmeier, 1982).

The birth of the first child is a critical transition point in the woman's life (Entwistle & Doering, 1981). Childbirth has been denoted as a "marker event" in the human life cycle (Sheehy, 1976). This transition has been perceived as a "crisis" because conception, pregnancy and the birth of a first child provoke temporary anxiety (Satir et al., 1975). As such, first-time parenthood can be the greatest developmental crisis a woman faces during her lifetime. As Walter (1986) states:

> When a woman becomes a mother, she must adjust to significant changes in her view of herself, her role in her marriage, her body, and her place in the larger context of the outside world. She must also adjust and react to a newly created intimate relationship with her child. (p. 187)

Furthermore, societal norms are important in the new mother's development. These norms define motherhood as an important symbol of maturity, responsibility and adult status, which the new mother feels obligated to fulfil (Walter, 1986). Motherhood is perceived as a "multiple status passage" from non-mother to mother, and may also be from worker to housewife (Pugh & De'Ath, 1984). The woman views herself not only as a daughter, but also as a co-equal of her mother. In addition, she is the mother of her child and a wife and partner of her husband (Polsby, 1974). Motherhood, therefore, ascribes different roles and related status to

women.

Parenthood also causes changes in the family system. This crucial point in transition demands changes in the relationship and in the structural, functional, and task-related patterns of the family organization (Carter & McGoldrick, 1980). Parenthood creates a new network of human connections that may span three generations (Kornhaber & Woodward, 1985). Where there is an extended family, relationships must be realigned to include parenting and grandparenting roles (Cox, 1985; Erikson, 1982; McGoldrick & Carter, 1980; Winborn, 1983). These structural changes cause functional changes in the family system, such as increased instrumental activities and decreased leisure activities (Mchale & Huston, 1985), a reorganization of the division of labour within the household, and a renegotiation of parental and occupational roles (Winborn, 1983).

The effect of parenthood on gender roles depends on the flexibility of the couple in sharing tasks and responsibilities. One study found that early-timing mothers are more likely than late-timing mothers to adopt traditional roles that base occupation and parenting on gender. These roles and their related tasks are clearly delineated and typically involve the father in an employment role and the mother doing the household work including childrearing (Walter, 1986). Research supports the view that younger maternal age, women who do not work outside the home and hold traditional roles are more apt to bottle-feed (Kahn, 1995; Martin, 1986). In contrast, late-timing mothers are more likely to adopt a non-traditional egalitarian model of role distribution, that is, both parents share in parental and occupational

roles (Walter, 1986). Research supports the view that older maternal age, maternal employment outside the home and role sharing are facilitating factors in the adaptation to breastfeeding (Grossman et al., 1990; Isabella & Isabella, 1991; Martin, 1986; Matich & Sims, 1992). Parenthood, therefore, involves multiple adjustments for women, the marital system, and the extended family system. Informal sources of social support are key components in facilitating those adjustments (Isabella & Isabella, 1991; Jelliffe & Jelliffe, 1974; Matich & Sims, 1992; Walter, 1986).

In addition, adjustment to parenthood is associated with marital satisfaction and maternal confidence. Research supports the view that these characteristics are factors in prolonged duration of breastfeeding (Isabella & Isabella, 1991; Matich & Sims, 1992; Morrow, 1995). For example, mothers who nurse their babies for longer than nine months adjust optimally to pregnancy and motherhood, rate their marriages as satisfying both during the prenatal period and first year after the child's birth, and are most satisfied with their husband's support (Isabella & Isabella, 1991). Mothers who breastfeed past six weeks report high maternal confidence and commitment scores and perceive greater social support from their informal network such as family and friends (Bedard, 1996).

The Role of Social Support

The transition from one stage to another in the life cycle is characterized by distinct forms of stress. The effect of stress, however, varies according to the

individual's coping ability (Belkin & Nass, 1984) and/or the availability and use of social support (Dohrewend & Dohrewend, 1974; Hirsch, 1980; Thoits, 1982). Research indicates that both formal and informal sources of social support are key components in helping with the transition to any new stage of development and with the adaptation to new roles (Baranowski et al., 1983; Bryant, 1982; Eckenrode & Gore, 1981; Entwistle et al., 1982; Erickson, 1984; Gottlieb, 1981; Matich & Sims, 1992; Rodriguez-Garcia, 1993; Silverman & Murrow, 1976). In particular, the informal support network enhances the adaptation to motherhood and breastfeeding and is perceived as a moderator of related stress (Andrews et al., 1978; O'Hara et al., 1983). Of significant interest is the finding that low-income women who choose to breastfeed shared support patterns similar to middle to upper income women (Grossman et al., 1990).

Other authors posit a more salient role for social support (Aneshensel & Stone, 1982). They propose that the presence of support is beneficial in and of itself and its absence is itself a source of stress. In other words, lack of social support can be both a cause and effect of stress (Aneshensel & Stone, 1982). As such, the presence of a supportive environment, particularly in the informal system, is associated with successful lactation, while its absence increases the likelihood of an unsuccessful experience (Bryant, 1982; Isabella & Isabella, 1991; Jelliffe & Jelliffe, 1974).

There are two studies that question the importance of social support in breastfeeding (Jacobs, 1997; Matich & Sims, 1992). One of these attributes

successful breastfeeding to demographic factors and affective variables (Matich & Sims, 1992). The other (Jacobs, 1997) concluded that there was no significant relation between social support and the duration of breastfeeding.

Quantity and Quality of Social Support:

The research suggests that both the quantity and quality of social support are important. Measures used to determine the quantity of social support are: the total size, number of confidants, proportion of kin, proximity of network members, and frequency of contacts (O'Hara et al., 1983).

The quantity of social support is influential in the initiation and duration of breastfeeding, specifically in the postnatal and post-discharge stages (Hongo, 1994; Kaufman & Hall, 1989). Women who choose to nurse are more likely to receive assistance from several sources, including their mothers, the baby's father, friends, healthcare professionals, Lamaze classes, school, books, the media, and support groups (Grossman et al., 1990; Hongo, 1994).

Continuation with breastfeeding is also influenced by the number of supports in the post-discharge stage reported by breastfeeding mothers (Barber et al., 1997; Hongo, 1994; Kaufman & Hall, 1989). The greater the social support, the more prolonged the duration of lactation. Women with no source of support are six times more likely to cease lactation than women with six sources of support (Kaufman & Hall, 1989). More than half of women who initiate breastfeeding, but report "no one" as a source of support had discontinued by four months' postpartum (Barber et

al., 1997). Furthermore, breastfeeding mothers perceive their referents as wanting them to breastfeed, compared to bottle-feeding mothers who perceive their referents as neutral (Kaufman & Hall, 1989).

Other researchers have emphasized the quality (or nature) of social support (Andrews et al., 1978; Dohrewend & Dohrewend, 1974; Thoits, 1982). This is reflected in informational, instrumental and emotional assistance to the mother in the adaptation to breastfeeding, most notably in the post-discharge stage. The nature of the support, however, varies with the source even within the informal network itself (Walter, 1986). For example, kin relationships involve love and duty and often include financial, emotional and instrumental aid with childcare. Neighbours and friends, on the other hand, base their relationship on reciprocity. Their functions are to provide informal emotional support through discussing childrearing and its related problems (Baranowski et al., 1983; Bryant, 1982; Isabella & Isabella, 1991; Wearing, 1984). Since neighbours may become friends, isolation and loneliness decrease, and emotional and instrumental support increase (Wearing, 1984). Formal sources of social support, such as healthcare professionals, primarily provide informational support, such as correct positioning for breastfeeding and nutritional information (Isabella & Isabella, 1991; Kaufman & Hall, 1989; Hongo, 1994; Hung et al., 1985).

The predominant stance in the literature is that *both* the quantity and quality of social support are equally influential in adapting to role transitions (Billings & Moos, 1981; Cutrona, 1984; Erickson, 1984; Gottlieb, 1981; Hirsch, 1980;

Mitchell, 1969). The reason is that successful breastfeeding is not instinctive in humans but is dependent on learned knowledge gained through observations and accurate information (Isabella & Isabella, 1991; Jelliffe & Jelliffe, 1974; Palmer, 1988).

Lack of informal support systems impede the adaptation to breastfeeding. Because different generations usually live apart, women in modern Western society tend to lack the emotional, informational and instrumental support provided by the traditional support system. An absence of visible role models for socialization to breastfeeding contributes to a neutral if not a negative inclination toward breastfeeding (Ellis, 1983; Palmer, 1988). Few opportunities are created for adolescent girls and young mothers to observe and learn informally about breastfeeding practices from older female relatives. As such, women without informal support systems lack accurate information on lactation techniques as well as intergenerational knowledge on the medical and nutritional benefits of breastfeeding to both the infant and mother (World Health Organization, 1981).

Moreover, an absence of role model leads to misconceptions about breastfeeding, such as: breastfeeding is an instinct rather than a socially learned behaviour; breastfeeding is associated with lower social class; in a similar vein, breastfeeding is "uncivilized"; and that breastfeeding capability is related to breast size (Ellis, 1983). Such lack of informational and emotional support result in an unwillingness or reluctance to breastfeed, a decision which is usually made in the preconception and prenatal stages (Ellis, 1983; Palmer, 1988; World Health

Organization, 1981). Furthermore, women who bottle-feed indicate that lack of time and fatigue from bearing sole or primary responsibility for housework and childcare duties post-discharge are major factors in not pursuing breastfeeding (Samuels, 1982). Thus, despite the mother's initial intention, without role models and adequate social support from the informal system the typical pattern is to wean in the early weeks of life (Isabella & Isabella, 1991).

In contrast, success in breastfeeding may be generated by a significant other, usually in the informal support system, who supplies role modelling, as well as informational, instrumental, and emotional support (Jelliffe & Jelliffe, 1974). Raphael (in Hung et al., 1985) agrees that

> women require a supportive network in order to lactate successfully. At the very least, one other person, one doula ("supportive other") must be available to mother the mother at critical periods during the breastfeeding period. (p. 1148)

In communities where breastfeeding practices are usual, young women are often prepared for it through a gradual and continued exposure to lactating mothers. Since breastfeeding is viewed as a natural practice, women develop confidence about their ability to breastfeed and to satisfy their infant (Palmer, 1988; World Health Organization, 1981). In these communities, the family "mothers the mother" during the transition to successful lactation, especially during the first month post-discharge as this is the critical period for successful breastfeeding (Isabella & Isabella, 1991). The informal network provides mothers with abundant role models, accurate information on lactation techniques, knowledge on the benefits of breastfeeding, and instrumental assistance with housework and childcare.

Husbands and mothers, especially, are cited as the most significant agents of informal social support in influencing the incidence, and particularly the duration, of breastfeeding in the post-discharge stage (Baranowski et al., 1983; Bryant, 1982; Hongo, 1994; Hung et al., 1985; Isabella & Isabella, 1991; Kearney, 1988; Matich & Sims, 1992). Instrumental support such as the regular provision of childcare and housework duties is provided primarily by the woman's mother, and to some extent by the spouse. Such assistance frees the mother to breastfeed or to express milk (Barber et al., 1997; Bourgoin et al., 1997; Isabella & Isabella, 1991; Kaufman & Hall, 1989; Kearney, 1988). Furthermore, emotional support from the husband, such as his attitude in wanting the woman to breastfeed, is particularly influential in the duration of lactation. Research indicates women who choose to bottle-feed rate their husbands as not wanting them to breastfeed (Kaufman & Hall, 1989; Kearney, 1988; Bryant, 1982; Samuels, 1982). Support from the informal system in the form of informational, emotional and instrumental support, therefore, is critical in facilitating the adaptation to breastfeeding.

Sources and Nature of Social Support:

It is evident throughout the literature that although the quantity and quality of social support are essential components in the initiation and duration of breastfeeding, the actual *sources* and *nature* of the support vary according to the woman's demographic background. The literature indicates that older maternal age, marriage, higher income, and higher maternal education are more likely to be

associated with initiating and prolonging the duration of breastfeeding (Bourgoin et al., 1997; Grossman et al., 1990; Isabella & Isabella, 1991; Kaufman & Hall, 1989; Martin, 1986; Matich & Sims, 1992). Other studies found that breastfeeding women are more likely to be Anglophones rather than Francophones (Bourgoin et al., 1997), to live in the Western United States rather in the Southeastern United States (Isabella & Isabella, 1991), and to be of Anglo-Saxon origin and working full- or part-time (Martin, 1986). Demographic variables, such as age group and social class can determine the source of social support most likely to be used. For example, peers are the most influential source of social support for adolescents, husbands are most supportive for middle-class women, and mothers are most supportive for lower-class women (Matich & Sims, 1992).

Sources of support depend on the availability and accessibility to social support systems. The geographical proximity of informal support systems has a significant effect on the role of relatives, friends and neighbours in infant feeding patterns. For example, if kin are not available, friends and neighbours take on more significance (Wearing, 1984). Moreover, those who do not have easy access to informal support systems are influenced most by the formal system, such as physicians and nutritionists (Bryant, 1982).

The woman's ethnic background appears to be a significant determinant in the different sources of support utilized. This variation may be due to culture-based factors in determining infant feeding choice, such as cultural attitudes toward body contact, exposure of the breast, and symbolism of the breast (Kent, 1981). The

following examples highlight these variations. Jews of Asian-African backgrounds perceive their informal support network, such as husbands, friends, and relatives as influential and supportive of their decision to breastfeed (Tzuriel & Weller, 1986). In Lahore, Pakistan, the advice of the formal system, namely healthcare professionals is used primarily by mothers in the upper socio-economic group, that is, the literate group (Kulsoom & Saeed, 1997). Among Hispanic mothers, negative supportive acts from the informal network such as the husband and woman's mother and positive supportive acts from the woman's mother are influential in the choice of infant feeding method (Carroll, 1996).

Bryant (1982) explored the informal support system, that is, the kin, friend, and neighbour networks utilized by economically disadvantaged Cuban, Puerto Rican, and Anglo families in Florida. A common pattern is that none of the groups complied with advice from healthcare professionals. Instead, they adopt feeding practices advocated by relatives, friends, or neighbours. During the first few postpartum weeks, all groups are assisted by their sisters, aunts or other female members of the extended kin network. The husband's approval is important for all groups. In Bryant's (1982) study, there are variations in the sources of social support used by each ethnic group. Puerto Rican and Cuban mothers consider the maternal grandmother to be the most important source of information on infant feeding. Anglo women rely mostly on advice from friends and healthcare professionals. Puerto Rican and Cuban husbands have less impact on infant care activities than Anglo husbands, who on average participate in most decisions (Bryant, 1982).

A study on other ethnic groups' use of social support in breastfeeding confirms the finding that the sources of support are dependent on that particular group. Moreover, their primary sources of support are drawn from the informal network. For example, Black Americans use support mainly from a close friend, Mexican Americans' source of support is the mother's mother, and Anglo Americans' main source of support is the male partner (Baranowski et al., 1983). These results have implications for types of interventions to be developed. Accordingly, interventions for the Black American population target the social support network of friends, such as school-based programs for younger mothers or presentations to groups of young women. In the Mexican-American population, targets are the doctor, mother, friends, and grandmothers. Intervention programs in the Anglo-American population avoid the mother and target the male partner, for example, as in prenatal education programs for married couples (Baranowski et al., 1983).

Among Japanese mothers in the South Bay area of Los Angeles, the mother's mother and childbirth classes are strongly influential in the initiation and duration of breastfeeding. These women overcome breastfeeding problems by attending support group meetings, by referring to books, or by telephone counselling (Hongo, 1994).

For the Chinese in Hong Kong, bottle-feeding mothers are more influenced by the formal system, in particular the medical professions who do not support breastfeeding (Hung et al., 1985). This influence is further reinforced by the mass media, particularly television advertisements on infant formula. In contrast,

successful breastfeeding mothers are influenced more by their informal social networks through which they are told of the dangers of bottle-feeding, particularly by husbands, friends, and relatives. Breastfeeding mothers who wean their infants early report a lack of support from friends and relatives (Hung et al., 1985).

The mother's country of birth could be a variable in the breastfeeding rate for a particular ethnic group. In a study of mothers in Toronto, initiation rates range from eighty-three percent to one hundred percent for those whose country of birth is Canada/United States, Europe, Central and South America, the Caribbean, Portugal, or Africa/Oceania (Barber et al., 1997). The exceptional group in this study are women whose country of birth is China/Vietnam. For them, the initiation rate is only twenty-one percent and it decreases to seven percent by four months' postpartum. Length of time living in Canada is not shown to be an important factor (Barber et al., 1997).

Summary of Informal Social Support System

Parenthood, particularly first-time motherhood, is a stressful event in the developmental life cycle. Successful adjustment to the new roles and functions of the woman, the marital couple and the family is associated with prolonged breastfeeding duration. Research indicates that social support is the key component in the successful transition to any new stage of development and adaptation of roles, such as motherhood and breastfeeding. Both the quantity and quality of social support, primarily from the informal support system, are critical in facilitating

breastfeeding.

The evidence suggests that demographic variables, ethnicity in particular, have an impact on the sources of social support utilized by women in their infant feeding method. The nature of the support varies according to the source and encompasses instrumental, informational, and emotional assistance.

Of particular importance is the *timing* of social support in the successful adaptation to breastfeeding. Because lactation is based on the principle of supply and demand, timing is imperative if breastfeeding is to be successful. As such, a number of studies concur that the timing is critical in successfully promoting the practice of breastfeeding (Ellis, 1983; Fredrickson, 1995; International Children's Centre, 1979; Kaufman & Hall, 1989; Switzky et al., 1979; Winikoff, 1988; Winikoff & Baer, 1980). Yet, there are no studies which actually differentiate the sources and nature of social support in each of the perinatal stages. Given that support varies according to the source, it would be expected that women would access the most appropriate assistance at various points of need. Therefore, in order to increase the likelihood of prolonging the duration of breastfeeding, it is crucial to identify the specific sources and nature of social support in each of the stages throughout the perinatal period.

Specifically, successful breastfeeding is a process of adaptation through five distinct stages: the *decision* to breastfeed is often made well before delivery and even prior to pregnancy (the preconception stage); the *preparation* of breastfeeding is often made prior to delivery (the prenatal stage); the *initiation* of breastfeeding

usually occurs immediately after birth (the neonatal stage); the *establishment* of breastfeeding occurs in the first few days (the postnatal stage); and the *maintenance* of breastfeeding is contingent on support in the first few weeks at home (the post-discharge stage). Accordingly, in order to increase the likelihood of successful lactation, it is necessary to identify the specific sources and nature of support in *each* of the five distinct and critical perinatal stages.

CHAPTER 4: FORMAL SOCIAL SUPPORT SYSTEM

Research suggests that social support, particularly from the informal network of kin, is critical for successful breastfeeding (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Erickson, 1984; Kaufman & Hall, 1989). If breastfeeding is to be successful, women who lack such traditional support systems must turn to other sources of social support, such as the formal system (Garbarino, 1983; Hung et al., 1985; Matich & Sims, 1992; Palmer, 1988; Silverman & Murrow, 1976). The majority of North American women have their babies delivered in the conventional hospital setting by a medical doctor. Some of these hospitals have implemented health promotion programs aimed at increasing the prevalence of breastfeeding, such as the establishment of breastfeeding clinics, outreach programs and lactation consultants.

Within the Durham Region (the investigative site of this study), several breastfeeding programs and services have been implemented (Durham Region Breastfeeding Coalition, 1997). La Leche League chapters exist in several cities in the region. La Leche League is an informal support group for women who wish to breastfeed; the groups are usually held on a monthly basis in a member's home, and provide education and support to women in the prenatal and post-discharge stages. In addition, the Durham Health Connection service (Health Connection, 1997) provides telephone counselling and free home visits. There are drop-in breastfeeding support groups in the five community hospitals in the Durham Region.

These groups are held weekly on a drop-in basis for women in the postnatal stage and who are still in the maternity ward, as well as for women in the post-discharge stage. One hospital in the Durham Region has a breastfeeding clinic which provides education and support on breastfeeding in the prenatal and postnatal stages. Another hospital holds prenatal breastfeeding classes, as well as a breastfeeding support service which provides telephone counselling, outpatient consultation and lactation consultant services.

In addition, professional associations and Health and Welfare Canada have developed guidelines in breastfeeding promotion within the healthcare system (Jolly, 1990; Teply, 1979), and have initiated training and educational efforts to healthcare professionals (O'Hollaren Arango, 1988). However, in spite of these exemplary breastfeeding promotion initiatives in the healthcare system, there still exist health care practices which can impede the adaptation to successful lactation. The focus of this chapter is to elaborate on the factors in the formal system which are obstacles to breastfeeding, specifically practices by healthcare professionals and barriers in the workplace.

Healthcare Practices

The literature does not identify factors in the formal system which might deter the decision to breastfeed which is usually made in the preconception and prenatal stages. Paediatricians are usually trained in breastfeeding information and management but since they are involved in the post-discharge stage, they would be

too late in the decision and establishment of breastfeeding. Family physicians and obstetricians/gynecologists, on the other hand, have more opportunity to see the women in the prenatal and postnatal stages, which are critical periods for the decision, initiation and establishment of breastfeeding. Yet, this group of medical doctors usually do not receive adequate training in breastfeeding (Cunningham, 1988; Pechevis, 1988).

However, many of the practices in the healthcare system, particularly those in the neonatal, postnatal, and post-discharge stages, may impede successful lactation, despite the woman's intention to breastfeed. Practices in maternity wards and hospitals tend to limit the possibility of early initiation, feeding on demand, and close contact between the mother and infant during the first days. These practices can effectively sabotage the establishment of the breastfeeding technique and thus milk production (World Health Organization, 1981).

Neonatal Practices:

In traditional societies, childbirth is predominantly practiced by midwives in the woman's home. Labour and delivery are often natural, that is, without medical intervention and breastfeeding is usually begun during the first hours of life. If difficulties arise, there are alternatives such as wetnursing by other lactating women (Jordan, 1978; Palmer, 1988). In Western societies, however, childbirth predominantly occurs in the conventional hospital setting. For example, in the 1930s, seventy percent of births in the United States were conducted in the home;

by the 1950s, seventy percent of births in the United States were performed by medical doctors in the hospital (Kahn, 1995), increasing to ninety-eight percent by the 1990s (Luce et al., 1998). Hospital practices include the abuse of anaesthesia, medications, ceseareans and use of forceps during delivery which can delay recovery in both the infant and mother, thus interfering with the initiation of lactation (Jordan, 1978; Kahn, 1995; Palmer, 1988; Shiva, 1993; World Health Organization, 1981).

Nissen et al. (1997) investigated the effects on infants' development of breastfeeding behaviour of pethidine routinely given during labour. Results show that when women are given pethidine continuously, infants have a depressed suckling behaviour and a delayed initiation of lip and mouth movements. That study concludes that if the dose-delivery time interval is short, an analgesic given under routine conditions may have unfavourable effects on the infant's ability to develop breastfeeding behaviour.

Nedkova et al. (1995) studied the influence of suckling on prolactin concentrations and efficacy of lactation. The prolactin concentration in women who start breastfeeding within six hours after delivery is significantly higher than in women who start breastfeeding twelve, and especially seventy-two hours after birth. These results indicate a direct correlation between prolactin concentration and quantity of breastmilk secreted. Lactopoiesis depend on prolactin concentration and is influenced by both early initiation and frequency of breastfeeding (Nedkova et al., 1995). The implication is that immediate suckling after birth facilitates the

successful initiation of lactation. Conventional hospital practices, however, include immediate separation of mother and infant after birth for a prolonged period of time which sabotages the initiation of breastfeeding (Palmer, 1988; Winikoff, 1988).

Postnatal Practices:

Once in the maternity ward, the attitudes and practices of the formal sources of support, that is, healthcare professionals have an important bearing on whether a woman breastfeeds. The maternity nurse is often cited as an important support person influencing successful lactation, particularly if there is no informal support system (Isabella & Isabella, 1991; Hung et al., 1985). However, mothers' feeding plans may change due to a lack of basic information and assistance, along with medical practices that hinder effective breastfeeding during the neonatal and postnatal periods (Isabella & Isabella, 1991).

Misinformation from healthcare professionals is a major barrier to breastfeeding. For example, teaching mothers improper breastfeeding positions would inhibit latching on, and thus hinder the successful establishment of breastfeeding. Another example of misinformation is that maternal drug use is a deterrent to breastfeeding (Fredrickson, 1995). Some medications used during lactation do not necessarily pose a risk to the infant. Healthcare professionals may lack accurate information on the mechanisms that cause drug excretion into milk, and thus rationally minimize the uncertainties of breastfeeding during maternal drug therapy (Bailey & Ito, 1997). As examples, medications used during general

anesthesia in labour and delivery (Borgatta et al., 1997) and the effect of smoking on lower respiratory infections in breastfed infants (Nafstad et al., 1996) do not necessarily warrant interruption of breastfeeding.

The formal system includes the architectural design of maternity wards which makes it difficult to establish close proximity between infants and mothers, as they are often in separate rooms. Rooming in provides an opportunity for the mother to understand her baby's cry and increase her confidence in childcare as well as facilitate demand feeding which helps to establish and maintain lactation. Nurseries, on the other hand, promote bottle-feeding as feeding schedules become more convenient for nursing staff than feeding on demand in which the baby needs to be brought to the mother (Mandl, 1988; Winikoff, 1988). In effect, a reduction in suckling opportunities results in limited stimulation and thus diminished milk production (Campbell, 1982; Palmer, 1988). In addition, feeding schedules that suit hospital routines rather than meeting the needs of the mother and infant reinforce the perception that medical staff consider bottle-feeding to be as good as breastfeeding (World Health Organization, 1981).

Moreover, the formal system includes routine medical practices such as providing prelacteal feeds of sucrose or formula, bottle nipples, pacifiers, or artificial nipples in early infancy which can cause nipple confusion and weaken the baby's suck. Poor suckling leads to a host of breast problems which discourage the mother from continuing with breastfeeding. These problems include perceived insufficient milk supply, sore nipples, plugged ducts, and baby refusal, disinterest and preference

for the bottle (Barber et al., 1997; Bourgoin et al., 1997; Hongo, 1994; Isabella & Isabella, 1991; Newman, 1990; Samuels, 1982). Furthermore, routine hospital procedures in supplying bottles serve to undermine the woman's confidence in the adequacy of her breastmilk which further interferes with lactation success (Winikoff, 1988).

Post-discharge Practices:

The wide distribution of formula discharge packages contributes to a decline in the initiation and duration of breastfeeding. Hospitals regularly receive free infant formula supplies from different companies (Campbell, 1982; Hung et al., 1985). Practices in the formal system such as the proliferation of posters, promotion brochures, and automatic bottle and formula distribution carry the implicit endorsement and credibility of the medical professions (Hung et al., 1985; Palmer, 1988; Sugarman, 1989).

Even if formula discharge package interventions have no effect upon the decision and the initiation of breastfeeding, they are significantly related to a reduced duration (Fredrickson, 1995). Women who receive formula at the hospital or childbirth class are more likely to wean earlier than intended. In direct contrast, those who never receive a sample of formula are more likely to practice exclusive breastfeeding (Hongo, 1994).

Early discharge from the hospital could be a factor in failed breastfeeding. Mothers are usually discharged before the third or fourth day, the period in which

breastmilk would ordinarily come in and before breastfeeding is well-established. The majority of breastfeeding problems begin in the first three weeks post-discharge (Bourgoin et al., 1997), at a time when support, assistance and information are most needed in order to continue successfully with breastfeeding (Buckner, 1988).

Doren (1995) studied women who experience a thirty-six to forty-eight hour postpartum hospital stay. Mothers are often discharged without follow-up information and assistance in breastfeeding. Problems include plugged ducts and sore nipples, perception of insufficient breastmilk, infant feeding concerns, and maternal fatigue. Mothers who wean earlier than four weeks' postpartum rate their level of knowledge about breastfeeding as low, and report more concerns and breastfeeding problems than women who continued (Doren, 1995).

Workplace Barriers

In a patriarchal capitalist social order, life-sustaining and life-enhancing work, such as breastfeeding, childcare and housework are not considered to be of value and therefore have no financial compensation (Mies & Shiva, 1993; Waring, 1986). Accordingly, the need for employment income prompts women to enter the paid labour force. A return to the labour market, however, is a primary reason for early weaning among breastfeeding mothers. Lindberg's (1996) study confirms that there is an increased likelihood that women would stop breastfeeding in the three-month interval marking their entrance to employment. Women employed part-time maintain higher rates and longer duration of breastfeeding than women employed

full-time.

Once in the labour force, barriers exist in the workplace environment itself which reduce the duration of breastfeeding. Deterring factors include a general absence of work policies and facilities that support lactating women (Isabella & Isabella, 1991; Lindberg, 1996; Van Esterik, 1989; Van Esterik & Greiner, 1981; World Health Organization, 1981). The roles of breastfeeding and of an employee are normally incompatible. Structural conflicts exist due to the intense time for breastfeeding. As such, breastfeeding or expressing milk is difficult to schedule without interfering with employment. Attitudinal conflicts occur because breastfeeding at work breaches the boundaries between women's private roles as mothers and public roles as workers outside the home (Rossiter, 1988). If she works, she is chastised for not fulfilling her maternal role. Yet if she breastfeeds, she is not considered a serious employee because of the time that is required. This dichotomy of roles is perpetuated in a capitalist patriarchal society, as it enables the maternal role (breastfeeding, childcare and housework) to remain private and invisible and thus to be of no value, while reinforcing the notion that only work in the public labour force is to be of value. Thus, breastfeeding workers face the challenge of balancing these conflicting social expectations (Lindberg, 1996; Rossiter, 1988; Van Esterik, 1989; Van Esterik & Greiner, 1981).

Despite the efforts of WHO (World Health Organization), UNICEF (United Nations Children's Fund), and the ILO (International Labor Organization) to set standards that protect working mothers (Gibbons, 1988; Grant, 1988), there still

exist significant barriers to combining breastfeeding and outside employment. These include inadequate social support in the workplace, inadequate monetary amount in existing maternity entitlement, insufficient education on "doable" lactation techniques during work, and insufficient social support networks in general (Dookhan-Khan, 1995). Thus, workplace barriers discourage the combination of work with breastfeeding. As Van Esterik (1989:3) states: "the conflict between women's productive and reproductive lives is most acute and visible for breastfeeding, working mothers". Other work-related factors which are barriers to breastfeeding include rigid work hours, long periods away from the home, travel time, and the lack of time, space, or facilities for expressing and refrigerating milk (World Health Organization, 1981).

Summary of Formal Social Support System

Social support is a critical factor in the adaptation to life transitions such as breastfeeding. Thus, in the adaptation to breastfeeding, women who lack an informal support network may need to turn to the formal system for social support. Factors in the formal system may facilitate breastfeeding, such as the assistance from lactation consultants and breastfeeding clinics. Nevertheless, there are obstacles in the formal system itself which may impede successful lactation. The literature does not discuss factors in the formal system which might deter the decision to breastfeed which is usually made in the preconception and prenatal stages. Despite the woman's intention to breastfeed, there are factors in the formal system which may obstruct the

successful initiation, establishment and prolonged duration of breastfeeding. Specifically, healthcare practices in the neonatal, postnatal and post-discharge periods may actually reduce the likelihood of successful lactation. Furthermore, barriers in the social structure itself, such as no monetary value placed on women's life-sustaining and life-enhancing work in the home requires women to enter the labour market. There are barriers in the workplace environment itself which may discourage the continuation of breastfeeding, and as such, women may wean earlier than intended.

CHAPTER 5: THE RESEARCH QUESTIONS

This study addresses two research questions concerning the role of social support in the adaptation to breastfeeding of first-time mothers. Although it is recommended that infants be exclusively breastfed for a minimum of six months (The Canadian Paediatric Society, and the Ontario Public Health Association in Bourgoin et al., 1997; World Health Organization, 1981), fewer than thirty percent of Canadian infants are breastfed at three months' postpartum (Health & Welfare Canada in Barber et al., 1997). This current study will seek to understand the reason for the low rate.

The patriarchal capitalist system itself as well as several interrelated factors within the system may account for the low breastfeeding rate. That is, due to the very nature of the social structure, the practice of bottle-feeding serves to reinforce the patriarchal capitalist structure. As such, the breastfeeding rate might not increase even despite significant improvement in informational, instrumental and emotional social support, unless there is a total overhaul of the social structure itself. Nevertheless, since social support systems are an integral part of the social structure and of the mother's life, it is necessary to study the impact of the informal and formal systems upon the initiation and duration of breastfeeding in women who intend to breastfeed. It is suggested that a possible explanation for the low breastfeeding prevalence is the breakdown of the informal networks which provide intergenerational modelling, knowledge and social support for breastfeeding. During the assimilation into a highly industrialized society, traditional informal

networks have been replaced by the formal social system. Yet practices within the existing formal system may actually obstruct the adaptation to successful lactation. Accordingly, it is suggested that for first-time mothers, those who bottle-feed are more likely to lack an informal social support network than those who breastfeed. Moreover, those who bottle-feed are more likely than breastfeeding mothers to be influenced by the formal system. Therefore, the first research question asks:

Are first-time mothers who wean early more likely to lack an informal social support network and be more influenced by the formal system than those who prolong breastfeeding?

It is assumed that the *timing* of social support is critical in the successful adaptation to breastfeeding, since each stage is characterized by different needs. Specifically, successful breastfeeding is a process of adaptation through five distinct stages. The decision to breastfeed is often made well before delivery and even prior to conception (the *preconception stage*). The preparation of breastfeeding is often made prior to delivery (the *prenatal stage*). The initiation of breastfeeding usually occurs in the first few hours after birth (the *neonatal stage*), and the establishment of breastfeeding occurs in the first few days (the *postnatal stage*). These two stages are particularly critical stages as without adequate support, lactation can easily cease due to the supply and demand principle. The maintenance of breastfeeding is contingent on support in the first few weeks at home (the *post-discharge stage*).

Surprisingly, not one study has differentiated social support in each of the

stages. Existing research has focused exclusively on social support in the postnatal stage. However, it is erroneous to assume that the same social systems are used throughout all the stages. Rather, it would be expected that different sources of support would be used to meet different needs at various points in the perinatal period. Accordingly, in order to increase the likelihood of successful lactation, it is necessary to identify the specific sources and nature of support at each of the five distinct stages in the perinatal period. Specifically, it is asked:

> **At each of the five stages (preconception, prenatal, neonatal, postnatal, and post-discharge), who are the key supports and what is the nature of the social support utilized by first-time mothers to meet their breastfeeding needs?**

The question is formulated in an open-ended manner since the existing research does not address the issue of timing.

These two research questions address the role of informal and formal social support systems in the adaptation to breastfeeding in first-time mothers. Specifically, these questions will explore the exact sources, nature, and timing of social factors which impede and facilitate the adaptation to breastfeeding. Results from this study will help to create a health promotion model that adds to the understanding of social support and developing effective intervention strategies. It is suggested that education to target audiences would facilitate health promotion and thus improve the prevalence of breastfeeding in first-time mothers.

CHAPTER 6: METHOD

This chapter on Method consists of the following sections: the purpose of the study; the sample including the sample criteria, profile of the research participants, and a description of the region from which they are drawn; the research procedures and measures; and data analysis.

Purpose of the Study

The purpose of this study was to examine the role of social support in the adaptation to breastfeeding by first-time mothers. The first objective was to investigate the impact of informal and formal social support systems which facilitate the lactation process, and those which obstruct successful lactation. The second objective was to explore the sources of social support and the nature of the support used to meet breastfeeding needs in each of the following stages -- preconception, prenatal, neonatal, postnatal, and post-discharge. These issues were framed through two research questions:

1. Are first-time mothers who wean early more likely to lack an informal social support network and be more influenced by the formal system than those who prolong breastfeeding?

2. At each of the five stages (preconception, prenatal, neonatal, postnatal, and post-discharge), who are the key supports and what is the nature of the social support utilized by first-time mothers to meet their breastfeeding needs?

The first research question was addressed through a survey using likert-scaled items and supplemented by structured questions (see Research Procedures and Measures); the second by a semi-structured interview.

Sample

Sample Criteria:

All of the participants were women who had given birth to their first child within the past three years and who had intended to breastfeed. Since the focus of the study was primarily on the experiences in the early transition to breastfeeding, it was important that the women have easy recall of their early months of infant feeding. As such, the sample was limited to women whose child was under three years of age at the time of the study. The other criteria for all the participants was that their babies were delivered in a hospital setting by a medical doctor, and that the babies were well babies at birth (e.g., they were not in the Neonatal Intensive Care Unit). Since the majority of women deliver in the conventional hospital setting by a medical doctor and have a well baby at birth, these sample criteria would be representative of the general population.

The first research question was addressed via a survey. For the survey, the sample consisted of two groups: early weaners (women who intended to breastfeed but had weaned within six months) and prolonged breastfeeders (women who breastfed for at least six months). Six months was chosen because this is the minimum duration of lactation recommended by the Canadian Paediatric Society, the Ontario Public Health Association (in Bourgoin et al., 1997) and the World Health Organization (1981). As well, six months is the time when infants are usually ready for solids. To address the first research question, responses from the early weaners and the prolonged breastfeeders were compared to each other.

In total, eighty-six women were included in the survey portion of the study -- half of whom satisfied the criterion for early weaning and half of whom fulfilled the criterion for prolonged breastfeeding. All of the participants were volunteers who were informed of the study's purpose prior to giving their consent.

The second research question was addressed via a semi-structured interview. For the interview, the sample consisted of two groups – six women who had breastfed for less than six months (early weaners) and six women who had breastfed for at least one year (prolonged breastfeeders). One year was chosen because the intent of this study was to explore the experiences of women who were successful at breastfeeding for a prolonged duration, and to determine the social support factors which assisted them in the adaptation to breastfeeding. These women were randomly selected from those who completed surveys and had signed consent to be interviewed.

For both the interview and the survey, the sample was selected from seven postpartum information and support groups for first-time mothers in Durham Region. The reason for choosing these particular groups was that the women would have either weaned or continued with breastfeeding by the time they attended the groups. In addition, these groups were not intended to promote breastfeeding, as does the La Leche League. As well, these groups were free of charge for the members and focused on a variety of topics that may or may not have included breastfeeding. Thus, they would not have biased women towards or against breastfeeding.

Ethical approval of the study was obtained from the Ontario Institute of Studies in Education of the University of Toronto (OISE/UT). A letter of explanation of the study (Appendix A), a survey consent form (Appendix B), the survey (Appendix C), and an interview consent form (Appendix D) were sent to the director of the Durham Public Health Department. The director provided verbal permission to pursue the study and provided the name of the program manager of the seven groups. The aforementioned materials were sent to her, followed up with a telephone call. After she discussed the study with the group facilitators, she provided their names and a schedule of the groups. The researcher telephoned the facilitators to describe the study and provided copies of the consent forms and the survey. Arrangements were made for attendance in part of one session, usually midway in the series of eight, to explain the study and distribute the surveys.

The researcher attended seven different groups, which were held in six

different cities in the Durham Region. The study and inclusion criteria were described to group members prior to distribution of the consent forms and surveys. Signed consent was given prior to the onset of the survey (Appendix C) and the interview (Appendix D). Confidentiality was maintained throughout the project. All of the participants were informed that they could withdraw at any stage of the research, at which time any data collected would be destroyed. Anonymity was ensured as pseudonyms were used in the actual research paper.

To maintain anonymity and to minimize the possibility of implicit pressure to complete the survey, the researcher left the room while the surveys were completed. The surveys were collected by the facilitator of the group and returned to the researcher. In total, there were eighty-seven completed surveys and all but one fit the inclusion criteria (she had a home birth with a midwife). As such, one survey was dropped from the data analysis. From the remaining eighty-six surveys, the participants were slotted into two groups: women who weaned within six months and women who continued to breastfeed past six months. For the second research question, the only women who were selected for inclusion were those who signed the consent form to be interviewed. Of this group of forty women, six early weaners and six prolonged breastfeeders were randomly selected. The researcher telephoned the members of these groups and arranged an interview time. All of the women agreed to participate in the interviews and preferred to be interviewed in their own home. The interviews ranged from forty-five to ninety minutes.

Profile of Research Participants:

Ninety-three percent (n=80) of the participants were either married or lived common-law. The length of marriage/common-law ranged from one to seventeen years with a mean of five years. Spousal age ranged from twenty-two to forty-seven years with a mean of 32.5 years. The majority of spouses had a college diploma or university degree (61.6%, n=53). Spouses were employed full-time mainly in a managerial, professional, or industrial occupations (71.0%, n=61). Maternal age ranged from sixteen to forty years with a mean of 30.2 years. The majority of women had a college diploma or university degree (70.9%, n=61). Women were mainly full-time in either a professional or homemaker capacity (75.6%, n=65). The household income ranged from less than $10,000 to more than $70,000 with a median of more than $70,000. The intended duration of breastfeeding ranged from two to forty-eight months with a mean of 9.36 months. The actual duration of breastfeeding ranged from one week to thirty-six months with a mean of 6.07 months.

The Setting -- Durham Region:

The participants were primarily from Oshawa, Ontario (45.5%, n=39), located on the north shore of Lake Ontario, approximately sixty kilometers east of Toronto. The percentage of participants from other parts of the Durham Region were: Ajax (7%, n=7), Bowmanville (4.6%, n=4), Pickering (10.4%, n=9), Port Perry (10.4%, n=9), and Whitby (22.1%, n=19).

In 1996, the population of the Durham Region was 458,616 (Canadian Economic Service, 1997/1998) with a projected growth of 970,000 expected by the year 2021 (Commissioner's Report, 1994). Oshawa has the largest predicted population and employment growth among the twenty-five Census Metropolitan Areas in Canada. Its population in 1996 was 134,364 people with a projected increase of 2.0 percent per annum over the next decade (Canadian Economic Service, 1997/1998).

Automobile manufacturing is the major industry as General Motors has its Canadian headquarters and main plant located in Oshawa. Employment rose an annual rate of 1.9 percent between 1986 and 1996, above the Canada-wide average of 1.3 percent. The average personal income per household is estimated at $81,600, above the national average of $62,800 (Canadian Economic Service, 1997/1998). Oshawa is one of Canada's fastest-growing concentrations of urban development. The projected population growth of the city makes it an ideal location in which to implement this study.

Research Procedures and Measures

The study used two measures: a survey that was completed by all participants; and a semi-structured interview that was conducted with a sub-sample of mothers who breastfed for less than six months (early weaners) and mothers who breastfed for at least one year (prolonged breastfeeders). The survey results were used to assign participants to the two groups.

The survey (Appendix C) consisted of the following: a set of questions on informal support and formal support drawn primarily from the research literature; and a series of questions on demographic characteristics such as marital status, age, educational level, occupation, and family income. The social support items were assessed using a Likert Scale.

The interview (Appendix E) consisted of a series of questions on the sources and nature of support which facilitated breastfeeding and a series of questions on the sources and nature of support which impeded breastfeeding. These questions were addressed in each of the five perinatal stages.

In order to assess the face validity of the items in these measures, a pilot test was conducted on four women, two of whom were healthcare professionals, who met the sample criteria. Three of the women were married and one was single. Women in the pilot test were not part of the final data analysis. The responses from the participants were used to determine the clarity of wording, the sequencing of questions, and the appropriateness of the questions in relation to the purpose of the study. Feedback from the participants in the pilot study was used to refine the measures.

Data Analysis

Surveys:

Survey data were analyzed involving a principal component factor analysis, Pearson correlations and regression analyses in which the support factors and

demographic variables were used to predict the duration of breastfeeding. Details and results of these steps are outlined in Chapter 7.

Interviews:

Interview data were analyzed using the constant comparative method of content analysis (Glaser & Strauss, 1967). The steps during data analysis of the interviews were as follows:

1. The interviews were audio-recorded so that the responses could be transcribed and coded. The participants willingly responded to the interview questions and did not appear to find the tape recorder intrusive. The coding focused upon the sources and nature of support in each of the five perinatal stages. Content analysis was conducted via the constant comparative method (Glaser & Strauss, 1967). Each line, phrase and paragraph of the transcripts were reviewed to determine the concepts that the data reflected. The data were coded, and each code was compared to other codes. Comparison for similarities, differences and general patterns were made.
2. Coding was conducted at three levels. The first level involved the words that the participant used. The second level transferred the data to a more abstract level and then they were renamed as categories. Subsequently, there was discovery of the category's relation to each other. Ideas were then generated during coding and were put into memos. The third level of coding involved sorting the memos, at which point theoretical relationships emerged.

3. In order to determine whether the coding was consistent, inter-rater reliability was established for one interview by having a second person code the responses independent of the researcher. To minimize potential bias, the independent rater chosen was not a healthcare professional or a mother. The rater was aware of the research question and the two primary categories emerging from the data ("facilitating factors to breastfeeding" and "impeding factors to breastfeeding"). She read the transcribed interview independent from the researcher and marked in the margin the codes for each of the categories when they appeared. The researcher then compared her own codes with those of the rater and calculated how often they matched. The inter-rater reliability indicated consistent codes. There was eighty-five percent agreement on matching instances where the participant referred to facilitating factors. There was eighty-one percent agreement on matching instances where the participant referred to impeding factors to breastfeeding.

Data from the interviews supplemented data from the surveys. A health promotion model and target interventions were developed from results of the data.

CHAPTER 7: DATA ANALYSIS

An analysis of the data will answer the two research questions of this study. First, it will determine whether first-time mothers who wean early are more likely to lack an informal social support network and be more influenced by the formal system than those who prolong breastfeeding. Second, it will determine the key sources of support and the nature of the support utilized by first-time mothers to meet their breastfeeding needs at each of the five stages.

The study consisted of a survey and interview schedule. The survey was completed by eighty-six first-time mothers – Group 1 (early weaners) had forty-three women who breastfed for less than six months and Group 2 (prolonged breastfeeders) had forty-three women who breastfed for six months or more. The interviews were based on twelve women from the survey – Group 1 (early weaners) had six women who breastfed for less than six months, and Group 2 (prolonged breastfeeders) had six women who breastfed for at least twelve months.

The first section of this chapter will present data from the surveys, supplemented by tables, in order to address the first research question. The second section will present data from the interviews, supplemented by survey data, in order to address the second research question.

Research Question #1

Data from the surveys were used in order to answer the first research question: "Are first-time mothers who wean early more likely to lack an informal social support network and be more influenced by the formal system than those who prolong breastfeeding?"

1. Prior to administration, survey support question #14 ("The maternity nurse brought my baby to me whenever s/he was hungry") was dropped from data analysis because seventy-two percent (n=62) of the participants responded "not applicable" to that item, implying that they had rooming in with their babies. The remaining thirty-six survey items were classified as representing either formal or informal support systems. Two overall scales were created by the researcher, representing twenty-three formal and thirteen informal items respectively. Through recoding, all variables were oriented in the same direction, so that the lowest score (1) meant the least support for breastfeeding and the highest score (5) meant the most. As a result, two scales (informal and formal support scales) with a common orientation were formed. A t-test for the equality of means of the informal and formal support scales between the two groups was conducted. The result of the t-test showed no significant difference in the means of the informal and formal scales (Table 1).

Table 1

Descriptive Statistics on Informal and Formal Variables by Group

	Group	N	Mean	Std. Deviation	Std. Error Mean
Informal variables	Group 1: < 6 mo	43	44.05	9.86	1.50
	Group 2: > 6 mo	43	46.80	6.84	1.04
Formal variables	Group 1: < 6 mo	43	83.03	14.04	2.14
	Group 2: > 6 mo	43	87.44	15.41	2.35

2. The thirty-six items were further investigated. A principal-component factor analysis with all thirty-six support variables was conducted in order to determine whether respondents were judging the items the way they were meant to be, that is, whether they were really judging support on only two dimensions. A consistent pattern emerged supporting an interpretation of seven underlying support factors: MD, LC, RN, Procedures, and Prenatal Classes which represented items in the formal scale, and Spouse/Partner and Family which represented items in the informal scale.

MD (support from medical doctors) represented five items; encouragement to breastfeed (item #8) and information on breastfeeding (item #9) during prenatal visits, encouragement in the maternity ward (items #19 and #20), and encouragement to continue with breastfeeding in post-discharge visits (item #35). LC (support from lactation consultants) represented three items; assistance with breastfeeding (items #24 and #25) and information on breastfeeding (item #26) in the maternity ward. RN (support from nurses) represented three items; physical assistance with breastfeeding (items #21 and #22) and information on breastfeeding

(item #23) in the maternity ward. Procedures (hospital procedures and medical practices) represented six items; immediate holding of the baby after birth (item #10), rooming in (item #12), feeding on a fixed schedule (item #13), and formula supplementation (item #15) in the maternity ward, and suggestion of formula by doctors (item #36), and provision of free bottle-feeding products by doctors (item #37) in post-discharge visits. Prenatal Classes (support from prenatal classes) represented two items; recommendation to breastfeed (item #6) and information on breastfeeding (item #7). Spouse/Partner (support from the spouse/partner) represented five items; encouragement to breastfeed (items #3 and #18) in the prenatal and postnatal stages, and assistance with childcare (items #31 and #32) and suggestion of formula (item #33) in the post-discharge stage. Family (support from family members) represented five items; encouragement to breastfeed (items #1 and #4) in the prenatal stage, assistance with breastfeeding in the maternity ward (item #17), and assistance with breastfeeding (item #29), assistance with housework (item #30), and suggestion of formula (item #34) in the post-discharge stage. See Appendix C for specific survey support items.

3. Pearson correlation was used to investigate the relationship between actual duration of breastfeeding and all of the seven support scales. The correlation coefficients ranged from a minimum of - .094 to a maximum of .213. Results of the Pearson correlation showed that the scale of Procedures was significantly related to the actual duration of breastfeeding (Table 2). It is noteworthy that although the Pearson correlation did not indicate significance in the scales of LC,

RN, and Prenatal Classes, it did indicate a negative correlation between these scales and the duration of breastfeeding.

Table 2

Pearson Correlation of Support Scales and Duration of Breastfeeding

	MD	LC	RN	Procedures	Prenatal Classes	Spouse/ Partner	Family
Duration of breastfeeding	.179	-.058	-.036	.213*	-.094	.073	.210
Sig. (2-tailed)	.099	.594	.745	.048	.400	.520	.053
N	86	86	86	86	82	80	86

*. Correlation is significant at the 0.05 level (2-tailed).

4. A regression analysis was also conducted to identify the support factors that have the greatest impact on actual duration of breastfeeding. The dependent variable was the actual duration of breastfeeding, and the independent variables were the seven support scales. Results of the regression identified Procedures and Prenatal Classes as significant support influences on the duration of breastfeeding (Table 3).

Table 3

Regression Analysis of Support Scales

	Unstandardized Coefficients		Standardized Coefficients	
Model	B	Std. Error	Beta	Sig.
(Constant)	-1.572	4.462		.726
Procedures	.534	.196	.350	.008
Prenatal Classes	- .800	.379	-.271	.038

5. To be sure that the support relationships were fully understood, the demographic characteristics of the parents were investigated. Pearson correlation was used to investigate the relationships between actual duration of breastfeeding and all of the twelve demographic variables (# of years married, spousal and mother's age, education, employment status, and family income). The correlation coefficients ranged from a minimum of - .163 to a maximum of .489. Results of the Pearson correlation indicated that mother's age, spousal age, and number of years married were significantly related to the actual duration of breastfeeding (Table 4).

Table 4

Pearson Correlation of Demographic Variables and Duration of Breastfeeding

	# of years married	spousal age	mother's age
Duration of breastfeeding	.489**	.331**	.221*
Sig. (2-tailed)	.000	.003	.041
N	80	80	86

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

6. As a final step, a regression analysis was conducted using the significant scale scores and the significant demographic variables in concert. The dependent variable was the actual duration of breastfeeding, and the independent variables were the two support scales and the three demographic variables. Results of this final regression analysis indicated that the most significant predictors of breastfeeding are number of years married and procedures (Table 5).

Table 5

Regression Analysis
of Support Scales and Demographic Variables

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	-6.461	4.057		.116
# of years married	.865	.176	.486	.000
Procedures	.316	.151	.207	.040

Support from the informal system, such as spouses/partners is an important factor in the duration of breastfeeding. Although support from the spouse/partner was not a statistically significant scale, the number of years married was statistically significant *(p= .00)*. Research literature suggests that longer duration of marriage can be indicative of a more stable relationship, and one which a more egalitarian model of role distribution is adopted, that is, both parents share in household and childcare responsibilities (Grossman et al., 1990; Kahn, 1995; Martin, 1986; Matich & Sims, 1992; Walter, 1986). As such, this demographic variable can be interpreted as indicative of instrumental support from spouses/partners, and it may also imply greater emotional support. For example, spouses in lengthier marriages may have greater confidence and security in the relationship to be able to effectively counter negative comments about breastfeeding from family members. Since early weaners were married fewer years, this suggests that they may have received less instrumental and emotional support from their spouse/partner than prolonged

breastfeeders. Another interpretation is that the prolonged duration of marriage may be associated with other factors in addition to spousal/partner support. For example, since the couple waited longer to have their first child, they may be more commited to breastfeeding and to have more time to prepare for breastfeeding.

Moreover, the formal system may have an influence on a shorter duration of breastfeeding. Hospital procedures which implicitly discourage breastfeeding were predictors in early weaning *($p < .05$)*. Furthermore, lactation consultants, nurses, and prenatal classes showed a negative correlation with the duration of breastfeeding. This indicates that women who received support from these formal sources were *less* likely to prolong breastfeeding than those who received less support from these sources.

In sum, results of the survey indicate that Group 1 (early weaners) had a significantly shorter duration of marriage which may be indicative of less spousal support (part of the informal system) and had significantly higher scores in procedures (part of the formal system) than Group 2 (prolonged breastfeeders). As such, the results support the hypothesis that first-time mothers who wean early are more likely to lack some parts of the informal social support network and be more influenced by some parts of the formal system than those who prolong breastfeeding.

Research Question #2

This section will present data from the study in order to answer the second research question: "At each of the five stages (preconception, prenatal, neonatal, postnatal, and post-discharge), who are the key supports and what is the nature of the social support utilized by first-time mothers to meet their breastfeeding needs?" Although the primary data are from the interviews, survey data will also be included to supplement the excerpts from the interviews. The interviews were based on twelve women from the survey -- six women who breastfed for less than six months (early weaners) and six women who breastfed for at least twelve months (prolonged breastfeeders).

Preconception Stage:

Based on the interviews, women in both groups had made the decision to breastfeed during their pregnancy, and thus did not cite any sources of support in the preconception stage. However, women from both groups suggested that support from family physicians might have been helpful in making the decision to breastfeed, as described by Francine, an early weaner:

> When I went for my pregnancy test, my doctor didn't say anything about breastfeeding. He just did the test, said "you're pregnant", and that was it! Maybe it would have helped if he'd at least said *something* about breastfeeding.

Both groups gave similar reasons for deciding to breastfeed, namely, infant health, economics, convenience especially with feedings in the middle of the night, and having heard positive experiences from other women. Bonding was not a

motivating factor for either group.

Prenatal Stage:

(a) informal system:

Survey results indicated that family and friends were not significant sources of support in the prenatal stage. A possible explanation is that family and friends provided a similar level of support in both groups of women, but it was the support from the spouse/partner which differentiated between the two groups. Indeed, survey results indicated that lengthier marriages, which is indicative of spousal/partner support, was a significant predictor in prolonged duration of breastfeeding *($p = .00$)*. Data from the interviews supported this explanation, as citations of spousal support varied between groups. In the interviews, early weaners were more likely to have spouses/partners who were neutral of breastfeeding, as illustrated by Francine, an early weaner:

> My husband said that it was up to me. He didn't push me to breastfeed but he didn't discourage me either. He said it would be good for the baby, but if I couldn't, it was ok too. He said to do whatever I thought would be best for the baby and me.

In contrast, prolonged breastfeeders were more likely to have spouses/partners provide strong encouragement to breastfeed, as described by Jasmine, a prolonged breastfeeder:

> My husband nagged me continuously throughout my pregnancy that breastfeeding was best. He was more into breastfeeding than I was.

(b) formal system:

Regular prenatal checkup appointments provide an opportunity for doctors to promote breastfeeding. However, survey results indicated that encouragement and information on breastfeeding by doctors during prenatal visits were not significant factors in the decision to breastfeed. A possible explanation is that women in both groups received little, if any, support on breastfeeding in prenatal visits. Annie, an early weaner, illustrated how encouragement for breastfeeding was lacking:

> My family doctor never really talked to me about breastfeeding. She referred me to my obstetrician as soon as I found out I was pregnant and he certainly didn't help. He didn't have a bedside manner, and he never asked me about breastfeeding or bottle-feeding. I didn't feel that I could ask him anything, even if I had any questions about breastfeeding.

Jasmine, a prolonged breastfeeder, also described how she did not receive any information on breastfeeding:

> If my doctor had given me the resources before I had the baby, it would have been helpful. I found out that I could get a lactation consultant after discharge but you have to pay for it. I'm on a limited income, but if I'd known about that, I could have planned for it.

Survey results indicated that prenatal classes had a negative correlation with the duration of breastfeeding, which suggested that women who attended prenatal classes were *less* likely to prolong breastfeeding. A possible explanation is that the topic of breastfeeding was not a major component in prenatal classes. Data from the interviews supported this explanation, as women in both groups stated that prenatal classes focused primarily on labour and delivery with little, if any, emphasis on infant feeding. Furthermore, a common complaint was that prenatal classes only

provided verbal information on the benefits of breastfeeding, which was not sufficient. As Clarice, an early weaner, stated:

> I got a lot of books from the library just on breastfeeding because I really wanted to do it but I was worried about *how* to do it. How to actually physically slot A into hole B. In prenatal class they talked about it but they didn't teach you how. They didn't talk about how to.

Rather, women from both groups emphasized the need for a role model who could provide a live demonstration as well as discuss potential breastfeeding problems and how to overcome such problems, as described below:

> Women should stick with breastfeeding long enough and get past the few days and weeks of pain. If people knew about the nipple problems that would help. People need to know about the pros and cons. No one ever told me the cons. (Francine, an early weaner)

> Watching other women breastfeed would have been helpful. The best thing for me would have been if I had gone to a breastfeeding clinic where women are having problems breastfeeding and they could actually watch and help you. That way I could go in and learn what potential problems there are and what I can do to overcome them. So maybe actually seeing what the problems are. (Annie, an early weaner)

> An opportunity to see it done. I never actually saw anyone breastfeed before. It would have helped to talk to people who had good experiences, or people that maybe ran into different problems but overcame them. (Nancy, an early weaner)

In contrast, the prolonged breastfeeder interviewees were more likely to have attended classes which primarily focused on breastfeeding, and utilized strategies other than just providing information. Jasmine, a prolonged breastfeeder, found the breastfeeding clinic to be particularly helpful:

> The breastfeeding clinic has a doctor present and a lactation nurse. They gave out pamphlets. They used a lot of visual effects with videos, an audiotape, television programs and books. They brought a mother from the La Leche League and she showed us how she breastfed and how you should hold the baby, and proper positioning.

Similarly, Joy, also a prolonged breastfeeder, found the Lamaze classes to spend considerable time on breastfeeding:

> Lamaze was excellent. She had a whole session on it. There were a couple of videotapes on breastfeeding. She talked about her experiences. Told you what to do if you had engorgement.

Neonatal Stage:

(a) informal system:

Survey results indicated that emotional support from spouses/partners was not a significant factor in the initiation of breastfeeding. Since family members usually are not present in the labour and delivery room, women in both groups did not receive support from their family.

(b) formal system:

Survey results indicated that encouragement from healthcare professionals, that is, doctors and nurses, was not a significant source of support in the neonatal stage. However, hospital procedures, such as immediate holding of the baby after birth, were found to be a significant factor in the initiation of breastfeeding *($p < .05$)*. Moreover, implementation of these procedures can be an implicit endorsement of breastfeeding by healthcare professionals, as illustrated by Jasmine, a prolonged breastfeeder:

> They encouraged me to breastfeed. They brought in a lactation consultant without my needing to ask. The baby was put right on me within the first five minutes.

In contrast, the early weaners were more likely to have a delay in holding their babies after birth, as described by Clarice, an early weaner:

> They didn't give her to me. When I had her she was under stress so they took her away. I never even got to hold her and I wanted to do that. So I never saw her for six hours and I asked when I was going to get her near the end of the six hours because I thought she'd be hungry, and they said, "oh, don't worry, she's already had some sugar water". I didn't say anything because I didn't know anything and I thought they must know what they were doing.

Postnatal Stage

(a) informal system:

Survey data suggested that the family's assistance with breastfeeding was not a significant factor in the establishment of breastfeeding. However, survey results indicated that lengthier marriages, which are indicative of spousal/partner support, were a significant predictor in prolonged duration of breastfeeding *($p = .00$)*. Data from the interviews indicated that prolonged breastfeeders were more likely to have spouses/partners provide emotional support. Jade, a prolonged breastfeeder, illustrated her appreciation of her husband's support especially when she had negative experiences with nurses:

> The support in the hospital was zero. The pinching on the first day and then the nurse kept scowling at me whenever I was nursing. It was a good thing I had my husband going, "you know, you're doing a great job", because no one else was supporting me.

Similarly, Janie, another prolonged breastfeeder, described how her spouse advocated for her in her determination to breastfeed.

> The nurses were the worse. They were terrible, they just left you in there as if you knew exactly what you were doing. If you needed something, you had to demand it. I needed some help with latching on, and my husband had to practically force them to spend some time with me and assess what I was doing wrong, and they just weren't cooperating.

(b) formal system:

The survey analysis indicated that hospital procedures such as rooming in, demand feeding, and no formula supplementation were significant factors in the duration of breastfeeding *($p < .05$)*. Moreover, implementation of these procedures can be an implicit endorsement of breastfeeding by healthcare professionals.

Family doctors and/or obstetricians and paediatricians make routine visits to mothers while in hospital, and as such would have an opportunity to promote breastfeeding. However, survey results indicated that encouragement to breastfeed from doctors was not a significant factor in the establishment of breastfeeding. A possible explanation is that women from both groups experienced a lack of encouragement to breastfeed from their doctors. This explanation is supported by interview data, as illustrated by Clarice, an early weaner:

> My obstetrician literally said, "if you have a problem from the stomach to the knee, then call me, other than that I can't help you." And I thought, "well, isn't the breast part of my body too?"

Similarly, Jade, a prolonged breastfeeder, described how breastfeeding was not actually encouraged:

> As soon as they did their job, they just left. They didn't say, "are you breastfeeding?", or "oh, that's good" if you were. And I don't think they would have been able to help me anyway if I did have any problems or questions about breastfeeding.

Other healthcare professionals are likely to be perceived as authority figures and experts in breastfeeding, particularly by first-time mothers. Interestingly, however, survey results indicated that emotional, physical, and informational support from nurses and lactation consultants were not significant factors in the duration of breastfeeding. Moreover, there was a negative correlation between these sources of support and the duration of breastfeeding. This indicated that women who had more contact with nurses and lactation consultants were *less* likely to prolong breastfeeding. Indeed, interview data supported the survey results. In the interviews, women from both groups, and particularly the early weaners, gave extensive descriptions of negative experiences primarily in regards to the nurses' inexperience, lack of training, inaccurate information, and discouraging attitude towards breastfeeding, all of which minimized lactation success. Clarice, an early weaner, illustrated her anger and frustration at the nurses' lack of training and experience:

> The nurses are so uneven in experience. They all knew that I wanted to breastfeed but they didn't have a clue what to do. So they'd bring her to me, I'd fumble around for awhile, and she would cry, and most of them really didn't know anything about it. And I even said to one of them, "well have you got kids?" She said "no", and I said "what are you doing in a maternity ward?" I wasn't mean or anything, I was too miserable to be irate. I was frustrated and I felt that I was a failure and I wasn't doing it right. And then some older nurse would come along, just grabbed my breast and she got the baby to suck. But she wasn't latched on right. And I didn't have enough experience to know exactly what felt right or felt wrong.

Similarly, Francine, who had intended to breastfeed for at least six months, eventually weaned within a week. She blamed the nurses' lack of training for early weaning:

> The maternity ward was a shock after all the support you get in labour and delivery. When I finally did put her back on the breast, it hurt excruciatingly. So basically all the nurses would come in, take her head and shove her onto my breast and then walk out. And I'd say, "well it really hurts", and they all say, "well you have tender breasts". I thought they knew what they were talking about. But because the baby didn't do a proper latch, they didn't know how to deal with it. They basically said that it was my nipples, that they were tender and eventually they'll toughen up. So I just kept trying but then I got to the point that because it hurt, I didn't want to breastfeed. I was tense because it hurt so much and this created a little bit of apprehension on my part. Nurses need to have more training to recognize the problem. I really think that if they had recognized that she wasn't latching on properly, then they could have helped me and I wouldn't have the problems with the sore nipples and cracking.

Jade, a prolonged breastfeeder, indicated how the nurses' discouraging comments and negative attitude towards breastfeeding could have caused her to quit at that point:

> When I told my nurse I really didn't know what I was doing here, she grabbed my nipple and pulled it out real hard. At the time, I thought "ok, you know what you're doing". I was really embarrassed. If I hadn't decided that I was going to try to do this, I think I would have decided not to right then and there. And then the baby liked to nurse a lot. I had a nurse yell at me, "if you keep doing that your breasts are going to hurt. When you get home, they're going to be raw and sore". So the support in the hospital was zero. The pinching on the first day and the scowls whenever I was nursing. Get rid of the negativity.

Janie, another prolonged breastfeeder, also described how the lack of encouragement and assistance in the maternity ward could discourage her from breastfeeding:

> They were terrible, they just left you in there as if you knew exactly what you were doing. They showed me how to breastfeed wrong, they didn't come back to help you, and they each gave different messages. If you needed something, you had to demand it. You know, I'm surprised that I kept on breastfeeding, with the hassle, and the mixed messages. They're all going by their own experiences that happened twenty years ago instead of reading up and being knowledgeable with what's happening today.

Moreover, women were susceptible to the nurses' suggestions, especially in regards to sufficient milk intake by the infant. Nurses, however, provided inaccurate information and provided solutions which not only undermined the mother's confidence but also reinforced her perception of milk insufficiency and further jeopardized the lactation process. Annie, an early weaner, trusted the nurse's opinion on the baby's milk intake:

> The nurse said that I should give her a bottle. I didn't mind about the formula because at that point, I was getting a little concerned that she wasn't eating. And the nurse told me that after a certain point, they get so lethargic because they don't have enough energy. So she won't cry because she hasn't eaten and so she had no energy. So I gave her a bottle.

Although Alexa, another early weaner, was uncomfortable with the nurses' actions, she succumbed to the perceived authority and expertise of the nurses:

> I didn't like the fact that they were *supplementing* the baby. With Enfalac. Bottle-feeding the baby with Enfalac and not telling me. The only reason I knew was that I went down to the nursery and I saw them doing it. It's not fair, because if you're going to breastfeed, you breastfeed, you don't supplement the babies when they're in the hospital. They never asked. I had three, four nurses and they never asked once if they could supplement her. I was never given the choice. I didn't say anything because I thought it was normal.

Despite the extensive criticism of maternity nurses by both groups, only the prolonged breastfeeders were able to cite a few positive experiences with nurses. In these cases, some nurses provided direct assistance with latching and positioning, provided accurate information on breastfeeding, and problem-solved without jeopardizing the lactation process. These practices conveyed a positive and encouraging attitude towards breastfeeding. Johanna, a prolonged breastfeeder, appreciated the strategies promoted by the nurses as these enabled her to continue with breastfeeding:

> They encouraged me to breastfeed. They said she was latching on right but by the second day, they gave her glucose water because she was small to begin with and she was dehydrating. They said we shouldn't give her a bottle. Then she developed jaundice. So they gave her formula and glucose water for one day until my breastmilk came in. They showed my husband and I how to breastpump and how to finger feed. I would have given up if the nurses weren't that supportive and pro-breastfeeding.

Janie, another prolonged breastfeeder, also appreciated how the nurses listened to her and problem-solved so that potential problems could be avoided, without sabotaging the breastfeeding process:

> We had trouble where he wanted to nurse only on one side because he liked to lie only on one side of his body. So the nurse came in and I'm saying, "oh, I'm getting so sore only on this side and I want to do everything right", and they taught me how to football hold him so he could always be on the same side of his body but nursing on different sides of me.

A common theme in the interviews was that women would switch to formula in a panic if they perceived milk insufficiency. However, Joy, a prolonged

breastfeeder, had confidence in sufficient milk production as the nurses taught her how to assess for adequate milk intake of the infant:

> The nurses were keeping track of how often I was breastfeeding, and how many wet diapers he had. They taught me how to know that the baby was getting enough breastmilk, and they showed me how to make a chart so I could keep track of the wet diapers.

Interestingly, survey results indicated that emotional, informational, and physical support from lactation consultants were not significant factors in the duration of breastfeeding. A possible explanation is that women from both groups were not aware of the accessibility or availability of a lactation consultant, as indicated by Francine, an early weaner:

> I didn't know that there was a lactation consultant available during the hospital stay. I think that would have made all the difference. Because I waited with my breast problems, I had all those problems with latching and sore nipples. But in hindsight, if there were any signs of problems, I would have asked for a lactation consultant immediately. I was surprised with actually how much help is out there.

It is noteworthy that there was a negative correlation between lactation consultants and the duration of breastfeeding, which indicated that women who received support from lactation consultants were *less* likely to prolong breastfeeding. A possible explanation is that only those who were identified as having complex lactation difficulties were referred to a lactation consultant, and by that time, the breastfeeding process may have already been beyond relactation. Another possibility is that since there is usually one lactation consultant available on weekdays, not every new mother would be exposed to her. However, since there are many different nurses who provide twenty-four hour care, every new mother would have access to

maternity nurses. Nurses, therefore, may be the more critical factor in whether breastfeeding was successfully established. Indeed, as the interview data have indicated, although both groups cited extensive negative experiences with nurses, only the prolonged breastfeeders were able to cite positive experiences as well.

Survey results indicated that upon discharge the provision of a pacifier, formula gift packages, or breastfeeding resources were not significant factors.

Post-discharge Stage:

(a) informal system:

Since breastfeeding can be time-consuming and exhausting, instrumental support can allow for time and energy to breastfeed and thus prolong the duration. Survey data indicated that instrumental support from family members was not a significant factor in the continuation with breastfeeding. However, lengthier marriages, which are indicative of spousal/partner support, were a significant predictor in prolonged breastfeeding *($p = .00$)*. Data from the interviews supported this interpretation, as early weaners were more likely to lack instrumental support from spouses/partners, as illustrated by Clarice, who had weaned at two weeks:

> My partner didn't help out at all. I'd be having a terrible time breastfeeding her and he'd be wandering around. I was always tired and no one helped with housework so I couldn't have time to breastfeed. And by the end of the week, I was giving her a bottle.

In contrast, prolonged breastfeeders were more likely to receive instrumental support from their spouses/partners which can be an implicit endorsement of breastfeeding, as illustrated by Johanna:

> While I was meeting the baby's needs, my husband was meeting mine. He was great, he got me lunch, he just made sure I was comfortable so that I could breastfeed whenever the baby needed to.

Similarly, Janie, another prolonged breastfeeder, described her husband's assistance which enabled her to breastfeed:

> My husband would make it possible for me to breastfeed, especially in the beginning. He was home for two weeks. He did all that functional stuff like laundry so I could get the rest I needed so that I could do it.

Emotional support could also facilitate breastfeeding. Survey results indicated that emotional support from the family was not significant. A possible explanation is that families provided little encouragement to breastfeed in both groups of women, but it was the support from spouses/partners which differentiated between the two groups. Data from the interviews supported this explanation, as early weaners were more likely to have spouses/partners succumb to the family's suggestion of the use of formula, which can be an implicit endorsement of bottle-feeding. Alexa, an early weaner, described how she succumbed to the pressure from her spouse and family to bottle-feed:

> In the first forty-eight hours home, we had overwhelming visitors. Because the baby was continuously crying, they were saying, "she's not getting enough milk, you have to give her some formula!" And my husband said, "maybe you should give her a bottle, one bottle won't hurt her." So I gave her a bottle and she stopped crying.

Similarly, Nancy, another early weaner, expressed anger at her family's pressure to bottle-feed:

> At six weeks, when I just started having problems, there was a family gathering. She was crying, and they'd say, "babies don't cry for no reason, maybe she's hungry, maybe your milk isn't good, maybe you don't have enough". So my husband went out and bought a bottle. I had no support at all. It was real awful. Nothing positive, "oh you can do it!" Something like it had to do with me or my milk was bad.

In contrast, prolonged breastfeeders were more likely to have spouses/partners defend breastfeeding when family members were discouraging. Jade, a prolonged breastfeeder, illustrated how her husband supported her when various family members consistently tried to pressure her to stop breastfeeding:

> When the baby was about three months, my mother and mother-in-law would say "don't you think she's a little old for this?" or "don't you think you should start her on porridge?" My husband's sister would say, "if you want her to sleep through the night, you should give her formula, it stays in her stomach longer". But my husband would say, "Mother, you didn't even try!", or "Have you read the latest research that breastmilk is best?". Oh, he was mad. And he'd defend me.

Jasmine, another prolonged breastfeeder, also described the emotional support she received from her spouse:

> When I'd lack confidence, my husband would make me feel good about myself. "You can do it!", he'd say to me. He was really good. When we were having problems with breastfeeding, he'd come home every day from work and he'd have some advice, so he was very active in solving some of our problems. Even the night when we were reading the book on how to breastfeed, he was right there, trying to look at the position of her mouth.

Similarly, Johanna, a prolonged breastfeeder, illustrated how her husband's emotional support helped her to continue with breastfeeding:

> If you had a really immature husband he would get jealous. My husband wasn't like that. He actually thought it was beautiful, he'd sit there sometime and just watch me nurse. It was one of the hottest summers, and he would bring me a tubful of ice water to put my feet

> in while I was nursing. He would say, "oh, you're doing a great job, look how healthy she is." In that first year, I was so exhausted because I had a baby that never slept and if I didn't have a husband who didn't do so much for me, I never would have breastfed. I've heard the excuse of "I put the baby on the bottle so my husband can feed her and bond with her", and when I told that to him, he said, "they can't do anything else to get close to their child?" I mean, he played with her, changed her diaper, and lots of other ways.

(b) formal system:

Interview data indicated that the point at which the women considered weaning was within the first two weeks primarily due to pain and exhaustion. Survey results indicated that formula gift packages from the maternity ward were not a significant factor. However, based on the interviews, formula gift packages were delivered within the first days at home, which coincided with the onset of engorgement and other nipple and breast problems, and exhaustion. Interview data suggested that the availability and accessibility of formula appeared to be a contributing factor to weaning. Francine, who had weaned within one week, took advantage of the formula gift packages:

> The hospital gave me a couple of bottles with formula that was already prepared. And then I had some in the house because I had joined a baby membership club and they had sent me some formula to the house. I thought they were just going to give some small samples, but they actually sent me a whole can of formula in a box. And so I kept them because I thought when I go back to work I would have some at home. I had planned to continue to breastfeed until six months when I went back to work and then I was going to pump while I was at work so she could still get the milk.

Similarly, Clarice, who weaned at two weeks, received formula on her first day home:

> I get home from the hospital, and what parcel was waiting for me. A can of formula in a pretty package! It was part of the Welcome Wagon baby shower where you get door prizes and it was delivered the first day I got home. So I put it in the cupboard and I hadn't planned to use it.

She further described how the easy accessibility to formula was a major factor in weaning:

> At two weeks, I had difficulty with the baby latching on. My Mom was with the baby all the time while I was pumping like a cow, and I just felt so separated from her. I thought "I'm a failure, I can't even be with my child". At this point Dad had gotten home and it was two o'clock in the morning and she was crying again and I was furious with pumping. I couldn't take anymore, and I just said "that's it! I'm going for that formula!" In between the pumping I would have tried to overcome this. If that can of formula wasn't there, I wouldn't have gone to formula. If I had been successful, I wouldn't have minded doing both breastfeeding and bottle-feeding. My idea of success was to pump and then give it to my Mom when I went out. But she was crying that one night, and I thought this is enough, it was late, it was there, and I gave in.

Doctors are also a major source of influence in the continuation with breastfeeding. Not only do first-time mothers view them as an authority on infant feeding, regular medical appointments can also provide ample opportunity for doctors to discuss breastfeeding. However, based on the survey analysis, early weaners were more likely to have doctors who suggested and/or provided formula during post-discharge visits ($p < .05$). Such practices can be an implicit endorsement of bottle-feeding. Interview data indicated that early weaners were more likely to have doctors suggest formula as a solution to breastfeeding problems and exhaustion, which not only interfered with the lactation process but also undermined the woman's confidence in breastfeeding, as illustrated by Francine, an early

weaner:

> When she was two months old, my paediatrician told me to go on formula because she saw that I was so tired. She said to give a bottle at night so she can sleep through the night. When I asked her, "why, when the breast is best?" She said, "you're so tired, you need to take care of yourself."

Similarly, Annie, another early weaner, described how her doctor provided solutions which impeded the lactation process:

> When I got home, it was awful, I was in so much pain, I was engorged, I had cracked nipples, I had sore nipples. And I continued with the tube feeding as they'd given that to me. So when I went to see the doctor for her checkup, he said to continue with the tube feeding until my nipples healed. But when I finally got her latched onto the breast, she'd always fall asleep so she would get very little. She was used to the tube because it was easier, and so she'd get frustrated with the breast and she'd be crying and not take the nipple. And at that point, my nipples were getting cracked again, and I decided I was going to go to formula. This was at a week and a bit.

In contrast, survey results indicated that the prolonged breastfeeders were less likely to receive formula or suggestion of formula from their doctors *($p < .05$)*. Rather, interview data indicated that they were more likely to have doctors encourage the continuation of breastfeeding. Johanna, a prolonged breastfeeder, found it particularly encouraging when doctors commented positively on the baby's weight gain:

> When I first went to the doctor in the three-day checkup, she had lost weight. I was concerned but when I went back a week later, she had gone right back up to her birth weight and then even surpassed it. Immediately the doctor said this is normal, expect it. He was very helpful. And even though the baby had diarrhea, my doctor said to continue with breastfeeding because it was the best. The family physician and paediatrician both said that breastmilk is the best thing and to continue with breastfeeding

Moreover, women were encouraged to continue breastfeeding when doctors were able to problem-solve without jeopardizing the lactation process, as illustrated by Jade, a prolonged breastfeeder:

> He was a long time sleeping through the night, about eight months. And I started thinking that maybe I should put him on formula, he'd be full because formula takes longer to digest, so maybe it wouldn't be bad to give him a bottle before he goes to bed. But my doctor never suggested formula. She said that when he woke up at night, I'd offer him the breast so he'd take it. So it was more of a sleep issue. So I never did give him formula.

Similarly, Jasmine, another prolonged breastfeeder, described how her doctor strongly encouraged her to continue breastfeeding:

> My paediatrician said that breastfeeding was the best way to go. The baby wouldn't take expressed milk from a bottle, and at eight months, I had had enough. My paediatrician said "she's doing so well, do it for another six to eight weeks. Why introduce her to whole milk now?" He really encouraged me to continue, to try it for another two months. Then she had a viral infection, and he suggested that she breastfeed exclusively. Even though he knew I was tired of it, he'd ask "are you going back to work or not?" I said "no". He said "isn't breastfeeding convenient? Why are you bothering to go on formula at eight months, why not go a bit longer?" When I said I was sick of this, he said, "you're going overzealous with this; if you're doing it for breastfeeding, do it for food, not for comfort". If he hadn't told me that, I definitely would have quit.

Interview data indicated that another point at which weaning was considered was at six weeks. Unaware of the growth spurt at that point, women thought the baby's continuous feeding was indicative of milk insufficiency. However, an explanation from their doctors encouraged them to continue with breastfeeding, as Janie, a prolonged breastfeeder, described:

> I was having so much trouble in the first six weeks, she was on me all the time. I didn't know what it was. My doctor told me not to stop breastfeeding because it was a growth spurt and the baby was just trying to build up my milk supply.

Similarly, Justine, another prolonged breastfeeder, had a doctor who was able to problem-solve so that breastfeeding could continue:

> After six weeks, she seemed to want to be on me all night and it was really pretty demanding. I was concerned that maybe I didn't have enough milk by the end of the evening. So I went to see my doctor and he said to try and nurse her more frequently to build up more milk, but it wasn't working. So he put me on those tablets that increase your breastmilk, and that helped.

Summary of Data Analysis

This study consisted of a survey and interview schedule in order to answer two research questions. The first question was to determine whether first-time mothers who wean early are more likely to lack an informal social support network and more likely to be influenced by the formal system. The second question was to determine the key sources and nature of support at each of the stages utilized by first-time mothers to meet their breastfeeding needs.

Results from the study indicated that the duration of marriages *($p = .00$)* and hospital procedures *($p < .05$)* were statistically significant factors in the duration of breastfeeding. Women who weaned at less than six months (early weaners) scored lower than women who breastfed for at least six months (prolonged breastfeeders) in variables within the informal system, namely, duration of marriage which is indicative of spousal/partner support. Moreover, early weaners scored higher in

variables within the formal system, namely, hospital procedures that impede lactation success. In addition, there was a weak negative correlation between other variables within the formal system (prenatal classes, lactation consultants and nurses) and the duration of breastfeeding. As such, these results confirm the hypothesis that women who wean early are more likely to lack an informal support network, and are more likely to be influenced by the formal system than women who prolong breastfeeding.

In response to the second research question, results from this study identified the specific sources and nature of support at each of the stages which first-time mothers use to meet their breastfeeding needs. In the prenatal stage, encouragement from their spouse/partner may be an influential factor in the decision to breastfeed. Also in the prenatal stage, classes which specialized in breastfeeding, such as breastfeeding clinics and Lamaze classes, may be influential factors in the preparation of breastfeeding. In the neonatal stage, immediate holding of the baby after birth was a significant factor in the initiation of breastfeeding. In the postnatal stage, the practice of rooming in, demand feeding and no prelacteal supplementation were significant factors in the establishment of breastfeeding. In addition, informational and emotional support from maternity nurses were helpful. Moreover, spousal/partner support particularly in the form of advocacy for breastfeeding assistance from nurses was helpful. In the post-discharge stage, no suggestion or provision of formula from doctors were significant factors in the continuation with breastfeeding. In addition, problem-solving techniques from medical doctors were

helpful in prolonging breastfeeding. Moreover, spousal/partner support particularly in the form of countering negative comments and pressure to bottle-feed from family members was helpful.

CHAPTER 8: DISCUSSION

This chapter on the Discussion consists of the following: a discussion of the results of the study; a proposed health promotion model based on the results of the study; specific recommendations for the promotion of breastfeeding; and implications for social policy, adult education, and research.

Results of the Study

Since breastfeeding is a learned behaviour, lactation success is more likely in traditional societies in which there is an abundance of emotional, informational and instrumental support from the informal system (Ellis, 1983; Entwistle et al., 1982; Hongo, 1994; Isabella & Isabella, 1991; Merrill, 1987; Palmer, 1988). Modern societies, on the other hand, tend to have a diminished family network (Campbell, 1982; Ellis, 1983; Hung et al., 1985; Merrill, 1987). The first objective of the study was to determine whether first-time mothers who wean early are more likely to lack an informal social support network and more likely to be influenced by the formal system. The second objective of the study was to determine the specific sources and nature of support at each of the stages utilized by first-time mothers to meet their breastfeeding needs.

In response to the first objective, analysis of the surveys indicated that early weaners scored lower than prolonged breastfeeders in variables within the informal system, namely, the duration of marriage which is indicative of spousal/partner

support. This finding is consistent with literature (Bourgoin et al., 1997; Grossman et al., 1990; Isabella & Isabella, 1991; Kaufman & Hall, 1989; Martin, 1986; Matich & Sims, 1992). Other research literature suggests that longer duration of marriage can be indicative of a more stable relationship, and one which a more egalitarian model of role distribution is adopted, that is, both parents share in household and childcare responsibilities (Grossman et al., 1990; Kahn, 1995; Martin, 1986; Matich & Sims, 1992; Walter, 1986). As such, this demographic variable can be interpreted as indicative of instrumental support from spouses/partners, and it may also imply greater emotional support. Since early weaners were married fewer years, this suggests that they may have received less instrumental and emotional support from their spouse/partner than prolonged breastfeeders.

Support from the spouse/partner as a significant factor in the prolonged duration of breastfeeding is a consistent finding with literature (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Isabella & Isabella, 1991; Matich & Sims, 1992). This research adds to the understanding of the spousal/partner role in support by identifying its specific components. Instrumental support includes some help with childcare and assistance with housework, such as cooking, cleaning and laundry. Such forms of assistance convey an implicit encouragement to breastfeed. Moreover, it is the implicit emotional support from spouses/partners that is of primary significance. Specifically, they convey an implicit endorsement of lactation by advocating for breastfeeding assistance from healthcare professionals as well as

defending breastfeeding when faced with negative comments or pressure to bottle-feed from family members.

The prolonged duration of marriage as a significant predictor in prolonged breastfeeding also can be interpreted as the couple being more commited to successful lactation. Since the study was based on first-time mothers, couples who had waited longer to have their first baby may be more commited to providing the best for their baby as well as have more time to prepare for breastfeeding.

Furthermore, early weaners scored higher than prolonged breastfeeders in variables within the formal system, namely hospital procedures and medical practices that impede lactation success. These findings support literature which indicates that certain hospital procedures can hinder the lactation process, namely, a delay in skin-to-skin contact, separation of mother and baby, scheduled feedings, prelacteal supplementation, and the suggestion and provision of formula by healthcare professionals (Campbell, 1982; Barber et al., 1997; Bourgoin et al., 1997; Hongo, 1994; Hung et al., 1985; Isabella & Isabella, 1991; Newman, 1990; Palmer, 1988; Samuels, 1982; Sugarman, 1989; World Health Organization, 1981). These procedures were items in the factor scale (Procedures) and early weaners scored higher on it.

Thus, results of the study confirmed the first research question, that is, women who wean early are more likely to have a weaker informal support network and are more likely to be influenced by the formal system than women who prolong breastfeeding. As noted, these results are consistent with those of other literature.

Certain factors in this study, however, differed from the predominant trend in the research literature.

Contrary to the literature (Grossman et al., 1990; Isabella & Isabella; 1991; Martin, 1986; Matich & Sims, 1992), certain demographic factors such as older maternal age, higher maternal education, and higher family income were not significant in this study. A possible explanation is that variables associated with spousal support, rather than with the woman herself, are the significant predictors in the duration of breastfeeding. This interpretation is consistent with the premise that social support is a key component in the duration of breastfeeding. Moreover, a possible explanation in regards to family income being an insignificant variable is that the level of family income was high for both groups and therefore lacked a sufficient degree of variation to conduct a proper test. Indeed, the median was more than $70,000 per annum, which is representative of the average household income ($81,600) in the region from which this sample was drawn (Canadian Economic Service, 1997/98).

The research literature commonly indicates that healthcare professionals are significant sources of influence in the initiation and continuation of breastfeeding, particularly because they are perceived authorities on healthcare issues (Baranowski et al., 1983; Bryant, 1982; Isabella & Isabella, 1991; Hongo, 1994; Hung et al., 1985). Results of this study, however, indicated that explicit encouragement and information from doctors were not significant in the duration of breastfeeding. Based on the interviews, a possible explanation is that women in both groups

experienced a similar level of non-support from their doctors. Yet, the implicit endorsement of bottle-feeding, such as the suggestion or provision of formula, was a significant factor in early weaning. As such, it would appear that implicit actions by medical doctors could actually be a stronger form of support than explicit encouragement.

Similarly, it would be expected that nurses may be a factor in prolonging the duration of breastfeeding (Baranowski et al., 1983; Bryant, 1982; Isabella & Isabella, 1991; Hongo, 1994; Hung et al., 1985). Results of this study, however, indicated that the support of nurses did not show significance. It is noteworthy that although this factor was not statistically significant, survey data did show a weak negative relation between nurses and the duration of breastfeeding. This suggests that women who had accessed nurses more frequently were actually more likely to wean earlier than those who did not. Based on the interviews, a possible explanation is that early weaners were more likely to be exposed to nurses who explicitly and/or implicitly discouraged breastfeeding. Early weaners cited extensive negative experiences with nurses, such as receiving negative and inconsistent messages and inaccurate information. On the other hand, although prolonged breastfeeders also cited negative experiences with nurses, they also were able to cite some positive experiences, such as nurses providing physical assistance and problem-solving strategies.

Moreover, it would be expected that since lactation consultants specialize in breastfeeding, they would be a significant source of support in breastfeeding.

However, the support of lactation consultants did not show significance in this study. It is noteworthy that although this factor was not statistically significant, survey data did show a weak negative relationship between lactation consultants and the duration of breastfeeding. This suggests that women who had accessed a lactation consultant were actually more likely to wean earlier than those who did not. A possible explanation is that only those who were identified as having complex lactation difficulties were referred to a lactation consultant and, by that time, the breastfeeding process may have already been beyond relactation. Another possibility is that since there is usually only one lactation consultant available on weekdays, not every new mother would be exposed to her. However, since there are many different nurses who provide twenty-four hour care, every new mother would have access to maternity nurses. Nurses, therefore, may be the more critical factor in whether breastfeeding was successfully established. Indeed, although survey results did not show nurses to be a significant factor in the duration of breastfeeding, interview data did indicate that although both groups cited extensive negative experiences with nurses, only the prolonged breastfeeders were able to cite positive experiences with nurses as well.

It would be expected that prenatal classes may be a factor in prolonging the duration of breastfeeding, particularly because they are conducted by public health nurses who are perceived as authorities on infant feeding and health (Arnup, 1994; Hung et al., 1985; Palmer, 1988). However, prenatal classes did not show significance in this study. It is noteworthy that although this factor was not

statistically significant, survey data did show a weak negative relationship between prenatal classes and the duration of breastfeeding. This indicates that women who attended prenatal classes were actually more likely to wean earlier than those who did not. A possible explanation is that prolonged breastfeeders were more likely to attend classes which specialize in breastfeeding, such as Lamaze classes or breastfeeding clinics, rather than regular prenatal classes which focus primarily on labour and delivery. Indeed, interview data indicated that the former classes tend to provide more than verbal information and encouragement to breastfeed, as they would likely include live demonstrations, videos, problem-solving strategies, and other techniques which convey an implicit endorsement of breastfeeding.

In response to the second research question, results from the study identified the specific sources and nature of support at each of the stages. Although other research identified social support as a key component in the adaptation to breastfeeding, those studies do not identify specific sources of support in distinct stages. As such, this study adds to the understanding of social support by identifying its specific components. In the prenatal stage, encouragement from the spouse/partner may be an influential factor in the decision to breastfeed, which is consistent with literature (Baranowski et al., 1983; Bryant, 1982; Isabella & Isabella, 1991). Also in the prenatal stage, classes which specialize in lactation, such as breastfeeding clinics and Lamaze classes, may be influential factors in the preparation of breastfeeding, and thus prolong the duration of breastfeeding. In the neonatal stage, immediate holding of the baby after birth was a significant factor in

the initiation of breastfeeding, which is consistent with literature (Campbell, 1982; Newman, 1990; Palmer, 1988; World Health Organization, 1981). In addition, informational and emotional support from maternity nurses were helpful. It was particularly helpful when the spouse/partner advocated for breastfeeding assistance from nurses. In the postnatal stage, the practice of rooming in, demand feeding and no prelacteal supplementation were highly influential in the establishment of breastfeeding, which supports literature (Campbell, 1982; Newman, 1990; Palmer, 1988; World Health Organization, 1981). In the post-discharge stage, significant factors in the continuation with breastfeeding were instrumental and emotional support from the spouse/partner, which is consistent with literature (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Isabella & Isabella, 1991; Matich & Sims, 1992). It was particularly helpful when spouses/partners defended breastfeeding and did not succumb to the family's pressure to bottle-feed. In addition, support from doctors was a significant factor in the continuation with breastfeeding, particularly when they did not suggest or provide formula, and particularly when they provided problem-solving techniques, which is consistent with literature (Campbell, 1982; Fredrickson, 1995; Hongo, 1994; Hung et al., 1985; Palmer, 1988; Sugarman, 1989).

In sum, results of the study indicated that the spouse/partner was a source of support in the prenatal, postnatal and post-discharge stages. Classes which specialize in breastfeeding were a factor in the prenatal stage. Hospital procedures and medical practices were significant factors in the neonatal, postnatal and post-

discharge stages. Certain factors in the study, however, did not show statistical significance, contrary to the literature.

Although the research literature repeatedly report that family members are a significant source of support (Baranowski et al., 1983; Barber et al., 1997; Bryant, 1982; Bourgoin et al., 1997; Hongo, 1994; Hung et al., 1985; Isabella & Isabella, 1991; Kaufman & Hall, 1989; Kearney, 1988; Matich & Sims, 1992; Samuels, 1982), the results of this study were not consistent with that trend. A possible explanation is that modern societies tend to have a diminished family network (Campbell, 1982; Ellis, 1983; Hung et al., 1985; Merrill, 1987), as well as mothers of new mothers are likely to have bottle-fed themselves (Ellis, 1983; Merrill, 1987). As such, both groups of women may have received a similar low level of support from their families. However, it is the support from the spouse/partner which was a predictor in the duration of breastfeeding, and therefore differentiated between the two groups. Indeed, based on the interviews, although women in both groups cited negative experiences with their family, they gave varying reports on support from their spouse/partner. Moreover, the demographic variable of longer duration of marriage was significant in the duration of breastfeeding. Since this factor is associated with an egalitarian sharing of household and childcare duties by both parents (Grossman et al., 1990; Kahn, 1995; Martin, 1986; Matich & Sims, 1992; Walter, 1986), this can be interpreted as implying that prolonged breastfeeders tend to receive more instrumental and emotional support from their spouse/partner, and such support may compensate for the family's lack of support. Moreover, longer

duration of marriage also is indicative of a more stable relationship (Grossman et al., 1990; Kahn, 1995; Martin, 1986; Matich & Sims, 1992; Walter, 1986), which implies that the spouse/partner may be more secure and confident in the relationship to be able to effectively counter negative comments about breastfeeding from family members. Specifically, early weaners were more likely to have spouses/partners succumb to the pressure to bottle-feed by family members. In contrast, prolonged breastfeeders were more likely to have spouses/partners defend the practice of breastfeeding when faced with negative comments from family members.

Social Support-Wellness Model

Based on the results of this study, the Social Support–Wellness Model is proposed. One of the unique features of this model is that it emphasizes the stages of the desired behaviour throughout the process of health promotion, thereby encouraging the health promoter to focus on the timing of support and interventions.

Figure 1 depicts the specific application of breastfeeding promotion to the Social Support-Wellness Model. At each of the five stages, the key sources of support and the nature of their support are identified. The health promotion strategies are targeted to the key sources of support and the nature of support that has proven most effective at each stage.

Figure 1

Social Support-Wellness Model
(Breastfeeding Schema)

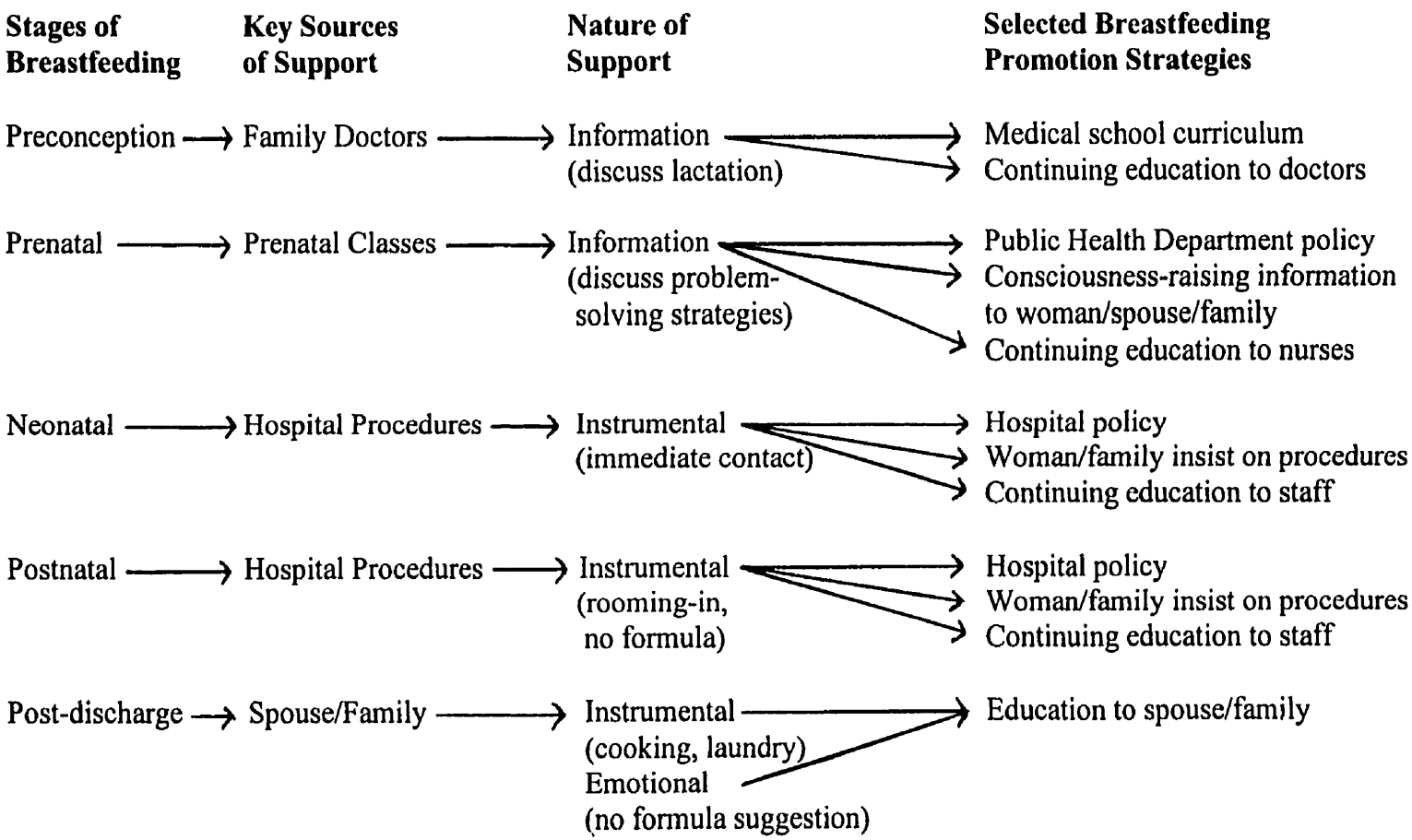

Figure 2

Social Support-Wellness Model
(Generalized Schema)

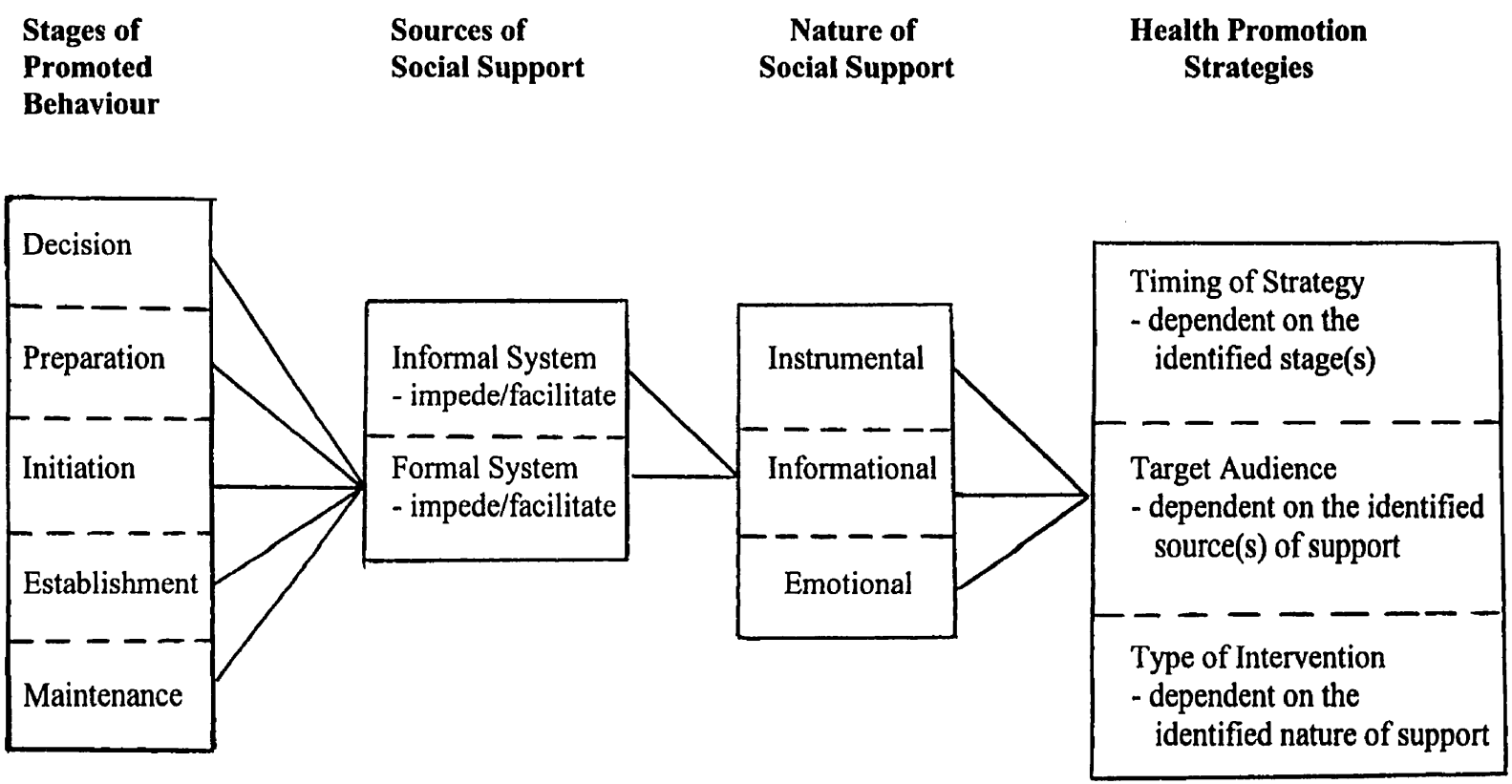

Figure 1 illustrates selected examples based on this study's results. For example, in the preconception stage, family doctors can influence the decision to breastfeed by raising the topic of breastfeeding when conducting a pregnancy test. Thus, a breastfeeding promotion strategy can be to target doctors via medical school curriculum as well as continuing education avenues such as medical journals, in-services, and conferences.

In the prenatal stage, prenatal classes in which information and encouragement are provided are the key source of support in the preparation of breastfeeding. As such, a breastfeeding promotion strategy can be to develop a Public Health Department policy in which prenatal classes incorporate a live demonstration or discussion on problem-solving techniques, and consciousness-raising information to the women and their spouse/partner and family. Continuing education can be directed to group facilitators via in-services, conferences, and healthcare journals.

In the neonatal stage, the hospital procedure of immediate contact with the baby is a significant factor in the initiation of breastfeeding. As such, a breastfeeding promotion strategy can be the development and implementation of a hospital policy for immediate contact. Continuing education can be directed to healthcare professionals via in-services, conferences and healthcare journals. As well, via consciousness-raising, women and their spouse/partner and family can insist on the woman holding the baby immediately after birth.

In the postnatal stage, hospital procedures, such as rooming in, demand feeding and no prelacteal supplementation are highly significant factors in the establishment of breastfeeding. As such, breastfeeding promotion strategies can include the development and implementation of a hospital policy for rooming in, no formula or sucrose supplementation, and demand feeding. Continuing education can be directed to healthcare professionals via in-services, conferences and healthcare journals. In addition, via consciousness-raising, women and their spouse/partner and family can insist on such practices.

In the post-discharge stage, spouses/partners and family members are a key support in the maintenance of breastfeeding. They provide emotional support by encouraging the continuation of breastfeeding and not pressuring the use of formula, as well as instrumental support by performing household and childcare duties. As such, a breastfeeding promotion strategy could include educating spouses/partners and family members on the physiology of lactation, and how the suggestion of formula would hinder the supply and demand of milk production. As well, education could emphasize the need for adequate rest in order to facilitate milk production, and thus the necessity of assistance with housework, such as laundry and cooking, and childcare duties, such as changing diapers.

Thus, these selected examples depict a breastfeeding schema of the Social Support-Wellness Model. A full elaboration is provided in the section on recommendations for the promotion of breastfeeding.

Figure 2 presents a more generalized schema for the Social Support-Wellness Model in which other health-promotion activities (e.g., safer sex, healthier diets) can be applied. As with the application of the model to breastfeeding, the model relates the health promotion strategy to the stage of the promoted behaviour, the source of support and the nature of support. It is assumed that the sources and nature of support that are most necessary to develop the promoted behaviour vary according to the stage in the process. However, because the stages are not specific to breastfeeding, Figure 2 presents the sources, nature and timing of support as well as the health promotion strategy in a more generalized manner. As such, the stages are labelled as decision, preparation, initiation, establishment and maintenance. As with breastfeeding, they are placed in a developmental sequence.

First, health promoters identify the *stages* in which they wish to focus in their promotion of the behaviour. That is, they identify whether they wish to promote the decision, preparation, initiation, establishment, and/or maintenance of the wellness behaviour. In order for successful adaptation to the promoted behaviour, it would be ideal if all stages are considered in the health promotion process.

Subsequently, health promoters focus on the social support systems in the chosen stage(s). They identify *who* provides support, that is, the informal sources of support, such as friends, family members and spouses/partners who may either impede and/or facilitate the promoted behaviour. In addition, they identify the

key formal sources of support, such as healthcare professionals, healthcare facilities, schools/classes and the workplace, both facilitative and/or hindering the promoted behaviour.

At the same time, health promoters identify the specific nature of the support provided by the previously identified informal and formal sources of support, that is, *how* the support persons can impede or facilitate the promoted behaviour. Specifically, they can focus on types of instrumental, emotional, and informational support.

Finally, based on data from the previous three components, health promoters identify specific intervention strategies in which to successfully promote the desired behaviour. They can identify specific target interventions that would either build on supportive practices or alter impeding practices. These interventions, such as education/training, consciousness-raising information, policies and programs, would be targeted at the identified support systems who would be most effective in facilitating the adoption of the promoted behaviour. Simultaneously, the timing of the interventions are taken into account when targeting the support systems. That is, specific intervention strategies are targeted at the most effective support systems only at the appropriate stages of the promoted behaviour.

It is suggested that targeting interventions, as indicated in the Social Support-Wellness Model, increase the probability of the successful adaptation to the wellness behaviour being promoted. Although the Social Support-Wellness

Model has some distinct qualities, it also has characteristics that can be related to other health promotion models. As such, it is important to elaborate upon the key underpinnings to the model – the emphasis on wellness promotion; focus on social support systems; emphasis on the developmental stages of the promoted behaviour; and consciousness-raising as a major intervention technique in the promotion of the desired behaviour. Each of these underpinnings will be discussed in turn.

Wellness Promotion:

Existing health promotion models as outlined by Hyndman et al. (1993) tend to be illness-related, that is, they promote primarily the change from a risky premorbid behaviour to one that is a healthier activity. Common examples are smoking and alcohol use. However, health is defined as a "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (World Health Organization in Downie et al., 1990:2). Thus, although bottle-feeding does not pose a health risk in the same manner as smoking and excessive alcohol use, breastfeeding does provide relative health benefits. The Social Support-Wellness Model, therefore, adds to the existing health promotion literature by emphasizing "wellness", that is, strategies to enhance positive health.

The element of wellness is particularly important because people may be more likely to change to a healthier behaviour only once they have experienced an illness related to their premorbid risk behaviour, such as the onset of a heart attack

or cancer related to smoking. Breastfeeding, on the other hand, is a healthy activity which does not have a premorbid risk. Yet, adoption of this behaviour can *prevent* potential illnesses. As such, health promotion models cannot neglect activities which may not necessarily have a premorbid risky component, but do have preventive elements. The proposed model can be used for other wellness promotion activities such as promoting a healthy diet to a population that may not necessarily have had premorbid illnesses such as high cholesterol or high blood pressure related to an unhealthy diet, or to promote regular physical exercise.

Social Support:

Since health promotion models focus on strategies which are intended to promote a change to a healthier lifestyle, behaviour change theories are often relied upon (Hyndman et al., 1993). However, these models do not adequately emphasize social support as a key component in health promotion. They tend to target characteristics of the identified individual and focus promotion strategies on that individual. For example, health promotion models which rely on the Stages of Change Theory (Corbett, 1997; Prochaska & DiClemente, 1982), the Diffusion of Innovation Theory (Rogers, 1962), and the Behavioural Community Psychology Theory (Elder et al. in Hyndman et al., 1993) focus exclusively on the identified individual. Although Social Learning Theory (Bandura, 1977) is based on social factors such as modelling and learning from observed behaviours, it still

depends on the individual's internal factors, such as his/her beliefs, attitudes and values, and self-efficacy in producing a desired change.

Since these models focus on internal factors which may be helpful in explaining the adoption of a behaviour, they do not address external factors which may influence the continuation of the desired behaviour. However, maintenance of the promoted behaviour is particularly critical for an activity such as breastfeeding because lactation has a physiological component which is based on the supply and demand principle. As such, breastfeeding must be adopted shortly after birth and be maintained. Once terminated, it is difficult (if not impossible) to relactate. Other healthy activities such as cessation of smoking and alcohol use also need to be maintained in order to prevent relapses.

Results of this study indicate that social support systems are a key element in maintaining the desired behaviour. Accordingly, the Social Support–Wellness Model enhances existing health promotion models by targeting not only the individual for whom the behaviour is being promoted, but more importantly, it highlights promotion strategies for the social support systems of the individual. For example, since the Behaviour Community Psychology Theory (Elder et al. in Hyndman et al., 1993) is based on behavioural modification principles, its focus is on the individual responses to reinforcement in the adoption of a healthier behaviour. The Social Support–Wellness Model can enhance that model by identifying which support system would be most influential in providing positive reinforcement for the promoted behaviour. Moreover, the Social Support–

Wellness Model emphasizes the need to identify the specific sources and nature of the support, as these may vary depending on the developmental stage of the promoted behaviour. For example, at the decision stage to practice safer sex, the Public Health Department may be the most influential source by providing informational support. But it might be the partner who is the most influential source in the maintenance stage of practicing safer sex, in the form of emotional support. Thus, in order to develop the most effective health promotion strategy, it is essential to identify the specific sources, nature and timing of the support for that particular promoted behaviour.

Stages of the Promoted Behaviour:

Existing health promotion models do not adequately emphasize the developmental stages of the promoted behaviour. Rather, health promotion models often stress the developmental stages of the *individual*, such as his/her readiness for adopting a healthier behaviour as identified in the Stages of Change Theory (Corbett, 1997; Prochaska & DiClemente, 1982), or the individual's behavioural capability, beliefs, expectations, emotional coping responses, and self-efficacy as identified in the Social Learning Theory (Bandura, 1977). Moreover, although the main thrust of the Stages of Change Theory (Prochaska & DiClemente, 1992) is on different stages to make the desired changes, interventions are targeted to the individual.

However, it is important to make a distinction between the developmental stages of the individual and the developmental stages of the promoted behaviour, as intervention strategies may differ vastly in each case. Accordingly, the Social Support–Wellness Model highlights the developmental stages of the *promoted behaviour*, that is, the decision, preparation, initiation, establishment and maintenance of the activity. Moreover, it targets not only the individual to whom the behaviour is being promoted, but more importantly, it focuses on the social support system of the individual. For example, the Social Support-Wellness Model would identify the support systems which have an influence on the targeted individual's decision to adopt the promoted behaviour. Moreover, the Social Support–Wellness Model can extend the identification of the individual's beliefs, expectations and values (Social Learning Theory by Bandura, 1977) to those held by the individual's significant supports. This could be useful when identifying the nature of the support (e.g., impeding and facilitating factors) provided by the support systems.

In addition, the Stages of Change Theory tend to be applied to individuals who wish to make a change from an addictive behaviour which have a premorbid risk, such as smoking or substance abuse (Corbett, 1997; Prochaska & DiClemente, 1992). The Social Support-Wellness Model, on the other hand, can be applied to the promotion of wellness behaviours which may not necessarily have a premorbid risk, such as exercising, healthy diets and safer sex.

Thus, although one of the unique features of the Social Support-Wellness Model is its emphasis on stages, the concept of the stages differ from those identified in the Stages of Change Theory (Prochaska & DiClemente, 1992). Specifically, the Social Support-Wellness emphasizes the developmental stages of the promoted behaviour rather than the developmental stages of the individual; interventions are targeted to the social support systems of the individual at the identified stages rather than to the individual alone; and its application to the promotion of wellness behaviours rather than only to those with a premorbid risk. Thus, the proposed model enhances existing health promotion models by targeting intervention strategies at the social support systems of the individual at each of the identified stages.

Consciousness-raising:

Health promotion models are unanimous in that key interventions to promote a desired behaviour are to provide education and information on the health benefits of that behaviour. For example, the Stages of Change Theory (Prochaska & DiClemente, 1982) and the Behaviour Change Model (Puska et al., in Hyndman et al., 1993) identified the need for information, education, training and persuasion to help individuals choose and maintain the promoted behaviour. However, existing health promotion models tend to target the individual in education and information efforts. The Social Support–Wellness Model, therefore, enhances existing health promotion models by providing education and information not only to the individual

for whom the behaviour is being promoted, but more importantly to the individual's social support systems.

Furthermore, while information may be a critical factor in the decision and possibly the initiation of the behaviour (Heath, 1976; Sciacca et al., 1995), results of this study indicate that information as an intervention may not be sufficient in the maintenance of the promoted behaviour. Information and encouragement by the support systems were not significant factors, but the *implicit actions* by the support systems were statistically significant. The implication is that despite slogans that "the breast is best" or that the hospital is "baby-friendly" or "pro-breastfeeding", if practices are not consistent with such proclamations, then lactation is likely to fail. An example is that increased calories and liquids are important to maintain lactation, yet the maternity ward may provide sparse meals. An inconsistency between information and the practices of the support system can also be applied to other health-promotion activities, such as proclaiming that smoking is a health risk, yet having a smoking area in a coronary care unit. As such, the Social Support–Wellness Model enhances the existing health promotion models by highlighting the need for consistency between words and actions.

Moreover, existing health promotion models tend only to focus on the health benefits of the desired behaviour in educational and informational efforts. However, this strategy may not be sufficient in the successful adoption of a promoted behaviour because it assumes that simply the knowledge of health benefits is a motivating factor. This strategy implies that it is the individual's sole responsibility

for adopting the promoted behaviour, and thus his/her ignorance is to blame if the behaviour is not embraced. It does not acknowledge that factors within the social structures might be a major hindrance to the adoption of a promoted behaviour. For example, a media blitz on the benefits of lactation may not guarantee compliance to the practice of breastfeeding if hospital procedures hinder the lactation process. Yet, if women are unaware of such inconsistencies in the social structure, they are likely to fault themselves for failing to breastfeed, such as perceiving themselves as having insufficient milk.

As such, the Social Support–Wellness Model emphasizes the need to empower both the individual and his/her support systems by providing information that is also *consciousness-raising*. It would be ideal if social structures change in order to fully enable successful adoption of a promoted behaviour. Failing that, however, empowering the individual and his/her spouse/partner and family by raising their social awareness can help in adapting to the healthy activity. Accordingly, educational efforts must include information on ways in which the desired behaviour can be consciously or inadvertently undermined, by whom and at which stage. In addition, information can address why such interference might occur by identifying who benefits from the desired behaviour (i.e., women and their bodies, baby, family, environment) as well as who benefits if the desired behaviour is not adopted (i.e., formula companies, patriarchal capitalist structure). One way in which awareness of these issues can be increased in the public domain is by using strategies from the Social Marketing Approach (Kotler, 1982; Kotler & Zaltman,

1971). As such, the Social Support–Wellness Model enhances existing health promotion models by including an empowerment component in its intervention strategies.

In sum, the Social Support–Wellness Model adds four critical elements to the existing health promotion literature. It emphasizes wellness promotion; it not only targets the individual, but also his/her social support system; it distinguishes the specific developmental stages of the promoted behaviour; and it suggests that empowerment via consciousness-raising is a key intervention strategy in maintaining the promoted behaviour. The Social Support–Wellness Model can be used for other types of health-promotion behaviours, for example healthy diets, exercising, and safer sex practices. The following section will apply this model by making specific recommendations in the promotion of breastfeeding.

Recommendations for Breastfeeding Promotion

Based on the results of this study, the Social Support–Wellness Model (Figure 1) is aimed at increasing the prevalence and duration of lactation. Specific sources and the nature of targeted interventions at each of the stages are recommended. Successful implementation of these recommendations, however, is contingent upon recommendations in the previous levels. As such, each level is critical to the success of the promotion of breastfeeding (Appendix F). The following provides an elaboration of the recommendations, based on the components from the Social Support–Wellness Model (Figure 1).

Preconception Stage (decision stage):

The preconception stage is a critical period in which the decision to breastfeed is made. Results of this study confirmed literature that family doctors are influential sources in the decision to breastfeed (Palmer, 1988; Pechevis, 1988; O'Hollaren Arango, 1988). Since they are often perceived as authorities on health issues, doctors could take the opportunity to provide helpful information about breastfeeding when discussing family planning or conducting pregnancy tests. As such, a breastfeeding promotion strategy is to target physicians via medical school curriculum and continuing education avenues such as medical journals, in-services and conferences.

Decision on the infant-feeding method is often made well before delivery and even prior to pregnancy (Doren, 1995; Entwistle et al., 1982; Fredrickson, 1995; Switzky et al., 1979). As well, an absence of visible role models for socialization to breastfeeding contributes to a neutral if not a negative inclination towards breastfeeding (Ellis, 1983; Palmer, 1988). As such, adolescents could be another target group for intervention. A recommendation is that secondary school curriculum could include the topic of lactation in its family studies, biology, social studies and physical education courses in order to normalize the practice of breastfeeding (Ellis, 1983).

Prenatal Stage (preparation stage):

Results of this study indicated that a common theme in the prenatal stage was a sense of not being adequately prepared for breastfeeding. They explained that as first-time mothers, once the baby is born, it is overwhelming and thus too late to start gathering resources and information on breastfeeding. They emphasized that, in retrospect, the prenatal stage is a critical time for the preparation of breastfeeding.

Results of this study indicated that women experienced a lack of information and encouragement by doctors during prenatal visits. As such, family doctors and obstetricians need to first be convinced of the benefits of lactation. A course on lactation could be part of the medical school curriculum (Pechevis, 1988). This curriculum could also include the physiology of breastfeeding, benefits to the mother and infant, procedures which impede or facilitate breastfeeding success, potential breastfeeding problems, and strategies on how to overcome such problems without hindering the lactation process. In addition, such information could be reinforced via medical conferences, in-services, workshops and journals (O'Hollaren Arango, 1988; Solimano & Sherman, 1979).

Subsequently, it would be important for medical doctors to be aware of their authoritative influence with first-time mothers, particularly in infant feeding. Since not all women attend prenatal classes, but all are likely to attend prenatal medical appointments, doctors should consider taking the opportunity to consistently promote breastfeeding. Since results of this study confirmed literature that medical

doctors are an influential source in the decision to breastfeed (Palmer, 1988; Pechevis, 1988; O'Hollaren Arango, 1988), they could provide encouragement as well as information and resources on breastfeeding, such as breastfeeding clinics, Lamaze classes or prenatal classes. Since results of this study confirmed literature that the spouse/partner and family can be influential sources of support (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Isabella & Isabella, 1991; Matich & Sims, 1992), it might be useful for doctors to encourage family members to accompany the pregnant woman and her spouse/partner to prenatal classes so that they too could access information.

Results of this study indicated that prenatal classes had a weak negative relation in the duration of breastfeeding. Yet, prenatal classes are the most common service utilized by women in the prenatal stage. Prenatal classes, therefore, would be a major target of intervention in the preparation for breastfeeding. Facilitators of the groups need to be well informed on lactation and include at least one whole session on breastfeeding. Results of this study were similar to those in other literature in highlighting the women's reasons for deciding to breastfeed (Hongo, 1994; Hung et al., 1985; Health Canada, 1990). As such, prenatal classes can promote breastfeeding by emphasizing the benefits of breastfeeding to the mother and infant, the actual cost of formula, the convenience of breastfeeding especially in the middle of the night, and the actual ingredients in formula. In addition, continuing education can be targeted to doctors via medical journals, in-services, workshops and conferences.

Results of this study indicated that women benefited from classes which utilized strategies other than just providing verbal information. Since women often only hear of positive experiences with breastfeeding, they might have the false expectation that breastfeeding would be easy, and readily give up when problems are encountered. As such, it might be of benefit to discuss the potential problems with breastfeeding and strategies on how these problems can be overcome without interfering with the lactation process. Since most women lack previous exposure to breastfeeding, including a live demonstration on breastfeeding in prenatal classes is highly recommended.

Prenatal classes is an opportunity to prepare women for their hospital stay. Results of this study were consistent with other research suggesting that hospital procedures which impede lactation were statistically significant factors in early weaning (Campbell, 1982; Newman, 1990; Palmer, 1988; World Health Organization, 1981). It is suggested that since healthcare professionals are well-versed in the benefits of breastfeeding, more education may not necessarily improve their practice. Moreover, women cannot rely on hospital procedures and doctors to practice strategies which facilitate breastfeeding. Rather, women themselves need to be empowered to exercise their *right* to breastfeed and their right to use their own bodies to their benefit. Thus, a significant recommendation is that not only should women and their spouse/partner and family be informed on the benefits of breastfeeding, they also need to be informed of the physiology of lactation, reasons *why* breastfeeding is discouraged, and to be aware of healthcare practices that can

undermine lactation. Also, results of the study indicated that it was particularly helpful when spouses/partners advocated for breastfeeding. Accordingly, it is recommended that women and their spouse/partner and family insist on immediate skin-to-skin contact with the baby, rooming in and demand feeding, and to prohibit feedings on a fixed schedule, formula and/or bottles, and pacifiers.

Results of this study indicated that lactation consultants were not a significant source of support, possibly because of lack of availability and accessibility. Prenatal classes can be an opportunity to inform women and their family of the availability of a lactation consultant while in hospital and to encourage them to access that service.

Results of this study confirmed research literature that an overriding concern of new mothers is adequate milk intake of their infant (Hongo, 1994; Hung et al., 1985; Isabella & Isabella, 1991). As such, prenatal classes could educate women of the changing feeding needs of infants and how to assess whether their babies are receiving adequate breastmilk. Moreover, prenatal classes could also discuss strategies on how to prolong the duration of breastfeeding upon discharge. There could be a discussion on the types of breastpumps and how to express and store breastmilk, potential breastfeeding problems and related strategies on how to overcome these without interfering with the lactation process.

Since results of this study confirmed literature that the spouse/partner is a major source of emotional and instrumental support (Baranowski et al., 1983; Bryant, 1982; Hongo, 1994; Isabella & Isabella, 1991; Matich & Sims, 1992),

another target group is the spouse/partner. Prenatal classes and family doctors could emphasize to the spouse/partner the necessity of strong encouragement during the prenatal and post-discharge stages, and to role play strategies in countering the family's pressure to bottle-feed. The spouse/partner could also be informed of the time consumption and exhaustion inherent in breastfeeding and thus the mother's need for assistance with housework and childcare. It might be particularly important to target such encouragement to younger spouses/partners, since this study identified the duration of marriage as a significant predictor in the duration of breastfeeding.

Neonatal Stage (initiation stage):

The neonatal stage is a critical time for lactation to be initiated. Results of this study confirmed literature that hospital procedures are highly significant factors in the duration of breastfeeding (Campbell, 1982; Newman, 1990; Palmer, 1988; World Health Organization, 1981). As such, it is recommended that hospitals adopt a policy of immediate holding of the baby after birth (Jolly, 1990; Mandl, 1988; Stokamer, 1990). In addition, healthcare professionals need to be aware of the reason for immediate skin-to-skin contact and to encourage and ensure implementation of this procedure (Pechevis, 1988; Winikoff, 1988; Winikoff & Baer, 1980). Continuing education can be targeted to healthcare professionals via healthcare journals, workshops, in-services and conferences. Further target groups are women and their spouse/partner and family who could be empowered to insist on immediate holding of the baby and stipulate no prelacteal supplementation.

Postnatal Stage (establishment stage):

The postnatal stage is a critical time for lactation to be established. Results of this study confirmed literature that hospital procedures can facilitate or hinder lactation success (Campbell, 1982; Mandl, 1988; Newman, 1990; Palmer, 1988; Winikoff, 1988; World Health Organization, 1981). Accordingly, hospitals are recommended to adopt a policy of rooming in, demand feeding, no bottles, and no supplementation with formula or sucrose (Jolly, 1990; Mandl, 1988; Stokamer, 1990). Results of this study confirmed literature that because healthcare professionals are often perceived as authorities on breastfeeding (Pechevis, 1988; Winikoff, 1988; Winikoff & Baer, 1980), they are influential potential sources of support. As such, healthcare professionals need to implement these hospital procedures to not only facilitate breastfeeding but to also convey an implicit endorsement of breastfeeding. Continuing education can be targeted to healthcare professionals via healthcare journals, workshops, in-services and conferences. Moreover, a further target group would be women and their spouse/partner and family to be empowered to insist on such procedures.

Similar to other literature (Arnup, 1994; Isabella & Isabella, 1991; Palmer, 1988; Pechevis, 1988; Winikoff & Baer, 1980), results of this study indicated that nurses are an influential source of support. However, results of this study indicated a weak negative relationship between nurses and the duration of breastfeeding. Since first-time mothers rely on the expertise of nurses, it is recommended that breastfeeding be included in nursing school curriculum (Pechevis, 1988). Since it is

common to be exposed to several nurses in the maternity ward, all maternity nurses need to receive adequate training so that they can provide consistent and accurate information on breastfeeding. This can be done via workshops, in-services and journals. In particular, nurses need to be aware of the physiology of lactation, to provide assistance with and assess for the proper techniques of latching and positioning, to effectively solve breast and nipple problems without hindering the lactation process, to teach women how to assess that the baby is getting enough breastmilk, and to teach women how to express milk.

Literature suggests that formula gift packages in the maternity ward are an implicit endorsement of bottle-feeding and as such impede lactation success (Campbell, 1982; Fredrickson, 1995; Hongo, 1994; Isabella & Isabella, 1991; Newman, 1990; Palmer, 1988; World Health Organization, 1981). In this study, although actual formula gift packages were not distributed, some women did receive a Welcome Wagon package which surreptitiously included bottle-feeding paraphernalia. In addition, results of this study indicated that a can of formula from the Welcome Wagon usually arrived upon the first days at home, and its availability and accessibility were factors in early weaning. As such, hospital policies could stipulate the exclusion of nipples, formula, and discount coupons on formula in Welcome Wagon packages, or otherwise, hospital administrators could ban these packages from the maternity ward (Jolly, 1990; Mandl, 1988; Stokamer,1990).

Since results of this study confirmed literature that the spouse/partner and family are a critical source of support (Baranowski et al., 1983; Bryant, 1982;

Entwistle et al., 1982; Matich & Sims, 1992), another target group would be women and their spouse/partner and families. Since healthcare professionals have close links with families during the postnatal period, they have the opportunity to educate them. Families could be informed of the health benefits to the infant, nutritional needs of the mother during lactation, potential breastfeeding problems upon discharge, helpful strategies on how to overcome such problems, and the need for emotional and instrumental assistance at home.

Post-discharge Stage (maintenance stage):

Emotional support in the post-discharge stage is critical to the prolonged duration of breastfeeding, particularly since lack of maternal confidence and perceived milk insufficiency are often cited as reasons for weaning (Barber et al., 1997; Bourgoin et al., 1997; Buckner, 1988; Hongo, 1994; Hung et al., 1985; Palmer, 1988). Results of this study confirmed literature that instrumental and emotional support from the spouse/partner are a factor in the continuation with breastfeeding (Baranowski et al., 1983; Bryant, 1982; Entwistle et al., 1982; Matich & Sims, 1992). As such, spouses/partners can be made aware that encouraging the use of formula actually reinforces the women's perception of milk insufficiency and decreases confidence in breastfeeding. They need to be aware of the family's pressure to bottle-feed, and thus the need to strategize on how to counter such pressure. They could also be aware of the need to provide assistance with housework and childcare. In addition, results of this study confirmed literature

(Barber et al., 1997; Bourgoin et al., 1997) that the first few weeks at home are the most vulnerable and the difficult transition period to establish breastfeeding. Ironically, this coincides with the arrival of free formula packages. As such, women and their family need to be aware of the supply and demand principle and how such packages can be tempting and its use can hinder the lactation process.

Results of this study confirmed literature that doctors are a significant source of influence in the breastfeeding process (Arnup, 1994; Pechevis, 1988; Winikoff, 1988; Winikoff & Baer, 1980). As such, doctors need to be aware of their authoritative influence with first-time mothers particularly on infant health and nutrition. Accordingly, they could consider taking the opportunity of regular medical appointments to consistently encourage the continuation with breastfeeding. This is particularly important as medical appointments are made in the first week with the family doctor or paediatrician, and with the obstetrician/gynecologist at the sixth week -- both points at which breastfeeding problems occur and weaning is seriously considered.

Results of this study confirmed literature that the suggestion or provision of formula at medical appointments is significantly related to early weaning (Hongo, 1994; Hung et al., 1985; Palmer, 1988; World Health Organization, 1981). Doctors need to be aware of their authoritative influence and thus should be cautious about suggesting or providing formula. Rather, they need to be informed on how to overcome breastfeeding problems without hindering the lactation process. Since results of this study and other research indicated that women are particularly

concerned about the adequate milk intake of their babies (Hongo, 1994; Hung et al., 1985; Palmer, 1988), doctors could consider mentioning the positive weight gain of the baby, as well as teach women how to assess sufficient milk intake in order to reinforce their confidence in breastfeeding. Furthermore, results of this study indicated that women considered weaning when their babies began to breastfeed continuously at certain periods. As such, it would be helpful if doctors could identify periods of growth spurts and explain the normal changing feeding needs of the baby during these periods. Continuing education can be targeted to doctors via medical journals, conferences, workshops and in-services.

Implications for Social Policy

To expect the above measures to be successfully implemented, there is consensus in the literature that multi-level programmatic changes in the social system need to occur (Jelliffe & Jelliffe, 1988; Pederson et al., 1994). Such changes are particularly important because interventions which target only the woman and her immediate social supports convey the implicit message that they are solely responsible for successfully adopting the promoted behaviour. On the other hand, interventions which also target systems within the social structure itself may help to foster an acknowledgement that not only is breastmilk valuable, but also that women's work and time in childbearing, childrearing, and breastfeeding are valued and productive (Shiva, 1993; Waring, 1986). Therefore, recommendations for changes throughout all levels within the social structure are essential in order for the

successful adaptation to breastfeeding, as illustrated in Appendix F.

On an international level, social policies on breastfeeding need to continue to be developed. The World Health Organization (WHO), United Nations Children's Fund (UNICEF), and the International Labour Organization (ILO) have developed social policies and guidelines which promote and facilitate breastfeeding (Grant, 1988; Myres, 1988).

Social policies, however, are successful only if they are regulated. Thus, on a national level, such social policies can be legislated and regulated by the Canadian Paediatric Society, Canadian Medical Association, Health and Welfare Canada, as well as labour, health and education ministries (Gibbons, 1988; Grant, 1988; Myres, 1988; O'Hollaren Arango, 1988). In addition, national policy-making bodies such as marketing boards need to stipulate which products can be sold and promoted in the country, and must be stringent in enforcing such legislation (Manoff, 1988). For example, despite the International Code of Marketing of Breastfeeding Substitutes (World Health Organization, 1981a), corporations still manage to break such legislation without undue repercussion (Campbell, 1983; Manoff, 1988; Palmer, 1988). Thus, marketing boards need to not only enforce legislation (Manoff, 1988), but could also consider supplementing all advertisements and formula packages with warnings not unlike those found on cigarette advertisements and packages that infant formula is not the same as breastmilk and should not be used as a substitute for breastmilk (Hung et al., 1985). In addition, the provision of free formula samples to doctors' offices need to be limited (Campbell,

1983). Since the mass media is so successful at promoting formula, marketing boards can use similar strategies in the Social Marketing Approach (Kotler, 1982; Kotler & Zaltman, 1971) to highlight not only the benefits of breastfeeding, but ways in which the lactation process can be interfered with.

In a patriarchal capitalist social structure, women's work and time in childbearing, childrearing, and breastfeeding are not considered to be of monetary value, and thus unproductive activities (Mies & Shiva, 1993; Shiva, 1993; Waring, 1986). As such, women are not adequately financially compensated when they remain at home. Consequently, the return to work is one of the primary reasons for weaning (Dookhan-Khan, 1995; Lindberg, 1996; Van Esterik, 1989). Accordingly, it is recommended that social policies provide full maternity benefits for at least one year in order that the baby can benefit from prolonged breastfeeding. Since results of this study and other research (Baranowski et al., 1983; Bryant, 1982; Isabella & Isabella, 1991; Matich & Sims, 1992) identified the spouse/partner as a significant source of support, particularly in the first few weeks post-discharge, it is recommended that spouses/partners and/or family members could be allowed to take time off for at least the first two weeks with pay in order to provide instrumental assistance while breastfeeding is being established. In addition, it is recommended that social policies be developed to enable women to maintain lactation while employed outside the home. Suggestions include having opportunities for flexible hours, part-time employment, breastfeeding facilities in the workplace, adequate refrigeration for storing breastmilk, breastfeeding breaks, quality affordable daycare,

and onsite daycare (Gibbons, 1988; Grant, 1988; Morris, 1995; Tognetti, 1988; Van Esterik, 1989; Van Esterik & Greiner, 1981; World Health Organization, 1981). Such changes in the labour legislation would help to convey the message that women's work and time in childcare and breastfeeding are valuable and productive (Mies & Shiva, 1993; Shiva, 1993; Waring, 1986).

Other groups which can support and regulate social policies are consumer groups in the interest of the consumers' health and well-being, women's groups, women's health movements, La Leche League, community organizations, religious bodies, and non-governmental organizations (Myres, 1988; Grant, 1988). These groups can adopt strategies of the Community Organization Approach (Labonté, 1990; Minkler, 1990) where key community leaders are involved in the planning, development and implementation of programs.

On a local level, the social policies can be implemented. Education administrators need to include lactation in secondary school curriculum (Ellis, 1983) as well as medical and nursing school curriculum (Anand, 1990; Pechevis, 1988; Winikoff, 1988; Winikoff & Baer, 1980). Healthcare administrators need to implement hospital procedures which facilitate breastfeeding (Jolly, 1990; Mandl, 1988; Stokamer, 1990). Nursing directors and managers need to ensure that healthcare professionals are consistently practicing these procedures by regular monitoring and supervision (Jolly, 1990; Stokamer, 1990). Continuing education on breastfeeding via conferences, inservices and journals need to be available for healthcare professionals (Anand, 1990; Pechevis, 1988).

Thus, only with the development, regulation, and implementation of social policies at multi-levels can the strategies at the micro level be practiced successfully.

Implications for Adult Education

The role of healthcare professionals appears to be fundamental in bearing positive or negative outcomes in the breastfeeding experience (Pechevis, 1988; Winikoff, 1988). Results of this study indicated that women had a negative experience with doctors and nurses, primarily due to their neutral, passive or negative attitude towards breastfeeding. It is suggested that healthcare professionals may be more inclined to actively encourage breastfeeding and to implement practices if they are convinced of the benefits of breastfeeding. As such, adult educators can provide education and training on the lactation process to medical doctors, maternity nurses, public health nurses, and family life educators. Even though healthcare professionals may be well-versed on the benefits of lactation, it is recommended that they are made aware of their perceived authority on infant feeding and health, and how they can be manipulated as a means of advertising products by formula companies through free bottle-feeding products and formula samples (Solimano & Sherman, 1979). Education can be conducted via medical and nursing curriculum, conferences, workshops, and hospital in-services (Pechevis, 1988).

Results of this study indicated that verbal information and explicit encouragement to breastfeed were not significant factors in the prolonged duration

of breastfeeding. Rather, factors which implicitly endorsed bottle-feeding such as specific hospital procedures and the suggestion and provision of formula were statistically significant in early weaning. In addition, prenatal classes that did not bring forth the difficulties in breastfeeding is a factor in early weaning. Thus, adult educators need to be aware that espousing "the breast is best" is not sufficient. Rather, acts which implicitly endorse breastfeeding, such as providing a live demonstration, problem-solving without interfering with the lactation process, or no provision of formula or bottles, might be more effective in prolonging the duration of breastfeeding. This approach is supported by literature on adult learning whereby adult learners assimilate learning in different ways, that is, some individuals prefer the visual and cognitive dissemination of information while others prefer auditory strategies (Boud & Griffin, 1987; Cross, 1982; Greff, 1986; Griffin, 1988; Hayes, 1989; Kidd, 1973; Merriam & Caffarella, 1991). As such, a range of teaching strategies is more likely to be effective than simply giving verbal information on breastfeeding.

The improved practices of healthcare systems and healthcare professionals, however, cannot be guaranteed. Thus, it is critical for adult educators to empower *women and their spouse/partner and family* by providing education in the prenatal stage. Information on the benefits of breastfeeding is not sufficient. Rather, adult educators need to provide information on the physiology of lactation, identify how certain procedures and actions by healthcare professionals can hinder the lactation process, explain *how* formula companies manipulate the general public and

healthcare professionals to sell their products, discuss who benefits from bottle-feeding and who benefits from breastfeeding, explain the reasons why hospitals and healthcare professionals would inadvertently impede the lactation process, and suggest strategies on how to overcome such obstacles. Consciousness-raising via education is an approach supported by literature which emphasizes adult education as one means in which to transform social structures (Freire, 1972; Giroux, 1983; Price, 1986; Sherritt; Youngman, 1986). Moreover, consciousness-raising is a key strategy advocated by the feminist movement, and in particular by the women's health movement, as a means for women to reclaim control over their health and bodies (The Boston Women's Health Book Collective, 1998).

Implications for Research

This study is subject to a number of limitations. The study measured perceived social support, and similar to other social support research (Aneshensal & Stone, 1982; Dohrewend & Dohrewend, 1974; Erickson, 1984; Gottlieb, 1981; Hirsch, 1980; Silverman & Murrow, 1976), raises the question that an individual's social competence or other psychosocial characteristics may be operating as confounds. This study, however, focused specifically on social support factors. An area for further research could focus on the individual's characteristics combined with social support factors.

Another limitation was that the interviews were informal and unstandardized. The number of first-time mothers interviewed was small and drawn

from a specific region. The purpose of the interviews, however, was to supplement and gain greater insight into issues raised in the surveys. Findings were also intended to be utilized to lay the basis for future research into first-time mothers and their use of social support in the adaptation to breastfeeding. With these limitations in mind, the reader can consider the findings as possible trends in the experiences of first-time mothers who intend to breastfeed. It is significant, however, that some of the findings from this study have been verified in other research. For example, hospital procedures which facilitate breastfeeding, such as immediate skin-to-skin contact, rooming in, demand feeding, and no prelacteal supplementation are highly significant factors in prolonged breastfeeding (Campbell, 1982; Barber et al., 1997; Bourgoin et al., 1997; Hongo, 1994; Hung et al., 1985; Isabella & Isabella, 1991; Newman, 1990; Palmer, 1988; Samuels, 1982; Sugarman, 1989; World Health Organization, 1981).

Recommendations are made for further research based on the results of this study. Since prenatal classes had a negative correlation with the duration of breastfeeding, evaluations on the efficacy of existing programs could be conducted. Since this study only had prenatal classes as a variable and omitted other specialized classes as variables, an area of research could be a comparison on the duration of breastfeeding between women who attended regular prenatal classes and those who attended breastfeeding clinics. Moreover, research could be conducted on the duration of breastfeeding between women who attended regular prenatal classes and women who attended prenatal classes that incorporated the aforementioned

recommended strategies, such as a live demonstration, discussion of potential problems and strategies to overcome them, and in particular, consciousness-raising information on ways in which breastfeeding can be sabotaged.

Since lactation consultants and nurses had a negative correlation with the duration of breastfeeding, evaluations on the efficacy of their practice could be conducted. Since these professional groups work closely together, it is important that they provide accurate and consistent information and assistance with breastfeeding. Thus, an area of research could be a comparison on the duration of breastfeeding between women with nurses and lactation consultants who did receive training and education (including consciousness-raising information) and those who did not receive such education.

Since hospital procedures were a statistically significant factor, research could be conducted on a comparison of hospitals. Research could focus on the duration of breastfeeding between women who delivered in hospitals which have a breastfeeding clinic and those which do not have a breastfeeding clinic. Furthermore, research could focus on the duration of breastfeeding between women who delivered in hospitals with procedures which impede breastfeeding and those which facilitate breastfeeding.

Since the implicit endorsement of formula by doctors was a highly significant factor, research could be conducted on the duration of breastfeeding between women with doctors who did receive consciousness-raising information, that is, awareness of ways in which they can sabotage the lactation process, and

those who did not receive such education.

Since the duration of marriage was a statistically significant factor, further research could be conducted on the specific components associated with this demographic variable. For example, longer duration of marriage may be associated with more than just the explicit provision of instrumental and emotional support from the spouse/partner. Rather, spousal/partner support may be more significantly provided in the form of advocacy for assistance with breastfeeding from healthcare professionals and the defense of breastfeeding from family members.

Since spousal/partner support was an influential factor, promotional tactics would likely fail unless they take into account the attitudes of significant others. As such, a further area of research could be on the spouse/partner's attitude towards breastfeeding, and based on the results, develop recommendations that would improve the spouse/partner's support towards the lactating woman.

Although the Social Support–Wellness Model is based on a study on breastfeeding, it can be used to promote other types of healthy activities. As such, further areas of research could be to apply components of the Social Support–Wellness Model to other health-promoted activities, such as healthy diets, exercising, and safer sex practices. Specifically, such research could determine the key sources of support and the nature of the support in the decision, preparation, initiation, establishment and maintenance of the promoted behaviour. Subsequently, such research would identify specific target interventions which would be most successful at each of the stages.

Conclusions

This study found that particular types of support (spousal/partner support as indicated by prolonged duration of marriage and hospital procedures) were predictors of the duration of breastfeeding. Although there is an existing body of literature suggesting that informal social supports are critical, the findings of this study indicate that a more refined analysis of the relationship between social support and breastfeeding is required. Not all forms of informal support lead to prolonged breastfeeding, and not all forms of formal support impede breastfeeding. Moreover, the timing of support is a critical component in the successful adaptation to breastfeeding. The types of support that are most effective are related to the stage in the perinatal process.

The Social Support–Wellness Model builds upon the findings of this research. First, it identifies five distinct stages of a promoted behaviour: decision, preparation, initiation, establishment, and maintenance. Subsequently, it encourages identification of specific sources of support from the informal and formal systems at each of the stages which facilitate as well as impede adaptation to the promoted behaviour. Following that, it identifies the specific ways in which the behaviour is encouraged or discouraged. Consequently, based on the data, the most effective interventions can be developed and implemented to the most influential target groups at the most appropriate stages. Utilization of the Social Support–Wellness Model, therefore, could be helpful in effectively promoting a healthy behaviour.

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APPENDIX A:

INVESTIGATOR'S EXPLANATION
OF STUDY TO AGENCY

INVESTIGATOR'S EXPLANATION OF STUDY TO AGENCY

Dear _____ :

I am a doctoral student at the Ontario Institute for Studies in Education of the University of Toronto, who is conducting a thesis research under the supervision of Dr. Jack Quarter. The purpose of the study is to examine the role of social support in breastfeeding for first-time mothers.

Previous research on social support and breastfeeding has focused on the postpartum stage. Little information exists on social support in the preconception, prenatal and neonatal stages. Furthermore, existing studies do not distinguish between specific sources of informal and formal support. I believe that the findings of this study could be helpful in identifying areas in which breastfeeding could be facilitated, thus improving the overall prevalence of breastfeeding.

An ethical review of this study has been approved by the Ontario Institute of Studies in Education of the University of Toronto.

Participants in the study will consist of women who breastfeed as well as women who bottle-feed. They must have had the intention to breastfeed but either have stopped breastfeeding within six months or have continued to breastfeed. I would like to survey these women, as well as supplement the surveys with interviews. Participation in the study will involve no physical risk and participants will be informed that they can withdraw at any point. Participants will also be informed that their responses to the survey and interviews will be treated with strictest confidence and that any reference to their interview will involve the use of a pseudonym.

It is hoped that eighty participants will be recruited via the "new mothers" support groups. Each will be required to complete a survey of about 10 minutes. The women who take the survey will be asked whether they will volunteer for the follow-up interview by signing a consent form. From those volunteers, two group will be selected -- those who weaned within six months and those who breastfed for at least one year. These interviews of about 30 minutes will focus on their experiences with breastfeeding, and particularly the role of social support.

Your assistance in finding suitable participants is both greatly appreciated and essential to the successful completion of the study. Would you be willing to allow the facilitators of the groups to have the survey distributed. I hope to recruit participants in the months of April and May.

If you would like further details about the study, or have any questions or concerns, please contact me at _____ . I have enclosed a copy of the Explanation to Prospective Participants / Survey Consent Form, a copy of the Interview Consent Form, and a copy of the Survey on Breastfeeding and Social Support for your information.

Sincerely,

Pansy Hong Goodman
Doctoral Candidate, OISE/UT

APPENDIX B:

EXPLANATION TO PROSPECTIVE PARTICIPANTS /
SURVEY CONSENT FORM

EXPLANATION TO PROSPECTIVE PARTICIPANTS

SURVEY CONSENT FORM

My name is Pansy Hong Goodman. I am conducting research on social support and how it facilitates or obstructs breastfeeding. This study is being conducted as a part of my doctoral program at the Ontario Institute of Studies in Education of the University of Toronto.

You are being invited to participate in this study because you had originally intended to breastfeed your infant, and you have either stopped or continued to breastfeed. If you agree to participate in this study, I will give you a 10-minute survey on the social support you received for breastfeeding. Instructions are on the front page of the survey.

I would also like to interview you in order to elaborate on the questions in the survey. If you agree to participate in the interview, I would ask you to complete a second consent form (at the end of the survey).

All information about you will remain confidential and you will be guaranteed anonymity. Your responses will be combined with those of other participants for analysis and presentation. You may withdraw form this study at any time, at which point any data collected from you will be destroyed.

Participation in the survey and/or the interview may not be of direct benefit to you. You will, however, be helping in the search for increased knowledge about the impact of social support on breastfeeding. Thank you very much for your assistance.

Sincerely,

Pansy Hong Goodman
Doctoral Candidate, OISE/UT

I have read and understood the information presented above and agree to participate in the study. I give my permission to Pansy Hong Goodman to use the information I have provided in the survey for her doctoral dissertation and any other future reports or publication pertaining to the study.

_____ _____

Signature Date

APPENDIX C:

SURVEY ON
BREASTFEEDING AND SOCIAL SUPPORT

SURVEY ON

BREASTFEEDING AND SOCIAL SUPPORT

The purpose of this survey is to assess the social support that you received when attempting to breastfeed your baby. Following the questions about social support, there are some background questions. Please be assured that your responses to the questions will be treated with the strictest confidence.

The survey should take about 10 minutes to complete. Thank you very much for your time.

SURVEY ON BREASTFEEDING AND SOCIAL SUPPORT

Please use the following key to answer each question by circling the number that applies to you:

Not At All	A Little	Moderately	Quite A Bit	A Great Deal	N/A
1	2	3	4	5	6

"Partner" refers to your spouse, common-law spouse or partner.

"Family" refers to your immediate family (i.e., parents, siblings, in-laws and other relatives, but not including your partner).

	Not At All	A Little	Moderately	Quite A Bit	A Great Deal	N/A
	1	2	3	4	5	6
1. Members of my family spoke positively about breastfeeding.	1	2	3	4	5	6
2. Breastfeeding is practiced among my friends.	1	2	3	4	5	6
3. During my pregnancy, my partner spoke positively about breastfeeding.	1	2	3	4	5	6
4. During my pregnancy, my family encouraged me to breastfeed.	1	2	3	4	5	6
5. During my pregnancy, my friends gave me helpful information on breastfeeding.	1	2	3	4	5	6
6. In my prenatal or childbirth classes, breastfeeding was recommended.	1	2	3	4	5	6
7. In my prenatal or childbirth classes, I received literature on breastfeeding.	1	2	3	4	5	6
8. In my prenatal visits, I was encouraged by my doctor to breastfeed.	1	2	3	4	5	6
9. In my prenatal visits, my doctor gave me helpful information on breastfeeding.	1	2	3	4	5	6

	Not At All	A Little	Moderately	Quite A Bit	A Great Deal	N/A
	1	**2**	**3**	**4**	**5**	**6**
10. In the first hour after birth, I held the baby.	1	2	3	4	5	6
11. In the first hour after birth, my doctor or nurse encouraged me to breastfeed.	1	2	3	4	5	6
12. During my hospital stay, my baby stayed with me in my room.	1	2	3	4	5	6
13. During my hospital stay, my baby was fed on a fixed schedule.	1	2	3	4	5	6
14. The maternity nurse brought my baby to me whenever s/he was hungry.	1	2	3	4	5	6
15. The maternity nurse gave formula to my baby.	1	2	3	4	5	6
16. The maternity nurse gave a pacifier to my baby.	1	2	3	4	5	6
17. In the maternity ward, members of my family helped me with breastfeeding.	1	2	3	4	5	6
18. In the maternity ward, my partner encouraged me to breastfeed.	1	2	3	4	5	6
19. In the maternity ward, my doctor encouraged me to breastfeed.	1	2	3	4	5	6
20. In the maternity ward, the baby's doctor encouraged me to breastfeed.	1	2	3	4	5	6
21. The maternity nurse helped me with breastfeeding.	1	2	3	4	5	6
22. The maternity nurse taught me different breastfeeding positions.	1	2	3	4	5	6
23. The maternity nurse gave me helpful information on breastfeeding.	1	2	3	4	5	6

	Not At All	A Little	Moderately	Quite A Bit	A Great Deal	N/A
	1	**2**	**3**	**4**	**5**	**6**
24. In the hospital, a breastfeeding specialist helped me with breastfeeding.	1	2	3	4	5	6
25. In the hospital, a breastfeeding specialist taught me different breastfeeding positions.	1	2	3	4	5	6
26. In the hospital, a breastfeeding specialist gave me helpful information on breastfeeding.	1	2	3	4	5	6
27. Before I was discharged, I was given free bottle-feeding products (ie. bottles, formula, coupons for formula).	1	2	3	4	5	6
28. Before I was discharged, I was given names of referrals in case I developed breastfeeding problems.	1	2	3	4	5	6
29. In the first six weeks at home, my family helped me with breastfeeding.	1	2	3	4	5	6
30. In the first six weeks at home, members of my family provided assistance with housework.	1	2	3	4	5	6
31. In the first six weeks at home, my partner helped me with childcare.	1	2	3	4	5	6
32. If the baby got up in the middle of the night, my partner helped me.	1	2	3	4	5	6
33. In the first six weeks at home, my partner suggested that I use formula.	1	2	3	4	5	6
34. In the first six weeks at home, my family said that I should start using formula.	1	2	3	4	5	6
35. At my baby's medical appointments, the doctor encouraged me to continue with breastfeeding.	1	2	3	4	5	6
36. At my baby's medical appointments, the doctor suggested that I use formula.	1	2	3	4	5	6

	Not At All	A Little	Moderately	Quite A Bit	A Great Deal	N/A
	1	**2**	**3**	**4**	**5**	**6**
37. At my baby's medical appointments, the doctor gave me free bottle-feeding products (ie. bottles, formula, coupons for formula).	1	2	3	4	5	6

38. Overall, the people who were most supportive of my breastfeeding were my:

_____
_____
_____

39. Overall, the people who were least supportive of my breastfeeding were my:

_____
_____
_____

40. Additional comments:

_____
_____
_____
_____
_____
_____
_____

BACKGROUND INFORMATION

This part refers to some questions about you. Please circle the most appropriate response or respond in the space provided.

1. Marital Status:

    1. Single
    2. Married/common-law

2. Years married/common-law:

    1. n/a. I do not have a spouse/partner.
    2. _____ years

3. What is the highest level of education your spouse/partner has completed?

    1. n/a. I do not have a spouse/partner.
    2. Elementary School Diploma or less
    3. Less than Secondary School Diploma
    4. Secondary School Diploma
    5. College Diploma
    6. University Degree
    7. Graduate Degree
    8. Other _____

4. What is your spouse/partner's occupation:

    1. n/a. I do not have a spouse/partner.
    2. Corporate Executive/Employer
    3. Self-Employed
    4. Manager/Supervisor
    5. Professional employee
    6. Service worker
    7. Industrial worker
    8. Homemaker

5. Is your spouse/partner currently:

    1. n/a. I do not have a spouse/partner.
    2. Employed full-time (30 hours or more per week)
    3. Employed part-time (less than 30 hours per week)
    4. Unemployed
    5. A student

6. Your spouse/partner's age:

    1. n/a. I do not have a spouse/partner.
    2. _____ years

7. Your age:

    1. _____ years

8. What is the highest level of education you have completed?

    1. Elementary School Diploma or less
    2. Less than Secondary School Diploma
    3. Secondary School Diploma
    4. College Diploma
    5. University Degree
    6. Graduate Degree
    7. Other _____

9. What is your occupation?

    1. Corporate Executive/Employer
    2. Self-Employed
    3. Manager/Supervisor
    4. Professional employee
    5. Service worker
    6. Industrial worker
    7. Homemaker

10. Are you currently:

    1. Employed full-time (30 hours or more per week)
    2. Employed part-time (less than 30 hours per week)
    3. Unemployed
    4. A student

11. Did you have your baby delivered in:

    1. A hospital
    2. At home
    3. Other _____

12. Did you have your baby delivered by:

    1. A medical doctor (ie. Obstetrician, or family doctor)
    2. A midwife
    3. Other _____

13. During the first six weeks, had your baby been in the Neonatal Intensive Care Unit (NICU)?

    1. Yes
    2. No

14. Is your child a:

    1. Male
    2. Female

15. What is your age of your child at this time?

    1. _____ months

16. How long did you intend to breastfeed?

    1. _____ months

17. Are you still breastfeeding?

    1. Yes
    2. No

18. How many months have you breastfed?

    1. _____ months

19. How many more months do you plan to continue to breastfeed?

    1. _____ months

20. What is your gross annual <u>family</u> income?

1. Less than $10,000
2. $10,000 – 19,999
3. $20,000 – 29,999
4. $30,000 – 39,999
5. $40,000 – 49,999
6. $50,000 – 59,999
7. $60,000 – 69,999
8. $70,000 or more

21. Any additional comments:

APPENDIX D:

INTERVIEW CONSENT FORM

INTERVIEW CONSENT FORM

Thank you for completing the survey. I would like to ask you to participate in an interview, which should take about 30 minutes to complete. The purpose of the interview is to discuss in greater depth issues related to the role of social support in breastfeeding.

Any information you provide will be treated in strictest confidence. If reference is made to anything you say, it will not be associated with your name. With respect to the data, your responses will be combined with those of other participants for analysis and presentation.

In order to increase accuracy of quotes, the interview will be audio-recorded and only I will have access to tape recordings and transcripts. You may withdraw from this study at any time, at which point any data collected from you will be destroyed.

If you agree to an interview, please sign this consent form (below) with your phone number so that I may contact you. Thank you very much for your assistance.

Sincerely,

Pansy Hong Goodman
Doctoral Candidate, OISE/UT

I have read and understood the information presented above and agree to participate in this study. I give my permission to Pansy Hong Goodman to use the information I have provided in the interview for her doctoral dissertation and any other future reports or publication pertaining to the study.

_____ _____
Signature of Participant Date

Phone #: _____

Best time(s) to phone you: _____

APPENDIX E:

INTERVIEW SCHEDULE

INTERVIEW SCHEDULE

PRECONCEPTION STAGE: (decision to breastfeed). This refers only to the period *before you were pregnant.*

1. When did you decide to breastfeed?

2. What were your reasons for breastfeeding?

3. Who were supportive of your decision to breastfeed?

    3a. In what ways were they supportive?

4. Who were not supportive of your decision to breastfeed?

    4a. In what ways were they not supportive?

5. In retrospect, what kind of services or support would have helped to make the decision to breastfeed easier?

    5a. When would this have been most helpful?

PRENATAL STAGE: (preparation of breastfeeding). This refers only to the period *during your pregnancy.*

6. Who were supportive in preparing you for breastfeeding?

    6a. In what ways were they supportive?

7. Who were not supportive in preparing you for breastfeeding?

    7a. In what ways were they not supportive?

8. In retrospect, what kind of services or support would have helped to make the preparation of breastfeeding easier?

    8a. When would this have been most helpful?

<u>NEONATAL STAGE</u>: (initiation of breastfeeding). This refers only to the period *immediately after birth and before you were in the maternity ward.*

9. What were your experiences immediately after birth in regards to breastfeeding?

10. In what specific areas of breastfeeding did you find yourself needing help?

    10a. What, if any, were the problems in having these needs met?

    10b. How did you overcome these problems?

11. Who were supportive in helping you to initiate breastfeeding?

    11a. In what ways were they supportive?

12. Who were not supportive in helping you to initiate breastfeeding?

    12a. In what ways were they not supportive?

13. In retrospect, what kind of services or support would have helped to make the initiation of breastfeeding easier?

    13a. When would this have been most helpful?

<u>POSTNATAL STAGE</u>: (establishment of breastfeeding). This refers only to the period *when you were in the maternity ward and before you were discharged home.*

14. What were your experiences in the maternity ward in regards to breastfeeding?

15. In what specific areas of breastfeeding did you find yourself needing help?

    15a. What, if any, were the problems in having these needs met?

    15b. How did you overcome these problems?

16. Who were supportive in helping you to establish breastfeeding?

    16a. In what ways were they supportive?

17. Who were not supportive in helping you to establish breastfeeding?

    17a. In what ways were they not supportive?

18. In retrospect, what kind of services or support would have helped to make the establishment of breastfeeding easier?

    18a. When would have this been most helpful?

<u>POST-DISCHARGE STAGE</u>: (continuation of breastfeeding). This refers only to the period *when you were discharged home.*

19. What were your experiences when you returned home in regards to breastfeeding?

20. In what specific areas of breastfeeding did you find yourself needing help?

    20a. What, if any, were the problems in having these needs met?

    20b. How did you overcome these problems?

21. Who were supportive in your commitment to breastfeeding?

    21a. In what ways were they supportive?

22. Who were not supportive in your commitment to breastfeeding?

    22a. In what ways were they not supportive?

23. In retrospect, what kind of services or support would have helped to make your commitment to breastfeeding easier?

    23a. When would this have been most helpful?

24. What were/will be your reasons for weaning?

OTHER:

25. Had you ever thought about giving up with breastfeeding?

    25a. If so, at what point?

    25b. Why?

    25c. What were the factors in continuing with breastfeeding?

26. Why do you think women bottle-feed?

27. What are the main barriers to breastfeeding?

28. How do you think the public perceives breastfeeding?

29. What advice would you give to a woman who is contemplating bottle-feeding or breastfeeding?

30. Is there anything else you would like to add?

APPENDIX F:

RECOMMENDATIONS FOR
THE PROMOTION OF BREASTFEEDING

Recommendations for the Promotion of Breastfeeding

INTERNATIONAL LEVEL
(policy development)

UNICEF
WHO
International Labour Organization

NATIONAL LEVEL
(policy regulation)

Canadian Paediatric Society
Canadian Medical Association
Health & Welfare Canada
NGOs
Marketing boards
Consumers' groups
Women's groups
Education ministry
Health ministry

LOCAL LEVEL
(policy implementation)

education administrators
healthcare administrators
nursing directors and managers
conferences/inservices/journals

MICRO LEVEL
(policy practice)

adolescents	MD	procedures	procedures	MD
couple	prenatal classes	MD/RN	MD/RN	spouse/family
MD	spouse/family	spouse/family	spouse/family	Public Health

PERINATAL STAGES
(lactation process)

Preconception	Prenatal	Neonatal	Postnatal	Post-discharge
decision	preparation	initiation	establishment	maintenance

WOMAN AND BABY
