EAST MEETS WEST: EXPLORING IMMIGRANT CHINESE MOTHERS' BREASTFEEDING CHOICES

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ABSTRACT

East Meets West:

Exploring Immigrant Chinese Mothers' Breastfeeding Choices

Wil-lie Chen

Although breastfeeding choices among Chinese mothers are a major challenge for health professionals in the Western biomedical care system, few studies have systematically examined this issue in depth. The purpose of this study was to explore how immigrant Chinese mothers made decisions about their breastfeeding practices. The study was conducted using mixed methods, including both a quantitative and a qualitative aspect. The quantitative aspect derived from the analysis of responses obtained in a telephone survey of 250 women; the qualitative aspect used interpretive description methods to obtain in-depth information from interviews with 15 women. The findings of this study revealed that the Chinese mothers' beliefs about breastfeeding reflect a combination of personal beliefs based on traditional holistic Chinese medical care, personal experiences, and ideas deriving from conventional Western biomedical care. Decision-making as to their infant feeding practices was found to be related to how they dealt with contradictions between beliefs and practices about breastfeeding, how they negotiated these contradictions, and how they developed individualized strategies within them. The theoretical knowledge developed in this study may help nurses and health care professionals to provide interventions and support that are more appropriate and effective in relation to the infant feeding practices of Chinese immigrant women. Further investigation is needed to verify, strengthen and further develop the theoretical claims developed in this study. Research is also needed to develop and evaluate interventions
that may assist Chinese immigrant mothers in their decision making around breastfeeding practices. The findings of this study illuminate the complexities inherent in the blending of cultural care across divergent worldviews and serve as a foundation for further investigation in this field.
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DEDICATIONS

I dedicate this dissertation, and all it represents:

To God with thanksgiving.

And

To my mother – Shao-Chien Chen Lin with love, who always supports and encourages me to challenge myself and learn everything I can understand both the meaning of my life and the world around me.
CHAPTER ONE: INTRODUCTION

Background to the Problem

Over the past few decades, a marked increase has occurred in the number of people immigrating to Canada from Asian countries. In 1996, immigrants were predominantly from Asian and Pacific-rim areas with the top four countries of origin being, Hong Kong, India, China and Taiwan (Citizenship & Immigration, 1997). In Vancouver, immigrants mainly come from Taiwan, Hong Kong and China and India (Citizenship & Immigration, 1997) and in one regional district in Greater Vancouver, the Chinese language was reported to be the most common mother tongue spoken among the non-official languages (Statistics Canada, 1997). As the population of Chinese immigrants continues to increase, nurses and health professionals are more likely to encounter members of this diverse cultural group.

Breastfeeding makes a unique, fundamental contribution to women's health and the health and nutrition of infants. In a British Columbia study of Chinese woman's preference for mode of delivery and infant feeding in 1997, the rates of breastfeeding of Chinese women were low (51.5 percent exclusively used breastfeeding and 16.8 percent used mixed breast and formula feeding). In contrast two surveys, The National Population Health Survey (NPHS) and The National Longitudinal Survey of Children and Youth (NLSCY), found that the overall initiation rate of breastfeeding in British Columbia was between 85-87 percent (Health Canada, 1999).

A review of studies of Chinese mothers' infant feeding practices in different countries reveals that Chinese mothers in industrialized countries (e.g. Australia, Canada, England, and the US), are less likely to breastfeed their infants than other ethnic groups (Carolyn,
Abernathy, Steinmetz, and Charlebois, 1997; Chan-Yip & Kramer, 1983; Goel, House, & Shanks, 1978; Hewat, Ellis, & Latta, 1994; Fishman, Evan, & Jenks, 1988; Manderson, 1984; Rossiter, Ledwige, & Coulon, 1993). The studies also suggest that mothers in predominately developing Chinese countries (e.g. Hong Kong, Mainland China, Singapore, Malaysia and Taiwan) are more likely to choose formula feeding. In the urban areas of Mainland China, Taiwan, and Hong this trend is also evident (Fok, 1997; Guldan, Maoyu, Guo, Junrong, & Yi, 1995; Huang, Xue, Jia, & Xue, 1994; Hung, Ing, & Ong, 1985; Kau, Lee, Wong & Chen, 1993; Ko, Tseng, & Shih, 1985; Koo, Wong, & Ho, 1985; Lee & Leu, 1995; Leung, Peng, Xu, et al., 1994; Meechan, 1990; Teng, Ho, & Kuo, 1994; Teng, Kuo, & Ho, 1993; Yun, Kang, Ling, & Xin, 1989).

Researchers have observed that traditional health beliefs (e.g. yin-yang theory, or the hot and cold theory), socio-cultural, and environment factors are important influences on Chinese mothers' decisions about infant feeding practice. Leininger (1988) defined culture as "the learned, shared and transmitted values, beliefs, norms and life ways of a particular group that guide their thinking, decisions, and actions in patterned ways" (p. 156). Culture is an attribute of ethnic, religious, social, or even demographic groups. A sound understanding of the cultural beliefs, customs, and health care practices of Chinese women enables nurses and health professionals to provide higher quality care to these clients.

Patients' personal health-related experiences and expectations are usually learned from their own cultural and ethnic backgrounds (Anderson, 1990). Studies have shown that health professionals often neglect to consider the ways that their patients' experiences are shaped by their cultural beliefs (Anderson, 1990). Yet, in the case of Chinese immigrants there is strong evidence that cultural beliefs inform their practices. For example, Louie
(1985) found that Chinese immigrants to the US believe that traditional health beliefs influence their health practices. Similarly, Ma (1999) reported that Chinese immigrants in the U.S. preferred to use traditional Chinese care rather than Western biomedical care. Health professionals who care for Chinese patients often are unaware of the complex psychosocial and cultural factors that influence their patients' responses. Consequently, patients may not comply with recommendations or prescribed treatment regimen (Anderson, 1990).

Gartner and Stone (1994) reviewed publications of medical advice on breastfeeding of the past two thousand years and found that the issue of breastfeeding has been addressed in Chinese writings earlier than in Western writings. In China, in the 2nd century, the formation of human milk was associated not only with the health of the mother but also with nature of her activities, i.e. a mother could not produce high quality milk after illness. The success of breastfeeding depended on the holistic functioning of the human body and according to traditional Chinese writings in medicine. In a book titled "Bey Chi Chian Jin Tao Fang" (備急千金藥方), by Sun Si Meo (孫思邈, 581-682 AD) of the Tong Dynasty, human milk is described as the product of vital energies (Sun, 1975). Lee Shi Zen (李時珍, 1518-1593 AD) of the Ming Dynasty, in a book titled "Been Tsao Kang Mu" (本草綱目), described the characteristics of breast milk as sweet, non-toxic and nurturing to the internal organs (e.g. liver, spleen, lung, stomach, and heart), and was believed to be an ideal food and God's gift. In particular, breast milk was seen as a unique and ideal food for infant health, which no other food could substitute (Lee, 1982). For a mother who had just delivered a child, advice would be given that "a child is born and one feeds milk to it [oneself]" (cited in Gartner & Stone, 1994, p. 553). While, in early periods of Chinese history, breastfeeding was seen as being necessary for the infant's growth and development, in the past 30 years,
many studies have shown that Chinese mothers believe that after delivery they do not have sufficient breast milk to feed their infants (Kau et al., 1993; Teng et al., 1994; Teng et al., 1993). This widely held belief may contribute to Chinese mothers’ choice to use formula feeding as a food alternative for their infants.

In a recent report, A Multicultural Perspective of Breastfeeding in Canada (1998), a great variation in infant feeding practices among Chinese women was described. Women who had come from Hong Kong, who had more formal education and a higher socioeconomic status were more likely to be informed about the benefits of breastfeeding and were also more likely to initiate and continue breastfeeding. Women who had come from Mainland China and Taiwan, however, were less likely to breastfeed and if they did, they were more likely to wean the baby within the first four weeks (Health Canada, 1997). In Canada, Chinese women who immigrated from different developing countries with different socio-cultural and political backgrounds have different perspectives about infant feeding practices. Two Canadian studies of Chinese women's infant feeding practices found that the beliefs about the hot-cold concept, mothers' modesty, embarrassment of breastfeeding in public, employment, formula as a status symbol, and the lack of knowledge about the benefits of breastfeeding, might be influential factors for infant feeding practices (Chan-Yip & Kramer, 1983; Hewat et al., 1994). Masi (1988) suggested that a person’s culture may or may not be the same as their ethnic origin or identity. In a "complex pluralistic world" such as the Canadian society, a person may encounter "a variety of cultural influences" (p. 2174). Barber, Abernathy, Steinmetz, and Charlebois (1997) believe that the study of breastfeeding practices for immigrant populations must build upon an understanding of the interests and beliefs of the targeted groups within the context of the political-social structural changes that
affect them. The way in which all of these factors may influence a Chinese mother's infant feeding practices is still unclear. Consequently, an understanding of the experiences of these women in making choices about infant feeding practices may help nurses and health professionals to assist Chinese mothers in their infant feeding practices.

Within the last 30 years, research methods for infant feeding practices of Chinese mothers have been dominated by a biomedical orientation. Beasley (1991) states that "a biomedical orientation represents a distinctly Western mode of thinking, and offers the potential for misunderstanding and misinterpretation when data are collected from a culture adhering to different philosophical and ideational perceptions and values" (p. 13). Western scientific research is based on objectivity, deduction, and causation and the results of this research are pre-specified with an outcome-orientation and the fragmented approach fails to acknowledge the "interdependence, interaction, and the whole" (p. 13). Ewing and Morse (1989) also indicated that the consequences of this kind of focus on the objective and deductive reasoning are "an extensive amount of information about breast milk with a lack of knowledge about breastfeeding" (p. 24). As a result, a deep exploration of the reality of the mother's perspectives about infant feeding practice is difficult to derive and research findings will be inappropriate to interpret the ideas, values, cultural beliefs, and attitudes within a special social-cultural context (Beasley, 1991). If increased initiation and duration of breastfeeding is desired, greater attention must be paid to explore the reality of the mothers' perspective and infant feeding experience using inductive reasoning. Moreover, the more that the practitioner learns about the infant feeding experience from a mother's perspective, the more likely the practice is to increase. The approach of subjective and inductive reasoning has to be increased to explore the perspective of the Chinese mother about infant feeding
practices and offer alternative and complementary interpretations to the biomedical approach. Both the objective and deductive approach and the subjective and inductive approach are important for exploring the experience of the Chinese mother's infant feeding practice and developing a theoretical knowledge for health professionals.

**Purpose of the Study**

The purpose of this study was to explore our understanding of how Chinese mothers, living in Canada, make choices about infant feeding. This study was conducted using a sequential, mixed-method design that combines two phases of research methods. Morgan (1998) suggests that the mixed methodology is appropriate for studying "the complexity of the many different factors that influence health and illness" (p. 362). Factors that influence women to making infant feeding choices are multifaceted and include physiological, socio-cultural, psychological, and environmental aspects. The sequential, mixed-method (quantitative followed by qualitative) was thus an appropriate approach to explore the Chinese women's experiences regarding infant feeding practice.

In the quantitative aspect of this design a secondary database was used to examine the factors that influence Chinese mothers' infant feeding practices. Some of the advantages of using a secondary database included the cost effectiveness in terms of both time and money. In addition, the analysis of a secondary database contributed to knowledge development. Qualitative methods provided interpretive approaches to understand the results from the quantitative research. The qualitative aspect involved an interpretive description method to explore the Chinese mother's experiences that were related to infant feeding choice. Findings
from the interpretive description study assessed the content validity of the previously analyzed secondary database.

Summary

Exploring the socio-cultural context of health care is crucial for nurses and other health professionals to provide appropriate health care to people from different ethno-cultural backgrounds in the health care system. Health beliefs and practices of different ethnic groups, however, might differ from the dominant biomedical system. Also, in a multicultural society such as that which exists in Canada, "biomedical thought [must be located] within the context of non-dominant belief systems" (Thorne, 1991, p. 1931).

In this study, I explored the infant feeding experiences from the perspective of Chinese mothers who had come from different geographic backgrounds. At present, the factors influencing the infant feeding practices of Chinese mothers, is unclear. By using the sequential, mixed-methods, the different contexts within which Chinese mothers made their decisions about infant feeding was explored. First, a quantitative approach was used to examine factors that influence infant feeding practice. Then, a qualitative approach was used to explore the different worldviews and the reality of infant feeding practices from the perspective of participants. This study developed theoretical knowledge to assist nurses and health professionals to provide appropriate health interventions for Chinese women in their infant feeding practices.
CHAPTER TWO: LITERATURE REVIEW

The literature upon which current knowledge in this field is based addresses the issue of women's infant feeding choices from various perspectives. As this review will illustrate, the preponderance of research has been directed toward isolating and understanding the factors that influence women's choices. As this body of evidence has expanded, and it has become increasingly clear that identification of such factors explains only a part of the phenomenon, some of the research has attempted to be more explanatory and interpretive so that the factors can be studied in combination and in context.

In this review, some of the insights that have arisen from the research into the factors affecting infant feeding choices will be presented. In the initial discussions, specific factors associated with demographic and background characteristics of the mother will be the focus, followed by reviews of the bodies of literature exploring factors associated with attitudinal and social contexts in which those background factors are embedded. Throughout this review, the examination will make reference to general knowledge about infant feeding choices across populations and, where there is a specific body of research in relation to Chinese women, this aspect will be highlighted. Finally, literature related to aspects of classical Chinese perspectives on matters related to infant feeding will be discussed, and some issues associated with the design of studies that comprise our current knowledge base will be mentioned.

According to a review of 93 studies by Roger, Emmett and Golding (1997), numerous factors influence the incidence and duration of breastfeeding in developing and developed
countries. These investigators observed that the factors that influence a mother’s choice to breastfeeding are complex and can be characterized as biomedical, psychological, sociological or cultural.

Socio-cultural factors have been shown to be particularly important variables influencing a mother’s choice about infant feeding. Few researchers have included a population of Chinese mothers in their studies and the knowledge of factors that influence Chinese mothers’ infant feeding choice remains limited. However, investigators have noted that, for Chinese mothers, infant feeding choice is influenced by traditional cultural beliefs towards breastfeeding that are associated with both the developing countries and Western countries (Chan-Yip & Kramer, 1983; Chua, Viegas, Counsilman, & Ratnaam, 1989; Chye, Zain, Lim, & Lim, 1997; Fishman et al., 1988; Goel et al., 1978; Hewat et al., 1992; Manderson, 1984; Rossiter et al., 1993). For example, Gartner and Stone (1994) note that encouragement for mothers to use human milk to feed their infants was present in traditional Chinese culture and society in the 2nd century AD. However, in many studies of Chinese mothers, descriptions of Chinese traditional cultural perspectives associated with breastfeeding practice are limited and the link between these traditional perspectives and current practices is not well understood.

This literature review of the available evidence on factors that may influence a mother’s choice of infant feeding method draws from research in a variety of disciplines including medicine and medical anthropology, Chinese traditional medicine, social science, psychology, public health, cross-cultural nursing, and maternal-child nursing. A systematic review using electronic data bases, print references, and cross-referencing was used to locate relevant studies as well as reports that synthesize current understandings about the available
knowledge. In this review of the literature, themes within this literature are organized to illuminate a variety of social-cultural factors that influence a woman’s decision to breastfeed. This body of literature provides an overview of the knowledge base on which this study is founded.

**Background Characteristics**

Much of the available research has focussed on specific characteristics of the mother that seem related to her decision to breastfeed her infant. The research has consistently demonstrated that a number of these factors play a role in infant feeding decisions. Such background factors include age, education, income, ethnic groups, marital status, employment, parity, the timing of choosing infant feeding and prenatal education.

**Age**

Many studies have shown that a mother’s age is an important factor in her decision to breastfeed (Freed, Jones, & Schanler, 1992; Gabriel, Gabriel, & Lawrence, 1986; Weller & Dungy, 1986). An intention to breastfeed is positively correlated with a woman being older than 21 years (Freed et al., 1992; Giugliani, Caiaffa, Vogelhut, Witter & Perman, 1994; Grossman, Fitzsimmons, Larsen-Alexander, Sachs, & Harter, 1990; Humphreys, Thompson, & Miner, 1998; Ryan, Pratt, Wysong, et al., 1991). Two studies, however, found that age was not associated with an intention to breastfeed among White, Black, and Hispanic\(^1\) and other groups from low income populations (Aberman & Kirchhoff, 1985; Rassin, Richardson, Baranowski, et al., 1984).

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\(^1\) Language used to designate ethnicity is complex and controversial. Where possible, I will use the terms that the researchers in each study used to distinguish ethnic background in their samples.
In a Malaysian study, the ages of Chinese breastfeeding mothers ranged between 20 and 35 years (Meehan, 1990) and the average age of breastfeeding mothers in Taiwan was found to be 29.9 years (Teng et al., 1993). Taur, Young and Chang (1985), however, found that age was not associated with the type of infant feeding chosen by Taiwanese mothers at the third day postpartum.

**Educational Background**

Education has emerged as an important factor in determining the choice for breastfeeding (Aberman & Kirchhoff, 1985; Gabriel et al., 1986; Rassin, Richardson, Baranowski, et al., 1984; Rousseau, Lescop, Fontaine, Lambert, & Roy, 1982; Ryan, Pratt, Wysong, et al., 1991; Wright, Holberg, & Taussig, 1988). Mothers who have more than 12 years of school education are more likely to breastfeed, to delay the introduction of formula, and to breastfeed longer than mothers who are less educated (Giugliani et al., 1994; Grossman et al., 1990; Humphreys et al., 1998; LeFevre, Kruse, & Zweig, 1987; Ryan, Pratt, Wysong, et al., 1991; Wright et al., 1988). In addition, Williams and Pan (1994) found that mothers who had at least a high school education were more likely to discuss infant feeding methods with their physicians and more of these mothers attempted to breastfeed. Weller and Dungy (1986) also found that the educational background of the father was an important variable in determining how an infant is fed. Fathers with more years of education are more likely to encourage their wives to breastfeed.

Years of education and the decision to breastfeeding can vary between ethnic groups. In a prospective study in the United States (US), where the subjects were middle class and 80 percent Anglo-American and 20 percent Hispanic-American (most of whom were Mexican-American), 70 percent of the subjects chose to breastfeed their babies. Even though within
each ethnic group, the women with more education tended to breastfeed their babies, only the Anglo-American mothers demonstrated a significant positive relationship between years of education and breastfeeding (Wright, Holberg, & Taussig, 1988). Kocturk and Zetterstom (1989), however, found that in the developing countries of India, Ethiopia, Nigeria, Guatemala, and the Philippines that breastfeeding rates at six and 12 months postdelivery were lower among well-educated, urban, upper class women than they were among those with less education. Further differences were reported by Rassin, Richardson, Baranowski, et al. (1984). Findings in their study showed that a mother's and father's education is not associated with choice of breastfeeding among Anglo-American, Black-American, Mexican-American and other ethnic groups of a low socioeconomic status in the US. Therefore, the influence of educational background can vary among ethnic groups.

Chinese studies show that the relationship between education and the incidence of infant feeding depends on the geographic regions where the study was conducted. Two studies conducted in Taiwan indicated that mothers who completed high school were more likely to choose breastfeeding (Lee & Leu, 1995; Taur et al., 1985). Similarly, of women living in a Hong Kong, Koo et al. (1985) noted that infants whose mother and father had high school education were more likely to be breastfed. Investigators also observed that families with a higher income (28 percent of the sample) were more likely to breastfed, but those with less education, who chose to breastfeed their infant, did so for a longer time. In a study conducted in Shanghai, Meehan (1990) found that mothers who had a higher educational level did not choose breastfeeding.
Income

Income was also found to be a significant factor in a woman's decision to breastfeed. Socio-economic status is complex, however, since it is associated with age and education. In a study of the decisions about breastfeeding among low and upper income women in the US, white mothers who were of higher socio-economic status were more likely to breastfeed than black and Asian mothers (Grossman et al., 1990). In a descriptive study in the US by Aberman and Kirchhoff (1985), 51 primarily low income, single, black mothers were interviewed about their infant feeding decision. The findings showed that women who chose breastfeeding tended to have higher incomes and more years of education than mothers who chose to bottle feed, but the difference was not statistically significant. In a Canadian study by Evers, Doran and Schellberg (1998) the researchers identified factors that influence mothers' breastfeeding choice in five low-income communities. Women with higher education (63 percent had completed high school or beyond), who were married, were not experiencing financial stress, and who had attended prenatal classes were found to be more likely to choose breastfeeding. Outcomes from two studies, however, revealed that lower income women who received support from their partners comparable to that of higher income women continue to breastfeed as long (Barron, Lane, Hannan, Struempler, & Williams, 1988; Grossman et al., 1990). A descriptive study by Libbus, Bush and Hockman (1997) identified 41 low income and primigravida mothers who expressed an intention to breastfeed their infants. The findings revealed that most mothers believe that the advantages of breastfeeding include infant health and improved bonding, and that the disadvantages include interference with maternal schedules, inability of others to feed the infant, and physical discomfort. These mothers thought that family members, husbands/boyfriends, and
health care providers were the most important support system involved with their
breastfeeding practice.

In a study of 274 mothers living in rural areas in Taiwan, 34 percent of the mothers
who were older (30 - 40 years), having less than 9 years of education, and a lower income,
were more likely to choose breastfeeding (Kau et al., 1993). Furthermore, a woman's
decision to breastfeed was influenced by the mother's age and marital status, the mother's
and/or father's years of education, and also was associated with socio-economic status,
ethnicity, prenatal education, geographical area, and social support.

Marital Status

Marital status is another important variable that is positively associated with the
choice of breastfeeding (Gabriel et al., 1986; Giugliani et al., 1994; Grossman et al., 1990;
Kessler, Gielen, Diener-West, & Paige, 1995; Littman, Medendrop, & Goldfarb, 1994;
Rassin, Richardson, Baranowski, et al., 1984; Ryan, Pratt, Wysong, et al., 1991; Weller &
Dungy, 1986; Wright et al., 1988). In a study of 195 women who were 50 percent Anglo-
and 50 percent Hispanic-American mothers, Weller et al. (1986) found that living with the
child's father was an important predictor for primiparous Anglo-American mothers to choose
breastfeeding; however the variable was not important for the Hispanic-American mothers.
Wright et al. (1988) found that unmarried women who live with the baby's father were more
likely to choose formula feeding. This findings is also supported by the work of Stein,
Cooper, Day, and Bond (1987) who report that the lack of a stable relationship was
significantly associated with the decision to bottle feed. The influence of a stable partner
relationship on a woman's decision to breastfeed may vary among ethnic groups.
Ethnic Groups

Ethnicity may have been underestimated as an important variable in determining the choice of infant feeding method (Gabriel et al., 1986; Kurinij, Shiono, Ezrine, & Rhoads, 1989; Mohrer, 1979; Rassin, Richardson, Baranowski, et al., 1984; Ryan, Pratt, Wysong, et al., 1991; Weller & Dungy, 1986; Wright et al., 1988). The incidence of breastfeeding differs considerably among ethnic groups (Kurinij et al., 1989; Rassin, Richardson, Baranowski, et al., 1984; Ryan, Pratt, Wysong, et al., 1991; Wiemann, DuBois, & Berenson, 1998a; Williams & Pan, 1994). In the US, Collins, Leeper, Milo, and DeMellier (1984) noted that, among pregnant women living in Alabama, white women were more likely than black women to breastfeed. Rassin, Richardson, Baranowski, et al. (1984), in a study of 379 mothers, compared the number of each ethnic group with the percentage of that group that intended to breastfeed. Forty-five percent Anglo-American mothers (n = 145), 9.2 percent Black Americans (n = 131), 22.6 percent Mexican Americans (n = 62) and 42.1 percent other ethnic groups (n = 19) chose breastfeeding. Also, Anglo-American women breastfed for a longer time than did the mothers from the other ethnic groups. A study in a low-income multiethnic population in Northern California showed that the highest initiation rates of breastfeeding were among Asian American women (86 percent) and the lowest rates were among Latino American women (48 percent) (Williams et al., 1994).

A study by Wiemann, DuBois, and Berenson (1998b) compared factors influencing breastfeeding among 696 adolescent mothers. Fifty-five percent of the Mexican-American mothers, 45 percent of the Caucasian mothers, and 15 percent of the African-American mothers intended to breastfeed. Investigators found that among the Mexican-American mothers', relevant factors that influenced a mother's intention to breastfeed included
receiving advice about infant feeding, the preferences of a partner or mother, and deciding about breastfeeding during early pregnancy. Among the African-American mothers, relevant factors included living with a partner, having been breastfed by their mother, the preferences of a partner or health provider, and level of family support. Among the Caucasian mothers, relevant factors associated with the decision to breastfeed include the health providers’ feeding preference, having two or more breastfeeding role models, having relied on infant-feeding advice, prenatal alcohol use, and being enrolled in the Women, Infants, and Children’s Supplemental Nutrition Program (WIC).

Humphrey et al. (1998) found, in a cross-sectional study of 1,001 low income pregnant women, that the intention to breastfeed was higher among Hispanic mothers who had no breastfeeding experience than among the African-American and Caucasian mothers (Humphrey, Thompson, & Miner, 1998). In a retrospective study in the US, 248 low-income Puerto Rican mothers who had some formal education and at least one preschooler were evaluated. Perez-Escamilla, Himmelgreen, and Segura-Lillan, et al. (1998) concluded that mothers who had breastfeeding experience, who did not receive prenatal bottle feeding advice and whose infants were not of low birth weights, were more likely to breastfeed. Puerto Rican mothers who lived in the US for a shorter time (less than 6 years) were more likely to breastfeed than those who lived in the US for more than 15 years.

Also, Rassin, Richardson, and Baranowski, et al. (1984) found that not only does maternal ethnicity play a role in breastfeeding, but paternal ethnicity also is an important variable. Among the three ethnic groups, 43.5 percent of the women who intended to breastfeed were Anglo American, 9.2 percent were Black Americans, 22.6 percent were Mexican-Americans and 42.1 percent were of other ethnic groups. When the mother and
father were of the same ethnic background, more women chose to breastfeed and the incidence of breastfeeding was higher (Rassin, Richardson, & Baranowski, et al., 1984). In a study of 69 predominantly low-income white women living in a rural area in mid-Missouri, however, investigators found that almost half of the mothers intended to breastfeed and that race did not appear to influence their choice (Libbus & Kolostov, 1994). Women who intended to breastfeed viewed breastfeeding as being significantly easier, more convenient, and associated with more freedom than women who did not intend to breastfeed.

In comparing Chinese mothers who chose breastfeeding with other ethnic groups who chose breastfeeding in England (Goel et al., 1978), Malaysia (Chye et al., 1997), and Singapore (Chua et al., 1989), the incidence of breastfeeding among Chinese mothers was less than in other ethnic groups. In contrast, in a study of 545 breastfeeding mothers and 416 formula feeding mothers living in Taipei, Teng et al. (1993) found the incidence of breastfeeding in the first week postpartum to be different among subgroups of Chinese women. Mothers of Taiwanese origin were more likely to choose breastfeeding, while mothers of Mainland Chinese origin were more likely to formula feed their infants. Thus, a woman’s choice of infant feeding method varies internationally and also in ethnic groups within countries.

Employment Status of the Mother

Employment status of a mother is another determinant of her decision to breastfeed (Wright et al., 1988). In a study of 567 women's experiences, Auerback and Guss (1984) noted that women choose a method for feeding their infant by considering the timing of their return to employment and the number of daily hours they will work, rather than their type of employment (Auerbach & Guess, 1984). Similarly findings by Fein and Roe (1998)
examined the effect of work status on breastfeeding practice among 1,488 mothers who were predominately White, older and married. Investigators indicated that expecting to work part-time and/or not expecting to work did not influence the incidence of breastfeeding practice but expecting to work full-time significantly decreased the probability of breastfeeding practices.

Alternatively, in a prospective study of 688 Black and 511 White primigravida who were employed in Washington, DC, Kurinij et al. (1989) found that the influence of employment on infant feeding patterns varied within ethnic groups. White and Black women who worked in professional careers during pregnancy were more likely to breastfeed than women who were unemployed. Breastfeeding rates were significantly lower in both of these ethnic groups for women who planned to return to work in the first two months postpartum than among those who planned to return to work at a later time. White women who were not employed were more likely to breastfeed than use formula feeding while they were in the hospital. The breastfeeding rate among Black women who planned to return to part-time work was greater than it was for those who planned to work full-time. Collins et al. (1984) noted that White women who intend to breastfeed tend to have fewer problems with employment than Black women do.

Similarly, in a study of infant-feeding practices among middle-class Anglo and Hispanic American women by Wright et al. (1988), no differences were found in regards to maternal employment and choice of infant-feeding practice at birth among the two ethnic groups. Nevertheless, women who worked outside of the home were significantly less likely to breastfeed their babies following the birth or to breastfeed exclusively during the postpartum period (Wright et al., 1988). This is similar to the findings of Littman,
Medendrop, and Goldfrab (1994) for predominantly middle-class White women who were married and had health insurance.

Studies of Chinese mothers for their choice of infant feeding method produced similar findings. In a study of 134 mothers during their postpartum hospitalization in an Air Force hospital in Taipei City, researchers noted that the mothers who did not intend to work were more likely to choose breastfeeding (Taur et al., 1985). Lee and Leu (1995) also found that mothers who were employed did not choose breastfeeding even though they considered breastfeeding to be the best for their infant. Thus, a mother’s employment seems to directly influence her infant feeding choice.

**Parity and Delivery Pattern**

A previous breastfeeding experience was identified as a significant predictor of a woman's infant feeding choice (Aberman & Kirchhoff, 1985; Collins et al., 1984; Entwise, Doering, & Reilly, 1982; Fein & Roe, 1998; Grossman et al., 1990; Humphreys et al., 1998; Kennedy & Visness, 1997; Manstaed, Proffitt, & Smart, 1983; Rassin, Richardson, Baranowski, et al., 1984; Reifsnider & Eckhart, 1997; Wambacck, 1997; Weller & Dungy, 1986). A primiparous woman is more likely to breastfeed than a mother who has five or more children (Connolly, Cullen, & MacDonald, 1981). A multiparous woman is more likely to breastfeed if she has had a previous successful breastfeeding experience and if she was breastfed by her mother (Gabriel et al., 1986; Grossman et al., 1990; LeFevre et al., 1987; Weller & Dungy, 1986).

In a community based study by Libbus and Kolostov (1994) of 69 low-income women living in the Midwest US, previous breastfeeding was not seen to be associated with the women’s intention to breastfeed. Similar findings were reported in a hospital-based study
of 220 women in the US, with 48 percent of the participants from a low income bracket and 52 percent from the upper income bracket (Grossman et al., 1990).

Two studies found that Chinese mothers who had successfully breastfed their previous child were more likely to breastfeed their second child (Koo et al., 1986; Taur et al., 1986). Ko, Tseng, and Shih (1986) also found that if the previous child had been bottle-fed, only 16.7 percent of their later siblings were breastfed. In addition, a study of 2517 Mexican women found that cesarean section was a risk factor for not initiating breastfeeding and for breastfeeding for less than one month but was unrelated to breastfeeding duration among women who had breastfed for one month (Perex-Escamilla, Maulen-Radovan, & Dewey, 1995). In summary, a mother's past infant feeding experience, her income, delivery pattern, and whether or not she had been breastfed by her mother influence her choice of infant feeding method.

**Timing**

Several researchers found that a majority of mothers decide about how to feed their infant before becoming pregnant (Entwisle, Doering, & Reilly, 1982; Hally, Bond, Crawley et al., 1984; Jones & Belesey, 1977; Lawrence, 1991; LeFevre et al., 1987; Sacks, Brada, Hill, Barton, & Harland, 1976) or in the second trimester (Aberman & Kirchhoff, 1985; Ekwo, Dusdieker, & Booth, 1983; Grossman et al., 1990; LeFevre et al., 1987; Sarrett, Bain, & O'Leary, 1983). Only a few mothers decide about their breastfeeding method after delivery (Hally, Bond, Crawley, et al., 1984; LeFevre et al., 1987).

In a study by LeFevre et al. (1987) of married women in Missouri, the authors observed that a difference was present in the timing of the choice of breastfeeding or bottle feeding between primiparas and multiparas women. Decisions made by primiparas women
about how to feed their infant were arrived at later than those made by multiparas women (Lefevre et al., 1987). Maehr et al. (1993) found that the timing of choosing when to breastfeed was significantly different between 48 adult and 48 adolescent, primarily Hispanic mothers. The adolescent mothers were more likely to decide during pregnancy or after birth, whereas the adults decided to breastfeed before the pregnancy (Maehr, Lizarraga, Wingard, & Felice, 1993).

Similarly, Teng et al. (1993) and Teng et al. (1994) from their studies of Taiwanese mothers, found that more mothers chose to breastfeed (43.4 - 57.4 percent) rather than choosing to formula feed (33.5 - 37.2 percent) before and during the pregnancy. Thus, 17.2 percent (Teng et al., 1994) and 20.6 percent (Teng et al., 1993) of mothers were not choosing the method until delivery and hence, parity and age seem to influence the timing of infant feeding choice.

Prenatal Education

Several researchers have found that prenatal education was a significant factor in infant feeding decisions (Giugliani et al., 1994; Grossman et al., 1990; Hally, Bond, Crawley, et al., 1984; Jones & Belsev, 1977; Kistin, Banton, Rao, & Sullivan, 1990; Matich & Sims, 1992; Starbird, 1991; Wright et al., 1988; Yeung et al., 1981). In a cross-sectional study, comparing 100 breastfeeding and 100 non-breastfeeding mothers, prenatal class attendance increased the odds of breastfeeding by 2.7 times over mothers who did not participate in prenatal classes (Giugliani et al., 1994). Similarly, Kurinij and colleagues (1989) reported that Black and White women, who participated in prenatal classes, were more likely to breastfeed their infants than those who did not attend prenatal classes. Sable and Patton (1998) also found that mothers who received prenatal lactation advice were significantly
more likely to breastfeed their infants (61.1 percent) than those who did not receive such advice (34.7 percent).

In a study of predominately single, lower income and Black mothers, Aberman and Kirchhoff (1985) reported that 80 percent of the mothers did not attend prenatal class. About one-third of the mothers chose breastfeeding and of these, only 20 percent had attended prenatal classes and one-half indicated that a discussion on infant feeding had influenced their final decision to breastfeed. A study by Reifsnider and Eckhart (1997), compared a control group (n=17) and an experimental group (n=14) of mothers who received prenatal nutrition education through the WIC program in the US. Investigators noted that prenatal education did not influence a mother’s choice of breastfeeding, although parity was a significant factor in making the choice. They also observed that primiparous women had a longer duration of breastfeeding than multiparous women who had bottle-fed previous children. Matich and Sims (1992) showed that attending prenatal classes was an important source of emotional and informational support for choosing to breastfeed among middle class women who intended to breastfeed. Therefore, prenatal classes may be a significant factor for the initiation of breastfeeding among mothers from the middle class but not necessarily for mothers who are single, Black or having lower incomes.

Two prospective studies involving Chinese mothers examined breastfeeding education during pregnancy in Canada and Taiwan. In Canada, a comparison of 88 women who had received prenatal counseling about breastfeeding and 93 women who had not received prenatal counseling revealed that the prenatal counseling was associated with increased rates of breastfeeding. The greatest effect of counseling was seen in young women (younger than 30 years) and primiparous women of higher socioeconomic status, who spoke
French or English in addition to Chinese (Chan-Yip & Kramer, 1983). In a Taiwanese study of 274 women who visited prenatal and child care clinics in two rural areas, Kau et al. (1993) found that prenatal education was positively associated with the incidence of breastfeeding. The incidence of formula feeding was lower (60.6 vs. 69 percent) and the incidence of breastfeeding was higher (17.5 vs. 13.9 percent) and mixed feeding was also higher (21.5 vs. 9.9 percent) after prenatal education. The mothers who chose breastfeeding were older, less educated (junior level of education) and had a lower income. Thus, attendance at prenatal education varies with socio-economic status and ethnicity and attending prenatal education seems to influences a woman's decision to choose the infant feeding method.

In summary, a mother's decision about how to feed her infant is complex and varies among ethnic groups. Influencing variables include age, education, income, marital status, ethnicity, employment of the mother, the mother's parity, the timing for choosing how to feed the infant, and the mother's prenatal education attendance. Each of these factors has been demonstrated to influence the choice to breastfeed in specific population groups.

**Attitudes, Cultural Beliefs, and Behaviors Towards Infant Feeding Practice**

A woman's cultural beliefs and attitudes towards breastfeeding will influence her infant feeding decisions. As an attribute of ethic, religious, social or demographic groups, culture guides one's thinking, decisions, and actions (Leininger, 1988). A number of studies have explicitly explored the manner in which culture influences the attitudes and behavior that are factors in infant feeding choices.

In industrialized and developing countries, researchers have proposed that a positive attitude towards breastfeeding is a significant predicator of a woman's decision to breastfeed
(Arafat, Allen, & Fox, 1981; Baisch, Fox, & Goldberg, 1989; Baisch, Fox, Whitten, & Pajewski, 1989; Black, Blair, Jones, & Durant, 1990; Dusdieker, Booth, Seals, & Ekwo, 1985; Gulino & Sweeney, 1989; Jones & Belsey, 1977; Kau, 1986; Kessler et al., 1995; Ko, Tseng & Shih, 1985; Lee & Leu, 1995; Libbus, 1992; Lyon, Chilver, White, & Woollett, 1981; Manstaed, Proffitt, & Smart, 1983; Manstead, Plevin, & Smart, 1984; Shapiro & Saltzer, 1985; Wambach, 1997). Research has shown that these mothers’ view breastfeeding as easier, more convenient, and more conducive to freedom of lifestyle. In contrast, mothers who have negative attitudes towards breastfeeding perceive difficulties with breastfeeding to be related to inconvenience, embarrassment, discomfort with the idea, insufficient milk and maternal employment (Collins et al., 1984; Libbus & Kolostov, 1994; Matthews, Webber, McKim, Banoub-Baddour, & Laryea, 1998; Radius & Joffe, 1988).

A mother’s confidence in her ability to breastfeed has also been identified as contributing to successful breastfeeding initiation (Laufer, 1990; Loughlin, Clapp-Channing, Gehlback, Pollard, & McCutchen 1985; Virden, 1988). Feelings of confidence are linked to self-esteem and studies that have explored a mother’s self-esteem report similar findings. Mother’s with higher self-esteem are more likely to initiate breastfeeding (Dusdieker et al., 1985; Laufer, 1990; McNatt & Freston, 1992).

Dix (1991) explored the attitudes of women and found that 84 percent chose to bottle feed their infant, 9 percent chose to breastfeed, and 6 percent chose to breast and formula feed their infant. Nevertheless, 70 percent of the bottle feeding mothers believed that breastfeeding was better than bottle feeding. Reasons reported for the women’s decisions to bottle feed included inconvenience and conflict with their schedules and/or their home responsibilities. Another study indicated that women who choose not to breastfeed might
have had a previous negative breastfeeding experience and/or complications at the time of their infants' delivery (Richardson & Champion, 1992). In interviews with low-income women concerning their infant feeding practices, McLorg and Bryant (1982) found that issues concerned with modesty and embarrassment, restrictions on life-style, physical discomfort, and inconvenience were the major reasons for women to choose not to breastfeed.

Mohrer (1979) identified that a mother's choice of infant feeding method can be categorized as "infant-centered" or "mother-centered". Infant-centered reasons refer to a mother’s beliefs about the infant’s health, psychological development, and attachment benefits for the infant. Mother-centered reasons are more specific to the mothers' biological or emotional benefits. These categories were described in a review of the literature by Kocturk and Zetterstrom (1989), who explored the attitudes towards breastfeeding among different ethnic groups throughout the world. From the findings, mothers in some Westernized industrialized countries, who give priority to the “interests of the infant,” tended to breastfeed and for example, reported that "breast is the best for baby" or made statements such as "the baby likes it". Mothers who gave priority to mother-centered reasons tended to bottle feed and often explained that "breastfeeding is embarrassing in public" or "breastfeeding is messy". In contrast, in developing countries, mothers who breastfeed more frequently chose this method for reasons that were mother-centered. Their priorities for breastfeeding were for the contraceptive effect of breastfeeding and its’ economical value rather than to consider it as the best food for the infant.

The mother's choice of the type of infant feeding method varies among ethnic groups and is influenced by health beliefs and attitudes (McLorg & Bryant, 1989; Weller & Dungy,
In a study of 97 Hispanic mothers (46 breastfeeding vs. 51 bottle feeding) and 98 Anglo mothers (50 breastfeeding vs. 48 bottle feeding) in the US, personal preferences for infant feeding choice were explored (Weller & Dungy, 1986). The researchers found differences in the beliefs and attitudes of the groups of mothers and the Anglo mothers could clearly indicate why they chose to breast or bottle feed their infants but the Hispanic mothers could not clearly articulate why they chose a specific infant feeding method. Researchers also noted that the lifestyle and health behavior of the Hispanic mothers were the most influencing factors in determining which infant feeding method the mother chose, even though these mothers believed their breast milk was superior. Many of the Hispanic mothers believed that mothers' emotions (especially anger) are "transmitted to the infant by breast milk" and that emotions such as anger "can do damage to the baby" (p. 543). The mothers also believed that "the infant eats a part of the mother and women may waste themselves and age faster by breastfeeding" (Weller & Dungy, 1986, p. 543). Clearly, the beliefs and attitudes toward health, and attitudes regarding infant feeding method vary among cultural groups.

From a prospective study by Wright et al. (1988) of a sample of 1,112 Anglo-American and Hispanic-American mothers with healthy infants, differences were compared with respect toward their beliefs towards infant feeding. Hispanic-American mothers believed a fat baby is healthy and a formula-fed baby tends to be fatter than breast-fed infants are. In contrast, many Anglo-American mothers were concerned about having a fat baby because they believed that fat infants become fat adults. Hispanic-American mothers also were more concerned about modesty and embarrassment in breastfeeding in public than were the Anglo-American mothers.
In another cross-cultural study, Gunnlaugsson and Eisdottirs (1993) explored reasons for mothers to delay in the initiation of breastfeeding in Guinea-Bissau. The mothers believed that "colostrum" is "the bad milk" and perceived it had a negative effect on the infant’s health. Because of this belief, mothers may delay in initiating breastfeeding for more than two days. Morse, Jehle, and Gamble (1990) conducted a literature review on breastfeeding practices in 120 cultures in the world. They reported that, in 50 cultures, breastfeeding is delayed until the 'true' milk appears. The reasons for delaying until after the colostrum vary among ethnic groups. Most groups report that colostrum was dirty, poisonous, contaminated, bad, or pus-containing. On the basis of their review, these researchers advised that caregivers must be sensitive when assessing a woman's beliefs about infant feeding and think carefully before advising about feeding in the postpartum period.

A study by Gabriel et al. (1986) examined the influence of demographic and cultural factors among 313 women who had normal labors, deliveries, and healthy infants. Fifty six percent of the Black women, 42 percent of the Hispanic women, 66 percent of the White women and 53 percent of the other women had husbands of the same ethnicity. The 56 percent of the mothers who chose breastfeeding were knowledgeable about some of the biomedical benefits of breastfeeding. Bottle feeding women believed that the quality and quantity of human milk was influenced by "eating food that lacked nutritional value" (p. 507) and health related practices such as smoking.

Similar influences of cultural beliefs on breastfeeding practices have been shown for Vietnamese women, living in Vietnam (Morrow, 1996) and those who immigrated to Australia (Rossiter, 1992a; Rossiter, 1992b), and Malaysian women who are Malay, Indian or Chinese, living in Malaysia (Manderson, 1984). In these four studies, most mothers were
found to believe that foods influence the production of human milk and that the maintenance of mothers' health is important for successful lactation. Similarly, the mothers in these studies believed that certain foods eaten by the mother could positively or negatively affect the infant's health. These mothers thought that warm water, cow's milk, beef, hen's eggs, and vegetables would aid lactation and that these foods would give a mother energy and keep her in good health. Cold water and ice were to be avoided, however, because they might cause convulsions, gastric upset, and wind in the infant.

The literature on cultural attitudes and beliefs among Chinese mothers towards breastfeeding focusses on different perspectives. For example, in studies conducted in Australia, Canada, England, and the US, where Chinese populations are small, issues regarding Chinese women's attitudes and cultural beliefs towards breastfeeding practices have been explored (Chan-Yip & Kramer, 1983; Goel et al., 1978; Hewat et al., 1994; Fishman et al., 1988; Rossiter et al., 1993). Similarly, studies conducted in Singapore and Malaysia, where the Chinese population is large, had also focussed on cultural beliefs towards breastfeeding practices (Fox, 1997; Manderson, 1984). In studies of the predominantly Chinese populations in Mainland China, Hong Kong, and Taiwan, however, investigators have focused on the more general, physical-socio-psychological and environmental factors that influence mothers breastfeeding practices (Guldan et al., 1995; Hung et al., 1985; Jan & Chen, 1987; Kau et al., 1993; Ko, Tseng, & Shih, 1985; Koo et al., 1985; Lee & Leu, 1995; Leung, Peng, Xu, et al., 1994; Meehan, 1990; Taur et al., 1985; Teng et al., 1994; Teng et al., 1993; Yun et al., 1989).

In a British study by Geol, House and Shank (1978), comparing different infant feeding practices among women of different ethnic origins (specifically, 206 Asian, 99
African, 99 Chinese, and 102 Scottish women), the reasons for all mothers choosing not to breastfeed were found to be embarrassment, inconvenience, and insufficient breast milk. The latter two reasons were similar to those for the Chinese mothers (i.e., inconvenience - 70 percent; and insufficient milk - 20 percent). Five percent of these Chinese mothers also reported that breastfeeding was unfashionable and another 5 percent indicated that having many choices for infant formula for the infant influenced their decision. The Scottish mothers had the lowest incidence of breastfeeding and many completely rejected the idea of breastfeeding.

In Canada, two studies that explored Chinese mothers' choice of infant feeding method were conducted. A Montreal study conducted by Chan-Yip and Kramer (1983) of Chinese mothers whose origins were from China, Hong Kong, Indochina, Taiwan, and other areas, examined the influence of counseling and education on these mothers' choice of infant feeding methods. Socio-cultural factors were found to influence the Chinese mothers' choice to formula feed. Factors that were identified included a lack of awareness about the benefits of breastfeeding, the Chinese beliefs related to the hot-cold concept that could lead to a decreased fluid intake during the postpartum period and interfere with lactation, mothers' modesty, embarrassment of breastfeeding in public, and the need to be employed. Investigators also observed that breastfeeding is influenced by the attitudes and beliefs of members of the older Chinese generation in their community that believes infant formula to be superior and that breastfeeding is old-fashioned. Although some mothers thought that breastfeeding was superior, they did not choose to breastfeed because they believed that formula feeding was more fashionable. A study by Hewat et al. (1994) in Canada supported these findings. Investigators explored the influence of cultural beliefs and values on infant
feeding practices during the postpartum period in Vancouver, BC. Of the 26 Chinese mothers interviewed, 19 spoke Cantonese and 7 spoke English. The mothers indicated that traditional Chinese beliefs and practices were not important to them but they still followed traditional practices because of their respect for their elders. Researchers also observed that formula was a status symbol for those mothers who chose not to breastfeed.

In a study in California, Fishman et al. (1988) conducted 12 focus groups that included 110 Indochinese WIC participants who were of Cambodian, Chinese, and Vietnamese origins regarding their infant feeding decisions and experiences. The researchers observed that the women’s cultural beliefs about breast milk influenced their choice to formula feed and that the mothers believed that colostrum, as the old milk that remains in the breasts, is universally discarded and thus their babies were fed boiled sugar water for the first three days. The mothers also believed that formula milk was superior and more convenient than breast milk and that their diet and physical condition was associated with the production of human milk. The women described the “excessive cooling” that occurs during childbirth and explained that it should be counterbalanced by consuming certain foods for 100 days postpartum. Nevertheless, a hot maternal diet that is important for recovery following delivery is thought to produce unhealthy breast milk. The mothers perceived breast milk as an unstable food with nutritional properties that depend on a mother’s health condition and diet. They believed that breastfeeding mothers need to restrict their diet to the types of foods considered to be safe for infant health, which is contradictory to the hot food prescribed by Chinese traditions for the mother’s health in the postpartum period. Additionally, all subjects identified increased infant weight as the single most important indicator of a healthy infant. These mothers thought that American children are taller and heavier than Indochinese
children because American children drink formula. They also perceived formula to guarantee infant fatness, health, and survival. The mother's perception of breastfeeding included supplementation with rice paste or sugar water. Similar findings were reported by Rossitter et al. (1993) who explored a similar population in Sydney, Australia. The subjects believed that the production of mother's milk was determined by an appropriate postnatal diet, her physical condition, and the positive support received from family members (i.e. assisting with household tasks). These mothers also believed that the quality of Australian baby formula was equal to human milk and that most Australian women bottlefed their infants. In a study of Malay, Indian, and Chinese mothers in Singapore, Chua et al. (1989) found that of the 39 percent of Chinese mothers who chose bottlefeeding, the belief was that bottlefeeding was convenient and gave them freedom to leave their children in the care of others for a length of time. Investigators have reported, however, that Chinese mothers more often had erroneous ideas about breastfeeding such as the belief that it ruins the figure, has a negative effect on maternal health, or that the mothers are too weak to breastfeed.

In Mainland China, investigators interviewed 363 infant caregivers that was made up of 77 percent mothers, 10 percent fathers, 10 percent grandmothers, and 3 percent others. Nearly 73 percent of the caregivers believed that breastmilk was the best food for infants between birth to four to six months of age, however, 55 percent of the infants were never exclusively breastfed and only 10 percent were exclusively breastfeed for up to four to six months. The reason given by the mothers for not breastfeeding was that they believed that their milk was inadequate (Guldan et al., 1995).

In Hong Kong, 413 mothers who were attending clinics were interviewed about their choice of infant feeding. Approximately 30 percent of the mothers believed that
breastfeeding was superior, though only 2/3 of these chose to breastfeed their infant. Another 30 percent of the mothers believed that breast milk and bottle milk were equivalent and about 2/3 of these mothers chose to bottle feed their infants (Koo et al., 1985). In Taiwan, a prospective study by Kau et al. (1993) of 274 pregnant mothers, who were attending antepartum clinics, completed questionnaires about their infant feeding choice. The factors that influenced the mothers about their choice of breastfeeding were increasing the baby’s antibodies, convenience, and saving money.

Numerous studies in Taiwan have found that factors influencing a mother’s choice of infant feeding method include the physical condition of the mother and infant (Kau et al., 1993; Teng et al., 1994; Teng et al., 1993); the impact of the mother’s physical condition on the infant (Teng et al., 1993); the presence of diseases such as Hepatitis B (Teng et al., 1993); insufficient milk (Kau et al., 1993); a mother’s breastfeeding ability (Kau et al., 1993); a mother’s perception of whether or not the infant likes the taste of human milk (Kau et al., 1993) and whether the mother provides good quality and sufficient quantity of human milk for her infant (Kau et al., 1993; Teng et al., 1994); inconvenience (Kau et al., 1993); feelings of embarrassment and modesty (Ko et al., 1985); the mother’s employment status (Kau et al., 1993); and the breastfeeding environment (Kau et al., 1993).

In summary, attitudes and cultural beliefs towards breastfeeding vary among ethnic groups and influence a mother’s choice for the infant feeding method. Mothers are concerned with their lifestyle; physical condition, and the quality and quantity of human milk; attitudes and cultural beliefs towards colostrum and human milk; attitudes of the mother and her family members; expectations towards the infant’s growth and development; and social
status. Mothers are also concerned about their breastfeeding ability and the infant’s reaction to breastfeeding.

**Social Support**

A woman’s support system has also been described as an influential variable affecting her choice of infant feeding method. A positive association between choosing to breastfeed and increased social support has been widely reported in the literature (Baranowski, Bee, Rassin, et al., 1983; Bryant, 1982; Buckner & Matsubara, 1993; Cronenwett & Reinhardt, 1987; Libbus & Kolostov, 1994; Locklin & Naber, 1993; Lothian, 1994; Manstead et al., 1983; McLorg & Bryant, 1989; Rousseau et al., 1982). Investigators note that a mother’s choice of infant feeding is made independently on the basis of recommendations by health care professionals and the mother’s own mother, friends, and her husband (Yeung et al., 1981). The influences of health professionals and of family and friends will be discussed in the following sections.

**Health Care Professionals**

Health care professionals (particularly midwives), lactation consultants, and nurses are an important source of support to breastfeeding mothers (Buckner & Matsubara, 1993; Humenick, Hill, & Spiegelberg, 1998; McNatt & Freston, 1992; Moore, Bianchi-Gray, & Stephens, 1991; Starbird, 1991; Sacks et al., 1976; Tarkka & Paunonen, 1996). Breastfeeding mothers, particularly those who have had no previous breastfeeding experience, indicate that they discuss how to feed their infant with doctors, midwives, and nurses at antenatal clinics (Humphrey, Thompson, & Miner, 1998; Sacks et al., 1976; Starbird, 1991). In a prospective study of 111 mothers who intended to breastfeed in a
community-based hospital, Izatt (1997) noted that 23 percent of the mothers received
counseling from obstetricians, 47 percent from books, and 21 percent from classes during the
prenatal period. At postpartum, nurses, physicians, and obstetricians provided breastfeeding
advice to 87, 27, and 33 percent of the mothers, respectively.

McLorg and Bryant (1989) found that middle class, rather than lower class women
who chose breastfeeding were more strongly influenced by the suggestions of physicians.
Starbird (1991), who compared the determinants of breastfeeding initiation among
primigravidas in the US in two periods between 1960-1969 and 1970-1979, found that a
medical source of breastfeeding information increased the chances of breastfeeding from 35
to 63 percent for women who did not previously have breastfeeding information from a
medical professional (Starbird, 1991).

Some studies, however, indicate that health professionals have little influence on the
mother's choice of infant feeding method and may not support a mother in deciding to
breastfeed her infant (Aberman & Kirchhoff, 1985; Brimblecombe & Cullen, 1977;
Dusdieker et al., 1985; Hally, Bond, Crewley, et al., 1984; Humphrey, Thompson, & Miner,
1998; Littman et al., 1994; McLorg & Bryant, 1989). In a cross sectional study to determine
factors that influence a mother's intention to breastfeed, 115 postpartum mothers (mostly
middle-class, married, and having health insurance) were interviewed within 24 hours of
delivery (Littman et al., 1994). Of the 55 percent of the subjects who visited a pediatrician or
family physician's clinic during pregnancy, 63 percent chose to breastfeed. Of the 45 percent
of the subjects who did not visit a medical clinic, 73 percent chose to breastfeed or to
combine breast and bottle feeding. Similarly in a prospective study by Hally, Bond, Crewley,
et al. (1984), 507 primigravida mothers felt that health professionals did not support breastfeeding.

Similar findings have been reported for the choices of Chinese mothers for infant feeding methods. In a study of 413 Chinese mothers attending maternal and child health clinics in Hong Kong (Koo et al., 1985), that the attitudes of the medical staff towards breastfeeding did not emerge as a significant factor to influence a mother's choice of breastfeeding. Nevertheless, the mothers recalled that if their nurse or doctor had a positive attitude towards breastfeeding, the mother was twice as likely to breastfeed than were those who said that the physicians and nurses attitudes were neutral (46 vs. 23 percent). Similar findings were reported by Hung et al. (1985) in a study of 714 mothers in Hong Kong. Eighty-five percent of the mother's who chose bottle feeding reported that medical professionals did not support the mothers' choice of breastfeeding. Health care professionals thus can play an important role in influencing a mother's decision to breastfeed.

Family and Friends

A number of studies report that family and friends provide mothers with positive support about breastfeeding that is more influential than that provided by health professionals (Buckner & Matsubara, 1993; Ekwo et al., 1983; Ekwo, Dusdieker, Booth, & Seals, 1984; Giugliani et al., 1994; Humphrey, Thompson, & Miner, 1998; Joffe & Radius, 1987; Yeung et al., 1981; Lothian, 1994; McLorg & Bryant, 1989; Rousseau et al., 1982). In particular, for primiparous women, the husband, the mother's mother, and friends greatly influenced a mother's decision to breastfeed. Many studies have shown that women who are strongly supported by family and friends are more likely to breastfeed (Buckner & Matsubara, 1993; Entwisle et al., 1982; Humphrey, Thompson, & Miner, 1998; Isabella & Isabella, 1994;
Lefevre et al., 1987; Libbus & Kolostov, 1994; Lothian, 1994; McLorg & Bryant, 1989; Rousseau et al., 1982; Sacks et al., 1976). In addition, Kessler et al. (1995) interviewed 133 women and their significant others (71 percent - the baby’s father and 29 percent - the baby’s maternal grandmother) in a prospective study. A woman’s intention to breastfeed was found to be strongly and positively affected by the significant other’s infant feeding preferences (Kessler et al., 1995). McLorg and Bryant (1989) also note that mothers who live with a support person are significantly more likely to choose breastfeeding than those who live alone. Freed, Fraley, and Schanler (1992) interviewed 307 women in a low-risk prenatal obstetric clinic to identify prenatal factors that influence the intention to breastfeed. From the results, mothers who perceived negative attitudes to breastfeeding by a significant other such as a husband, mother, relative, or friend, were more likely to choose bottle feeding. The researchers did not distinguish between the various kinds of significant others because they had not anticipated finding such an influence.

Recent studies indicate that fathers/partners play a significant role in the decisions about infant feeding method (Bevan, Mosley, Lobach, & Solimano, 1984; Black, Blair, Jones, & Durant, 1990; Giugliani et al., 1994; Macaulay, Hanusaik, & Beauvais, 1989; Rousseau et al., 1982; Sweeney & Gulino, 1987). In a review of the literature, Bar-Yam and Darby (1997) identified fathers as being the most important factor in a mother’s breastfeeding decision and assisting the mother at the first feeding. A positive association was also found between a woman’s perception of her male partner's supportive attitude and initiation of breastfeeding (Bevan et al., 1984; Black, Blair, Jones, & DuRant, 1990; Byrant, 1982; Jones, 1987; Kristin, Benton, Rao, & Sullivan, 1990). Littman et al. (1994) observed that the father’s strong approval of breastfeeding is associated to a significant level with a
high incidence of breast feeding (98.1 percent), compared to the father’s disinterest in feeding choice. McLorg and Bryant (1989) also observed that while the male partner is an important factor encouraging a mother to breastfeed within a nuclear family, the father, brothers and male members of the extended family are absent from influencing the decisions about infant feeding method.

Researchers have noted that the family members' attitudes towards breastfeeding also influence a Chinese mother’s choice to breastfeed (Kau, 1986; Teng et al., 1994). Kau (1986) noted that the husband is an important factor. Family members include the husband (Hung et al., 1985; Kau, 1986; Lee & Leu, 1995); the husband’s parents (Kau et al., 1993), the mother’s parents (Lee & Leu, 1995) and the grandmother (Hewat et al., 1994). In a Hong Kong study in where 85 percent of the infants were bottlefed and 15 percent breastfed (Hung et al., 1985), the investigators proposed that the support networks were different for the bottle and breast feeding groups. For example, bottle feeding mothers were most frequently influenced by professionals (35.2 percent), their husbands (22.5 percent), and their friends (22 percent). For the groups of mothers who intended to breastfeed but discontinued prematurely, the husband and the professionals were similar (44.4 percent) in their providing of support for breastfeeding. Successfully breastfeeding mothers were influenced by their husbands (47.5 percent), friends (25 percent), and health professionals (15 percent). In a study of Indochinese mothers in Australia, Rossiters et al. (1993) observed that some husbands believed that their wives should bottle feed since formula feeding is convenient and breastfeeding in public is embarrassing. These husbands advised their wives that a mother “can’t breastfeed [her] baby in the street in Sydney” (p. 7). The husband’s attitudes towards breastfeeding thus can play an important role in a mother’s infant feeding choice.
The attitudes of friends towards breastfeeding have been observed to be a significant factor to a Chinese mother’s choice of breastfeeding (Ko et al., 1985). In a study by Hewat et al. (1994), Chinese women who heard “negative stories” from their friends and family members at the beginning of their pregnancies frequently chose to formula feed (p. 12).

In some studies, sources of support have been observed to vary in ethnic populations. (Bryant, 1982; Yeung et al., 1981; Williams & Pan, 1994; Wright et al., 1988). In a qualitative study of 76 families, Bryant (1982) observed inter-ethnic differences on breastfeeding practices and examined the impact of relatives, friends, and neighbors in Cuban, Puerto Rican, and Anglican families, in Dade county, Florida. Multiple sources of support were seen to be more influential than single sources for a mother’s decision to breastfeeding. The maternal grandmother was seen as the most important advisor on infant feeding practices for Cuban and Puerto Rican mothers while Anglo-American mothers are influenced most by friends and health care professions. Barannowski and colleagues investigated the influence of social support among newly delivered Black-American, Mexican-American and Anglo-American mothers in Galveston, Texas. Among the different ethnic groups, significant differences included Caucasian women having a supportive male partner who was strongly associated with the mother’s decision to breastfeed; Black American women having a girlfriend with the greatest influence; and Mexican-American women having a grandmother as the most influential supporter (Baranowski, Bee, Rassin, et al., 1983).

In summary, social support is an influencing factor for a mother’s choice of infant feeding method, particularly in primiparous women, and the support varies among ethnic groups. A mother’s social supports include health professionals, family members, and
friends and the attitudes and beliefs of these individuals can directly and/or indirectly provide positive or negative support for a mother's choice of breastfeeding. In particular, the husband may play a particularly important role in supporting a mother's choice regarding infant feeding.

**Classical Chinese Medical Perspectives on Breastfeeding**

As background to understanding the way in which certain factors may combine to influence a Chinese mother's infant feeding choices, a brief discussion of classical Chinese perspectives on breastfeeding, as they are represented in the available literature, seems appropriate. Breastfeeding and a mother's health after delivery are clearly described as being important in traditional Chinese medical writings. In China, in the 2nd century, the formation of human milk was associated with the health and activities of the mother. The success of breastfeeding depended on the holistic functioning of the human body, including the Yin-yang theory and the Five Forces theory\(^2\) (陰陽與五行)\(^3\). The doctrine of yin/yang\(^4\) and five forces\(^5\) have played major roles in the development of Chinese medical theory and

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\(^2\) Also referred to as Wu-xing theory, Five Phases Theory, or Five Elements Theory.

\(^3\) According to the English translation, *Fundamentals of Chinese Medicine* states, "The concepts of yin and yang and the five phases were devised by the ancient Chinese as a method of defining and explaining the nature of all phenomena. As such they represent the Chinese conception of Nature and were fundamental to all nature sciences." Medicine, astronomy, calendrical science, geography, and agriculture were strongly influenced by these theories (Wiseman & Ellis, 1995, p. 1).

\(^4\) "Chinese medicine sees the human body as a whole, the component parts of which may all be analyzed in terms of yin and yang. For instance, the upper part of the body is yang and the lower part is yin; the exterior of the body is yang by contrast to the interior, which is yin. The surface of the body may be further divided, the abdominal surface being yin, and the back being yang. The internal organs may be divided into the five viscera, which are yin, and the six bowels, which are yang" (Wiseman & Ellis, 1995, p. 5).

\(^5\) "The theory of the five phases [five forces] rested on the notion that all phenomena in the universe are the products of the movement and mutation of the five qualities: wood, fire, earth, metal, and water....five phase theory has had considerable influence in physiology, pathology, diagnosis, treatment, and pharmacology" (Wiseman & Ellis, p. 7).
in representing physiology, pathology, pattern identification\(^6\), and the treatment of the whole body (Wiseman & Ellis, 1995, p. 1).

According to the traditional Chinese writings in medicine by Sun Si Meo\(^7\) (581-682 A.D.) of the Tong Dynasty, in a book titled “Bey Chi Chian Jin Yao Fang” (Thousands Description for Emergencies), human milk is described as the product of vital energies (Sun, 1975). In a book by Fun Shan (Eighteenth century A.D.), a famous physician of the Ching Dynasty, titled “Fuh Ching Jun Neu Ke” (傅青主女科), on the basis of the Yin-yang and Five Forces theories of Chinese traditional medicine, the vital energies are composed of qi and blood\(^8\) (気與血)(Fu, 1992). Qi refers to the yang, meaning male and is interpreted as being stronger in nature and able to vitalize the body. Blood refers to the yin, meaning female and is interpreted as being weaker in nature and being a substance of the body that nourishes and moistens the entire organism (Wiseman & Ellis, 1995). Qi and blood are both basic elements that are indispensable to the body’s physiological activity. Different but inseparable, they complement each other and are dependent on each other (Wiseman & Ellis, 1995). Furthermore, the relationship between qi and blood dictates that qi is ‘the commander of the xue (blood)’ and blood is ‘the mother of qi’ (Wiseman & Ellis, 1995, p. 22). Thus, blood is produced from qi, which carries the essence assimilated in the food by the stomach and spleen upward into the lungs, to combine it with lung qi. Once formed, it flows with qi through the blood vessels and at the same time, the capacity of qi enables all

\(^6\) Pattern identification refers to diagnosis of the characteristics of physical condition based on the Chinese traditional medicine perspectives such as hot or cold.

\(^7\) Chinese terms and names translated into English script by this author are placed in italics.

\(^8\) The expression blood/qi (血液), “combining the earthly, nutritional, material components of human life, are all subsumed under blood, with the animating force that moves the blood. Qi, vaporizing movement, and xue [blood], red fluid, respectively symbolize Heaven and Earth as seen from a uniquely sensitive cultural perspective” (Unschuld, 1989, p.69).
parts of the body to carry out their various activities and contribute to the adequate supply of nutrition from the blood (Wiseman & Ellis, 1995).

Fun Shan clearly describes the relationship between qi and blood with regards to the production of human milk in writings of “Fu Ching Jun Neu Ke” (傅青主女科), translated as follows:

Human milk is the production of qi and xue (blood). If qi and xue are insufficient [imbalance] after [a mother's] delivery, there may be no production of breast milk. [Furthermore,] [the production of human milk is related with] the sufficient qi and xue. If the qi is sufficient but the xue is insufficient, the production of human milk is insufficient. [In contrast], if the qi is insufficient but the xue is sufficient, the production of human milk still cannot be produced in adequate amounts. Both qi and xue are interdependent to the process of lactation. [However], improving the formulation of qi is faster than improving the production of the blood after delivery. The process of lactation is dependent on the movement and mutations of qi to stimulate the production of xue. If the qi is stronger, the production of human milk will be more adequate. [On the contrary], if the qi is weaker, the production of human milk will be insufficient. Sufficient qi can stimulate the formulation of xue that will produce sufficient human milk and it naturally let down...[this theoretical perspective of] sufficient qi and xue in the production of human milk [is important]. Most people [practitioner] focus on improving the secretion of human milk [by other method] and they neglect [the mechanism of] sufficient the qi and xue. The key point is qi stimulates the formation of human milk and the xue stimulates the formulation production of human milk. [Therefore when the qi and xue are in harmony, human milk will be produced]...The treatment of increasing human milk is in supplementing qi in order to increase the production of blood. (Fu Shan (傅山), 1992, p. 178-9).

Lee Shizen (李時珍, 1518-1593 A.D.), a famous pharmacologist of the Ming Dynasty, proposed that an unstable quality and volume of human milk naturally exists (Lee, 1982). Factors that influence the quality of human milk are the mother's temperament and her diet. If a mother is happy and satisfied and eats a bland diet that is limited in salt, hot spices, and chili peppers, then she will have a good quality and sufficient volume of her milk. If, however, a breastfeeding mother's temperament is frequently tense or irritable and she eats hot, spicy foods, drinks alcoholic beverages, or smokes, or if she has an inflammatory
Thus, in Chinese traditional medicine, the interconnectedness of biological-psycho-social and nutritional statuses of a mother influences the quality and volume of her milk being produced.

Some Chinese traditional medicine writings note that the health behaviors of breastfeeding mothers are associated with the quality of their milk. Guidelines for maintaining a mother's health and allowing her to produce the best quality and volume of milk are found in these sources.

**Relationship to the Environment**

Chinese traditions consider the harmonious relationship between the human being and the environment to be important. To maintain optimal health and be able to produce the best quality milk, breastfeeding mothers should practice health behaviors that are congruent with seasonal changes and reduce their chance of contracting an illness by staying at home and avoiding public gatherings. Writings titled Qian Jin Fang (千金方), describes what might happen if the infant suckles at the breast when a mother is ill. The infant will become ill, cry more frequently, and experience a compromised growth rate.

**Nutrition**

The harmonious relationship between the quality of the mother's diet and her physical condition will directly influence the quality of her milk and the infant's growth and development. In the postpartum period, the mother is encouraged to take traditional Chinese medicines such as "sheng hua tang" (生化湯) or "si wu tang" (四物湯) to maintain the harmony of the qi and quality of her blood to produce sufficient breast milk. According to

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9"Hot milk" means it is bad milk that [has a color that is] yellow. If the infant drinks 'hot milk', a sickness will likely develop" (cited in Gartner & Stone, 1994, p. 534).

10"Sheng hua tang" and "Si wu tang" are blood-rectifying descriptions. The purposes of these two formulas are to quicken the blood and dispel stasis, such as lochia (Wiseman and Ellis, 1995, p. 389-390).
the Chinese traditional medicine perspective, the source of qi and blood exists in the bowels and viscera\textsuperscript{11} and provides the energy to digest food and form the qi for blood circulation. The function of qi and blood reflect the physiological mechanism of the bowels and viscera. For example, postpartum women drink "sheng ju dan (生乳丹)\textsuperscript{12}" and at the same time, a mother must eat a bland diet to produce breast milk having an adequate quality. In contrast, if the mother eats hot, spicy and salty foods, the quality of the milk deteriorates. Taking appropriate foods that promote good quality milk for breastfeeding is important for the infant's health.

\textbf{Emotion}

A breastfeeding mother must maintain her emotional harmony during lactation. \textit{Pian Cheau} (扁鹊, ? A. D.), the well-known Chinese traditional physician, claimed that a mother's emotional state directly influenced her infant's health. For example, if a mother was angry then the infant's temperament became unstable. Therefore, maintaining a stable emotional status during breastfeeding is important for the infant's health (Lee, 1982).

\textbf{Sexual Activity}

The mother should decrease her sexual activity during the period of lactation, especially for the first two months (Sun, 1975). According to Chinese traditional medicine, "sufficient qi" is important for physiological mechanisms. One of the classic writings proposes that the production of human milk is associated with the power of the qi in the kidney. If the mother has sexual intercourse during lactation, the kidneys will use the available qi, and she will have insufficient qi to produce milk. In addition, if the infant sucks

\textsuperscript{11} According to the visceral manifestation theory, "The heart, lung, spleen, liver, and kidney are the five viscera. The stomach, small intestine, large intestine, gallbladder, and triple burner are the bowels" (Wiseman & Ellis, 1995, p. 51).

\textsuperscript{12} This is for the production of sufficient qi and xue(blood) and sufficient milk production. The purpose of this formula is to quicken production of the qi and blood and to formulate human milk (Fu, 1992, p. 178).
'licentious milk', the milk that is secreted after sexual intercourse, minor or major muscle spasms may occur (Gartner & Stone, 1994, p. 534).

**Habits**

Using medications and practicing poor health habits such as smoking and drinking should be avoided during lactation since they influence the formation of milk and will affect the infant’s health. For example, if a mother eats malt, a Chinese herb, the production of milk will decrease. If the mother consumes alcohol and then feeds her infant breastmilk, the infant’s skin will become reddish and overactive behavior may result.

In summary, the writings of Chinese traditional medicine consistently report that breastfeeding is the ideal source of milk for an infant’s growth and development. The balance of qi and blood is proposed to produce human milk and the mother’s health is transmitted to the infant by the milk. Also, Chinese dietary practices, emotions, sexual activity, medicine, and poor health habits are understood to influence the production of breastmilk. Furthermore, breastfeeding practices that focus on maintaining physical-social-psychological harmony during lactation should be promoted. In traditional Chinese writings, however, the effect of colostrum for the health of the mother and her infant is not clear.

**Issues in the Design of Breastfeeding Research**

Although there has been a great deal of observation and theorizing in the human lactation and cross cultural health literature about breastfeeding among Chinese mothers, many unresolved questions persist. Some of these gaps and inconsistencies in this body of literature are a result of trends and patterns within the design of the major bodies of research. Among these are issues of terminology, sampling, and methodology. A discussion of some
of these issues will help clarify the influence of the major scientific approaches upon the
evidence that is available at this time to guide our clinical practice with this population.

There are a number of terminological challenges in the field of breastfeeding
research. Researchers have attempted to differentiate between the phenomenon of exclusive
breastfeeding and mixed breast and bottle feeding using various terms and groupings,
confusing our ability to interpret results. Often, incomplete or non-comparable definitions of
these various breastfeeding practices make comparison across studies difficult. Among
various studies, the definitions of such terms as "bottle feeding," "exclusively
breastfeeding," "successful breastfeeding," and "failed breastfeeding," also vary (Chan-Yip,
et al., 1983; Hewat et al., 1994; Hung et al., 1985; Goel et al., 1978; Guldan et al., 1995;
Kau et al., 1993; Koo et al., 1985; Teng et al., 1993; Teng et al., 1994; Rossiter et al, 1993).
It is well recognized that this problem arise because of the comparable difficulty clinicians
have in assessing breastfeeding because of the complexity of the activity and the fact that the
behavior occurs repeatedly but under a range of different circumstance between its initiation
and termination.

Definitions and conceptualizations of ethnic groups are similarly problematic. By
assigning individuals to the category of Chinese, the heterogeneity of individuals within any
ethnic Chinese group tends to be ignored. For example, Hong Kong-Chinese immigrants or
Cantonese and/or Mandarin speaking immigrants could represent the target population of all
Chinese immigrants. Grouping these ethnic subjects together as "Chinese" masks some
important cultural intra-ethnic differences. Thus, what we understand to be known about
Chinese mothers may require rethinking in relation to the different experiences of different
specific target populations within this general category.
These definitional and terminological issues have also played a role in the problem of sampling. It is not always possible within the report of any study to understand clearly what specific population is being sampled and how the sample population may or may not be representative of the diversities within it. Researchers conducting studies of ethnocultural or immigrant populations have often used small, nonrepresentative, or biased samples in collecting their data. For example, it has been noted that different approaches to sampling tend to be used to collect data in relation to different geographical settings, (such as random sampling in an urban area and target sampling in rural area) (Yun et al., 1989; Guldan et al., 1995).

Finally, there are a number of methodological issues that influence the body of research based knowledge that is available to us in this field. Most of the research and literature focusing on aspects of breastfeeding practices is dominated by a biomedical orientation, which emphasizes the examination of factors influencing breastfeeding behaviors. By isolating such factors out of context, it may be that it presents us with a fragmented approach to what is actually occurring. Western approaches have also influenced many of the cultural studies of breastfeeding among Chinese mothers. This becomes apparent when ethnic practices and beliefs are compared against commonly held assumptions about what is correct or true. Furthermore, it may be that Western empirical approaches may not be ideal for capturing the complexity of phenomena that are as embedded in daily lives and histories as are immigrant Chinese mothers breastfeeding practice.

Summary

This literature review shows that a woman's background characteristics, attitudes,
and cultural beliefs towards breastfeeding and her social supports seem to be important factors that influence her choice of infant feeding. The background characteristics of a mother include age, educational background, income, marital status, ethnicity, employment, parity, the timing of choosing how to feed her infant, and participation in prenatal education. Attitudes and cultural beliefs towards breastfeeding and social support are also important factors that vary among ethnic groups. In particular, traditional cultural beliefs, attitudes towards breastfeeding of her husband, family members, and friends influence a mother's breastfeeding choice.

In the Chinese culture, breast milk is considered the ideal food for the infant and traditional Chinese writings support the idea that mothers should feed human milk to their infants. The classical Chinese writings also state that the mechanism of human milk production is associated with a mother's physiological, social, and psychological condition during her postpartum period.

From the literature review, the factors influencing a mother’s desire to breastfeed are complex, and it seems clear that the socio-cultural factors are important. Studies of Chinese mothers, however, have not yet provided us with a coherent understanding of their attitudes towards breastfeeding. Some of the studies documenting socio-cultural factors believed to influence their feeding choices are not systematic or comprehensive, and they have not clearly revealed the manner in which traditional cultural perspectives on breastfeeding influence Chinese mothers in their choice of the method of infant feeding. Advanced examination and exploration of the factors that influence Chinese mother to choose infant feeding will be important to advance our understanding in this field and to create a context in which breastfeeding practices can be advocated.
CHAPTER THREE: METHODS

Purpose of the Study

The purpose of this study is to further our understanding of how Chinese mothers living in Canada make choices about infant feeding. This study was conducted in two phases. The first phase involved a quantitative analysis of a data set and addressed the following two questions:

(a) What are the factors that influence the decision to breastfeed among Chinese mothers living in Canada?

(b) What are the relationships between personal background factors, prenatal and postnatal experiences, social support, self-confidence, intention to breastfeeding, and infant feeding practices for this population?

The second phase of the research involved qualitative techniques and was directed at gaining a more in-depth understanding of Chinese women's breastfeeding practices. The question addressed in this phase was:

(c) How do Chinese mothers living in Canada make their infant feeding choices?

Research Design

The research design in this study included two phases and incorporated both qualitative and quantitative approaches to understand the phenomenon of Chinese mothers' infant feeding choices. Creswell used the term two-phased design for studies in which the researcher conducts the qualitative and quantitative phases of the study separately (Creswell, 1994). In discussing mixed method studies, Tashakkori and Teddlie (1998) further
distinguished between studies in which qualitative and quantitative research have equivalent status, studies in which one type of method is more dominant, and studies in which there is a multilevel use of approaches. In the research proposed here, an equal status mixed method design (Figure 1) was used, in that both the quantitative and qualitative methods contributed equally to an explanation of infant feeding practices among Chinese mothers. The sequencing of mixed method designs was an important consideration. Whether one begins with a qualitative or quantitative phase can influence the results of a study. In this research the qualitative phase followed the quantitative phase and was used to explain and expand on the quantitative results. Tashakkori and Teddlie (1998) refers to this as a “sequential mixed method design” (p. 44). The specific phases of this study design are described below.

**Phase 1: The Quantitative Method Design**

From the review of the literature, several factors appeared to predict breastfeeding practices, for example, personal background and characteristics, prenatal and postpartum experiences, social support, self-confidence and intention to breastfeed. In this phase of the research, I explored the factors which influenced breastfeeding practices among this population. The purpose of this phase was to examine the relationships between background factors, attitudes, social support, self-confidence, intentions and practices of infant feeding method.
Figure 1. Diagram of qualitative methods to explain quantitative results (From Mixed Methodology – Combining Qualitative and Quantitative Approaches [p.44] by A. Tashakkori and C. Teddlie, 1998, Thousand Oaks, CA: Sage).
Conceptual Framework

Many of the variables that influence breastfeeding practices fit within the theory of planned behavior. Accordingly, this theory has been used to guide several studies on breastfeeding, and was used to guide this study (Kloeblen-Tarver, Thompson, & Miner, 2002; Duckett et al., 1998; Wambach, 1997). The analysis was guided by the Theory of Planned Behavior (TPB) (Ajzen, 1988) which is an extension of the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980). The TPB (Figure 2) focuses on predicting goal-directed behavior, and offers a framework for explanation and prediction of behaviors such as breastfeeding.

The TPB postulates three conceptually independent determinants of behavioral intention and practice: (a) attitude towards the behavior, (b) subjective norms, and (c) perceived behavioral control (Ajzen, 1988). Attitude refers to an individual's beliefs about the behavior. Subjective norms refer to what significant persons or groups think the person has to do. Perceived behavioral control refers to the person's perceived ease or difficulty performing the behavior and is assumed to reflect past experience as well as to overcome impediments and obstacles.

According to TPB, behavioral intention is predictive of achieving behavioral goals. Attitudes, perceived subjective norms and perceived behavioral control are direct determinants of intention to engage in a behavior and indirectly determine if the behavior under consideration is carried out (also see Figure 2). In addition to its indirect influence on behavior, perceived behavioral control directly determines if the behavior is carried out. Background factors, such as a person's demographic characteristics and personality traits, are also assumed to affect behavioral performance (Ajzen, 1988). The TPB serves as the
Figure 2. Diagram of the theory of planned behavior (From Attitudes, Personality, and Behavior [p.135] by I. Ajzen, 1988, Chicago: Dorsey Press.)
framework for this study. Drawing upon available literature as reviewed earlier, the specific research questions were tailored to meet the constraints of the secondary data used in this study. Due to the limitations of the secondary data set, the TPB in its entirety could not be tested. Instead, key direct effects of predictor variables emerging from the TPB were personal background factors, prenatal experiences, and personal psychosocial characteristics. These predictor variables were assessed and determined three key outcomes: intention to breastfeed, breastfeeding practices at discharge, and breastfeeding practices at the second month postpartum. I also examined whether postpartum factors such as the type of delivery influenced breastfeeding practices at discharge and at the second month postpartum. The background characteristics examined included years lived in Canada, language, age, education, and husband/partner's education and employment status. The prenatal factors I examined included parity and prenatal education. The postnatal factor examined included the type of delivery. The personal psychosocial characteristics examined included attitudes toward breastfeeding, social support and self-confidence.

Definition of Terms

The key terms guiding this study were defined as followed:

*Breastfeeding* refers to both exclusive breastfeeding and mixed breastfeeding and formula feeding.

*Behavior* refers to an action carried out. In this study, *breastfeeding behavior* refers to a mother's breastfeeding practice.

*Intention* refers to a person's plan to carry out a certain behavior (Azjen). In this study, *intention for breastfeeding* refers to a mother's plan to carry out breastfeeding.
Attitude refers to an individual’s beliefs about his/her behavior (Ajzen). In this study, the attitude towards breastfeeding is about a mother’s beliefs about the benefits of breastfeeding.

Social support refers to the perception that significant others support a person’s behavior. In this study, social support is defined as the availability of a significant other to support a mother’s infant feeding choice and practice.

Self-confidence refers to one’s perceived ability to perform a specific task or behavior (Bandura, 1977). In this study, self-confidence is defined as a mother’s perceived confidence in her ability to practice breastfeeding.

Research Questions

The specific questions related to each of the key outcomes are as follows:

1. Do personal background factors, prenatal experiences, personal psychosocial characteristics (i.e. attitude towards breastfeeding and social support) predict Chinese mothers’ intentions to breastfeed?

2. Do personal background factors, prenatal and postnatal experiences, personal psychosocial characteristics (i.e. attitude towards breastfeeding and social support), and the intention of breastfeeding predict breastfeeding practice at discharge?

3. Do personal background factors, prenatal and postnatal experiences, psychosocial characteristics (i.e. attitude towards breastfeeding, social support, and self-confidence), the intention to breastfeed, and breastfeeding practice at discharge predict the breastfeeding practice at the second month postpartum?

Hypotheses

From the literature reviewed and the TPB, the following hypotheses were
derived. These hypotheses were tested in the analytic process.

1. Mothers who are older, who have more education, whose husbands/partners have more education, who have lived in Canada longer, who are not employed, who have had previous breastfeeding experience, who have attended prenatal classes, and who are interviewed in English are more likely to have an intention to breastfeed, to practice breastfeeding at hospital, and at second month postpartum.

2. Mothers who have vaginal deliveries are more likely to breastfeed.

3. Mothers who believe breastfeeding is the best way to feed an infant and who have more social supports are more likely to intend to breastfeed and engage in breastfeeding practices.

4. Women who intended to breastfeed are more likely to have more confidence related to breastfeeding than those who do not breastfeed.

Methods

Data source

This study involved secondary analysis of a set of data collected as part of the survey, Preference for Mode of Delivery and Infant Feeding among Chinese Women Survey, which was funded by Community Care Foundation (CCF) and Medical Service Foundation (MSF) and conducted in the province of British Columbia, Canada. The purpose of the original survey was to explore those factors associated with Chinese mothers' infant feeding choices. This survey was based on a convenience sample of 250 pregnant women who delivered at British Columbia Women's Hospital. These women were of Chinese descent, and were English-, Cantonese-, or Mandarin-speaking, had a gestation period of ≥ 30 weeks, and were not subject to any risk factors for cesarean section at their prenatal stages. The participants
were recruited through the offices of 74 Chinese family physicians in British Columbia in 1997. A nurse researcher, who was of Chinese descent and was fluent in both English and Chinese (Cantonese and Mandarin), conducted telephone interviews with the participants during the period April 1, 1997 to August 30, 1997. Each woman was interviewed in her preferred language via telephone during the last trimester (after 30\textsuperscript{th} weeks) of her pregnancy, and again at the second month postpartum.

The design of the survey instrument was based on the analysis of data obtained from a focus group discussion held with Chinese women, in which key issues about infant feeding experiences were explored. The discussion was audiotaped and the findings from a qualitative analysis were summarized and presented to a focus group for validation. After the focus group had achieved consensus, the survey instrument was developed. The instrument was refined after members of this focus group met again to review its content validity. This survey instrument was intended to gain as much information as possible from the women about their infant feeding experiences.

The survey, \textit{A Chinese Woman's Preference for Mode of Delivery and Infant Feeding}, was conducted in two phases: Prenatal Telephone Survey and Postnatal Telephone Survey. Questions related to the barriers and enabling factors affecting infant feeding practice were asked in the surveys (Appendix A). For the prenatal telephone survey, the interviewer called all 280 Chinese mothers recruited through the doctors' offices; however, there was attrition of some women due to changes in address and phone numbers. A total of 250 Chinese mothers participated in the first phase of the survey. At the postnatal telephone survey, another 53 mothers could not be contacted. Attempts to trace them revealed that 23 of them had returned to Hong Kong and Taiwan after delivery, the other 30 mothers also could not be
contacted. Therefore no data was available from them. But their data on their mode of
delivery and method of breastfeeding on discharge from hospital was available from the
electronic hospital database. Thus 250 participants included in the analysis of breastfeeding
practices at the intention of breastfeeding and breastfeeding practices at discharge and 197
mothers included in the analysis of breastfeeding practices at second month postpartum.

The response rate for the follow-up survey was 78.8% (n = 197). And the non-
response rate was 21.2% (n = 53) including 6.8% (n = 17) of English speaking and 14.4% (n
= 36) of Chinese speaking participants. In this secondary database, the profiles of non-
response participants were similar to that of response participants.

Measures

The database was reviewed to determine which items could be used to measure the
key concepts of this study. As for all secondary analyses, there was the challenge of
selecting measures that can accurately reflect the concepts being studied. In addition, several
measurement issues need to be tackled, such as missing data, and nonnormally distributed
responses. In addition, each variable was reviewed to determine the level of measurement
involved so that appropriate analysis could be planned.

It was necessary to recode several of the variables in the survey instrument. The
measures used and the recoding that was undertaken is described below.

Breastfeeding behavior: Outcome variables

The behavior of interest in this study is breastfeeding. Three key outcome variables
were examined: intention to breastfeed, breastfeeding at discharge, and breastfeeding at
second month postpartum. On the survey, women were asked about their intention
surrounding infant feeding at the last trimester of pregnancy, whether they were
breastfeeding at the time of discharge at hospital, and at the time of the second month postpartum. From these items three separate dependent variables were derived.

**Intention to breastfeed:** On the survey women were asked about their intention to breastfeed. From this item one dependent variable was derived. Women were asked, "Do you plan to start with breastfeeding or bottle feeding?" These responses were provided: breast, bottle, unsure and both. This item was coded with 1 = breastfeeding and combination of breast/formula, and 0 = bottle feeding.

**Breastfeeding at discharge:** Women were asked, "How were you feeding your baby when you left the hospital?" These responses were provided: breast only, bottle only, and combination of breast/formula. This item was coded as above with 1 = breastfeeding and 0 = all other responses.

**Breastfeeding at second month postpartum:** Women were asked, "Are you still breastfeeding?" at the time of follow up. This item was only asked of women who were breastfeeding at the time of discharge. The responses options were yes and no. This item was coded to accommodate missing cases, with 1 = breastfeeding and 0 = all other responses.

**Psychosocial factors: Independent variables**

The psychosocial factors of interest in this study were attitude towards breastfeeding, social support, and self-confidence. Psychological variables that were examined included measures about beliefs regarding the best way to breastfeed, whether women had help at home, who influenced the feeding choice, and their self-confidence regarding breastfeeding. From these variables eight separate independent variables were derived.

**Best way to breastfeed:** Women were asked, "Thinking now about feeding your baby, what do you think is the best way to feed your baby?" The response options provided: breast,
bottle, unsure and both. This item was coded with 1 = breastfeeding and 0 = not breastfeeding.

*Have help:* Women were asked, "Do you have help at home to look after yourself and the baby?" This variable was coded into a binary variable 1 = yes and 0 = no.

On the survey, women were asked who influenced your thinking most regarding your choice on the method of infant feeding? The multiple response options included self, husband/partner, mother-in-law, T.V., radio, newspaper, prenatal classes, siblings, grandmother, books, friends, mother, in-laws, nurses, doctor and no one/other. Women were asked to provide as many responses as they wished. From these items five separate independent variables were derived.

*Family members influence:* This variable was coded into a binary variable 1 = family members influence and 0 = all other responses.

*Professionals sources influence:* This variable was coded into a binary variable 1 = professionals sources influence and 0 = all other responses.

*Friends:* This variable was coded into a binary variable 1 = friends, and 0 = all other responses.

*Media:* This variable was coded into a binary variable 1 = media and 0 = all other responses.

*Self:* This variable was coded into a binary variable 1 = self and 0 = all other responses.

*Self-confidence:* Women were asked to indicate, "How confident do you feel about your ability to breastfeed your baby?" on a five-point likert scale. This item was only asked of women who planned to breastfeed. This variable was coded as 4 = extremely confident, 3 = very confident, 2 = somewhat confident, and 1 = not very confident.
Personal background factors: Independent variables

Six variables of personal background were measured in this study: Interviewing language, years lived in Canada, age, education, husband/partner's education, and employment.

**Interviewing language:** At the beginning of the survey, women were asked, "Would you prefer me to speak in English, Cantonese or Mandarin?" Women who preferred to speak Cantonese and Mandarin were scored = 1 and all other responses = 0.

**Years lived in Canada:** Women were asked, "How many years have you lived in Canada?" Responses were coded in number of months.

**Age:** Women were asked, "What is your age?" Responses were coded in years.

On the survey, women were asked about both her own and her husband's years of education.

**Year of mother's education:** Women were asked, "How many years of education did you complete?" These responses were provided in years.

**Year of husband's education:** Women were asked, "How many years of education did you husband complete?" These responses were provided in years.

**Outside of employment:** On the survey women were asked about their employment. Women were asked "Do you have a job outside the home?" Responses were coded 1 = yes and all other categories coded = 0.

Two prenatal factors were measured in this study: parity, prenatal education.

**Parity:** Women were asked, "How many children have you given birth to?" These responses were provided: nulligravida and multigravida. This item coded 1 = multigravida and 0 = nulligravida.
**Prenatal education:** Women were asked, "Are you attending or do you plan to attend prenatal classes?" This item was coded 1 = yes and 0 = no.

The single postnatal factor examined in this study was the type of delivery.

**Type of delivery:** Women were asked, "Was your baby born by vaginal delivery, forceps, vacuum suction cup, or cesarean section (C/S)?" These responses were provided: vaginal delivery, forceps, vacuum, and C/S. This variable was coded 1 = vaginal delivery with forceps/ suction and 0 = cesarean section.

**Data Analysis**

Many of the outcome variables in this study were binary. In order to analyze these binary dependent variables, chi-square analyses and logistic regression procedures were used. Specifically, Chi-square analysis was used to determine bivariate relationships and logistic regression was used to analyze the effects of multiple independent variables. Odds ratios and 95% confidence intervals were reported for this analysis. Logistic regression analyses utilized the 'enter' procedure.

For outcome variables that were measured at the ordinal or interval level, mean, standard deviation, and t-test procedures were used. For all analyses the critical value was set at $p = .05$.

**Ethical Considerations**

According to the UBC Office of Research Services, Behavioral Research Ethics Board’s information, UBC Ethics approval is not necessary for secondary analysis. Dr. Patti Janssen, an Epidemiologist at the Center for Health Evaluation Research in B.C. Research Institute for Children’s & Women’s Health, permitted me to use this original data.
Rigor

Limitations related to sampling, survey design and data collection from using the chosen secondary data are as follows:

1. Because a convenience sample was used, the findings of this study cannot be generalized to other settings and contexts beyond the original survey in which Chinese mothers made infant feeding choices.

2. Because the participants were recruited through the office of their family physician, participants may have participated under duress with the fear that their care would be compromised if they do not agree to participate. In addition, selection bias may have inadvertently occurred if physicians approach or chose only a selection of women whom they felt should participate rather than approaching all eligible women for the survey. Therefore, the validity of the findings may be compromised by these potential biases.

3. The available data set may not exactly fit the concept of interest, which can further compromise the validity of the findings. For instance, it was not the initial intent of the survey to focus on measures of planned behavioral change, and some relevant information may be missing for secondary analysis.

4. There were some ambiguities in the questions and response items (tick box) in the original survey. The reliability and validity of data source may have been compromised by these ambiguities. For instance, the categorical response items such as "bottle feeding" and "mixed breast/formula feeding" may elicit misleading responses (ticks) from the participant. For example, participants who bottle feed (breast milk) may erroneously choose "bottle feeding" rather than "breastfeeding" if their perception or definition of breastfeeding includes the action of a baby suckling at the breast and excludes bottle
feeding breast milk. The lack of clear definitions within these categorical items may have led to the acquisition of inaccurate data. On the other hand, the closed-ended questions were designed to facilitate measurement. In the closed-ended questions, the researcher did not always structure all response items to include all possible responses (i.e., the response items of infant feeding practices did not include a mixture of breastfeeding and formula feeding). Such questioning limits the reliability of the findings.

5. In studies that involve participants from multi-cultural and/or multi-lingual backgrounds, instruments and data often need to be translated into the participant's language (Sawyer, Regev, Proctor, et al., 1995). Back translation\(^\text{13}\) is one way to assure adequacy of any translated instrument (Brislin, 1986; Jones & Kay, 1992; McDermott & Palchanes, 1994; Sawyer, Regev, Proctor, et al., 1995). Ensuring "cultural equivalence" of an instrument is very important for the reliability of data (Phillips, Luna de Hernandez, & Torres, 1994; Sawyer, Regev, Proctor, et al., 1995). The instrument used in this study was developed in English but was not formally translated into Chinese. The researcher did not speak directly to the respondent through a written questionnaire. Instead, data was collected from Chinese-speaking participants by a Chinese-speaking nurse researcher who had to verbally translate the questionnaire over the phone. This may have introduced threats to both reliability and validity as the nurse researcher may not have accurately translated the items in the questionnaire.

In the first phase of this exploratory study, a quantitative approach was used to examine the factors that influence Chinese mothers' infant feeding choices. Descriptive

\(^{13}\) According to Brislin (1970), back translation is a translating method from the (interview) source language (e.g., English) into the target language (e.g., Chinese), then back into the source language. Where discrepancies are discovered, a second translator is employed.
statistics (percentage, mean, standard deviation, t-test, chi-square) were used to examine the bivariate relationships among the variables and inferential statistics (binary logistic regression) were used to predicate the factors while influencing the intention to breastfeeding along with breastfeeding practices at discharge and at the second month postpartum.

While the findings of this phase provide an overview of these factors, the analysis does not reveal in detail the meaning that Chinese mothers ascribed to their breastfeeding experiences. Therefore, in phase 2, a qualitative method is employed for the purposes of interpretative description to further explore the meaning that infant feeding experience holds for Chinese mothers.

**Phase 2: The Qualitative Method Design**

The purpose of this second phase was to explore how Chinese mothers describe their experiences of making choices regarding infant feeding practices. An in-depth interpretive description approach is employed for this study (Thorne, Kirkham, & MacDonald-Emes, 1997).

**Interpretive Description Approach**

Interpretive description, a non-categorical qualitative method, is defined as an approach that applies to “qualitative inquiry into human health and illness experiences for the purpose of developing nursing knowledge” (Thorne et al., 1997, p. 173). A qualitative design is an appropriate approach to explore phenomena where little is known about the human experiences (Crewell, 1998). The theoretical background for the interpretive description approach, an inductive reasoning methodology, is guided by the meaning of people’s behavior derived from events and situations, and, in turn, behavior is seen to be
meaningful in light of its context. This approach is based on a worldview that is holistic and advocates subjectivism, pluralism, relativism, and naturalistic inquiry. This perspective implies that there is neither a single absolute truth in human reality nor only one correct interpretation. From this perspective, reality is based on the perceptions of each person; reality varies with the individual, and changes over time. The categories and themes of interpretive description exist only within a given situation and context (Thorne et al.).

For this research, the basic features of employing the interpretive description approach are as follows:

1. The categories and themes of the research are generated out of the participants’ own experiences.

2. As interpretive description generated out of individual experience is based on a naturalistic inquiry the quantity of data gathered may be large and, as no two interviews are alike, these unique narratives offer an extremely rich data set.

3. The data generated is influenced to some degree by the interaction between interviewer and interviewee as well as by other contextual factors.

4. Replicability of results is not required as a criterion for its evaluation. Interpretive description is an intuitive process used in the service of comprehension, which requires a theoretical justification to be auditable.

Thorne et al. (1997) indicate that the health and illness experience of participants is “comprised of complex interactions between psychological and biological phenomena” (p. 172). I argue that the interactions associated with socio-cultural phenomena should be added. Within naturalistic inquiry as the researcher engages in a systematic collection of
various stories from the participants' experiences, we learn about these "complete interactions" in the context of each participant's special experiences.

Naturalistic or qualitative inquiry is influenced by the choice of paradigm that guides the investigation of the problem (Lincoln & Guba, 1985). Factors influencing a mother’s choice about breastfeeding are complex and include biological, physiological, psychological, and socio-cultural aspects. These factors are also multi-faceted constructs which create multiple realities. Focused on the process and outcome of the participants' experiences, interpretative description in nursing is based on the epistemological foundation of nursing knowledge and the naturalistic inquiry approaches to answer the question of study (Thorne et al., 1997). Thus, the interpretive description approach is appropriate for exploring the Chinese mothers' experiences related to choosing and practicing breastfeeding.

Research Questions

1. What are the mothers' beliefs and attitudes toward infant feeding practice?
2. How do the social support systems of the mothers influence their infant feeding choice?
3. How self-confident are the mothers with their infant feeding practice?
4. How has the immigrant experience influenced the infant feeding of these Chinese mothers?

Definition of Terms

For the qualitative phase of this study, the following definitions are used:

*Chinese:* Landed immigrants or Canadian residents of Chinese origin who speak either Cantonese, Mandarin, Taiwanese and/or English.

*Mothers:* Women who have given birth and who have experienced infant feeding during the first three weeks following delivery.
Infant feeding practices: Infant feeding that includes exclusive breastfeeding, exclusive formula feeding, or a combination of both.

The Researcher as Instrument

In this phase of the study, the researcher served as the instrument for data collection, analysis, and interpretation of the findings. Therefore, it seems important to account for some of the beliefs, values, experiences and biases that I as the researcher hold in order to scrutinize their potential effect on the study findings.

I hold the position that participants are storytellers by nature and their stories are best told within a comfortable environment. The stories participants tell provide coherence and continuity to their experiences and play a central role in the communication with the researcher. The mission of interpretive description is to explore and understand the inner world of individuals. Through stories presented by participants, the researcher learns about the participants’ inner worlds; indeed stories provide access to the participants’ experience. Similarly, the telling of stories is a mechanism for communicating one’s inner reality to the outside world. At the same time, stories, which serve as a narrative construction around a core of facts or experiences, shape and construct the participant’s attitudes, beliefs, and behaviors. They provide a key to discovering the categories and themes by which to study experience. By studying and interpreting narratives/stories, not only does one learn about the interviewee’s experiences and their systems of meaning but also about their sense of their social world and their culture.

My personal experiences, which include being a teacher and clinical nursing instructor, have shaped the value or importance I place on gender, on country of origin, on educational background, and on socio-economic status. These experiences have also led me
to be concerned with incorporating culturally sensitive care into health promotion and illness prevention.

As a Chinese female, born in Taiwan, I grew up in an educated family and am fluent in two dialects of the Chinese language, Mandarin (my mother tongue) and Cantonese. As a child, I lived in a multicultural community where people emigrated from Mainland China after the Civil War of 1949. Neighbors spoke in different Chinese dialects and honored a variety of Chinese cultural customs. When I was seven, my family moved to a community where people spoke primarily Mandarin and Taiwanese. Therefore, I lived and worked among a variety of Chinese ethnic groups.

I have extensive clinical experience with infant feeding in two teaching hospitals in Taiwan that adhered to the Western medical model and in two other teaching hospitals which adhered to an integrated combination of Chinese traditional and Western medical models. As a nurse educator and as a clinical educator, I have applied my maternal and pediatric theoretical knowledge in developing nursing interventions for Chinese mothers in Taiwan. From my teaching and clinical experiences, I have gained valuable insights regarding expressions, patterns, desirability, and expectations of cultural care among Chinese people, particularly Chinese philosophies and perspectives of Chinese traditional medicine. The insights have enhanced my awareness, my knowledge, and my sensitivity to many of the challenges and issues faced by immigrant Chinese women.

My experiences may have also created biases that influenced the way I collected, viewed, and understood the data; in turn, these may have influenced my interpretation of participant experiences. While I began this study assuming the stance of researcher, rather than as an experienced maternity and pediatric nurse, I recognized that the mothers might
gain a sense of my clinical experience by the specificity of my questions. I refrained from answering questions that would have placed me in the role of health care provider. Where necessary I recommended health care counselors and provided their phone numbers (such as Hotline, La Leche League, and Lactation consultant).

Methods

The research method involved (a) selecting the setting for data collection, (b) selecting a sample appropriate for the study, (c) recruiting participants, (d) considering the effect on the study of the research instrument, (e) performing the data collection procedure, and (f) performing the data analysis procedure.

Setting for data collection

The aim of the interpretive description approach in this study is to describe a mother's infant feeding experiences. Therefore, control over contextual influences is not necessary or desirable. Indeed, the setting for the interpretive description is ideal when the study participants are interviewed where they normally operate. For this study, choosing naturalistic settings such as hospitals, communities and mothers' homes allowed the researcher to get close to the study participants to fully explore and understand a phenomenon from the participants' perspectives (Burns & Grove, 1997).

Sample selection

Theoretical sampling was used to meet the specific needs of this study to achieve a breadth of experiences or particular knowledge (Lincoln & Guba, 1985; Morse, 1995; Sandelowski, 1995; Thorne et al., 1997). The findings of this study were not intended to be representative of a population but instead were intended to maximize the range of

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14 Theoretical sampling means that the investigator selects individuals who can contribute to the evolving theory (Creswell, 1998)
information that is uncovered. Participants were selected to obtain rich and diverse stories. The final number of the sample cannot be predetermined but is guided by richness of the findings. Sandelowski (1995) suggests that for a study of this nature a minimum sample size of six to eight participants is required.

**Criteria for selection**

Four criteria were used for selecting the participants in this study: study participants (a) were Chinese women who have immigrated to Canada as first generation Canadians; (b) had normal vaginal deliveries or cesarean sections, experienced no complications, and had with a healthy baby; (c) had experiences with infant feeding; and (d) had to be willing to share experiences of infant feeding with the researcher (Lincoln & Guba, 1985; Thorne et al., 1997).

**Procedure for recruiting participants**

Fifteen participants for this study were recruited by informal and formal processes from November 15, 2000 to February 24, 2001. Fourteen participants who were recruited from The B.C. Women's Hospital were living in Vancouver, and one participant was recruited by a friend as a potential participant. Written approval to conduct the study and to recruit participants was received (February 25, 2000) from the University of British Columbia (UBC) Behavioral Science Screening Committee for Research (B99-0531); as well, approval was received (May 19, 2000) from the ethics and research review committees of The BC Women's Hospital in order to access Chinese mothers involved in infant feeding (W99-0195).

Participants were recruited through a hospital unit manager in three stages. In the initial stage, I met with the unit manager and her colleagues to describe the purpose of the
study and to obtain their support and cooperation in identifying potential participants for the study on the basis of the selection criteria. In the second stage, I recruited the potential participants by reviewing information from the Nursing Kardexes. I then explained the purpose of the study to potential participants and obtained verbal consent from them. I used a name-tag to identify my role as a student researcher and told potential participants that my aim was “to learn from [their] experiences.” Participants received a copy of the "participant information letter" (Appendix B) and were asked if they would be willing to participate in the study. Mothers who agreed to participate were then asked to provide their telephone numbers and addresses. They agreed to be contacted during the first eight weeks of the postpartum period for an interview. In the third stage, during the third to fourth week postpartum period, I called potential participants to inquire about whether they were still interested in participating in this study. Twenty indicated an interested, and the study was explained to them in more detail, questions were answered, and explanations of procedures for protecting human rights and maintaining confidentiality were provided. From the pool of twenty potential participants, arrangements were made with fifteen from interviews (five participants moved or were unable participant from logistical reasons). Appointment times and places for the first interviews were eventually arranged with 15 of the mothers who were eligible and willing to participate. The participants participated in this study one month after delivery.

Procedure for data collection

The data was collected from fifteen participants between November 23, 2000 to February 24, 2001. In-depth interviews were conducted in various forms (face-to-face interviews and/or telephone conversations) with permission of the participants (Appendix C).
All the interviews were conducted in the participant's preferred settings where the interview would be most comfortable and/or convenient. Eight mothers were interviewed at their homes while five mothers were interviewed by telephone due to the lack of available transit for the researcher. One participant completed her interview at a fast food restaurant. The final participant completed her interview in two places: a fast food restaurant and an office setting. Interviews were tape-recorded and transcribed. To encourage open conversation and the expression of personal experiences, privacy was assured. During the third and fourth week postpartum, when the researcher contacted participants by telephone and made appointments, ten participants were initially interviewed face-to-face and five participants were first interviewed by telephone. In the face-to-face or telephone interviews, the participant's preferred language was used, whether it be Cantonese, Mandarin, and/or English. The initial interviews took from one half-hour to one and a half-hours. After these interviews, the researcher wrote field notes, journals, and memos for each interview. The collected data was sufficient for the researcher to have confidence in making claims about commonalities and differences across all of the variables that are central to the analysis (Morse, 1995; Thorne et al., 1997). When geographical distances made face-to-face follow-up with the participant impossible, telephone interviews using a tape-recorder were employed to clarify details in the interview data and confirm the emerging conceptual structure. These follow-ups interviews were only done if the participant seemed comfortable with the extra involvement.

During the initial interview, data collection took place in two steps. The first step consisted of a ten minutes questionnaire to collect demographic and background data that would help create a portrait of the participant's interview which could be compared to others
in the same data set (Appendix D). The second step consisted of an interview, during which
in-depth information was obtained about the patterns that were relevant to infant feeding.
The focus was on the mother’s intention to breastfeed at the prenatal stage and breastfeeding
practices at the postpartum stage; the focus was also on factors the mother understood as
influencing her decisions about infant feeding. Specific questions opened discussion on such
issues as attitudes and cultural beliefs towards breastfeeding and social support. Information
about the factors that were seen to influence infant feeding choices was obtained using a
semi-structured interview guide. During the interviewing process, the researcher asked
questions generated from initial interview guides (Appendix E); the researcher only
interrupted a participant to clarify her responses and/or the meaning of terms from a local
dialect. This step of the interview lasted up to ninety minutes. Finally, the participant was
thanked and asked when it would be convenient to call her or to make an appointment to
carry out a second face-to-face or telephone interview for clarification. Questions guiding
subsequent interviews were generated from the evolving analysis.

Data preparation

In this study, the initial interview was conducted with each of the participants in their
preferred languages. The terms and expressions the women used to describe their
experiences - was one of the most interesting elements of the interview. I interviewed the
participants in two different languages - Chinese\textsuperscript{15} (Mandarin and Cantonese) and English -
and the dialect spoken in all interviews varied, depending on the participant’s comfort with

\textsuperscript{15} The Chinese language family is generically classified as an independent branch of the Sino-Tibetan family. There are seven main dialect groups in the Chinese: Mandarin, Wu, Xiang, Gan, Hakka, Min, and Yue (Cantonese). So far, Mandarin is the largest group (Li & Thompson, 1981; Chan, 1999).
one or more of these as the interview continued. To represent the accuracy of these experiences, I recorded the transcripts from interviews in the language the participant used. I did this because I wanted not only to learn about the breast feeding experiences each spoke of but also to discover what language each used to describe them.

The terms and expressions used to describe an experience often reflected the geographical area the participant was from. With this in mind, and with the idea that the processes of describing might be different in the different languages, I established two separate databases: one for transcripts from interviews in Chinese and one for transcripts for interviews in English (Figure 3). Within the English data, themes emerged that were somewhat different from those reflected in the data from the Chinese interviews. Because most of the participants used a mixture of languages to share their experiences with me during the interview - including Mandarin\(^\text{16}\), Cantonese\(^\text{17}\), local dialects, and English - I used the Chinese traditional Chinese\(^\text{18}\) writing pattern and zhuyin fuhao\(^\text{19}\) as well as English to transcribe the interviews. This versatility, I hoped, would maintain the wording and the nuances within the descriptions offered by participants. When the participants spoke Mandarin and/or Cantonese with a local dialect I was familiar with, I wrote in Chinese; when the participants spoke Mandarin and/or Cantonese with a local or

\(^{16}\) Mandarin refers to the national language in China and in Taiwan. It has been called *Putonghua* in China, which means the "common language." But in Taiwan, it has been called *Guoyu*, which means national language. Both *Putonghua* and *Guoyu* are based on the Beijing dialect. Here the term Mandarin is meant to include both *Putonghua* and *Guoyu* (Chan, 1999; Li & Thompson, 1981).

\(^{17}\) Cantonese refers to one of the non-mandarin groups which are called the Southern dialects. All the dialects are differentiated mainly on the basis of phonological features and, less so, on the basis of vocabulary and grammatical style (Chan, 1999).

\(^{18}\) The phrase, traditional Chinese writing pattern is the pattern used in Taiwan and is distinct from the more simplified writing pattern used in China (Chan, 1999).

\(^{19}\) Zhuyin refers to "sound annotating symbols" used for the pronunciation of Mandarin in Taiwan (Chan, 1999).
Figure 3. Management of Data Collection and Data Analysis.

Interview data in Chinese (Mandarin, Cantonese) → Transcripts in mixed language (Chinese, Zhuyin-fuhao, English) → Data analysis → Development of themes in Chinese → Themes and quotes translated to English → Reviewed with English speaking colleagues. Reviewed

Interview data in English → Transcripts in English → Data analysis → Development of themes in English → Integration of themes in English →

Reviewed with my English speaking supervisor →

Direct viewed

Indirect viewed
colloquial dialect I was not familiar with, I wrote in zhuyin fuhao; and when participants spoke in English, I wrote in English. When faced with phases from local and colloquial dialects I was not familiar with, I reviewed these with a multilingual colleague. Thus, Chinese, zhuyin fuhao, and English were the three different languages used in the transcripts.

The language(s) the participants used in interviews varied according to both the region each was from and the year each came from there. This regional variation was reflected in the lexical norms - that is, the linguistic terms which vary with both time and place as language fluctuates - that each used. Often the same referent assumes different Chinese names, each with different nuances and each reflecting different Chinese ethnic backgrounds. As Mandarin originated from Beijing and as China and Taiwan were separated by Civil War for many decades, language shifts occurred differently in each region. Also Hong Kong was colonized by the British in 1842. In the course of keeping field-notes, memos, and journals, I was able to identify the meanings of the lexical terms of languages I was not as familiar with. Adhering to participants' own usage not only helped me to understand their specific meanings but also allowed me to synthesize participants' experiences into themes which respected those original meanings. To illustrate, the following table shows examples of some of the language differences that came to light in the course of conducting this study.
Table 1

**Lexical Variations among English, Mandarin (Mainland China), Mandarin (Taiwan), and Cantonese**

<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin (Mainland China)</th>
<th>Mandarin (Taiwan)</th>
<th>Cantonese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal class</td>
<td>yùnqiánpèixun</td>
<td>māmājiàoshi</td>
<td>chānqiānbhaan</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>bǔlǔ</td>
<td>wèinǎi</td>
<td>Jūnnǎi</td>
</tr>
<tr>
<td>A bottle of</td>
<td>yǐpíng</td>
<td>yǐpíng</td>
<td>yhātjheún</td>
</tr>
<tr>
<td>About one hour</td>
<td>yī gè lài xiǎo shí</td>
<td>dà yuē shí yī xiǎo</td>
<td>dāai yeuk gǒ zōng</td>
</tr>
</tbody>
</table>

**Data analysis procedures**

In search for the structure of a participant’s experiences, the interpretive description approach was the qualitative analytical method used. Data analysis of a participant’s experiences began with the first interviews and continued throughout the data collection and writing processes. Throughout the research process, I continued to remain open to new patterns and new terms such that a continually reflective research process was conducted.

When engaging in data analysis and developing themes, I first synthesized participants’ experiences in Chinese and English separately. Thus, what emerged from the participants’ own language as reflected in the field notes led to coding of the specific ideas and subsequently to the creation of themes. The procedure for data analysis was guided by the constant comparative method (Lincoln and Guba, 1985; Thorne et al., 1997) which includes five steps. Using this method, I analyzed the data and developed themes from each Chinese mother’s experience as follows. First, I obtained a sense of the overall data; I read all collected information several times in its original language to obtain a sense of the overall data and thus was able to immerse myself in the details in the field notes related to infant
feeding experiences. Second, I took notes; I wrote marginal notes, field notes, and reflective memos in both Chinese and English. Third, I summarized field notes; these contained the key points revealed by participants in Chinese and/or in English. Cantonese and Mandarin taped interviews were translated first into the traditional Chinese writing pattern and then into English, the language in which they would be shared with my English-speaking supervisory committee members. Engaging in these translations helped me grasp the overall storyline of the interviews. Fourth, I developed a systematic strategy by which to code patterns within the data. By re-reading the transcriptions more slowly and by keeping in mind the overall picture of the participants’ experiences, I developed a systematic method of coding and of recording the data. Having worked with hard copies of transcripts and field notes, I found and listed statements of meaning into meaning units. Fifth, I synthesized, theorized and recontextualized the patterns; by integrating and synthesizing the codes into a descriptive structure, I illuminated patterns within the meaning of infant feeding experience for these women. The code files created a way of comparing and synthesizing data across interviews and facilitating the aggregation of like data. My English speaking supervisor directly and indirectly critically reviewed all five steps in my use of qualitative methods, my process of data collection, data analysis, synthesis, theorizing and recontextualization of the concepts, and my use of methods, meanings and interpretations (also see Figure 3).

Thus, from preliminary understandings to the development of deeper insights, the research that began with the question “What is happening here?” proceeded to examine “What can I learn from this?” This process developed into a way of coding that could organize and manage the data, thus revealing the deeper insights available from close examination of specific experience.
Because one of the features of my research is that of translation from a language unfamiliar to my supervisor, an added step was to allow critical examination of my translation of categories, themes, and quotes. Colleagues fluent in English remarked only on the grammatical correctness of some English expressions but felt the diversity of the meaning was maintained. I found that general concepts, such as "prenatal classes" and health related concepts, such as "breastfeeding interventions," held no semantic difference between the Chinese and the English; yet, concepts regarding social and cultural values and/or personal beliefs revealed a significant gap between the ideas that can be expressed in the two languages, such as "hot food".

To maintain an appropriate sense of what was being said by the participant, then, I examined critically the meanings of terms from linguistic, social, and cultural source books. As well, I clarified whether the translated language for terms, themes, and theories, such as "body", "harmony" and "balance," respected the original concepts discussed in interviews. In this way, Chinese terms and English themes were integrated into an English context. Thus the critical review offered by my supervisor had to be indirect when research was being conducted in Chinese and direct when translation into English occurred.

**Ethical Considerations**

Strategies to protect the rights of study participants were incorporated based on the following assumptions. Human subjects in any study have the right to be free from physical and psychological harm; they must maintain the right to self-determination and be able to spontaneously decide whether or not to participate in the study (Polit & Hungler, 1999). Subjects also have the right to full disclosure (that is, to be given a detailed description of the
study) and the right to fair treatment. In this study, the rights of the participants were protected by informed consent and procedures of confidentiality.

**Informed consent**

Informed consent is intended to protect the rights of study participants to self-determination and full disclosure (Polit & Hungler, 1999). Also, being a researcher in this study is a validation of the study participant's agreement to allow the researcher to enter into their world and share their experiences (Munhall, 2001). In this study, informed consent was obtained from each participant before the interviews were conducted. The letter to obtain informed consent (Appendix C) included the study's title and purpose and an explanation about procedures for the study. It included a statement of the rights of the study participants (including that of having the freedom to withdraw at any time); the measures to protect confidentiality of the participants; and a statement that the participant had the opportunity to ask questions at any time (Munhall, 2001). In consideration of the need for participants to provide informed written consent which would insure confidentiality, participants who were non-English speaking were provided with a translation of the informed consent in Chinese prepared by the student researcher (also see Appendix C). Participants were offered the opportunity to ask questions. After signing the informed consent, the participant kept a copy and gave one copy to the student researcher.

**Confidentiality**

Participants were guaranteed that the raw data they provided would be accessible only to me and to my supervisory committee. In this study, four practices were maintained: (a) all identifying information was removed from the data and kept in a separate locked cabinet; (b) the names of the participants were coded with subject identities known only to the student researcher.
researcher and supervisory committee; (c) only the student researcher and supervisory committee had access to the transcript materials; and (d) the data was reported in the aggregate with the identities of participants disguised.

**Rigor**

Lincoln and Guba (1985) suggest methodological rigor be evaluated in terms of credibility, transferability, dependability, and confirmability. Credibility is the criterion against which the "truth-value" of this study is evaluated. Interpretation of the findings of this study was based on patterns discerned in participants' experiences (Lincoln & Guba, p. 290). The "truth" of the findings was established in many ways, but most centrally on the discovery of human experiences as they were lived and perceived by the participants themselves. The interpretive description approach was credible when it allowed the researcher to generate "faithful" descriptions that participants themselves supported as true. In checking the faithfulness of descriptions with participants and in reviewing findings with peers, the reflexivity of the study is also checked.

**Credibility**

For scientific inquiry to be credible, reflexivity as it occurs in fieldwork must be understood. Anderson (1991) proposes that "field work is inherently dialectical - the researcher affects and is affected by the phenomena (s)he seeks to understand" (p. 117). In my study, the process allowed for a dynamic interaction between researcher and the total research environment. Two features of the process required reflexive attention: researcher's biases and the nature of her interaction the participants. Because researcher bias threatens the credibility of a study, my biases were examined in detail to critically examine my own values, assumptions, characteristics, motivations, and roles and the manner in which they
might have influenced the data collection, the data analysis, and the data interpretation. Also, because the researcher's interactions with the participants can have such a profound influence on the credibility of the results, I engaged with ongoing discussions with my supervisor in relation to the data collection processes and the data analysis methods that I would use to obtain rich and valid data.

Included within these processes and methods was information on my interviewing skills and my knowledge of languages as well as on the impact of any third person involved. Among the participants were new mothers who had lived in Canada less than 2 years and who were very anxious. These mothers asked the researcher if they could see the research questions at the beginning of the interview while I was turning on tape recorder. They were concerned with their own ability to offer good answers for interview questions. I explained that I wanted to learn what their infant feeding experiences were and that I did not want to evaluate their infant feeding skills. In the meantime, I gave them further assurance that all information was anonymous and that they should feel free to withdraw from the interview at any time, for any reason. Despite this initial expression of hesitation, only ten minutes into the interview, these participants felt free to share their infant feeding experiences with the researcher. While my presence as a student researcher at first intimidated participants, the interaction quickly led to the participants feeling comfortable with the experiencing of an audio-taped interview.

The researcher became familiar with the language(s) and idioms used by each participant. Conducting an interview in the participants' familiar and preferred language not only allowed the researcher to collect data without interpreters, but also allowed the researcher a better understanding the context both of what was being said and the interview
itself. Since wide variations existed in participants' preferences for language, a comprehensive understanding of the participant's culture, as reflected in the Chinese languages, contributed to this researcher's sensitivity as data was collected and analyzed. To minimize biases related to the language used, social, cultural, historical, and linguistic dimensions were examined prior to the interviews to prepare and enhance this researcher's cultural sensitivities. By conducting the interviews at a place designated by the participants as most comfortable for them to be in, the researcher could assume that participants would choose a place in which each felt she could express herself freely and clearly.

At the beginning of the interviews, some of the participants who came from China and whose mother tongue was Cantonese, spoke to me in Mandarin due to their assumption that only Mandarin is spoken in Taiwan, this being the researcher's birth place. After 10 minutes into the interview, the researcher asked them if they would like to communicate in Cantonese. These mothers all changed from Mandarin to Cantonese immediately and were then found to discuss their infant feeding experiences even more openly.

When the mothers used a certain dialect or colloquial language, all information was more readily related to the participant's own cultural background, offering additional and helpful contextual understanding of their individual infant feeding experiences. Information pertaining to variations in language usage was documented in field notes, memos, and journals, all of which maintained and enhanced my understanding of both the textual and the cultural diversity.

The term, "the third person," here refers to someone who was in the room during the interview process. Quite possibly the presence of a family member (the participant's own mother, her mother-in-law, her husband, or a child) or a friend might influence the way
participants expressed themselves. Sometimes the third person sat quietly by, sometimes
taking care of the baby and/or picking up the telephone when it rang. Some participants’
mothers also provided responses on behalf of their daughters. These participants' mothers
would respond to questions asked of the participants when a participant either did not have
an answer immediately or gave a response that differed from the participants' mothers'
perspective on infant feeding. It was observed that, when silence occurred on the part of the
participant, it was apparently intended to take the time to recall a certain experience. Yet, at
these times, participants' mothers were more likely to fill the silence. Family members and
friends were more likely to get involved during the interviewing process when participants
were sharing cultural knowledge about caring. On the other hand, when participants were
sharing their knowledge and/or experience of Western biomedical knowledge, family
members and friends tended to remain silent and sat apart from the participant and the
researcher. When the third person did take an active role within the interview process, the
participants always sat quietly, allowing their relatives to speak.

Sometimes the participants' children, ranging from three to 10 years, were included
within the interview process because no one other than the participant was there to take care
of them. These children were more interested in the researcher being a stranger and the tape
recorder as a potential toy. In addition, these children expressed their curiosity as to why the
researcher was talking only to their mothers and not to them and talking only about their
mothers' behaviors related to the new baby. Sometimes, the researcher needed to play with
the children so as to allow participants a chance to answer and respond without interruption.
By directly responding to the children, distraction from interviews was minimized, and an
environment in which participants could share their experiences freely was maintained.
In one situation a husband held the strong view that his wife should not participate in any kind of research or survey. As we began the interview, the husband told his wife to promise not to participate in any more studies. Hearing this, I offered the participant the option to withdraw from the study immediately; she declined the offer and said she would like to participate even though she lacked breastfeeding experience. During the interview, her husband came into the kitchen where the interview was being conducted three times. Each time, I greeted him and attempted to involve him in the conversation regarding the participant’s infant feeding experiences. He did not respond and his presence and silence created discomfort and may have prevented the participant from openly sharing her experiences with me; this was evidenced by her frequent short responses such as “I do not know that....” or "I forgot it." After this interview, I critically examined with my supervisor the interactions between the participant, the participant’s husband, and myself. By the second telephone interview, the interactions between the researcher-participant were considerably improved. I noticed that, although sometimes the participant did not respond to my questions right away, she provided responses such as, “Let me think about how to answer your question” or “Let me recall the situation.” Using the telephone, I perceived that both of us felt more comfortable with the interview process as she shared her experiences more freely.

A member check is, according to Lincoln and Guba (1985), “the most critical technique for establishing credibility” (p. 314). To conduct a member check, the researcher seeks the participant’s own views regarding the credibility of the findings. This approach involves taking the data, the analysis, the interpretations, and the conclusions all back to those who can then judge the accuracy and credibility of the account (Crewell, 1998). In this
study, member checking was conducted after initial interviews in two steps: The first step - relating to the *credibility of the methods* of collection data - meant reviewing the all stories/narratives with participants in their preferred language to extract their views of their stories. During some interviews, the topic of how language is used within the different Chinese communities came up and was discussed. I reviewed whole stories back to participants and added what I had learned about this participant's infant feeding experiences. When the participant agreed with my review, I wrote verbatim the transcripts, field notes, journals, memos and data analysis. The second step - relating to the *credibility of the findings* - meant reviewing the actual theories and conceptualizations that resulted from the participants' views. In the process of analysis, I validated the credibility of my interpretations by checking the conceptualized themes against the original data. In the findings reported, those who had experienced these themes recognized a faithful description of what Chinese-Canadian mothers perceive to be appropriate decisions for their infant feeding choices. After I had completed recording the findings, I called the participants and asked for discussion about what I had learned from their experiences. The discussion focused on whether I had adequately captured their experiences.

Peer review provides an external check of the research process and is conducted to "keep the researcher honest." Questions from peers can often contribute to a deeper reflexive analysis by the researcher (Lincoln & Guba, 1985). Peer review can increase the credibility of the study for it checks the researcher's collected data, analytic categories, interpretations, and conclusions (Lincoln & Guba, 1985). During the process of reviewing research materials, peer reviewers can question whether the student researcher has accurately translated the participants' experiences. In this study, the peer review process was conducted
in three stages. In the initial stage, I sought a peer colleague with multilingual abilities whom I could consult for some of the meanings of the dialect and local colloquialisms spoken during interviews with the participants. In the second stage, after I had finished data analysis and had translated themes and quotes from Chinese into English text, I sought peer colleagues who were English speakers and could check the clarity of translated themes and quotes. Also, with them, I critically examined the meanings of translated statements in context, using socio-cultural and linguistic books. At the third stage, I sought the input of my supervisor, with whom I could critically assess and review my process of data collection, data analysis, synthesis, theorizing and recontextualization of concepts (which included methods, meanings, and interpretations) against the supervisor’s general knowledge and experience of qualitative methods.

Transferability

Transferability is the criterion against which the applicability of qualitative data is evaluated (Lincoln & Guba, 1985). Two appropriate perspectives of applicability relate to the fit of the study findings with the data from which they are derived, and the fit of the study findings with the contexts. First, the findings of this qualitative research cannot be generalized because every research situation was composed of a researcher in interaction with particular participants. Thus, since the findings are grounded in the lived experiences of these participants, they cannot formally be generalized to other situations. Second, the findings of this study may not fit contexts that differ significantly from those of this study situation, as determined by the degree of similarity of fit between the two contexts (Lincoln & Guba, 1985). Consequently, rich and detailed descriptions can give readers an explicit experience of “being there” with the researcher, such that they can
"use their judgement" to "assess the likelihood of the same processes" recurring and "determine whether the findings can be transferred because of shared characteristics" (Seale, 1999, p. 118).

**Auditability**

Auditability is the criterion against which the consistency of the findings can be measured. Lincoln and Guba (1985) describe the situation wherein the researcher leaves a clear decision process of events within a study, and the researcher explains the logic such that another researcher can clearly follow the decision trail used by the first researcher. Thus, audibility implies a traceable trail that lets readers identify sources, and the interpretive description approach emphasizes the unique human experience without expecting duplicate data. The consistency of findings using an interpretive description approach was evaluated against the criterion of audibility, instead of being evaluated for its reliability in the quantitative sense (Sandelowski, 1986). Rather, the student researcher left a clear decision trail for others to follow from the same or from comparable findings, given the data, perspective, and situation (Sandelowski, 1986). The members of my supervisory committee - experienced qualitative researchers - checked the research plan and its implementation to ensure audibility of the study.

**Confirmability**

Confirmability is the criterion against which neutrality of the data is confirmed and interpretational confirmability is described as the audit strategy (Lincoln & Guba, 1985). For the interpretive description approach, confirmability refers to the neutrality of the findings but not to the subjective or objective stance of the student researcher. Thus the neutrality of the researcher toward the data has been considered for this study. This study met the
criterion of confirmability once credibility, auditability, and transferability were also established (Sandelowski, 1986). The findings of this study included examples of collected data (translated transcription), analyzed data, a synthesis of data, meaning units, clustered themes, textual and structural descriptions, a synthesis of meanings, and an essence of the experience.

Summary

The purpose of this study was to understand how Chinese mothers living in Canada make choices about infant feeding. This study was conducted using a sequential, mixed-method design that combined two separate phases of research methods, with the qualitative research method following the quantitative research method.

The first phase, based on quantitative methods, examined the factors and relationships that influenced the decisions to breastfeed based on attitudes toward breastfeeding, social support, and self-confidence among Chinese mothers. In this phase, the study involved a quantitative analysis of a data set, partly based on a survey of Chinese women's preferences for Mode of Delivery and Infant Feeding in BC, Canada. The conceptual framework was tailored upon the Theory of Planned Behavior (TPB). Descriptive and inferential statistics (Chi-square analyses, t-tests, logistic regression and multiple regression) were used to examine the relationships among personal characteristics, attitudes, social support, self-confidence, and infant feeding practices for this population. Thus this quantitative phase, using the secondary database, helped to critically examine the factors that influenced if and how Chinese mothers breastfeed.
The second phase, based on a qualitative method, explored the Chinese mothers' experiences in making their infant feeding choices. Interpretive description was used to produce an account of themes and patterns among and between these experiences. The interviews were conducted with Chinese mothers at their preferred places and in their preferred language. Peer reviewers examined both the process of data translation and data analysis and the process of theorizing and the recontextualizing which produced the findings. This qualitative phase, using interpretative description approach, helped to explain in depth how the Chinese mothers make their infant feeding choices.
CHAPTER FOUR: PHASE 1: THE RESULTS OF THE QUANTATIVE STUDY

Within the first phase of this two-phase exploratory study, the factors that influence Chinese mothers' infant feeding choices were examined. It was the expectation of this investigator that the results from this phase would enhance the understanding of the factors influencing Chinese mothers' breastfeeding practices. The elicited findings provide an overview of these factors. Phase two incorporates a qualitative approach, and is focused on exploring Chinese mothers' experience with breastfeeding practices.

Phase 1: Three questions examined are as follows:

1. Do personal background factors, prenatal experiences, personal psychosocial characteristics (i.e. attitudes towards breastfeeding and social support) predict Chinese mothers' intentions to breastfeed?

2. Do Chinese mothers' personal background factors, prenatal and postnatal experiences, personal psychosocial characteristics (i.e. attitudes towards breastfeeding and social support) and the intention of breastfeeding predict breastfeeding practice at discharge?

3. Do personal background factors, prenatal and postnatal experiences, and psychosocial characteristics (i.e. attitudes towards breastfeeding, social support, and self-confidence), the intention to breastfeed, and breastfeeding practice at discharge predict the intending breastfeeding women's breastfeeding practice at the second month postpartum?

Demographic and Personal Data

The average age of the 250 participants was 31.2 years (SD = 4.11) with a range
of 21 to 43 years (Table 2). The average number of years lived in Canada of the 250 participants was 7.34 years (SD = 7.72) with a range of 8 to 44 months respectively. The average educational level of the participants was 12.59 years (SD = 3.56) with a range of 2 to 27 years. Their corresponding partners had an average of 13.62 years (SD = 4.11) of education with a range of 4 to 30 years. The majority of participants were interviewed in Chinese (72%) while the remaining participants were interviewed in English. Sixty percent of the participants were employed outside of the home. Nearly 75% percent of the participants indicated they had help at home. Only 24% of the participants planned to attend prenatal classes. Nearly half of the participants were nulliparous, and over 85% of the participants delivered vaginally. With regards to breastfeeding attitudes, 86.4% of the participants indicated their belief that breastfeeding is the best way to feed an infant while the remaining 13.2% selected the combined response of "formula milk as a good food source" or "don't know." With regards to "intention to breastfeed," the majority of the participants at both prenatal (76%) and postpartum (74%) stages consistently reported the intention to breastfeed. At the second month postpartum, 62.6% of 155 participants who intended to breastfeed at prenatal stage still continued to breastfeed their babies. The average measure of confidence at the prenatal interview was 2.45 (SD = .92) with a range of 1-4 (no confidence to extremely confidence).

In response to the question of who has the most influence on their infant feeding decision, 48.4% indicated it to be themselves while 19.6% indicated family member with the remaining evenly distributed amongst professional sources (10.4%), friends (10%) and media (10.8%).
Table 2

Demographic and Personal Characteristics of Infant Feeding Practices among Chinese Mothers (n = 250)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>(n) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Prenatal stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (21-43 years)</td>
<td>244</td>
<td>31.2</td>
<td>4.11</td>
<td></td>
</tr>
<tr>
<td>Years lived in Canada (8-44 months)</td>
<td>245</td>
<td>7.34</td>
<td>7.72</td>
<td></td>
</tr>
<tr>
<td>Years of education (2-27 years)</td>
<td>243</td>
<td>12.59</td>
<td>3.56</td>
<td></td>
</tr>
<tr>
<td>Years of husband/partner education (4-30 years)</td>
<td>225</td>
<td>13.62</td>
<td>4.11</td>
<td></td>
</tr>
<tr>
<td>Language of interview</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td></td>
<td></td>
<td></td>
<td>180(72.0%)</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>70(28.0%)</td>
</tr>
<tr>
<td>Employment</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>150(60.0%)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>95(38.0%)</td>
</tr>
<tr>
<td>Plan to attend prenatal class</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>60(24.0%)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>190(76.0%)</td>
</tr>
<tr>
<td>Helper at home</td>
<td>249</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>187(74.8%)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>62(24.8%)</td>
</tr>
<tr>
<td>Parity</td>
<td>241</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nulliparous</td>
<td></td>
<td></td>
<td></td>
<td>118(47.2%)</td>
</tr>
<tr>
<td>Multiparous</td>
<td></td>
<td></td>
<td></td>
<td>123(49.2%)</td>
</tr>
<tr>
<td>Type of delivery</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal delivery</td>
<td></td>
<td></td>
<td></td>
<td>212(84.8%)</td>
</tr>
<tr>
<td>C/S</td>
<td></td>
<td></td>
<td></td>
<td>36(14.4%)</td>
</tr>
<tr>
<td>Best way to feed infant</td>
<td>249</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
<td></td>
<td>216(86.4%)</td>
</tr>
<tr>
<td>Formula/don’t know</td>
<td></td>
<td></td>
<td></td>
<td>33(13.2%)</td>
</tr>
<tr>
<td>Intention to infant feeding</td>
<td>249</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
<td></td>
<td>190(76.0%)</td>
</tr>
<tr>
<td>Formula feeding</td>
<td></td>
<td></td>
<td></td>
<td>59(23.6%)</td>
</tr>
<tr>
<td>Who has influenced infant feeding decision</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td></td>
<td></td>
<td></td>
<td>121(48.4%)</td>
</tr>
<tr>
<td>Family members</td>
<td></td>
<td></td>
<td></td>
<td>49(19.6%)</td>
</tr>
<tr>
<td>Media</td>
<td></td>
<td></td>
<td></td>
<td>27(10.8%)</td>
</tr>
<tr>
<td>Professional sources</td>
<td></td>
<td></td>
<td></td>
<td>26(10.4%)</td>
</tr>
<tr>
<td>Friends</td>
<td></td>
<td></td>
<td></td>
<td>25(10.0%)</td>
</tr>
<tr>
<td>Confidence on breastfeeding(^b) (scored 1-4)</td>
<td>155</td>
<td>2.45</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>II. Postnatal stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At discharge</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant feeding at discharge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
<td></td>
<td>185(74.0%)</td>
</tr>
<tr>
<td>Formula feeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At second month</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women who intended to breast feed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>97(62.6%)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>58(37.4%)</td>
</tr>
</tbody>
</table>

\(^a\) There are some slight variation in the numbers for some questions because of missing data.

\(^b\) Women who intended to breastfeed.
**Intention to Breastfeeding at Prenatal Stage**

In comparing women who intended to breastfeed with those who did not intend to breastfeed, it was found these two groups differed on several key factors (Table 3). Women with an intention to breastfeed, as well as their partners, had higher levels of education as did their partners. As well, these women were more likely to have plans for attending prenatal classes; be nulliparous, and have a helper at home than those with intention to formula feed. In terms of who influenced the decision to breastfeed, women with an intention to breastfeed were most influenced by "others." The category of "others" includes friends, books, media, and health professionals.

Surprisingly, 52% (n = 31) of those women with no intention to breastfeed agreed with the statement that breastfeeding is the best way to feed an infant. Women with no intention to breastfeed were significantly less likely to have help at home.

**Breastfeeding Practices at Postpartum**

**At Discharge**

To determine the influence of key variables, mothers who had practiced breastfeeding at discharge were compared with those who had not practiced breastfeeding (Table 4). With the mothers who had practiced breastfeeding at discharge, their profile of findings at the postpartum stage was found to be consistent with the profile of findings at the prenatal stage. However, it was found that the mothers who were breastfeeding at discharge had a higher level of education, and were more likely to speak English, to have planned to attend prenatal, to have a helper at home, and to be first time mothers biologically in comparison with the mothers who were not breastfeeding at discharge. In addition, the partners of the mothers...
who were breastfeeding at discharge were found to have a higher level of education than those partners of the mothers who were not breastfeeding.

Of no surprise, it was found that the breastfeeding mothers at discharge were also the ones who had indicated their intention to breastfeed at the prenatal stage. As with the prenatal analysis, 68% of those mothers who formula fed their infants (n = 42) indicated that breastfeeding is the best way to feed an infant. With respect to their intention to breastfeed, only 36% of mothers (n = 22) who formula fed their infants had indicated, at the prenatal stage, intention to breastfeed. In addition, the mothers who had formula fed at discharge were less likely to have a helper at home than those who were breastfeeding.

**The Second Month Postpartum**

With the second month postpartum follow-up questions, of the original 250 participants surveyed, only 196 participants were able to be contacted for the second interview via telephone. Of the fifty-four participants who were not available for the second telephone survey, 23 participants had returned to Hong Kong or Taiwan while the remaining 31 participants’ survey data were found to be incomplete (missing data). Of the 196 participants, 155 indicated they were breastfeeding at discharge. Only these mothers were asked at the second month. Therefore, the sample for this analysis was limited to these 155 women; with those who were breastfeeding compared with those who formula fed (Table 5). The groups were found to differ in regard to mothers’ infant feeding intentions and perceived confidence with breastfeeding during the prenatal stage.

Not surprisingly, the mothers who continued to breastfeed at the second month postpartum had indicated, at the prenatal stage, an intention to breastfeed. The women who continued to breastfeed at two months postpartum reported greater confidence in their ability
to breastfeed at the prenatal stage than those who were formula feeding at the second month postpartum. Eighty-two percent of mothers who were formula feed their infants (n = 48) at the second month postpartum indicated, at prenatal stage, their intention to breastfeed.

No other significant differences in demographic characteristics (age, years lived in Canada, educational level, preferred spoken language) or other determinant characteristics (plans to attend prenatal class, parity, type of delivery, having a helper at home, and influences of family members, health care professionals, media and book, and self) were found between the two groups at the second month postpartum period.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formula feeding (n = 59)</td>
<td>Breastfeeding (n = 190)</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>M</td>
</tr>
<tr>
<td>Age</td>
<td>244</td>
<td>31.41</td>
</tr>
<tr>
<td>Years lived in Canada</td>
<td>245</td>
<td>6.74</td>
</tr>
<tr>
<td>Years of education</td>
<td>243</td>
<td>11.02</td>
</tr>
<tr>
<td>Years of husband/partner education</td>
<td>225</td>
<td>11.65</td>
</tr>
<tr>
<td>Language of interview</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>53</td>
<td>89.8%</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
<td>10.2%</td>
</tr>
<tr>
<td>Employment</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
<td>64.9%</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>35.1%</td>
</tr>
<tr>
<td>Plan to attend prenatal class</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>8.5%</td>
</tr>
<tr>
<td>No</td>
<td>54</td>
<td>91.5%</td>
</tr>
<tr>
<td>Parity</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>Nulliparous</td>
<td>13</td>
<td>22.8%</td>
</tr>
<tr>
<td>Multiparous</td>
<td>44</td>
<td>77.2%</td>
</tr>
<tr>
<td>Helper at home</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>64.4%</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>35.6%</td>
</tr>
<tr>
<td>Best way to feed infant</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>31</td>
<td>52.5%</td>
</tr>
<tr>
<td>Formula/don't know</td>
<td>28</td>
<td>47.5%</td>
</tr>
<tr>
<td>Who has most influenced feed decision(a)</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>44</td>
<td>74.6%</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>25.4%</td>
</tr>
<tr>
<td>Who has most influenced feed decision(b)</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Family members</td>
<td>5</td>
<td>8.5%</td>
</tr>
<tr>
<td>Others</td>
<td>54</td>
<td>91.5%</td>
</tr>
<tr>
<td>Who has most influenced feed decision(c)</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td>9</td>
<td>15.3%</td>
</tr>
<tr>
<td>Others</td>
<td>50</td>
<td>84.7%</td>
</tr>
</tbody>
</table>

*\(p < .05\)

\(a\) There are some slight variation in the numbers for some questions because of missing data

\(b, c, d\) In the original analysis, five influences on infant feeding decisions were examined (self, family members, media, professional sources, and friends).
Table 4

*Breastfeeding Practices at Discharge by Demographic and Personal Characteristics (n = 246)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formula feeding (n = 61)</td>
<td>Breastfeeding (n = 185)</td>
</tr>
<tr>
<td></td>
<td>n² M SD n(%)</td>
<td>n M SD n(%)</td>
</tr>
<tr>
<td>Age</td>
<td>240 31 4.25 31.26 4.09</td>
<td>- .428</td>
</tr>
<tr>
<td>Years lived in Canada</td>
<td>241 6.92 6.23 7.55 8.23</td>
<td>- .545</td>
</tr>
<tr>
<td>Years of education</td>
<td>239 11.62 3.27 12.93 3.59</td>
<td>-2.621*</td>
</tr>
<tr>
<td>Years of husband/partner education</td>
<td>221 12.31 3.25 14.04 4.28</td>
<td>-3.152*</td>
</tr>
<tr>
<td>Language of interview</td>
<td>246</td>
<td>4.032*</td>
</tr>
<tr>
<td>Chinese</td>
<td>50(82.0%) 127(68.6%)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>11(18.0%) 58(31.4%)</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>241</td>
<td>.759</td>
</tr>
<tr>
<td>Yes</td>
<td>34(56.7%) 114(63.0%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>26(43.3%) 67(37.0%)</td>
<td></td>
</tr>
<tr>
<td>Plan to attend prenatal class</td>
<td>246</td>
<td>5.592*</td>
</tr>
<tr>
<td>Yes</td>
<td>8(13.1%) 52(28.1%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>53(86.9%) 133(71.9%)</td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td>246</td>
<td>12.055*</td>
</tr>
<tr>
<td>Nulliparous</td>
<td>18(30.0%) 99(55.9%)</td>
<td></td>
</tr>
<tr>
<td>Multiparous</td>
<td>42(70.0%) 78(44.1%)</td>
<td></td>
</tr>
<tr>
<td>Helper at home</td>
<td>245</td>
<td>4.337*</td>
</tr>
<tr>
<td>Yes</td>
<td>40(65.6%) 145(78.8%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>21(34.4%) 39(21.2%)</td>
<td></td>
</tr>
<tr>
<td>Best way to feed infant</td>
<td>245</td>
<td>23.398*</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>42(68.9%) 171(92.9%)</td>
<td></td>
</tr>
<tr>
<td>Formula/don’t know</td>
<td>19(31.1%) 13(7.1%)</td>
<td></td>
</tr>
<tr>
<td>Intention to infant feeding</td>
<td>245</td>
<td>72.863*</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>22(36.1%) 165(89.7%)</td>
<td></td>
</tr>
<tr>
<td>Formula feeding</td>
<td>39(63.9%) 19(10.3%)</td>
<td></td>
</tr>
<tr>
<td>Type of delivery</td>
<td>246</td>
<td>.312</td>
</tr>
<tr>
<td>Vaginal delivery</td>
<td>51(83.6%) 160(86.5%)</td>
<td></td>
</tr>
<tr>
<td>C/S</td>
<td>10(16.4%) 25(13.5%)</td>
<td></td>
</tr>
<tr>
<td>Who has most influenced feed decision*</td>
<td>246</td>
<td>5.232*</td>
</tr>
<tr>
<td>Self</td>
<td>37(60.7%) 81(43.8%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>24(39.3%) 104(56.2%)</td>
<td></td>
</tr>
<tr>
<td>Who has most influenced feed decision*</td>
<td>246</td>
<td>.502</td>
</tr>
<tr>
<td>Family members</td>
<td>10(16.4%) 38(20.5%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>51(83.6%) 147(79.5%)</td>
<td></td>
</tr>
<tr>
<td>Who has most influenced feed decision*</td>
<td>246</td>
<td>.774</td>
</tr>
<tr>
<td>Friends</td>
<td>8(13.1%) 17(9.2%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>53(86.9%) 168(90.8%)</td>
<td></td>
</tr>
</tbody>
</table>

\*P < .05

There are some slight variations in the numbers for some questions because of missing data

In the original analysis, five influences on infant feeding decisions were examined (self, family members, media, professional sources, and friends.)
Table 5

Breastfeeding Practices of Women Who Intended to Breastfeed at Second Month Postpartum by Demographic and Personal Characteristics (N = 155)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formula feeding (N = 58)</td>
<td>Breastfeeding (N = 97)</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Age</td>
<td>150</td>
<td>30.54</td>
</tr>
<tr>
<td>Years lived in Canada</td>
<td>151</td>
<td>7.39</td>
</tr>
<tr>
<td>Years of education</td>
<td>149</td>
<td>12.58</td>
</tr>
<tr>
<td>Years of husband/partner education</td>
<td>138</td>
<td>13.65</td>
</tr>
<tr>
<td>Language of interview</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>42(72.4%)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td>38(65.5%)</td>
</tr>
<tr>
<td>Employment</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15(25.9%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>33(60.0%)</td>
</tr>
<tr>
<td>Plan to attend prenatal class</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15(25.9%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>33(60.0%)</td>
</tr>
<tr>
<td>Parity</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Nulliparous</td>
<td>33(60.0%)</td>
<td></td>
</tr>
<tr>
<td>Multiparous</td>
<td>22(40.0%)</td>
<td></td>
</tr>
<tr>
<td>Helper at home</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>46(79.3%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>33(60.0%)</td>
</tr>
<tr>
<td>Type of delivery</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Vaginal delivery</td>
<td>51(87.9%)</td>
<td></td>
</tr>
<tr>
<td>C/S</td>
<td>7(12.1%)</td>
<td></td>
</tr>
<tr>
<td>Intention to infant feeding</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>48(82.8%)</td>
<td></td>
</tr>
<tr>
<td>Formula feeding</td>
<td>10(17.2%)</td>
<td></td>
</tr>
<tr>
<td>Confidence on breastfeeding</td>
<td>139</td>
<td>2.23</td>
</tr>
<tr>
<td>Who has most influenced feed decision(a)</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>29(50.0%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>29(50.0%)</td>
</tr>
<tr>
<td>Who has the most influenced feed decision(b)</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Family members</td>
<td>12(20.7%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>46(79.3%)</td>
<td></td>
</tr>
<tr>
<td>Who has most influenced feed decision(c)</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Professional sources</td>
<td>6(10.3%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>52(89.7%)</td>
<td></td>
</tr>
<tr>
<td>Who has most influenced feed decision(d)</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>7(12.1%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>51(87.9%)</td>
<td></td>
</tr>
</tbody>
</table>

* There are some slight variations in the numbers for some questions because of missing data; \( \alpha \leq .05 \)

\(a, b, c, d\) In the original analysis, five influences on infant feeding decisions were examined (self, family members, media, professional sources, and friends.
Predictors of Breastfeeding Intention and Practices

To evaluate the independent variables' effects on breastfeeding intention and practices, logistic regression analyses were conducted for the three key outcome variables ("intention to breastfeed at prenatal stage", "breastfeeding at discharge", and "breastfeeding at second month postpartum.") Most independent variables that were examined in the bivariate analyses (except for the cell of some of the variables was less than five), were used in the logistic regression analyses.

Table 6 presents the logistic regression results for the determined predictors of "intention to breastfeed" at prenatal stage including the adjusted odds ratio (OR) and respective confidence intervals (CI). No demographic and prenatal factors (plan to attend prenatal classes and parity) were found to be significant. Only two variables, friends influence and self decision were found to be predicative of one’s intention to breastfeed at the prenatal stage. Women who reported being influenced by friends were less likely to breastfeed than women who were not influenced by friends. Also women who reported being making a decision by her own were less likely to breastfeed than women who were not made a decision by her own.

The predictors of breastfeeding practice at discharge are presented in Table 7. It was found that none of the demographic, prenatal and postnatal factors were associated with breastfeeding practice. Only the intention to breastfeed, a personal psychosocial characteristic, was found to be associated with breastfeeding practices at discharge. In other words, women who had intention to breastfeed at prenatal stage were more likely to be breastfeeding at discharge compared with women who had intended to formula feeding.
Table 6

*Summary of Logistic Regression Analysis for Variables Predicting the Intention of Breastfeeding (n = 208)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.074</td>
<td>1.077</td>
<td>.975-1.190</td>
</tr>
<tr>
<td>Years lived in Canada</td>
<td>.012</td>
<td>1.012</td>
<td>.944-1.086</td>
</tr>
<tr>
<td>Years of education</td>
<td>.033</td>
<td>1.033</td>
<td>.884-1.207</td>
</tr>
<tr>
<td>Years of husband/partner education</td>
<td>.090</td>
<td>1.094</td>
<td>.951-1.259</td>
</tr>
<tr>
<td>Language (Chinese)</td>
<td>- .207</td>
<td>.813</td>
<td>.200-3.312</td>
</tr>
<tr>
<td>Employment (Yes)</td>
<td>-.550</td>
<td>.577</td>
<td>.248-1.343</td>
</tr>
<tr>
<td>Plan to attend prenatal class (Yes)</td>
<td>.868</td>
<td>2.381</td>
<td>.425-13.341</td>
</tr>
<tr>
<td>Helper at home (Yes)</td>
<td>.405</td>
<td>1.500</td>
<td>.632-3.559</td>
</tr>
<tr>
<td>Parity (Multiparous)</td>
<td>-.855</td>
<td>.425</td>
<td>.083-1.088</td>
</tr>
<tr>
<td>Influencing infant feeding decision (Self)*</td>
<td>-2.496*</td>
<td>.082</td>
<td>.010-.675</td>
</tr>
<tr>
<td>Influencing infant feeding decision (Family members)*b</td>
<td>.967</td>
<td>.380</td>
<td>.038-3.884</td>
</tr>
<tr>
<td>Influencing infant feeding decision (Friends)*c</td>
<td>-2.756*</td>
<td>.064</td>
<td>.006-.635</td>
</tr>
<tr>
<td>Constant</td>
<td>-.016</td>
<td>.984</td>
<td></td>
</tr>
</tbody>
</table>

-2 Log Likelihood                     164.329
Model Chi Square                      52.925*(df =12)

N                                      208

*p ≤ .05

Because in the chi-square analysis the expected frequency of some of the variables were found to be small (20% of the cells had expected frequencies that were less than 5) and these variables were dropped from the analysis (Munro, 1997; Norusis, 1997). Such exclusion is intended to prevent potential violation of statistical assumptions.
Table 7

Summary of Logistic Regression Analysis for Variables Predicting the Breastfeeding Practices at Discharge (n = 204)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.053</td>
<td>1.054</td>
<td>.945-1.177</td>
</tr>
<tr>
<td>Years lived in Canada</td>
<td>.014</td>
<td>1.014</td>
<td>.948-1.084</td>
</tr>
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<td>1.671</td>
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</tr>
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<td>13.562</td>
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<td>(professional sources)</td>
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<td></td>
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<td>Influencing infant feeding decision (media)</td>
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<td>.890-4.322</td>
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</tr>
<tr>
<td>Model Chi Square</td>
<td>66.112*(df=16)</td>
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<td></td>
</tr>
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</table>

*N = 204

*p ≤ 0.05

a, b, c, d: Because in the chi-square analysis the expected frequency of some of the variables were found to be small (20% of the cells had expected frequencies that were less than 5) and these variables were dropped from the analysis (Munro, 1997; Norusis, 1997). Such exclusion is intended to prevent potential violation of statistical assumptions.
Table 8

**Summary of Logistic Regression Analysis for Variables Predicting the Breastfeeding Practices of Women Who Intended to Breastfeeding at the Second Month Postpartum (n = 118)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
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<td>.911-1.145</td>
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</tr>
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<td>.920-1.225</td>
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<td>1.055</td>
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<td>.477-5.580</td>
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<tr>
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<td>.340-2.165</td>
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<td>.248</td>
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<td>.045-4.054</td>
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<tr>
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<td>1.087</td>
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<td>Helper at home (Yes)</td>
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<td>.899</td>
<td>.303-2.668</td>
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<tr>
<td>Confidence</td>
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<td>1.613</td>
<td>1.002-2.597</td>
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<tr>
<td>Influencing infant feeding decision (self)</td>
<td>-.803</td>
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<td>.067-2.993</td>
</tr>
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<td>Influencing infant feeding decision (Family members)</td>
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<td>.062-3.189</td>
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<td>.109-7.028</td>
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<tr>
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<tr>
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<td>.067-2.993</td>
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<tr>
<td>-2 Loglikelihood</td>
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<tr>
<td>Model Chi Square</td>
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<td>118</td>
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</tbody>
</table>

*p ≤ 0.05

a, b, c, d: Because in the chi-square analysis the expected frequency of some of the variables were found to be small (20% of the cells had expected frequencies that were less than 5) and these variables were dropped from the analysis (Munro, 1997; Norusis, 1997). Such exclusion is intended to prevent potential violation of statistical assumptions.
With regards to potential predictors for breastfeeding at the second month postpartum, only the variable, *confidence in ability to breastfeed* at prenatal stage was found to be a significant predictor (Table 8). However, this finding is limited to women who had breastfed at second month postpartum and who had indicated intention to breastfeed at the prenatal stage. Demographic, prenatal and postpartum factors were not found to be associated with breastfeeding practices at second month postpartum. Therefore, women who had confidence with breastfeeding at prenatal stage were more likely to continue breastfeeding at second month postpartum.

**Summary**

At the prenatal stage, it was found that couples with higher levels of education were more likely to have an intention to breastfeed their babies. Women who were more likely to breastfeed were found to prefer speaking English, to have a helper at home, to be in her first pregnancy, and have plans to attend prenatal classes. Regardless of intention to bottle-feed or breastfeed, both groups of participants did agree that breastfeeding is the best way to feed their infants. In addition, the women who had an intention to breastfeed were more likely to be influenced by "others" (health care professionals, books, and media) in deciding whether to breastfeed or not.

Congruent findings were found for both prenatal and discharge stages with the exception of the influence by others (health care professionals, books, and media), which had no influence on women’s decision to breastfeed. Additionally, women with an intention to breastfeed at the prenatal stage were found to be more likely to be breastfeeding at discharge. At second month postpartum, over 90% of the 155 participants who continued to breastfeed...
were more likely to have had confidence in breastfeeding during their prenatal stage. Therefore, intention to breastfeed at the prenatal stage predicted the likelihood of breastfeeding practices at discharge while confidence in breastfeeding at prenatal stage was a predictor to women's continual engagement in breastfeeding practices at the second month postpartum. Consequently, the influencing factors of breastfeeding varied between the prenatal stage to the postpartum stage.

The findings from the secondary analysis, provided the profile of the factors that influenced the participants' intention to breastfeed, the initiation of breastfeeding at discharge, and continual breastfeeding practices at the second month. However, these influential factors did not provide in-depth information on Chinese mothers' decision-making process in infant feeding choices. Questions such as "Why do mothers believe breastfeeding to be superior?", "Why do mothers, who breastfed at discharge, discontinue it by the second month postpartum?", "What are the reasons that mothers who have an intention breastfeed do not take up?", and "How do the helpers influence mothers' breastfeeding practices?" remain unanswered. Therefore the aforementioned questions will be addressed within phase II of this study using the qualitative approach of interpretative description.
CHAPTER FOUR: PHASE 2: THE RESULTS OF THE QUALITATIVE STUDY

Phase Two of this study presents the profile of the participants and the accounts of their breastfeeding experiences. These mothers shared with the researcher their beliefs about breastfeeding, their challenges for breastfeeding practices, and their decisions to choose a particular set of infant feeding practices. Each mother presented her experience in a unique way, and each made a special contribution to the data by offering a different perspective of the experience according to her personal beliefs, her cultural beliefs, and her past and present experiences. Each baby was also unique in his/her own bodily characteristics and in his/her responses to difficult situations. The mothers described their experiences in a myriad of ways; yet, despite considerable variability in the data, certain themes emerged across the mothers' accounts. These themes are the focus of this chapter. In order to provide a foundation for the presentation of these findings, the chapter will begin with a description of the characteristics of the participants in this study as the context for the findings that will follow.

Characteristics of the Participants

A total of fifteen mothers participated in the study (Table 9). Eight were new mothers and seven had two or more children. Twelve mothers experienced a normal and spontaneous delivery, and three mothers had cesarean sections. At the prenatal stage, fourteen mothers intended to breastfeed and only one mother intended to formula feed.
At the time of hospital discharge, nine mothers were breastfeeding their babies; five mothers were using a mixture of formula and breast milk; and one was using only formula. Finally, at the second month postpartum, five mothers were still breastfeeding their babies, four mothers were using a mixture of breast milk and formula; and six mothers were using formula feeding exclusively.

All of the mothers were Chinese women from a variety of cultural backgrounds and/or geographic areas. Eight mothers came from China, four were from Hong Kong, two were from Taiwan, and one was from South Africa. Twelve mothers communicated in Chinese (Mandarin and/or Cantonese); two mothers communicated in Cantonese and/or English; and one mother communicated in English.

All of the mothers had been living in Canada between 6 months and 29 years and all lived in Vancouver. The age of mothers was between 25 and 41 years. Most of the mothers had around 12 years of educational background. For most, the family income was lower than $40,000 (CDN) per year. The occupations of the mothers varied: eight mothers were unemployed (housewives); the rest were on maternity leave from employment (one was a seamstress, one was a gardener, one was a salesperson, one worked in an office, one was a manager, and two were secretaries). Most of the mothers had helpers (N=13) at home such as a mother, a mother-in-laws, and/or a husband. All the mothers visited Chinese physicians who spoke in both Cantonese and English. All the mothers received nursing interventions both after delivery in hospital and at home from nurses who were Cantonese-English speakers and/or who were English speakers. Table 9 provides profiles of the participants in the study. All the mothers were willing to be interviewed and to share their experiences.

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20 This participant immigrated to Canada from South Africa with her parents (whose original country was China) when she was five years old. Her husband immigrated to Canada from Hong Kong.
Major Categories of the Experience

Because this phase of the research was intended to deeply explore the mothers' experiences and to identify shared aspects among and between them, the organizing structure for this discussion is the common or unifying themes that emerged from their accounts. The experiences described by the mothers are therefore organized into three distinct major categories which the researcher identified as the data were analyzed and compiled. Each major category is seen to be made up of two conceptual categories, each containing themes generated from significant statements expressed by the mothers during the interviewing process. The two conceptual categories in each major category provide a structural framework for the mothers' accounts that is described in more detail later.

From listening to the tape recorded interviews of the Chinese mothers accounts of their experience, it became apparent to the researcher that the mothers experiences involve three main categories. The first category, entitled background understanding of breastfeeding, is related to the mothers' ideas or beliefs and attitudes - about breastfeeding as well as the mothers' ideas about the nature of breastfeeding practices and the quality and quantity of breast milk. The second category, entitled situational challenges in the postpartum period, is related to the situational challenges mothers face when dealing with these ideas as they also experience a compromised balance of their bodies and their breastfeeding practices and/or as they relate to the many different ideas offered by their supporters. This category includes a focus on the relationships between the mothers' bodies, their babies' bodies, and their breastfeeding practices as well as a focus on the ways that contradictions in beliefs systems are dealt with. The third category, entitled strategic approaches to managing infant feeding, is related to the strategic approaches mothers employ
toward managing infant feeding practices. This includes the way mothers evaluate the information gained from the supporters toward making decisions about infant feeding practices.

Much of the data from the mothers' accounts is directly linked to personal beliefs, to cultural beliefs, and to values about breastfeeding practices. Much of what the mothers expressed included a wealth of specific details about the information gained from their supporters. Interviewing the first six mothers (the first time) helped the researcher to clarify the existence of these categories and expand on the nature of each. At the time of the first interviews, the mothers were all in the third category - they were employing strategic approaches to managing infant feeding practices. Thus, they could vividly recall, relate, and compare their present and earlier experiences.

**Significant Themes within Each Category**

When describing their background understandings of breastfeeding mothers noted gaps existed between their understanding and the present experience of breastfeeding. Mothers also identified reactions and emotional responses to these gaps that affected which strategies they employed to deal with challenges and which helped them to manage breastfeeding better. Theirs was a complex and multifaceted response wherein actions and breastfeeding practices were aimed to both bridge the perceived gap and achieve a healthy and a harmonious relationship with their bodies and their babies' bodies.
Table 9

The Profiles of the Participants (N = 15)

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<tr>
<th>I. Background information</th>
<th>Numbers</th>
<th>Numbers</th>
</tr>
</thead>
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<td>7</td>
</tr>
<tr>
<td>&gt;1 - ≤ 3 yrs</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>&gt;3 - ≤ 6 yrs</td>
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<td></td>
</tr>
<tr>
<td>&gt;6 - ≤ 10 yrs</td>
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<td></td>
</tr>
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<tr>
<td>Hong Kong</td>
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<tr>
<td>Taiwan</td>
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<td>South Africa</td>
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<tr>
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<td>31-35 yrs</td>
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<td>&gt;16 yrs</td>
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II. Delivery history

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<td>Multiparous</td>
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<td>Type of delivery</td>
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</tr>
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<td>Normal spontaneous delivery</td>
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<td>Cesarean section</td>
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III. Infant feeding pattern

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</thead>
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<td>Infant feeding at discharge</td>
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</tr>
<tr>
<td>Breastfeeding</td>
<td>5</td>
</tr>
<tr>
<td>Mixed breast and formula feeding</td>
<td>9</td>
</tr>
<tr>
<td>Formula feeding</td>
<td>1</td>
</tr>
<tr>
<td>Infant feeding at second month (interviewing)</td>
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</tr>
<tr>
<td>Breastfeeding</td>
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<td>Mixed breast and formula feeding</td>
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</tr>
<tr>
<td>Formula feeding</td>
<td>6</td>
</tr>
</tbody>
</table>

Although each mother articulated her experience in a unique way, it is the intention of this chapter to present data which enhances an understanding of the shared experience of all
mothers in this study. Consequently, the researcher has drawn significant statements from each mother's story and regrouped these statements into apparent themes that are presented as composites of data from the combined experiences of all mothers. Each theme is organized under one of the three major categories identified and then is placed within the appropriate conceptual category. Because the three main categories of the mothers' experiences occur on a continuum, several prominent themes persist, to one degree or another, throughout all the stages. For instance, mothers negotiated between experts' opinions and laymen's opinions in every category, depending on their need for information and intervention and depending on the situation and the beliefs of others. When such themes exist across the stages, explanation is given in the text. In this chapter, each main category of the mothers' experience is introduced and summarized, and the themes within each category are identified and explained. Quotes from the mothers' accounts illustrate each theme.

Capturing Emotions

The written word can never fully capture the emotion expressed during a spoken interaction. The researcher admits that audible cues provided by participants during the tape-recorded interviews are difficult to capture within a technical representation of their accounts. During some interviews, mothers wept when attempting to describe experiences that were pleasurable, exciting, painful, or disturbing. Mothers were often close to tears, or they displayed emotions of frustration, confusion, helplessness, and/or joy. Often periods of silent reflection were required during interviews as mothers calmed themselves or collected their thoughts. Some mothers required comfort and reassurance from the researcher. Others appeared very calm, relaxed, and self-assured. In presenting the mothers' stories, an attempt is made to provide a true and vivid verbal picture of the shared experiences. Initial
questioning about the challenge mothers faced when beliefs and practices contradicted those of others elicited relatively short answers. Yet, as mothers later recalled and described situational challenge, most returned to the subject over and over again.

Background to Chinese Mothers’ Understanding of Breastfeeding

Mothers’ beliefs and attitudes towards breastfeeding influence their breastfeeding choices; they influence the ways mothers face the challenges of breastfeeding and the ways mothers manage difficult situations. Thus, it is important to understand the mothers’ cultural backgrounds which influence their views on breastfeeding. From the perspective of Chinese mothers in this study, breastfeeding is best understood in the context of the idea of harmony within change and in relation to the meaning of infant health.

The Idea of Harmony\textsuperscript{21} within Change

The Chinese mothers believed that breastfeeding practices are based on the harmony of the cyclic and dynamic processes that support the health of the body. They believed the practice of breastfeeding is part of a change process that reflects and influences both the mother’s health and the baby’s health. Breastfeeding is not only related to the health of mother and baby, but it also reflects the natural or dynamic laws that humans must live by.

\textsuperscript{21} In this chapter, the notion of harmony is used to depict the women’s understanding of the natural laws that explain the body and dynamic life forces. It is difficult to find an English word that does justice to the notion of harmony in the Eastern tradition, and in much of the literature the term “balance” is used to approximate the Eastern notion of harmony. In order to remain faithful to the intent of the participants in this study as understood by the author, I will use the term harmony throughout this chapter. I do recognize that it may not be directly equivalent to the meaning intended in the English usage of that term, and I will attempt to deal with that problem in more depth in Chapter 6.
As a dynamic process governed by natural laws, breastfeeding is a practice that is in harmony with healthy living. For the mothers in this study, harmony refers to a situation in which the elements of the human body are interrelated and also interact with the external environment. When these elements are interacting according to natural laws, they are in a state of harmonious balance within dynamic patterns. In this context, any difficulty in one area will naturally affect all areas. During a dynamic change process such as breastfeeding, everything exists in a continuum ranging from harmony to disharmony. The elements of one’s natural dynamic setting or environment are also implicated in supporting or inhibiting this harmonic situation. To examine the success of breastfeeding in a given situation, we must consider the harmonious balance between the mother’s bodily health after delivery and the baby’s bodily health; as well, we must consider the interaction between the mother and the baby.

From the perspective of Chinese mothers, we must also consider the mother’s ideas about the meanings of breastfeeding, her perceptions of the quality of her breast milk, and the nature of her breastfeeding practices as related to the notion of harmony within natural dynamic patterns. This perspective - that actions fit within a larger understanding of the cosmology - influences Chinese mothers’ breastfeeding choices and helps them to both deal with the breastfeeding situations and manage any difficulties which may arise.

*The value of common sense*

Mothers’ attitudes and beliefs towards the idea of breastfeeding were based on prenatally conceived notions and on past experiences. The mothers within the study, both
with and without previous breastfeeding experience, believed in what they understood to be the value of common sense. To these mothers, breastfeeding is the natural work of the woman and of the mother. One woman explained it this way:

If you are a woman, inevitably, you will want to be a mother, isn’t this so? Even if you are not married, you also have this notion. Ironically, the woman wants to give birth to a baby later. If the woman delivers a baby, she should breastfeed her baby and not say after that she is considering this issue of breastfeeding. I had this idea when I was single, but it was not strong. After I married, I planned to breastfeed my baby. Breastfeeding is very natural and common sense. It is not a very special topic for the woman.

This woman described her desire “to be a mother” who would breastfeed her baby and she recognized this desire as an important aspect of being a woman, even prior to her marriage. She described breastfeeding as something that did not require particular thoughtful consideration because it was a natural aspect of being a woman and the “natural” work of women.

Similarly, two other mothers also spoke of breastfeeding as the “duty and responsibility” of the woman. One mother stated,

I do not mind taking a lot of food for breastfeeding when I breastfeed my baby. I am the mother, and I must do all things for my baby. If you have a baby, you have to do all things for your baby, not for yourself. This is the major work of nurturing duty and responsibility for the mother. You are less important than your child.

Another mother who came from China, said that “Breastfeeding is the mother’s responsibility and breastfeeding is a natural process. After you are pregnant, you will

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22 All transcripts are translated from Chinese language (including Mandarin and Cantonese) to English by the researcher. The translation of all interview data in this study is not a verbatim or literal translation but rather is intended as a functional translation. This translation considers the syntactic and semantic differences within the different cultural backgrounds of the participants as reflected in their particular dialect and language usage in one of the Chinese languages. It also considers the interpretive translation of idioms and expressions into a form in which the intended meaning can be appreciated in English. Finally, the researcher has added some English terms, so that an English speaking audience can reasonably understand the syntax and grasp the intended meaning.
naturally have the breast milk for your baby.” She felt that if a mother does not naturally "have breast milk for the baby," then likely the "mother’s health" is not well prepared for breastfeeding. She went on to say,

I cannot understand why the Western mothers do not breastfeed their babies. In the Western world, there is breastfeeding promotion because the mothers do not want to breastfeed. I do not know what they think about breastfeeding. When I was in Germany, few mothers breastfed. After delivery, the mothers directly formula fed their baby. I asked the mothers why they did not breastfeed. They told me they did not have breast milk. I do not understand what the reason is; probably the mother’s physical body is too cool to have breast milk or the nature of physical condition is not well. Because the Westerner likes to have cold food; probably this is the reason. I do not know what really happens for them. I believe that, if the Western mothers do not breastfeed their babies, they must not have breast milk. The production of breast milk is the natural process. If you breastfeed your baby, you should naturally have breast milk.

She continued to speculate that not breastfeeding one’s baby was unnatural and inconsistent with the natural laws as she understood them. She also noticed that most of Westerners were likely to formula feed their babies. Interestingly, the mothers in this study who were from either Hong Kong or Taiwan related different views of breastfeeding trends in Canada; they felt that breastfeeding was the priority for infants in Canada except when mothers could not practice it for some reason. One mother, who came from Hong Kong, described,

My Caucasian friends never thought about feeding formula milk to their babies. For them it seemed that breastfeeding was the only way to feed baby. I did not have much talk with my friends about whether I should use formula milk if my breast milk was insufficient. I thought they might think I was very weird.

Depending on where these women came from, perspectives varied on whether Westerners tended to breastfeed or formula feed their infants.

From the perspective of these mothers, breastfeeding is a natural part of the works of mothers. They believed that, as a mother, you are naturally responsible in this way for taking
care of the baby. Part of this natural responsibility is enacted by the interaction between the mother and the baby during the process of breastfeeding. Asked about her thoughts on breastfeeding, a new mother described,

The most important thing is that I give is the devotion of mother’s love for my baby. I am doing my mother’s responsibility. A long, long time ago, many people said, “breast milk is very sweet and sweet.” When I was studying at school in China, I remembered that many poems and poetry always described the mother’s love: “how great my mother is,” “how wonderful my mother is,” and “how sweet was the breast milk I had.” I want to breastfeed my baby. If I formula feed my baby, I think my baby could not get the calm of mother love. I want to breastfeed my baby. I only think about this. I do not think about the nutrition. I do not know a lot of this information. I only want to breastfeed my baby.

This mother’s perspective, like that of others in the study, is that breastfeeding is a natural act that is a part of a woman’s duty and responsibility. Thus, breastfeeding becomes a context in which mothers are doing what they feel is natural, and they are acting in such a manner as to offer the baby all the benefits of the mother’s love during the interaction of breastfeeding.

All of the mothers in this study believed that breastfeeding is based on practical considerations of health. One new mother referred to the “relationship” with her baby as being “closed,” meaning that she was providing all that her baby needed. She stated,

Breastfeeding is my first choice. I do not mind if it is convenient for me or not. Breastfeeding could provide my baby nutrition, antibodies and good health. Compared to formula milk, breastfeeding is good for the baby. Then the baby could get the natural antibody from the mother’s body. It also helps the mother’s uterine recovery and decreases the chance of breast cancer.

She went on to say she had heard about the medical benefits of breastfeeding from her mother and friends:

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23 The expression “sweet and sweet” offers metaphoric reference to the quality of the deep love offered to a baby in the transmission of breast milk. The repetition of sweet here reflects the two ways between mother and child interact. The expression does not refer to the sweetness of the taste of the milk.
People also say, “If the baby is healthy when he is born, then the baby will not easily get sick in the first 6 months, like the common cold. At least antibodies exist in his body.” I guess antibodies should exist within his body for a while and not disappear in a short time. I think that all the ingredients of breast milk come from the mother’s diet. Certainty [breastfeeding] is the best for the baby. The breast milk combines all the nutrition of the mother’s diet for the baby.

Another mother had enhanced her understanding of breastfeeding practices by reading about ideas that confirmed her sense of these natural laws. She found in books information she recognized as “common sense,” saying,

I learned that the nutrition of breast milk is better than that of the formula milk. The breast milk increases the baby’s immune system. It is convenient. The book says breastfeeding does not, too much, influence the physical image of the mother. It helps the mother’s recovery of physical body, or uterine contraction [after delivery].

These mothers therefore considered the natural advantages of breastfeeding to be more than a loving interaction with their babies; they thought of breastfeeding as an important aspect of their own physical health. Some mothers also identified the economical and environmental aspects of breastfeeding as elements consistent with it being a component of common sense.

As one mother explained,

I preferred to breastfeed to my baby. I intuitively chose breast milk for my baby. I want to breast feed my baby for 6 months, though I did not know what the advantages of breastfeeding for the baby were. I always thought of breastfeeding my baby, because it is convenience, saving money, and protecting the environment; for example, you do not need to use the bottles, detergent, milk tins, and gas. But I did not know the health differences between breastfeeding and formula feeding.

These mothers’ attitudes towards the idea of breastfeeding are based, in part, on considerations about its usefulness and practical value. While they believe breastfeeding reflects common sense, they also are fairly well aware of the positive effects of breastfeeding on their babies. Some mothers identified the natural protection that breastfeeding offers,
such as natural immunization, nutrition, and bonding. As well, they said that breastfeeding helps the mother’s own physical recovery and helps her to prevent diseases such as breast cancer and ailments of the reproductive organs. Some of these mothers also recognized breastfeeding as an extension of the natural environmental and as a measure of their family’s sense of economy. Some further identified the advantages of breastfeeding as part of protecting both the natural environment we all share and the larger economy.

*The purity of breast milk*

According to the Chinese mothers in this study, attitudes towards breast milk influence breastfeeding choices. The mothers believed that breast milk is natural food and that the production of breast milk is related to the body and diet. For example, when explaining the quality of breast milk, one mother said she wanted to breastfeed her baby because she believed breast milk came directly from her breast “without contamination,” and thus was not “mixed with preservatives.” Other participants expressed similar views, particularly when comparing breast milk and formula milk. As one mother explained,

> Breast milk is pure milk. Probably formula milk is mixed with some good ingredients, or it is better than breast milk. But I still feel breast milk is pure and is not mixed with other components. The content of breast milk includes sugar, fat, and protein. The breastfed child is healthy and clever. Compared to formula feeding, the breastfed baby will have more antibodies. The baby will not easily get sick.

The mothers said they believe breast milk to be “100 percent natural pure milk” because it is from the human body - that is, from their own bodies - just as a child is from one’s own body. Also, the inclusion of natural immunity in breast milk for the baby’s body is to them an extension of the mother’s desire to protect her baby.

For the women in this study, a natural connection exists between the mother’s body, the mother’s diet and her breast milk. As one mother said,
If the mother is healthy and has some certain foods at postpartum, the breast milk is very good. If the mother’s health is not very good, the quantity of her breast milk will not be much. If the mother is sick, she can not breastfeed. Breastfeeding depends on the mothers’ body.

These mothers reasoned that because breast milk is built within the mother’s body, her body has to be in a healthy condition and that requires a healthy diet. The mothers in this study believed breast milk directly influenced the baby’s health. As one new mother said,

In the traditional Chinese culture, the mother’s body is weak after delivery. She has to take tonic soup in order to gain recovery of her body in terms of getting vitality and energy. Then the breast milk naturally comes out. The food also could be transmitted to the baby’s body by the breast milk. For example, if your food is too hot, the baby’s body is hot too.

These mothers also value postpartum care with a Chinese traditional approach, meaning an approach to breastfeeding after delivery that involves balancing the various body processes. From their perspective, breast milk is related to the harmony that exists among the various aspects of the mother’s body - her diet, her breast milk, and her baby’s body - as the baby is an aspect of its mother’s body. We already know that the mother’s body directly influences the quality and quantity of her breast milk and thus the baby’s body. But these mothers allow us to see beyond this to more general notions of harmony as encompassing other relationships and the environment as well.

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24 The term “tonic soup” is interchangeable with “tonic food”, “po”, and “ton-shui.” “Tonic food” means hot food, and is based on the characteristic of food in traditional Chinese medicine. According to the views of traditional Chinese medicine, the purpose of eating “tonic soup” is to gain vitality and energy when the body is weak. In general, tonic soup for the woman after delivery includes high protein food, which is mixed with Chinese herbs. It typically includes such foods as rice wine, ginger, vinegar, chicken, and other meat, but not beef. However, for the breastfeeding mother, the ingredients include only high protein food without herbs. The ingredients for tonic soup will vary depending on the location, climate, and availability of products in different geographic regions.

25 The term “hot” and “cold” food refers to the symbolic qualities terms of food and is based on the ying-yang theory; it does not refer to the temperature of food.
The mothers in this study believed that breast milk is a natural food that can assist in a baby’s immunity through the antibodies conveyed through breast milk. For them, a natural relationship exists between the breast milk and the diet as well as between the bodies of both the mother and the baby. As the mother’s body is the foundation of the production of breast milk, her body and her diet must influence the breast milk and in turn must also influence baby’s body. With changes in the mother’s body and the baby’s body always occurring, harmonious balance is always in a state of dynamic change, and breast milk is a natural variable within that harmonious balance.

The laws of nature

As was apparent throughout the interviews, the women in this study believed that various natural laws governed their practices and attitudes in relation to breastfeeding and therefore the way in which they approached the situational challenges that confronted them as new mothers with infants to feed. Their accounts emphasized the idea that breastfeeding practices were related to the mother’s body and the baby’s body in a natural process. As one mother said,

Breastfeeding is a natural interaction between the mother and the baby. After delivery, breast milk is naturally produced. It means if the mother’s body is healthy, she can produce breast milk for the baby. Also if the baby is healthy, she or he drinks well. The breast milk is naturally supplied for the baby. There is a natural and automatic mechanism to adjust how much the baby needs.

As another mother explained, “breast milk” is like “the spring water from the well.”; “if the baby has more suck, the breast milk will increase, while if the baby does not suck, then the breast milk would be less.” From this perspective, breastfeeding practice is a dynamic

26 The term “laws of nature” is often used interchangeably in translations from Chinese language text with “the natural laws.”
relationship, allowing for a natural interaction between the mother’s and the baby’s bodies. The mother’s body becomes the foundation of the practice which produces breast milk for a baby when it arrives. It becomes the source of breast milk, like a wellspring of water. The baby’s body becomes a container of breast milk, like the bucket which is used to draw forth the water from the well. The action of breastfeeding for the baby - the process of sucking - is like the person who draws out water from the well. Just as the well produces water naturally, so does the mother’s body naturally produce breast milk. According to this way of understanding breastfeeding once engorgement occurs, the more the baby sucks, the more milk is drawn out of the breast. Breastfeeding occurs as a result of the natural processes within and dynamic interactions between the mother’s body and the baby’s body.

The mothers in the study believed breastfeeding needs to be built on the foundation of harmony within their own bodies. For many, achieving this required a Chinese cultural approach to postpartum care. One explained that, after she ate the “tonic food” and “took a rest,” she felt “the vitality and energy” return to her body. She ate “ton shui for the breastfeeding.” Through these means, her body achieved a balance that built up a foundation for breastfeeding. She described the experience of postpartum care this way:

It was helpful to eat ton-shui for the breastfeeding, like pig’s feet with peanut soup, or fish with papaya soup. During this period, after taking the tonic

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27 Postpartum care according to the Chinese cultural approach is also referred to as “Doing the month,” “Zuo Yu,” and “Yu Ze.” This very important concept for Chinese women specifically refers to taking special care after delivery. The purpose of this care is the prevention of illness and health promotion following delivery, and it is based on the yin-yang concept of Traditional Chinese Medicine (TCM). In Chinese postpartum care, the women needs to balance her body after delivery through certain practices such as absolute rest and the taking of “hot food” in order to recover her body to a balanced condition by the end of the first postpartum month. TCM proposes that, during delivery, the woman lost energy from her physical body. Her physical body becomes weak, placing her physical state in a yin condition. Balancing is necessary to return the woman’s body to a state of harmony. The priority of care at the postpartum stage is on the mother’s physical care, more than the baby’s body.
soups, I found I had a lot of breast milk. When my first baby sucked this side of my breast, the breast milk naturally flowed out from the other breast.

For this mother and many others, eating ton-shui is directly related to building a foundation within the mother's body in order to effectively breastfeed. From the perceptions of these mothers, not simply eating well but eating specific foods allows for more breast milk to be available to the baby. Their beliefs about food provide a basis for their understanding of both breastfeeding practices and notions of harmony within natural law.

Despite careful attention to breastfeeding practices, many of the mothers did feel that it was difficult to predict whether or not they would be successful at breastfeeding. One mother said that her wish was to breastfeed but that this did not mean she would be able to exclusively breastfeed her baby. Success, she felt, had to be decided by the baby’s and by her body's condition after delivery - and wishing could not make it so. Many of these mothers expressed the belief that it is not possible to predict prenatally what situation one’s body and one’s baby’s body will be in during and after giving birth. From their point of view, a number of factors could powerfully influence one’s breastfeeding practice. One mother said,

In general, in China, the woman who lives in a rural area and who works in the field always has much more breast milk than the woman who lives in the city and who works in an office. The woman living in the rural area and working in the field does not have much stress in her life. In other words, the woman living the simple life has a lot of breast milk. Age, genetics, and stress might be factors that influence the quantities of breast milk - I am not sure if these factors are the main reason - because some of the older women still have a lot of breast milk, even without taking any kind of [special] food. Everyone has a different situation for the breastfeeding practice.

Thus, these mothers believed that there is diversity among breastfeeding practices because different situations naturally influence the success of breastfeeding practice.
The laws of nature and the harmony that must be sought within those laws become an important background to the women's understanding of breastfeeding practice. Within this context, they understood certain acts and responsibilities as common sense and consistent with the role and responsibility of being a mother. Further, they had strong views about factors associated with bodily health within the context of a particular worldview of natural order and harmony.

**The Meaning of Infant Health**

Regarding infant health, the attitudes and beliefs of mothers influence the ways they face the challenges of breastfeeding and the ways they manage difficult situations. According to the mothers in this study who had previously experienced successful breastfeeding practices, a relationship exists between the baby’s size and its health.

**Indicators of health**

The mothers in this study tended to believe they could evaluate their baby’s health based on their physical observation of it. Their understanding of health led them to recognize two sets of indicators of infant health deriving from Western biomedicine and traditional Chinese medicine, each reflecting different worldviews. When looking at their baby’s developmental growth and signs of illness, mothers adhered to Western biomedical approaches; when evaluating whether their babies were in “harmony”, mothers adhered to traditional Chinese views of medicine.

Similarly, in their descriptions of the health of their babies, most of the mothers in the study combined indicators of health from both worldviews. They emphasized the size of the infant’s body, the shape of the baby’s stool, and the quantity of the baby’s urine using sometimes a combination of Western and Chinese views. One mother was concerned about
whether the baby's "body weight was up"; about whether its "physical body was strong"; and about whether "the baby's size was big." Such information told the mother whether her baby "took the good milk with exclusive absorption." Another mother said she also observed "the shape of stool" and "the quantity of urine" saying, "If the stool is creamy, the breast milk is exclusively absorbed. If it becomes granular, the breast milk might not be getting absorbed. Also if the quantity of urine is less, the baby might not be drinking enough milk." These indicators of the baby's physical body seem based on the views of Western biomedicine wherein the mothers' references to size, quantity, weight, and shape are based on concrete language of measurement. Some of these mothers were also concerned with the signs and symptoms of illness. One mother said, "Health means the baby does not easily get a cold and/or does not easily get sick." One mother believed that her baby's body had gained "from breast milk lots of antibodies and immunization against disease," as evidenced by the absence of illness in her baby. Another mother felt that her baby was "not very well" and that the baby always had "a cold and runny nose." Thus using the signs and symptoms of illness and a measure of the frequency of illness as an indicator of the baby's health, these women make reference to the ideas deriving from Western biomedicine's traditions.

These mothers also emphasized the balance of their baby's body within a larger sphere consistent with Eastern medicine's worldview. One mother described how she assesses her baby's health according to the color of stool, saying that if the stool is "yellow" then her baby is "healthy". She continued, saying,

If the color of the baby's stool is green, that means my baby is scared and/or his body is too cold. If the baby's face has lots of pimples and/or discharge from eyes, it means his body is too hot. If the baby's stool is yellow, that means you are taking appropriate food and the food is being absorbed.
The mothers in this study believed that imbalances in the physical condition of the baby's body are also related to imbalances within the mother's body - that infant health reflects the idea of harmony as balance between two bodies. As they spoke about how they viewed their babies, the mothers revealed how they variously viewed their babies from both Western and Eastern viewpoints.

*The relationship between baby's size and health*

The mothers in this study all articulated the belief that infant health is related to baby size. As one mother explained it, a baby of good "health" is a baby who is "big and strong," who "eats well" and who "gets rich nutrition." The mothers compared the different cultures they knew in terms of their baby's health. One mother said,

> The babies are bigger and stronger in China. They look healthier. Probably in China the baby eats well and has good quality of *caring* from their grandmother, grandmother-in-law and family. But in Canada the babies do not look healthier and stronger; they look slim. Probably it is related to Western nurturing patterns - Westerners can not spend a lot of time taking care of their children, and they do not have many family members to help them.

For these women, the size of the baby's body indicates not only the health of the infant but also, indirectly, the quality of caring from the mother and the absorption of milk during breastfeeding practices. Thus infant size is, for these women, a critically important indicator of breastfeeding effectiveness and of harmony between mother and baby.

In this study, the mothers' attitudes toward breastfeeding practice were based both on their understandings of breastfeeding and on past experiences. The mothers in this study believed breastfeeding to be the natural interaction between a mother and a baby: two bodies in dynamic patterns of harmony within natural law. They believed that the practice of breastfeeding naturally belongs within their *role* as women and mothers, that it is their duty
and responsibility, and that breastfeeding is synonymous with the nurturing of one’s baby. These mothers described how “natural human milk” is built upon the balance of a mother’s body in a dynamic situation of harmony. Accordingly, the harmony of the mother’s health, diet, and successful breastfeeding practice all lend to further success in the health and strength of the baby. Thus, breastfeeding for these Chinese women is best understood in the context of a particular understanding of infant health within a context of a set of natural laws.

Situational Challenges in the Postpartum Period

When these mothers faced the practices of breastfeeding after delivery, the gap between their beliefs and their actual situation became apparent to them. They experienced breastfeeding as different from what they expected. One new mother said she did not know “what the reality of breastfeeding was.” While she had wanted to breastfeed her baby and believed that she “could provide all the breast milk” for her baby, she also found that, “In fact, it is not true that if I wanted to breastfeed my baby, then I could do it. It would depend on the real situation.” These mothers dealt with two main situational challenges. One challenge related to the breast milk, which, from these mothers’ perspectives, was built on the foundation of their bodies and which had an effect on the baby’s body. The other challenge related to the different conceptions of breastfeeding practices offered by supporters, such as friends and family.

Breast Milk and Disharmony

After delivery, each of the mothers paid close attention to their bodies and breast milk; each experienced her body as directly influencing her baby’s body. Each focused on her own body’s role in producing breast milk and on the transmission of milk in terms of
both its quantities and its qualities. The milk was sustenance transferring from their body to the baby's body. Attempting always to achieve a harmonic status for themselves and for their baby's bodies, these women wanted to produce healthy breast milk.

The body's role in producing breast milk

The mothers described the relationship between the body, the diet, and the breast milk they produced. They indicated that postpartum care with a Chinese cultural approach was the best way for them to build up the foundation of a woman’s body for breastfeeding. One mother noticed her body “felt tired and weak after delivery”. While recuperating, she did not have breast milk. But after she had “ton-shui” and “rested”, her body had gained the necessary “vitality and energy” to produce milk. She said, "After six hours, I felt a little of engorgement and less water drew out when I squeezed breast milk. I fed breast milk to my baby and then my baby slept well. After one day, I saw more water naturally drawn out when my baby sucked."

The imbalance in her body after delivery caused weakness and impeded the production of breast milk. After the foundation of the body was built up toward a better balance of strengths, breast milk was naturally available. This mother, like other mothers in the study, felt it important to harmonize her body with diet and rest in order to produce breast milk.

Another mother described the relationship between breast milk and ton shui, saying,

My breast milk has all my food, and my baby eats all my food. It is necessary to take ton shui everyday. After the first couple days, I took the ton shui to stimulate the production of breast milk, like silver carp fish soup; then I took the ton shui to improve the quantity and the quality of breast milk, like pig's feet with peanut soup or chicken soup. Water and light soup are not helpful for the production of breast milk. If you eat more ton shui, you will have more breast milk. Therefore I eat a lot of ton shui everyday, so my breast milk is sufficient, and I do not need to use formula milk. But if I did not eat ton shui, my breast milk would be insufficient for my baby on that day.
In addition, the mothers also indicated the existence of a relationship between breast milk and sleep. One mother said that her breast milk was “insufficient” unless she had a good sleep. When the mother’s body is imbalanced (sleep deprived and dietary imbalance), the breast milk is considered insufficient for her baby and becomes sufficient when the foundation of the body is made stronger with diet and rest. These mothers felt their bodies needed to achieve a balance of sleep and activity in order to produce the rich breast milk.

Several mothers added that the relationship between their own bodies and their breast milk differed with each new baby. One mother said her breast milk was “insufficient” this time, even though she had eaten “lots of tonic food” and had had “a good sleep.” Her husband and friend had even helped her to do all housework at home. She recalled her breast milk had been sufficient for the first baby in China and “did not know why she did not have sufficient breast milk for this new baby.” Another mother said she did not have any milk for her first baby. Oddly, she said, she never felt engorgement during first couple of days and no breast milk could be drawn out. This time, she felt a little engorgement only after she ate tonic soup and had a good sleep the first day. For these mothers, it seems adequate breast milk requires a harmonious balance of rest and food, and yet the experience of achieving such a balance can be different with each birth.

The transmission of bodily qualities from mother to baby

The mothers noticed how food, and indeed how specific kinds of foods, were transmitted to the baby’s body. As one mother said,

Sometimes I ate hot food and later the baby also had hot chi[^26] on his body. For example, if I had crab[^29], my baby would get a lot of pimples on his face.

[^26]: Hot chi refers to a disharmonious balance of the body in traditional Chinese medicine.
[^29]: Crab is “hot-wet” food in Chinese food category (Anderson, 1988).
and lots of discharge from the eyes. Something from the crab was transmitted to the baby's body through my breast milk. The effects of crab were revealed on the baby's body. If I had neutral food, he did not have the signs and symptoms of hot-chi. I think the notion of hot chi does not exist in the Western medicine, but it exists in Chinese medicine.

Another mother also stated,

When I breastfed my baby, I only ate ginger as my vegetable. I did not eat the other vegetables and fruits, because they were the cold food. The baby was too young to digest vegetables and fruits, because they were too cold to eat. Eating hot food was okay for my body and baby's body and did not result in constipation. The color of my baby's stool was yellow. But one day, I noticed when I ate a little of vegetable, the color of baby's stool was green. I was disgusted! It reminded me of Chinese ghost films.\(^{30}\)

To these mothers, signs and symptoms of "pimples and discharge from the eyes" as well as "much wind\(^{31}\)" and "green stool" were significant proof of disharmonious balance on their own part: they felt certain that pimples and discharge from the babies eyes was a result of eating hot food that made their baby's body too hot; a baby's scared attitude\(^{32}\) or too much wind and green stool was a result of eating cold food that made the baby's body too cold. By "too hot" or "too cold" the mothers referred not to temperature necessarily but to the visible effects of an imbalance toward hot or cold. By noticing the changes and making changes to their diets, the mothers felt they could make a positive change in their baby's health. By avoiding cold milk and cold vegetables and fruits thought to be associated with cold chi, they offered the baby a safe environment so as not be "scared." In this way, these mothers resisted

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\(^{30}\) In these films, ghosts are portrayed in a pale green light.  
\(^{31}\) Wind is a symbolic term belonging to yang chi and refers to one of the external factors of one's environment. Wind can cause disease in traditional Chinese medicine (Fan, 1996).  
\(^{32}\) "A scared attitude" is here a direct translation from the Chinese expression and refers to the tendency of a child to be easily frightened.
imbalances between themselves and their baby. From these mothers’ perceptions, their babies were "so young and small" that the mothers needed to “protect them against cold or hot elements.”

Thus, for the women in this study, a relationship between the mother’s body and breast milk exists. As the mother’s body is the foundation of the production of breast milk, her body needs to be in harmony to produce a sufficient quality of best milk for her baby. If her body is not yet in harmony, she believes she will not have good quality or sufficient breast milk for the baby. Revealed through signs and symptoms exhibited by the baby, the quality of breast milk seems to directly influence the baby’s body.

Contradictory Message from Supporters

The mothers discovered that their supporters - including their physicians, their nurses, their mothers and their mothers-in-law, their sisters-in-law, their friends (and even their books) - all held different notions of breastfeeding practices. Those notions to some degree affected their own understanding of breastfeeding practices, even though some had previous experience. The mothers noticed that contradictions existed among the notions of supporters regarding breastfeeding. These contradictions related to the mother’s body, to the baby’s body, to the mother’s diet, and to the practice of breastfeeding itself, sometimes because of different worldviews, namely “traditional Chinese medicine (TCM)” and “Western biomedicine,” and sometimes because of differences related to “expert opinions” and "layman opinions."

Contradictions between traditional Chinese medicine and Western biomedical model

Relating to the different worldviews about breastfeeding practices that mothers perceived as existing among their supporters, one new mother said that "the views" toward
"postpartum care" are not just different in "different countries," but that they are contradictory. She said,

In Canada the physician encourages the mother to eat vegetables and fruits without wine; but in China, the physician encourages the mother to eat tonic food with wine and vinegar, without vegetables and fruits. Here in the West the emphasis is on the baby's body, and in Chinese culture the emphasis is on the mother's body.

So, acknowledging the different beliefs held by health providers in the two countries, the mothers perceived that appropriate care of their bodies was complex. From Chinese traditions, mothers cared for their own bodies after delivery in order to provide breast milk for their babies. The heavy emphasis within Western culture on the baby's body was understood to negate the mother's great influence upon the baby's health, and failed to recognize that the mother's body was the very foundation of that baby's existence.

Contradictions between the expert opinions and lay opinions

During the entire process of breastfeeding practice, the mothers received a range of different notions of breastfeeding practices from their supporters. They perceived two distinct stages after delivery in which the opinions of others were influential. The first was the initial stage after delivery - the immediate postpartum stage before there is any breast milk and only "water" can be drawn out; the second stage began with the availability of breast milk.

During each stage, the women perceived the information they received as either expert or lay opinion. Both referred expert and lay opinions relate to the mothers' bodies, the babies' bodies, and their breastfeeding and/or infant feeding patterns. These mothers considered "expert opinion" to be information originating from sources understood to carry formal authority and professional knowledge; they distinguished lay opinion from expert
opinion as information originating from more informal sources, such as cultural knowledge, knowledge gained by experience, folk knowledge, or individual bias. In some instances, they referred to lay knowledge as a form of "common sense." Most of the mothers in this study expressed the view that Western medicine held greater formal "authority," but also claimed that they instinctually wanted to follow the notions of traditional Chinese medicine.

During the first stage, while they were dealing with early breastfeeding practices, the mothers perceived that a discrepancy existed between expert and lay opinions regarding their bodies and their breastfeeding practices. Immediately following delivery, for example, the mothers were urged by nurses to begin breastfeeding. One mother said that, during the first hour,

The nurse was calling me to breastfeed right away, while I was exhausted and wanted to take asleep. I could not clearly hear what she was talking about. During that time I did not have breast milk. After two hours, she called me again to breast feed my baby right away. I was still exhausted and did not have breast milk. I did not know why she wanted me to breastfeed right away. And I could not take a rest.

Similarly, one mother stated that the nurse had talked her into breastfeeding her baby right away by arguing that she "might not have breast milk for the baby if she did not."

Another mother stated,

When I was in China, my mother helped me to take care of baby at the first two days after delivery. She also told me that I had to take a rest and eat tonic food at the first couple of days. Then my body felt stronger and breast milk was naturally drawn out. It is true. During these two days, I did not have breast milk and my baby only used formula milk. But here in the hospital, the nurse told me that I had to breastfeed right away after delivery. It is necessary to do sucking for the lactation because the breast milk could not be drawn out if the baby did not suck. But at the first two days, I did not feel engorgement without breast milk. My body must recover in order to produce the breast milk.
These nurses, representing an expert opinion based on Western biomedical understandings, emphasized breastfeeding within one hour of birth as the ideal beginning for the baby’s sucking responses and for the baby’s interaction with the mothers. Yet, the family members representing lay opinions from a traditional Chinese perspective emphasized recovery of the mother’s body and the ideal - for both mother and baby - that breast milk should arrive before breastfeeding was attempted.

During the first stage of breastfeeding, a few mothers reasoned that, since they did not yet have breast milk, their babies should be getting formula milk from the nurses until they did have milk. One mother, whose nurse did not challenge her preferences, explained,

I requested formula milk for my baby because my body was exhausted and did not have breast milk. The nurse provided the formula milk for my baby and asked me if I needed to take a nap without the baby’s noise; she could help me to take care of the baby for a while in the nursing unit. I felt better after I had some rest.

In contrast, another mother mentioned that, until she could feel better after having ton-shui and some rest, she wanted formula milk for her baby. When the nurse asked her whether she had breast milk or not, she explained that she only had “a little of water, no milk.” The nurse said, “It was breast milk, not water” and urged her to “try breastfeeding first.” Later, the nurse said that, if the baby was still hungry after she breastfed, she would supply some formula milk to the baby, but “only 10cc. of formula milk.” In a similar situation a mother said, “the nurse provided me 10cc of formula milk for the baby after I asked her for formula feeding. And she told me that she was not providing too much to the baby because the baby might not like breast milk” once it had tried formula milk. To some degree, the nurses considered that the mother’s body needed rest and that the baby needed sustenance; only in part did nursing interventions during postpartum care match mothers beliefs about their needs
for rest and vital energy. Instinctively these mothers wanted rest for themselves and formula for their babies, but they also wanted to respect the expert opinions of nurses. These mothers then found themselves in the middle - negotiating between the two views, with nurses on one side emphasizing early breastfeeding, and with family members on the other side emphasizing rest and appropriate foods. While both wanted the same result - a harmonious breastfeeding relationship for mother and child - the views remained contradictory.

During the second stage of breastfeeding, when breastfeeding was established, all had breast milk and tried to maintain the body such that breast milk would be sufficient. Some of the mothers found the amount still insufficient. One mother said,

> During the first week, my mother cooked tonic food for me in order to recover my body. About the third or fourth day, my breast milk was naturally drawn out; my mother cooked the tonic food for breast milk, such as papaya with fish soup. She told me that I had to drink tonic soup in order to have much breast milk as well as to recovery my body.

Another mother said that, when she told the nurse she did not have lots of milk for her baby, the nurse told her to begin “using the breast milk pump” right away. Later, the mother said that,

> It worked out, but my breast milk was still less. In fact, taking ton-shui and having a good sleep was very important for the breastfeeding mother everyday. When I was in China, my family members used to cook tonic food without vegetables and fruits for me during the first month. I had sufficient milk without using pumping.

The other mother said,

> My parents cooked lots of ton shui for me at home. After I drank it, I had lots of breast milk. But sometimes my breast milk was still insufficient. The nurse taught me to use syringe breastfeeding with formula milk for the baby because my baby might not like breastfeeding after using bottle feeding.
Mothers perceived that, after they had breast milk, family members strove to balance the mother's body by diet therapy designed for breastfeeding practices. For them, eating tonic food is the basis for the recovery of bodily health and particularly for breastfeeding. So while families focused their attention on the mother's rest and recovery, the nurses tried to maintain the production of breast milk by artificial means such as syringe breastfeeding and pumping.

Expert opinions and lay opinions also differed on the subject of the mother's body and diet. One new mother described the nurse as saying that “I had to eat much food; otherwise, I could not have enough milk to feed my baby. But she did not mention what kinds of food I could eat or [what things were] taboo.” The mother expected the nurse to give some guidance or recommendations about food, but she did not. Another mother stated, “My physician told me that having date drinks is good for my body, but he also told me that it is important for me to eat vegetables and fruits in order to avoid constipation.” This physician’s guidance only made the mother confused because part of what he said seemed to contradict her traditional Chinese notions. The “date drinks” were considered by these mothers as “hot food” whereas “the vegetables and fruits” are considered “cold food” in the Chinese diet therapy. From the Chinese cultural perspectives on care, the mother should not eat cold food during both the first and second stage. As the other mother said, My physician told me that I had to eat lots of cheese and dairy milk in order to breast feed my baby. In fact, I am not used to eating these kinds of foods. My mother told me that I had to drink tonic soups in order to have lots of breast milk for my baby. And she also cooked lots of tonic soup for me. In general, I always drink lots of soup everyday.

33 The term of date drinks refers to a kind of herbal tea which is thought of as hot food.
In giving guidance, it seems the physician may not have considered the mother’s dietary habits. His notions of diet reflected Western perspectives, or possibly a blend between these and some stereotypic ideas about culture-specific foods, whereas the care offered by family members reflected Chinese cultural notions. Another mother stated,

My mother-in-law cooked tonic food for me and told me that the food was helpful for my body [in light of] becoming older, especially for my bladder and my skeletal body. The foods include ginger, rice wine, vinegar, fungus, chicken, pork, duck and apples. I asked the nurses regarding taking a Chinese cultural approach to what I ate. She only said, "Breast milk is very healthy; if you lack vitamins, then the mom’s body will suffer. But the breast milk is still good milk for the baby.

All the supporters spoke to the mothers about the importance of food therapy for breastfeeding, but each had a different approach to it. The mothers perceived that family members brought foods appropriate for breastfeeding mothers; they also perceived that health care professionals provided a focus on baby's biomedical needs for fluids, vitamins, and nutrition in general.

Further complicating the situation, the mothers perceived discrepancies between the ideas of various Western health professionals on diet therapy. One mother described,

My mother cooked food with lots of ginger by the Chinese cultural approach after delivery. One day, a nurse told my husband that eating too much ginger is not good for the breastfeeding mother. Then my husband became very anxious and asked all the nurses in the unit. Most agreed with this nurse, but one nurse told him that it is good to take ginger, because the Chinese have used ginger for thousands of years. The nurses made my husband confused. In fact, my mother told me taking tonic soup with ginger and rice wine is very important for the woman after delivery. When she cooks it, the ginger must be heated at a certain temperature in order to keep the characteristics of hot food when she cooked it.

This participant found that health professionals are not always in agreement about specific diet therapy in postpartum care. Some support traditional cultural approaches
and some do not, and some disagree about those traditional approaches, such as whether there can be too much ginger in the diet.

A few mothers received information regarding traditional Chinese postpartum care from nurses and/or physicians. One mother recalled the physician telling her about drinking “lots of tonic soups and hot water” because “the baby takes out lots of fluid from mother’s body.” The doctor also told her she could not take cold food and cold water because Chinese custom is not the same as in the Western custom. The Chinese are used to eating hot food, and the Westerners are used to eating cold food. In fact, cold food is not good after delivery, at the postpartum stage, because it is difficult to dissolve cold food into the blood. Particularly, her body is weak after delivery.

As well, this mother received information from health professionals that emphasized the relationship between life style and diet therapy as it relates to Chinese cultural perspectives. Here the term “hot food” refers to not only to the characteristics of the food but also to the temperature of the food. The mother agreed with the physician that hot food was easier to absorb.

The mothers also experienced that there were various notions of diet therapy among family members at home. One mother stated,

My mother-in-law cooked food for me and told me that I had to eat tonic food, without vegetables and fruits, in order to recover my body. She also told me that it was important for the woman after delivery to take hot food because it could prevent illnesses of the elderly later. My mother-in-law did not cook papaya with fish soup for me. She told me that papaya is cold food and not good for the breastfeeding mother. But the Cantonese book mentioned that papaya is a good food for the breastfeeding mother because it helps the production of breast milk.

Another mother said,

Both my mother and my mother-in-law are Cantonese. The notion of taking tonic food after delivery varies between my family members. My mother told
me that I could not eat fish\textsuperscript{34} because it is a wet-hot food. But my mother-in-law told me that I had to eat fish because it is good for the health and intelligence.

This mother perceived that, while family members unanimously agreed diet therapy was very important, the specific notions of taking tonic food after delivery varied among her family members because of differing regional notions about the foods in question.

During the immediate postpartum period, mothers encountered contradictions among expert and lay opinions with regards to the baby's body and breastfeeding practices, and their own experiences. While still at the hospital, one mother remembered that her baby cried frequently. She spoke with the physician of her concerns regarding her "baby [being] hungry" and that "she did not have breast milk." The physician responded with "baby seems normal", and "not to worry about it" because "the baby's body had lots of fatty storage" and that "breast milk" could be "drawn out at least three or four days later." The mother continued to tell the physician "But my baby is still crying after breastfeeding. My baby is pitiful and he needs milk." In this incidence, tension between the mother and her physician evolved with regards to the baby's physiological needs. The only mother, in this study, who attended prenatal classes stated,

I told the nurse that my breast milk was insufficient for my baby because my baby only had 4-5 dirty diapers. The baby must have 8-9 dirty diapers per day - I learned this from the prenatal class; it means that the baby drank enough milk. But the nurse said it was okay for my baby. I felt anxious because my baby always cried. My mother-in-law told me that the wind enters into the baby's body [making him colder] if he is crying for a long time. She also told me that formula milk is too thin to be filling for the baby. This is the reason the baby always feels hungry.

\textsuperscript{34} As is made apparent later in the text a fish with scales is cold food.
In these two instances, the health professionals considered the baby to be “normal” when babies cry frequently and/or seemed hungry. Although a difference of opinions existed between these mothers and health professionals of what is considered “normal” for babies and what babies need. The physician justified that the baby had fat stores and therefore one should not worry about the baby being underfed and conversely the first mother justified her worries with “wind entering the baby’s open mouth and making the baby cold”. In addition, the mother, who attended prenatal classes, was most disturbed by her baby’s lower number of wet diapers per day, which did not meet the standard criteria described in prenatal class. A range of eight to nine diaper changes per day was considered a good indicator of the baby’s health (well-hydrated). Being told two different opinions by two health professionals only served to undermine the authority of these health professionals.

The mothers also perceived a distinct tension between family members and nurses regarding the baby’s physical needs. Family members considered it important to balance the baby’s body by indirect diet therapy, saying the baby was too weak to protect itself against external environmental elements. For example, family members tended to be convinced that, while too much wind maintained in the baby’s body results in the baby being weak and sick, a harmonious balance for the baby can strengthen it against wind entering the body. However, health professionals seemed to believe that the baby could naturally cope with environmental elements and had the physiological mechanisms and the body fat to do so.

As they breastfed their babies, the mothers were also subjected to many different ideas from their various supporters regarding the baby’s body and diet. One mother said,
My sister-in-law, who had breastfeeding experience, told me I should not take any medication when breastfeeding my baby because breast milk is the best food for him. But the doctor and the nurse told me I had to supply vitamin D for my baby because it is insufficient in breast milk. But if I used formula milk for my baby, I would not need to supply it for him.

Another mother said, “In China, I did not supply any kinds of vitamins for my baby. My mother only cooked tonic food for me. But here everything seems different. It is necessary to take vitamin D for my baby when I breastfed.” The mothers reflected that family members believed breast milk to be the best natural food for the baby, but that health professionals seemed to believe that breast milk needs the supplementation of certain vitamins.

After the mothers breastfed their babies, they noticed their baby’s abdomens exhibited gas retention or “lots of wind;” regarding this sign, health professionals sometimes reflected traditional Chinese approaches and sometimes did not. One mother said,

The physician told me not to eat too cold food, that it was not good for the woman after delivery. He said, it brings lots of wind into the mother’s body and is transmitted to baby’s body via breast milk. If I directly take food from the fridge, I should not eat it right away. The best way is to keep cold food at room temperature for 10-15 minutes. After food is warmed up, I can eat it.

This physician’s intervention reflected the idea of diet therapy in Chinese cultural care. He emphasized illness prevention and health promotion for the woman after delivery. Another mother said, “The nurse told me to stay away from certain vegetables, like broccoli, cabbage, cauliflower, brussels sprouts, green peppers, and spicy food because the spices could change the taste of breast milk and because these vegetables could easily produce gas.” From her perspective, this nurse’s intervention reflected Western biomedical knowledge and cultural orientation. As this mother explained, "In fact, I was not used to eating these kinds of vegetables. My mother-in-law cooked all Chinese vegetables and food for me.” Thus, many
of these mothers perceived that the various recommendations offered by health professionals on diet and body care created tension for them, especially when health professionals exclusively stressed values inherent in Western cultural care and family members stressed those deriving from Chinese cultural care.

The mothers also noticed that there are different ideas from the various supporters regarding the baby’s physical care. One mother stated,

I visited the physician when my baby had lots of eye secretions and a red rash on his face. The doctor gave me Prednisone ointment, but he did not tell me not to take some kinds of food. My mother-in-law told me about not to eat beef.\footnote{Beef is thought of as “hot food” and is sometimes symbolically understood as “poison food” in traditional Chinese medicine (Chan-Ho, 1985; Ludman & Newman, 1989).}

In this situation, the health professionals emphasized pharmaceutical biochemical therapy, whereas, the family members emphasized diet therapy.

In relation to the act of breastfeeding itself, the mothers also noticed different ideas associated with breastfeeding practices among family members at home. The mothers found that family members, particularly mothers, mothers-in-law, and husbands, often helped them to do housework and to take care of the baby. However, this practical support was provided in the context of different attitudes about breastfeeding practices. One mother said,

My mother told me that breastfeeding my baby was healthier than feeding a baby formula; the baby would not easily get sick. She cooked food for me and helped me to take care of my baby during the daytime. She wanted me to have a good rest in order to recover my body and breastfeed my baby.

While this participant’s mother supported her breastfeeding practices, other members of her family believed that formula feeding was more appropriate for the baby. Similarly, another mother explained her situation,
My mother-in-law, who had formula feeding experience and came from Malaysia, believed that babies who had formula feeding were stronger than breastfed babies. She always mentioned that breast milk was too thin to be filling for the baby. If she met a baby who was formula fed, she would always support the benefits of formula milk.

Another mother reported that her own mother preferred to “use formula milk and bottle feeding” because she could then “recognize how much milk the baby drinks.” She reported that her mother would “always complain” about breastfeeding being inadequate “if the baby cried.” Yet another mother stated having been told by her friends that formula feeding was very convenient, that it was good food for the baby because the mother could know “how much milk the baby drank.” She also understood that formula milk was “heavier” than breast milk, a concept recognized by the elder women in their community to be a valuable quality. Like several of the mothers in this study, this mother perceived that her family members and friends were comforted by concrete and visible evidence that milk was being absorbed; she perceived they were less comforted by invisible evidence and the less direct measures of evaluating how much the baby had consumed. It seemed, friends and family members were more comfortable with concrete and visible measures of milk consumption, such as formula or breast milk (extracted and administrated by bottle) mixed with formula, and visible (or other measurable) body weight and size.

In general, the mothers noticed that health professionals tended to fully endorse and support breastfeeding. One mother, who found that nurses and physicians gave her “lots of help for my breastfeeding,” recalled that the physician had asked if she wanted to breastfeed her baby when she visited a prenatal clinic. When she explained that she did not have any breast milk when she had her first baby, the physician replied that she "must have breast milk this time" because her "body’s hormones were already built up for breastfeeding the baby."
After her delivery, this physician visited her at the hospital, apparently concerned about her approach to and success with breastfeeding. Similarly, the mothers all felt that health professionals always gave them ample support and lots of information toward successful breastfeeding practices. One mother said, “The nurses taught me how to improve my breastfeeding skills at hospital and at home.” Her sentiments reflected most of these mothers’ experiences with health professionals.

A few mothers perceived physicians as not strongly supporting the practice of breastfeeding. The mother who had been to prenatal classes, and who intended to breastfeed at least 6 months, complained to the family physician about back pain after breastfeeding.

The physician told her that,

The cause of back pain was breastfeeding. In fact, it was not necessary to breastfeed for a long time; one month was enough, particularly the first couple of days because the antibodies are included in breast milk at the beginning. He also said that breastfeeding influenced the mother’s body because it took out the mother’s calcium, and that the hormone was low when I breastfed my baby.

The mother continued to say,

The physician also told me that after I weaned, my physical body would go back to what it was before, meaning no back pain, stable emotions, and a normal volume of period. But at prenatal class the nurse told me that breastfeeding was the best for the baby.

Listening to these various health professionals, this mother felt tension regarding the importance of her own breastfeeding practice. Thus, while most health professionals encouraged these mothers to breastfeed, a few did not strongly support it. Where they were strong advocates for breastfeeding, their motivation seemed to be grounded in the benefits of breast milk toward the baby’s physical health.
In summary, after delivery, these mothers perceived that their own beliefs about breastfeeding and about their bodies affected how they faced the challenges of breastfeeding. For them, successful breastfeeding meant a dynamic interaction between their body and the environment, all of which influenced harmonious balance. Mothers noticed that many aspects of their bodies and the care of their bodies directly affected their breast milk and their baby's bodies. When not in a harmonious balance, the mothers' quantity of breast milk decreased and the quality of breast milk had direct and negative effects on the baby's body, such as “hot food” causing the signs of a “hot body.” For these mothers, achieving a balance of their own bodies required a delicate combination of approaches to postpartum care. Among the many opinions from the various supporters, mothers had to negotiate among the so called expert and lay opinions as well as among the Western perspectives and traditional Chinese approaches. In hearing conflicting opinions, these mothers experienced a certain amount of disharmony in their relationships with both family and health professionals. Finding harmony again meant facing not just breastfeeding practices but the situation in its entirety, including the beliefs and attitudes of the people around them.

**Strategic Approaches to Managing Infant Feeding**

The mothers in this study often coped with difficult situations by developing various strategies that helped them to better manage the practice of infant feeding. These coping strategies were developed in order to obtain, interpret and apply the knowledge that they needed in order to manage infant feeding in the best way possible. These mothers interacted with experienced persons to obtain empirically based knowledge, and evaluated this information for its appropriateness in improving their difficult situation. In addition, these
mothers sought to a point of balance between empirically based knowledge and their own attitudes and beliefs relative to the situations in which they found themselves.

**The Value of Empirically Based Knowledge**

The mothers in this study perceived that there were two distinct kinds of empirically based knowledge - that deriving from Western biomedical science and that which was from the Chinese medical tradition. While some of their access to such knowledge was from persons with expert authority, much was more indirect, and came from persons who were understood to have experience with practical application of these kinds of knowledge. As one mother said, “I liked getting information from my friend because she provided me with information about her own breastfeeding experience that was helpful for improving my situation. I could not get this knowledge from the books and the health professionals.” By interacting with experienced persons, these mothers found they could learn about different strategies that they might try. Further, they found that they could conduct their own evaluations as to the usefulness of the strategy and thus the quality of the information upon which it was based.

*Interacting with experienced persons*

These mothers interacted with many different kinds of experienced persons. For many of these mothers, the most relevant experienced person is the person who has had previous direct or indirect experience related to breastfeeding and also knowledge inherent to

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36 Although it is sometimes assumed in the West that the Eastern health tradition are generated on the basis of non-scientific knowledge, the systematic observations of evidence over centuries of health care have created a highly formalized empirical basis for Traditional Chinese medicine. For this reason, the term “empirically based knowledge” is used here in relation to both medical systems to signify the value that was placed on such systematic knowledge by these women.
care principles within the Chinese culture. Among the women who participated in this study, such experience was often to be found among their own mothers, mothers-in-law, relatives and friends. In some instances, nurses and physicians with particular knowledge of Chinese cultural care practices and professional experience guiding women with breastfeeding practice were also considered to have relevant experience.

Among the participants in this study, most had interacted with women who had recent breastfeeding experience. One mother said, “I liked to ask my friend for help because she just had a new baby. My mother’s experience is out-of-date.” Another mother said,

While I was dealing with the issues that were related with my body, baby’s body, and breastfeeding skills, I first asked my friends what their breastfeeding experiences were like. If my friends’ experiences were similar to mine, I would feel comfortable because I could recognize that not only did I have difficulties, but my friends did too. Their experiences were important to me because they helped me manage the difficulties. I did not like to ask nurses and physicians because they provided information that was too theoretical to help me. In fact, I could get their information from the books and/or pamphlets.

The participants perceived that the infant feeding experiences related by their friends was critical information; they felt that this empirically based knowledge derived from current and firsthand experience was substantially helpful in difficult situations.

Most of the participants also interacted with female elders, like their own mothers and mothers-in-law. They perceived these women as providing important information regarding Chinese cultural care of the body. One mother stated “my elders showed me there was a wide range of cultural ways to deal with delivery and breastfeeding; they knew lots of ways to take care of the body with tonic food, particularly according to the Chinese cultural approach”. These statements reveal the reasons as to why this mother like to interact with her elders. For these women, empirically based knowledge of cultural care from these elders
was significantly helpful even though it sometimes was diverse and presented the mothers with decisions.

Several of the mothers also sought out specific biomedical knowledge through their interactions with health care professionals. As one mother said, “Physicians and nurses provided information based on scientific knowledge; they did not tell us information based on non-scientific knowledge, about tonic food and hot body, for example. I asked them because they were experts!” However, attempts to gain empirical knowledge from health care professionals were often not successful. Another mother explained, “The physician did not tell me too much when I visited him. It seems he was very busy. But I still asked him because he used the updated reports of the scientific studies.” Some of these participants specifically sought out biomedical information from health professionals, saying that they trusted its basis in Western science. In such instances, they also expressed the view that authoritative power existed within the knowledge of health professional.

Interestingly, a few mothers also received Chinese cultural care information from Western physicians of Chinese descent and nurses. One mother described a nurse telling her to drink “lots of [tonic] soup” because the baby is “taking out lots of fluid from the mother’s body”. Another mother reported that her physician had suggested she must eat hot food because it is difficult to dissolve cold food into blood for her “cold body” after delivery. Although this physician was unusual in the detail with which he explained Chinese postpartum cultural approaches to his patient (at least according to the patient’s recollection), there were a number of instances in which the women recalled receiving what they understood to be Chinese cultural concepts within the information they received about breastfeeding from Western health care professionals.
Depending on who the experienced persons in their lives were, the participants received two kinds of empirically based knowledge reflecting two different worldviews. One worldview relates to biomedical knowledge, which was provided mainly by Western health care professionals while the second worldview relates to personal experience, tradition, and cultural interpretations of traditional Chinese empiricism, which was primarily provided by supportive Chinese women with breastfeeding experience. In dealing with these two very different presentations of empirically based knowledge, the women had to consider both the effectiveness and feasibility of each piece of information before deciding what they would accept as appropriate for managing their own infant feeding practices.

**Evaluating Information**

Having received many different ideas from experienced persons on breastfeeding practices - including biomedical knowledge, cultural and folk knowledge, personal experience, and personal bias - the mothers in this study had to evaluate the information according to their personal beliefs about the mother’s body, about the baby’s body, and about breastfeeding practices. Also, these mothers had to consider these ideas in context to specific difficulties they had encountered with infant feeding. Often, the process of evaluating breastfeeding information by these mothers relate to the availability and comfort of a certain strategy with regard to their own body, their baby’s body, and their breastfeeding.

Most of the mothers seemed to perceive that information that related to the Chinese cultural approach was generally the most acceptable to them because it was most closely aligned to their own natural beliefs about the body. As one mother explained,

I like to take advantage of knowledge from the elders, particularly their experiences on the body care practices. The Chinese cultural health care practices have not been approved by the scientific studies in modern society until now, but it is ancestral knowledge handed down from generation to
generation for thousands of years. I believe it. If traditional Chinese medicine is not good for the human body, why have lots of people used it for thousands of years?

For this mother, as for many of the women in this study, “knowledge from the elders” was not considered as separate from themselves or from tradition in the same way that Western scientific knowledge might be considered. Chinese customs regarding health promotion were embedded in the paradigm of Chinese traditional medicine and therefore passed from generation to generation. In this tradition, little distinguished medical care from body care and lifestyle. Whether they completely understood it or not, they considered knowledge from Chinese elders as knowledge belonging to everyone. In particular, they recognized postpartum care is a practice that is rich with ritual and traditions based on generations of knowledge, passed on to the present day. While both men and women carry this knowledge, women are understood to be responsible for carrying out the specific practices associated with it. This mother continued to say,

My mother-in-law took care of my body using the Chinese cultural approach. My family physician told me that, compared to the other mothers, my physical body recovered quickly. I think that this was related to taking advantage of a Chinese cultural care approach to my body.

Like other mothers in this study, she perceived that empirically based knowledge that related to cultural care was very useful. It supported her in refining and clarifying her beliefs about the body and breastfeeding practices, and because of this it brought comfort and confidence.

Much of the information that the mothers obtained about diet related to food therapy appropriate to their circumstances as breastfeeding mothers. They found that the practices of eating fish as a form of food therapy varied among the female elders they consulted. One
mother decided “not to eat fish right away” because her body was weak at that moment. However, her elders disagreed, and she experienced the conflictual situation of being “not sure whether she could eat fish or not.” In this instance, the mother chose the action best suited to her own beliefs of food therapy and determined this by what made her comfortable. In many instances, the women tended to follow the advice of their own mothers rather than their mother-in-law's practices when the opinions were conflicting. In this way, they appeared to choose the concepts of food therapy most familiar to them.

The mothers also specifically evaluated the information according to whether it actually helped improve the practices of breastfeeding. One mother described that "the physicians and nurses" gave her “lots of information "that was" helpful in improving my breastfeeding practice" but that her mother "only cooked food" for “recovering her body.” From her perspective, her mother's information did not improve her breastfeeding practice; indeed, the mother was telling her daughter that "breastfeeding experience was too out-of-date," and that breastfeeding seemed very complicated.” Thus, in evaluating the information that was available to her, this participant perceived the health professionals’ information as more helpful to her breastfeeding practices than information provided by her own mother.

These mothers also evaluated dietary advice based on their beliefs about its connection to their baby's bodies. For example, one participant explained that her mother-in-law’s ideas about food therapy prohibited taking cold food such as vegetables and fruits during the postpartum period on the basis that they were not good for illness prevention and health promotion for the mother’s body. Although she respected her mother-in-law’s belief in the advantages of Chinese cultural care, this mother wanted to "take advantage of vegetables and fruits for her baby," saying that she could not know "what might be
happening in the future.” On this topic, she decided that “the present time” was more important than "the future time" and that she wanted to believe in the Western approach to food guide recommendations for now. She tried to eat "only small amounts of vegetables and fruits" in order to "make sure" that her "body was accepting these foods or not.” In making this decision, the mother had to evaluate the effects on her own body as well as her baby's body.

Another issue that required thoughtful evaluation by these mothers was the issue of artificial feeding techniques, such as syringe feeding and pumping milk. One mother was taught by the nurse how to supply formula milk using syringe feeding since her own breast milk was insufficient. She said, “The syringe feeding was very complicated for me to feed the baby. At the beginning, I patiently practiced it in order to handle it well for several times.” For her such interventions were simply not worth the discomfort and awkwardness. Another mother, who also had insufficient breast milk, described that a nurse taught her to pump the breast milk at home. She said, “Pumping breast milk was okay for me, but I did not get lots of milk. The breast milk was insufficient for my baby. After I fell asleep and ate tonic soup, I got more milk.” These mothers seemed to evaluate the information they received in comparison with their own past and present breastfeeding experiences. For some women, these ideas associated with artificial feeding techniques were also reflected in their views about unfamiliar products. For example, one mother indicated she preferred to use food therapy rather than to use chemical pharmaceutical medication. The mother revealed her reasoning, saying, “I thought the ointment might not be good for the baby's body because it is a kind of chemical.” Thus, the mother evaluated the information she received according to her beliefs about food therapy in Chinese culture as it related to her baby’s body. In each
case, the mothers evaluated the information they received based on how appropriately they thought it emphasized positive and balanced effects on their babies' bodies.

Regardless of the source of the empirically based information they obtained, these mothers accounts revealed that they evaluated it based on their own beliefs about body, diet, and breastfeeding. They considered whether the information was comfortable to them in relation to their own ideas and whether it answered the questions that were important to them. They found it easiest to respond positively to empirically based information that was consistent with their beliefs about breastfeeding and the body. Thus, while they valued this knowledge in both Western scientific and Chinese traditional medical forms, and believed that both offered them many different approaches to maintaining their bodies in order to successfully breastfeed their babies, these mothers recognized that empirically based information from various sources could be inherently conflictual.

Finding a Point of Balance

As they faced new challenges, each of the mothers in this study chose strategies for infant feeding that reflected a delicate balance of information from experienced persons and from their own experiences of breastfeeding. One mother recalled having to accept many different suggestions regarding breastfeeding practices from her different supporters. She tried different approaches until she found “a key point of balance” for breastfeeding such that she could handle it well. The process of choosing infant feeding practices to her was like “Sham bu juann, zen jaunn.” The literal meaning of this phrase is, “the mountain is in front of you, and you must go around it to reach your goal.” This metaphor is used to signify that, to reach her goal, “the mother must choose the way that is both available and comfortable for her and her baby.” Furthermore, when the mother is challenged by a difficult or new
situation, that is, when she is facing a barrier, she must choose the infant feeding practice that is appropriate for both her and her own baby. Her strategies will involve maintaining bodily equilibrium, using indirect communication, and finding a place of comfort.

**Maintaining bodily equilibrium**

The different strategies mothers chose, both during the first few days after delivery and during the days following, revealed that “taking care” is most strongly emphasized: taking care of their bodies and the babies’ bodies is the most important thing during the entire process of breastfeeding. During the first couple of days, one mother said,

> I used formula milk for my baby in order to sleep so my body could recover faster, and I ate chicken soup flavored with sesame oil for the recovery of my body because, after delivery, I felt weak without any milk.

Another mother said, “My baby always cried after I breastfed her. I thought I did not have enough breast milk because I was tired. I decided to feed my baby breast milk mixed with some formula milk.” In these ways, the mothers took measures to balance their bodies toward optional amount of energy for themselves and breast milk for their babies using traditional Chinese approaches even when achieving that balance meant adding formula to breast milk. From these mothers’ perspectives, both the mother’s body and the baby’s body need to achieve a balance after delivery. Both need strength and the vital energy they can get from food therapy because the mother has experienced delivery and the baby is trying to adjust its new environment. These natural tasks inevitably make both mothers’ and babies’ bodies weak.

During the second stage of breastfeeding, few days after delivery, the mothers in this study all had breast milk. Each used a variety of strategies to maintain the production of
breast milk; they were not only listening to the advice of others but also learning from their breastfeeding experiences. One mother said,

I am used to drinking apple juice at least 300 c.c. when I breastfeed. I am also used to eating well and taking a nap everyday in order to have sufficient milk. In general, having a good sleep is very important for me. I am used to sleeping for a long while on weekends, and when my husband helps me to take care of the baby. After I breastfeed, I always feel thirsty because my baby has drawn out all my body's fluid and nutrition.

Another mother noted, “My breast milk was insufficient when I felt tired at night, particularly at 9 pm. I had to sleep at least 4 hours before I breastfed.” Thus, the mothers maintained their bodies’ vital energy by knowing their own patterns and needs for rest, fluids, and nutrition; in other words, by applying empirical reasoning to their own experience in order to have sufficient milk.

As well, these mothers also maintained the baby’s body balance, and they did this by balancing their intake of milk and tonic drinks. One mother said,

When my baby was hungry, I breastfed her. If my baby was still crying after breastfeeding, I provided some formula milk. If the baby was crying for a long time, the wind might enter her abdomen. In fact, the baby did not know the difference between formula milk and breast milk. She only wanted to be full. It depends on the baby’s need.

Another mother said,

After I had tonic food, my body’s excessive hot chi is transmitted to the baby’s body by breast milk. He had lots of eye secretions and red rashes on his face. Usually, I fed him chiuh-huo-shui to improve his body. The effect of chiuh-huo-shui was slow, but the baby’s body improved. Although the physician gave me prednisone ointment for treatment, I used it less. I was not sure if this ointment might be harmful to the baby’s body or not.

It was apparent that these mothers’ preference for balancing the bodily energy was through trial and error using the principles of diet therapy.
Using direct and indirect communication strategies

The mothers all were dealing with different ideas about breastfeeding practices from their supporters, particularly health professionals and family members. They negotiated with these supporters by using different strategies. One mother said that dealing with different notions about breastfeeding offered by both her mother and mother-in-law were not a big problem. The process of negotiation required was, to this mother, like tsuo ton yuan, which translates as "crushing dough together in the hands." In this study, the phrase signifies the harmonizing of different notions from various supporters into something whole and workable.

All the mothers negotiated among their supporters toward harmonizing personal relations by using different strategies associated with diet and breastfeeding practices. These can be categorized as four different responses. First, mothers listened to the advice or direction of another person and yet used direct and indirect means to do what they thought was right. Most of the mothers had female elders at home who helped by cooking food for the mothers, by taking care of babies and by doing housework. One mother had to make decisions that had her choosing between Chinese and Western approaches to taking food. Pointing out the contradiction, she said,

My mother-in-law cooked all the hot food for her without vegetables and fruits because it was too cold for her body. In China, everyone agrees with taking hot food without cold food at the postpartum stage. When I was in China, I agreed with the notions of Chinese cultural approach. But here my body felt hot after delivery, and I wanted to eat vegetables and fruits. I was not sure if the vegetable and fruit influenced my body. My mother-in-law treated me as nicely as well as she treats her daughter. I really appreciated her caring. I did not want to hurt her. Consequently, I told my father-in-law that I wanted to eat vegetables and fruits. He told me that if my body could tolerate this cold food, I could do it. Later, I tried a little bit of vegetables and fruits. I found it was okay for my body. Finally, I felt comfortable eating some vegetables and fruits in front of my mother-in-law. And the mother-in-law did not comment about it.
Thus she negotiated directly with the male elder both to communicate indirectly with the female elder just what she thought felt right and to avoid conflict. She wanted to achieve her goals to both harmonize the relationships in the home and feel as healthy as she could.

Mothers responded to advice and direction without arguing about alternatives. One mother explained,

Although I did not like to eat certain foods that my mother-in-law cooked, I still ate of the food that she cooked for me. I believed that my mother-in-law did her best for me. I really appreciated it when she looked after me and helped me to take care of my baby. When the physician told me that my body recovered faster than the other mothers, I know it was because my mother-in-law took care of me properly. I trusted her experience and did not want to hurt her.

This mother showed appreciation for the mother-in-law’s caring, and worked to maintain a positive attitude toward the food she was provided.

Sometimes, mothers responded to advice by offering their own views directly and calmly. One mother experienced tension between her two female elders on the subject of food therapy. Her mother-in-law believed that fish without scales was appropriate because it was good for the body and intelligence of both mother and baby; her mother disagreed. She simply said to both that she believed she could not eat fish during the first couple of days, saying it was wet-hot food\textsuperscript{37}. The mother went on to say, “In fact, it was not a big problem. I told my mother-in-law that I ate tonic food first, and then I ate fish. And she did not comment.” In this way, this mother attempted to make her female elders comfortable with her calm and quietly assertive attitude.

Sometimes, the mothers also responded with silence and inaction. One mother said,

\textsuperscript{37} Wet-hot food is thought of as a cold food.
My physician told me that he did not understand why I did not eat vegetables and fruits and asked how I got fibre from the food I ate. In fact, my baby and I did not have constipation. Although I only ate tonic food that was a mixture of ginger, rice wine, sesame oil, and chicken, my body and the baby's body were okay. I did not respond to his question because I knew my body could not tolerate cold food yet.

Another mother said,

I did not respond to the nurse when she called me to tell me to breastfeed because I did not have any milk, and I was exhausted. The nurse later told me that, if I was hungry, I could eat food from the refrigerator. In fact, my body was too weak to eat cold food. I also did not respond to her then.

When the beliefs of health professionals contradicted their own beliefs, these mothers most often responded by keeping silent. In explaining this strategy, they provided various reasons. When they did not agree with the notions offered by health professionals, they explained either that they did not intend to explain folk or cultural ideas to Western authority figures, or they did not know how to communicate their beliefs to nurses and physicians. In both instances the complications inherent in language barriers were an aspect of their decision not to respond.

A few mothers dealt with specific issues associated with differences of opinion about breastfeeding practices between their own mothers and their mothers-in-law. One mother said,

My mother-in-law believes formula feeding is good for the baby. But my baby was crying after I breastfed her. My mother-in-law requested I add formula milk because she believes that breast milk is too thin to be filling enough for the baby. Whenever she saw another baby who used mixed breast and formula milk, she would tell me that the baby was stronger than my baby. It made me frustrated. I was wondering if the quality of my breast milk was not good for my baby. I did not argue with her because a tension exists between us: we have different worldviews. Later, I told her about the benefits of breastfeeding and about how the baby's weight was increasing. When the baby was weighed at the physician's clinic, I showed my in-laws the curve on the growth chart to show his weight was increasing at each visit. Recently my
father-in-law told me that breast milk seems good for the baby. My mother-in-law did not mention it to me again.

This mother felt it important to keep a harmonious balance in the family by keeping quiet about her beliefs about breastfeeding. Although she did not agree with the notions of her mother-in-law, she also did not want to argue with them, thinking it would show a lack of respect. Rather, she used the evidence provided by an authority using a Western approach as a means to express her own beliefs.

The mothers therefore responded to the advice, direction, and experienced beliefs of health professionals and family members using various combinations of direct and indirect communication. These responses were employed to keep the relationships comfortable between their mothers and the supporters and to allow themselves the strategies that they found most comfortable, all things considered. In other words, they sought harmonious relationships wherein they could demonstrate respect and respect would be mutual. Their responses therefore reflected the notion of filial piety which is considered central to family ethical relations in Chinese culture.

Finding a place of comfort

Once the mothers had found the right balance amid the different notions of supporters, they concentrated on finding appropriate positions for infant feeding practices. One mother said, “Breastfeeding practices were related to the mother’s comfort level, not to whether she had confidence. Many factors might influence breastfeeding, like insufficient milk, the mother’s body, and the baby’s body.” Another mother said, “Choosing her own breastfeeding practices, a mother must consider whether her body is suited to breastfeeding. If the mother’s body is not healthy, how does she provide good quality milk for the baby and how can she take care of the baby?” The mothers all considered the needs of their bodies and
their babies' bodies as they choose among simply breastfeeding, mixing breast and formula milk, and feeding with just formula.

The mothers chose breastfeeding when they had “sufficient milk for [the] baby,” when “the baby drank properly,” and when they “could manage breastfeeding well.” One mother said,

At the beginning, I felt out of control making it difficult to breastfeed. The intervention of breastfeeding practices varies among nurses. Each time I learned different breastfeeding skills from different nurses, I practiced them several times. Finally, I found the key points of breastfeeding practices were eating each meal well, having at least 300 c.c. of apple drinks when I breastfeed baby, and having a good sleep everyday. When I breastfed the baby, I had to observe the actions of baby’s body, such as swallowing. I have learned how to take care of my baby, what his life patterns are, and what his behaviors mean, such as crying. Yet my baby’s breastfeeding schedule is fixed. I can make a good plan just by following his timetables. For example, I must go home to breastfeed him in three hours if I go out to do some work. Otherwise he might be hungry. At present, breastfeeding is working out for me.

This mother breastfeeds comfortably because her breast milk is sufficient for her baby. She knows her baby’s patterns and manages her lifestyle well. Another mother said,

I chose breastfeeding practices for my baby that I felt comfortable with. Particularly, I had lots of milk for my baby, and she drank well. Most of the time, I stayed at home, though I walked my first daughter to kindergarten. In general, my mother cooked food for me and I only had to heat it in the microwave. My husband helped me to buy groceries, and I took care of my two children at home. I have not had any social activity with others during my breastfeeding period. Sometimes my relatives and friends visit me. But when the male elders, male relatives and friends, and boys were at my home, I felt too uncomfortable to breastfeed in front of them. I always entered another room to feed my baby. Sometimes breastfeeding is inconvenient for me, but it is mostly okay for me. I can handle it well. It was not a big problem for me.
This mother chose breastfeeding because it allowed for positive interactions between her and her baby. She handled the challenges of breastfeeding and made decisions about how to minimize the embarrassment of breastfeeding around men and boys.

The mothers chose mixed breast and formula feeding when they felt they had insufficient breast milk. One mother said,

I used mixed breast and formula milk to feed my baby. When I felt that my breasts were engorged, I breastfed my baby; otherwise, I used formula milk. My baby ate well. Breastfeeding always depended on how much breast milk I had. My baby did not insist on breastfeeding or bottle-feeding when I fed him. When he was hungry, he only wanted milk. I thought that it was the natural process. In fact, the baby never knew the difference between breast milk and formula milk. Until now, my baby had eaten well. Formula milk is not too bad for my baby. If your breast milk is insufficient, the formula milk is still good food for the baby.

Another mother stated,

I mixed breast and formula milk into a bottle to feed my baby because my breast milk was insufficient and my baby was always hungry. Using breast tube feeding was very complicated for me. I gave it up and used bottle-feeding. I felt it was an appropriate infant feeding pattern for my baby. Not only did he get sufficient milk, but he also got some breast milk.

The mothers choose mixed breast and formula milk for their babies based on their own abilities and on continual personal assessment of the baby’s needs.

Some of the mothers chose formula feeding when either their own body or their baby’s body was challenged to produce and/or deliver breast milk sufficient for the baby. A few mothers chose formula milk because their bodies were not well suited to breastfeeding. One breastfeeding mother had herpes and, at the end of three weeks, took medication. After a few days on medication, she explained,

One day, I found that the breast milk smelled liked sour milk, and that the breast milk was not as heavy as before. Two of the physicians told me that
the breast milk was okay for the baby while I was taking medication. I felt uncertain about the physicians’ responses because the two physicians said I was okay for now, but this did not mean that it was okay for the future. This is my child! If something happened to my baby in the future, I would feel bad. Finally, I gave up breastfeeding.

This mother reasoned that the quality of breast milk might not be good for her baby because it seemed, by smell and sight, tainted by chemicals. She was worried about whether it would influence the baby’s body. For her, expert western biomedical information from an authority figure designed to make her absolutely comfortable about breastfeeding had the opposite effect. Another mother who chose formula feeding said,

After delivery, my body was getting worse, and my weight was decreased at least 10 lbs in the first week. I tried to eat tonic food and sleep so that my body could recover. But I still lost weight. My breast milk was sufficient, but my perineum and my hemorrhoids were still painful, and I could not sit down to breastfeed my baby. The nurse gave me treatment to relieve pain, but I still felt uncomfortable. Then I tried to formula feed my baby, and later I felt that he sucked and slept well. Also, my body was recovering and my body weight had increased. Finally, I decided to choose formula feeding.

Another mother said,

I did not know why my baby could not suck my breast milk. I told nurses about my difficulties. Then several nurses helped me to breastfeed. But it failed. I felt frustrated, and my neck was hurting too. I had to do physical therapy because my neck was swollen. Probably, I was too anxious for breastfeeding. Later the nurse told me that my nipple size was too big to fit my baby’s mouth. I did not think so because I breastfed my first baby well. Finally I felt I had to use formula milk because my body was still worse. I found formula milk was also good for the baby. But I believe breast milk is still the best.

For this mother, the decision to use formula milk came only after much effort with breastfeeding. Despite her belief in breast milk, she did what she thought was best for her baby.
According to the mothers in this study, sometimes the choice to formula feed had to do with the baby’s body. One mother said,

I chose the formula milk because my breast milk was insufficient and because my baby did not like formula milk. After I breastfed her, my baby was still crying and was hungry all day. I tried the different strategies to produce breast milk, but it was all in vain. I did not know why my breast milk was insufficient for my baby, but I had sufficient milk for my first baby. I did not have other options. After I decided to choose formula milk, my baby stopped crying and slept well. For me, there was no difference between the breastfeeding and formula feeding for the baby. I mean, breastfeeding is the best for the baby, but, if the mother does not have sufficient breast milk, she has to feed formula milk to her baby because the baby needs milk. There is no argument.

And then she added, “Breast milk is the natural food for the baby.” If this mother had had sufficient milk, she would have used it. But since her breast milk was insufficient, she felt she had no options but to formula feed.

When mothers dealt with difficult situations affecting their breastfeeding practices, they tended to receive lots of information and help from the supporters. The mothers evaluated this information and determined whether it was reasonable depending on the comfort, the abilities, and the strength of their bodies and their baby’s bodies. Much of the time, this all depended on both their preconceived and their changing beliefs about the body and about breastfeeding. These mothers clearly emphasized their impression that traditional Chinese cultural knowledge and Western scientifically based knowledge seemed to carry different levels of empirical weight within the scientific community. Finding a balance in their own breastfeeding practices is then an aspect of finding balance between the two

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38 According to this mother, the baby had rejected formula milk and cried all day. Although her statement seems contradictory, there was a relationship between her insufficient breast milk and her baby’s reluctance to accept it.
cultures. Toward this end, the mothers in this study chose responses to information giving them access to various strategic choices, all of which was geared toward harmonizing the situation of their bodies, their babies' bodies, their breastfeeding practices, and their personal relationships. As a result, although they eventually adopted a range of breast and bottle feeding practices, all found that they discovered an appropriate infant feeding pattern for their babies as well as a comfortable situation for their own bodies and their babies' bodies.

Summary

The mothers in this study believed breastfeeding to embody the most natural interactions between a mother and a baby. They believed the practices of breastfeeding to reflect dynamic patterns of harmony within natural law. For them, "natural human milk" needs to be "balanced" within a mother's body. The harmony of a mother's body is related to her health and her diet in the postpartum stage, all of which directly influences the baby's body. According to these mothers, a natural relationship exists between the mother's body, baby's body, and breast milk. Specifically, breastfeeding is among the natural duties and responsibilities of the mother to become a food source for the infant. After delivery, these mothers experienced tensions between their own beliefs and the beliefs of others regarding breastfeeding in general, breastfeeding practices and the care of the body. For them, successful breastfeeding occurs as a dynamic interaction between body and environment, all of which influence a harmonious balance. Mothers noticed that these interactions or changes in body and environment directly affected their breast milk and their babies' bodies. When their bodies were not in a harmonious balance, the quantity of breast milk decreased and the quality of breast milk had direct and negative effects on the baby's body. When this
occurred, mothers achieved a balance for their own bodies using Chinese postpartum approaches in order to rebuild the foundation of a healthy body. Tensions were also experienced by these mothers because of conflicting ideas offered by the various people they relied on for information and support; in particular, tensions arose amid differences among lay and expert opinions from Western biomedical and traditional Chinese perspectives. These mothers experienced a certain amount of disharmony because of these conflicting ideas, which also affected the success of breastfeeding.

When mothers dealt with difficult situations affecting their breastfeeding practices, they tended to collect information and negotiate between the various perspectives in order to locate the information that would support them best in successful breastfeeding. These mothers would evaluate and/or test the information so as to determine the best course of action for themselves in their particular situation. They would consider their beliefs about breastfeeding, their own situation, and their baby’s situations as well as the beliefs and feelings of all those supporting them. Balancing between the empirically based knowledge of traditional Chinese cultural practice and Western biomedicine, these mothers all sought to find strategies and solutions that would produce for them the optimal sense of harmony within the challenges and adjustments that their maternal role required of them. For many, this harmonious balance required that they shift their own beliefs in order to accommodate the best possible solutions for themselves and their babies.
CHAPTER SIX: DISCUSSION

The findings of this study describe a picture of the breastfeeding practices of Chinese mothers, a picture made clearer by the combined use of quantitative and qualitative research approaches. These two research approaches reflect very different paradigms, and thus lead to very different findings, sometimes congruent and sometimes inconsistent with one another. For example, whereas quantitative research approaches found that certain factors influence Chinese mothers' breastfeeding practices, qualitative research approaches revealed that Chinese mothers' breastfeeding choices are embedded in their personal beliefs, values, and cultural background. As well, where the findings of quantitative data revealed mothers who intended to breastfeed were more likely to choose breastfeeding at hospital discharge - as has been shown in other studies - what is still missing from the results of the quantitative approach is information on or understanding about the mother's attitudes and beliefs about breastfeeding. The findings from qualitative data, however, did reveal that a mother's beliefs about breastfeeding, about breast milk, about breastfeeding practices, and particularly about their bodies all influenced their breastfeeding practices, that is, the way they face the challenges of breastfeeding practices and the ways they negotiate difficulties. These influencing factors must be added to the many external factors already known to have an influence on the decisions mothers make.

Gaps that exist between the quantitative and qualitative data raise questions about the research method. One gap revealed by this study's combined approach focuses on how mothers make decisions. The findings of the quantitative data revealed that mothers did not make breastfeeding decisions on their own; the data indicated that the mothers' own self-
confidence was related to their perceived success in breastfeeding practices (at the second month postpartum). However, the findings of the qualitative data revealed that mothers made all breastfeeding decisions on their own. As well, self-confidence was not a term they felt appropriately described their personal goal for breastfeeding nor for the health of both mother and infant. Qualitative approaches thus allowed further questioning better directed at just how these mothers perceived they make decisions about breastfeeding. The study offers, then, a clearer understanding of how these mothers think through challenges and problems concerning their baby, their social environment, and their breastfeeding practices. The following discussion focuses on three main themes: the research methods used in this study, the Chinese cultural context of health and illness for breastfeeding mothers, and the decision-making process of Chinese mothers in the context of breastfeeding.

**Discussion of Research Methods**

The purpose of this study was to expand and develop our understanding of Chinese mothers' infant feeding practices. The findings were derived from both quantitative and qualitative approaches to documenting and interpreting Chinese mothers' breastfeeding choices. The quantitative aspect was oriented toward identifying factors that influenced mothers' prenatal ideas about breastfeeding and their subsequent breastfeeding practices postpartum. The qualitative aspect was designed to explore mothers' perceptions in breastfeeding choices in a manner that would reveal rich and in-depth information about the mothers' breastfeeding beliefs and experiences. Combining the two approaches facilities a more comprehensive understanding of the phenomenon under study and is known as methodological triangulation (Denzin 1989; Polit & Hungler, 1999).
Distinct research questions informed the data collection and analysis processes associated with each aspect. The quantitative findings were obtained by convenience sampling of Chinese mothers, the use of a questionnaire using single and/or multiple choices, and subsequent statistical analysis that could be generalized to this specific population. The qualitative findings were developed on the basis of interviewing a smaller purposive sample of Chinese mothers to elicit their personal experiences and to extract the explanations they gave for both the experiences they had and the choices they made about breastfeeding.

Taken together, the quantitative and qualitative findings enhance our understanding of breastfeeding practices among Chinese mothers. In the following discussion, I will consider in more detail some of the similarities and differences between the quantitative and qualitative findings and interpret the ways in which we might understand the contributions of these findings.

Similarities and Differences between the Quantitative and the Qualitative Finding

Overall, there were many similarities among the findings derived from both qualitative and quantitative research methods. For example, it was clear from both sets of findings that the women who intended to breastfeed and who had breastfed their baby prior to discharge from hospital were more likely to continue breastfeeding after they left hospital. In this way, the link between intention to breastfeed and actual breastfeeding practice was confirmed. Obtaining findings from two distinct methodological directions therefore added confidence that the interpretations have some measure of theoretical validity and consistency.

However, the most interesting issues arose when differences or contradictions emerged from the two sets of findings. Here, the multiple angles of vision provided perspectives from which to examine the complexities inherent in the experience as it was
expressed and to consider the ways in which the methodological choices may have influenced the way in which the phenomenon was depicted and described (Creswell, 1994; Thurmond, 2001). For example, quantitative and qualitative approaches elicited different findings with regard to other people's influence on breastfeeding decisions. In the quantitative approach, those who reported that their infant feeding decisions was influenced by friends, and those who reported the decisions was influenced by self were more likely to not intend to breastfeed. In contrast, in the qualitative findings, the mothers perceived themselves to have made their own decisions on breastfeeding whether to breastfeed – or decisions about method of infant feeding which included their consideration and evaluation of opinions of “others” such as friends, family members, and health professionals

Another difference was found in relation to the matter of the psychological factors that influenced successful breastfeeding practices. In the quantitative findings, the variable of confidence was a significant predictor for successful breastfeeding during the second postpartum month which is similar to findings in studies of Caucasian women (Laufer, 1990; Louglin et al., 1985; Virden, 1988). However, it is interesting to note that, from the qualitative findings, the mothers described successful breastfeeding as being related to whether they felt comfortable about managing breastfeeding, not whether they had confidence in it. Within their in-depth descriptions of such factors as their body and their baby's body, then, mothers created a portrait of themselves as seeking comfort within their social and physical environments and suggested this was significantly more important than was the idea of being self-confident.

In considering these areas of convergence and divergence, it becomes possible to consider the implications of such factors as the research question itself, the data gathering
techniques, the theoretical framework, and the employing of theory, all of which influences
the ways in which research about such phenomenon is formulated.

**Insights from Comparison of the Quantitative and Qualitative Findings**

The main contribution offered by employing both quantitative and qualitative
methods within a single study is the chance to reflect upon the variations each method yields,
variations both in our interpretation and in our understanding of the process of breastfeeding,
from intention to breastfeed to the breastfeeding practice itself. In this discussion, I will
focus on four insights that arose out of considering the findings from both the quantitative
and qualitative perspective.

First, the findings added support to the existing research in that they confirm the role
that intention to breastfeed plays in producing breastfeeding practices. Second, new
dimensions of breastfeeding practice were uncovered regarding the mothers' beliefs about
breastfeeding and infant health, the ways they dealt with the contradictions between “beliefs
and practices” and between “expert opinions and laymen opinions” on breastfeeding, and in
the ways they negotiated to achieve good outcomes. These new dimensions pivoted upon the
mothers' own views of how strongly breastfeeding is promoted in Canada and in Western
society in general. These new dimensions were derived from the qualitative research
approach, wherein real-life experiences of breastfeeding practices were discussed from a
subjective position. The more varied the methods are within a given study, the more likely it
is that the findings will reveal incongruencies; yet, such incongruencies may also yield
significant new insights.

Third, where complete divergence between the quantitative and qualitative findings
existed, new insights could be glimpsed. In this study, the qualitative findings revealed that
all participants interviewed intended to breastfeed; these mothers claimed breastfeeding was a natural and normal aspect of being. But the quantitative findings reported no such claim. Such a divergence between the two may have resulted for two reasons. The first is that previous quantitative studies have claimed that Chinese mothers tend to think of formula feeding as a viable option when they immigrate to the West, although they might have previously believed breastfeeding to be best (Chan-Yip & Kramer, 1983; Goel, House, & Sharks, 1978; Romero-Gwynn, 1989; Rossiter et al., 1993). Questions posed for the quantitative measures, both in these studies and in my study, did not and, could not include examination of any such shift in attitude. The qualitative approaches used in this study, however, revealed that mothers perceived they did not change their minds about how to feed their infants when they moved to Canada. The second reason is more complicated and has to do with Chinese perceptions of the rate of breastfeeding practices in both Chinese and Canadian communities. The mothers in this study were all immigrants from a variety of Chinese locations and communities: half were from China, and half were from other places in the world. Those from China perceived the Chinese as those most likely to breastfeed; as well, they perceived Canadians as less likely to breastfeed. Those from Hong Kong and Taiwan perceived themselves as having a choice between breast and formula feeding. Such different perceptions affect the results obtained from asking questions about intentions to breastfeed, especially since a selection bias occurred in my qualitative study in that I actively recruited mothers from Hong Kong and Taiwan. The irony that emerged from the qualitative study alone, then, was that immigrants from China perceived low rates of breastfeeding in Canada and yet intended to breastfeed in spite of this perception while immigrants from Taiwan or Hong Kong perceived their own countries as more supportive of formula feeding.
than was Canada. The study revealed how very different perceptions can arise from differing Chinese communities.

Fourth, used together, the results of quantitative and qualitative approaches were helpful in explaining the process of change in breastfeeding practices from prenatal to postpartum stages. The quantitative findings helped illuminate the significant variables that influenced breastfeeding practices in both the prenatal and postnatal stages. When these were discussed in the qualitative process, mothers also revealed their concern with "body and breastfeeding", "food and breast milk", and "cultural care".

A design using both quantitative and qualitative methods thus helps researchers to learn more about the multiple realities inherent in such an experience. Such a design offers an opportunity to enrich research findings and deepen insights; in addition, the findings from one method can presumably be validated, clarified or expanded upon by findings arising from the other method. In situations where contradictory findings are welcome as enrichment, a combination of quantitative and qualitative findings is ideal. Such findings will more likely point out inconsistencies, generate new ideas, raise interesting questions, and provide new insights (Razum & Gerhardus, 1999).

Understanding the Chinese Culture Context of Health and Illness

The concept of health and illness in Chinese culture is embedded in a Chinese worldview (Kleinman, Kunstadter, Alexander, & Gate, 1974, 1978; Spector, 2000). Based on Chinese philosophy, the classical Chinese worldview is a holistic one wherein macrocosmic aspects of the universe are thought of as directly correlated to microcosmic aspects. The patterns of the large and the small are much like concentric circles, each
revealing its similarities with all others. The interaction between mother and baby is in this sense a macrocosm in relation to the interaction among the systems within a mother's body in the context of breastfeeding; yet, all are similar in pattern. The basis of classical Chinese philosophy is a concept known as Tao, which is a composite of everything and which teaches the intrinsic order of all things; all of this forms the basis for concepts in Chinese science and medicine as well as in art and life. An important part of philosophy of the Tao is the concept of a duality, or a dualism that encompasses relativism in all things. This duality is necessary for movement, change, and creation in a dynamic process with natural laws. In the Chinese philosophy of Tao, an object is composed of yin and yang wherein the yang aspect in the pattern must accompany and correspond with the yin aspect of object. Yin-yang refers to interlocked forces that supplement each other and that remain in permanent motion. All branches of traditional Chinese philosophy, including medicine, are dominated by this concept of harmonious balance within the patterns of the elements (Feng, 1948; Chan, 1967a).

In the findings of this study, the power of the philosophies underlying the worldview of these Chinese mothers, as it related to infant feeding practices, became apparent in their speech and in their actions. In order to examine more fully which philosophies were manifest in which manner, a brief description of the philosophies and key concepts of the Chinese worldviews related to Chinese mothers' breastfeeding beliefs and practices will follow. These philosophies include Confucianism, Taoism, Yin-yang theory, and the Five Forces Theory.
Confucianism

In his lifetime, between 551 and 479 BC, Confucius proposed that the Tao, *the way*, is a socio-ethical order that exists in the human world within a natural and moral order. This refers not only to our socio-ethical roles in society but also to the objective prescriptions of proper behavior in ritual, in ceremony, and in ethics, all of which govern the relationships in the Chinese society, including “family life, religious worship, social activities, and political affairs generally” (Hsieh, 1967, p. 167). It is, then, each individual’s responsibility to assume the moral obligations inherent in his and her position (Flew, 1979). Confucius established a code of rules and ethics with these central premises: that there is a right order and harmony to the universe; that it is based on a delicate balance of yin and yang forces; and that the force applied by man must be essentially moral. The code of rules and ethics of Confucius - including the virtues of benevolence, wisdom, faithfulness, reverence, and courage - illustrate the social and ethical relationships within the Chinese community (Feng, 1948).

Confucianism emphasizes the individual’s social relations and social responsibility over self-consciousness - the central idea is *benevolence* and *filial piety* which is correlated, the latter serving as the basic requirement of the former (Hsieh, 1967).

Confucianism provides a metaphysical foundation for its essentially humanist attitude: *Chung yung*. Chung, literately a harmonious balance, is considered to be *the great foundation of the Tao*, and yung, literately means *the universal path* (translated from the traditional phrase). Chung yung can be understood on the microcosmic level of social relations but is also understood in universal terms, such as in this statement: "when a harmonious balance is realized to the highest degree, Heaven and Earth will attain their proper order and all things will flourish" (as cited in Chan, 1967, p. 38). This all pervasive
perception of the world likely influences both Chinese mothers' attitudes about breastfeeding practices and their actions as they negotiate their way through each challenge they face. For example, it may create an understanding of why a mother might remain silent about declining to breastfeed immediately after delivery. As the findings of this study have illustrated, she may be seeking social harmony among her Chinese and her Western supporters.

Taoism

The book *Tao Te Ching* (attributed to the works of Lao Tzu) (640?/571? - ? BC)\(^3^9\), proposes that Tao, *the way*, refers to all things that will come to be; and Te, *the power and virtue*, refers to what naturally is already. All things respect Tao, and all things value Te. This is because Tao is that by which all things *come to be*, and Te is that by which all things *are what they are* (Feng, 1948, p. 101). This notion emphasizes the relationships between the self and the environment, and between humanity and the natural laws which govern everything. Taoism emphasizes *simplicity* in all things (Feng, 1948); simplicity is, then, the guiding principle of life. One who follows Te must lead a simple life of plainness, wherein profit is discarded, cleverness abandoned, selfishness minimized, and desires reduced (as cited in Chan, 1967, p. 39).

Taoism provides a metaphysical foundation for its naturalism; one of its central terms, *wu-wei*, refers to the ways events tend to “transform spontaneously” for their natural state (as cited in Chan, 1967, p. 40). Thus it is ours to know when to act and when to wait. Sometimes our behaviors challenge the natural order, causing disharmony. Taoism - since it essentially deals with the theory of a cosmic law and structure, and man’s place within that structure - reminds us of how our behaviors effect such structures and laws in health and

\(^3^9\) The biography of LaoTzu has been argued by Sinologists (Welch, 1966).
illness. As this study revealed, such notions of Taoism likely influence Chinese mothers' attitudes about and practices of breastfeeding. For example, to a Chinese mother, breastfeeding is best for her baby because it is part of the natural order of things.

**Yin-yang Theory**

Yin-yang refers to all the concepts that have permeated Chinese thought (403 - 221 BC); it is a metaphysical concept regarding the symbolic interaction between all things, and it is used to explain all phenomena. Incorporated into the cosmology, yin-yang proposes two opposite but complementary forces are always at work in the cosmos. These forces are the basic elements constituting the qi or the matter and energy out of which man and all phenomena are formed. All phenomena in the universe derive from the confrontation and interaction of these two forces, and indeed, the vitality of a thing exists in its balance of yin and yang. Although in appearance and function Yin and Yang may seem "mutually opposing", they are "mutually tolerant", even "mutually stimulatory," and must therefore exist in a "proper and harmonious balance" (Fan, 1996, p. 1). The idea of yin-yang is the concept of relative balance - everything that changes does so in a dynamic manner. From the findings of this study, we can see that Chinese mothers seek such a balance and identify the ways in which they see opposing forces at work as they face the challenges of breastfeeding. From their perspective, the experience of delivering a baby is a weakening force that calls for strengthening measures such as rest and tonic food therapy. Receiving this rest and the proper foods ensures them the strength and health by wherein to support their baby's life.

**The Theory of Five Forces**

The five forces theory involves the complex interactions among the five basic elements of the world: wood, fire, earth, metal, and water (Table 10).
Because the five elements are perceived to inform everything in nature, the theory offers a way of observing the dynamic relationship between the body and the environment, the microcosm within the macrocosm. Developed out of yin-yang theories, the five forces theory provides the basis for describing the development of forms, systems, and events in human experience; it is thus focused on dynamic and interacting forces, not static features. The theory postulates that changes in the world, all activity in nature, can be interpreted though five symbolic elements. Everything on earth is dominated by at least one of these elements and yet also interacts with all others (Beinfield & Korngold, 1991; Feng, 1948, Moore, 1967; Reid, 1993). Just as the five elements encompass all the phenomena of nature, each symbolically corresponds to systems within the human body and systems in the world as each of us conceives it.

Table 10

The Major Classification Scheme of Five Forces Theory*

<table>
<thead>
<tr>
<th>Geographic location</th>
<th>Wood</th>
<th>Fire</th>
<th>Earth</th>
<th>Metal</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Season</td>
<td>East</td>
<td>South</td>
<td>Center</td>
<td>West</td>
<td>North</td>
</tr>
<tr>
<td>Weather</td>
<td>Windy</td>
<td>Hot</td>
<td>Wet, damp</td>
<td>Dry</td>
<td>Cold</td>
</tr>
<tr>
<td>Taste</td>
<td>Acid</td>
<td>Bitter</td>
<td>Sweet</td>
<td>Acr</td>
<td>Salty</td>
</tr>
<tr>
<td>Facial opening</td>
<td>Eyes</td>
<td>Tongue</td>
<td>Mouth</td>
<td>Nose</td>
<td>Ears</td>
</tr>
<tr>
<td>Bodily parts</td>
<td>Sinews</td>
<td>Vessels</td>
<td>Flesh</td>
<td>Skin</td>
<td>Bones</td>
</tr>
<tr>
<td>Zang organs</td>
<td>Liver</td>
<td>Heart</td>
<td>Spleen</td>
<td>Lung</td>
<td>Kidney</td>
</tr>
<tr>
<td>Disease location</td>
<td>Neck</td>
<td>Chest</td>
<td>Spine</td>
<td>Shoulders</td>
<td>Flank</td>
</tr>
<tr>
<td>Emotion</td>
<td>Anger</td>
<td>Joy</td>
<td>Pensiveness</td>
<td>Grief</td>
<td>Fear</td>
</tr>
</tbody>
</table>


As the findings of this study illustrate, when Chinese people speak of what they experience, they may do so in terms of an interplay among the five elements and yin-yang as they see it symbolically occurring. For example, when a mother refers to
a baby's pimples as showing he is "too hot", she is drawing from the metaphoric representation of fire (naturally hot, fire can be out of control). A kind of herb tea is then used to extinguish or control fire. In this instance, the mother's body will achieve balance and the baby will become cooler. However, when a mother refers to her baby as "hot", she may be seeing him or her as simply comfortable (in the image of a controlled fire), a sign that she has had enough supportive (tonic) foods such as chicken and ginger. Similarly, when a mother refers to "wind" in her baby's body, she is saying that an "internal wind" is revealing a deficiency of yin and blood. Her term "blood" refers to the sufficiency of food; she means that her baby is hungry and seeks a balance of yin and yang (Fan, 1996). Just as wood feeds fire and wind is perceived as moving through (wood) trees, a mother feeds her baby according to her perception of its needs. The levels of function referred to may range from biological processes to the person as a whole; such metaphoric references may be made to behavior, psychological state, emotions, spirituality, intellect, relationships, and/or career. Similarly dysfunction occurring on any of these levels can be discussed within the same metaphoric realm. Thus, an understanding of the range of Chinese philosophical foundations creates the context within which subtle distinctions among symbolic references can be appreciated and interpreted.

In the context of Chinese medicine, the human body is a microcosm with the macrocosm of nature. The processes, cycles, and conditions can be observed as occurring in humans as they occur in nature. Rather than conceiving of the body as divided into cellular functions and specific processes, the body is seen as a balance of blood, which both requires external nutrients and supports the internal tissues of the
Moisture, supports "the process of generating, distributing, and storing fluid and Qi" supports "movement and activity" among the two and without which coagulation and problems of circulation occur (Beinfield & Korngold, 1991, p. 34). Within the body, every dynamic event is a product of the interaction of Blood, Moisture, and Qi and depends completely upon the larger system, the body. All functions and processes are interdependent, co-generating, and mutually regulating. For example, breast milk is moisture (generated by Qi and formed out of Blood) simply seeking balance within mother and baby, the baby being an extension of herself (Gartner & Stone, 1994). When the mother’s body is weak, tired, stressed, or angered, such imbalances affect the body and are known to diminish the breast milk; these are microcosms affecting the macrocosm. According to the principles inherent in Chinese medicine, where ill health occurs, something is out of balance; if one reorganizes the existing pattern into a harmonic pattern, the original cause will disappear because the conditions in which it was rooted will cease to exist. Chinese medicine treats not only human and natural patterns, but also individual symptoms, because all disease occurs within some sort of energy imbalance within nature (Beinfield & Korngold, 1991; Rein, 1993).

On the basis of these philosophical foundations, the Chinese believe "everything under heaven" is animated and influenced by universal and cosmic forces, wherein notions of health and well-being are spoken of in metaphoric terms. Mothers who are breastfeeding are influenced in their actions and reactions based on the theories they hold of the Five Forces, of Yin-yang, of Confucianism and of Taoism. As the findings of this study revealed, they will use the metaphoric and
symbolic phases common among Chinese and deriving from these philosophical origins even thought they may not fully understand or be able to articulate the explicit philosophy to which these phases refer.

The idea of Chinese postpartum care is based on illness prevention and health promotion; women can be expected to require convalescence after giving birth (Chung, 1996; Pillsbury, 1978). Within Chinese medical thought, pregnancy and childbirth indeed leave the woman’s body in a state of imbalance, much like that of illness. The focus on tonic foods and breastfeeding is an aspect of a complex integration of ideas revealing a holistic approach to health. Rituals around postpartum care can be traced to the Sung dynasty (960-1279 AD), but their conceptual origins occurred 2,000 years earlier: out of such rituals, the highest form of health care is attempted - that of preventing disease from occurring (Pillsburg, 1978). A study by Ma (1999) of service utilization of health-seeking Chinese immigrants in Houston and California in the USA observed that these people believed Western medicine to be more effective in acute situations of disease and Chinese medicine to be more effective for chronic conditions. They felt that Western approaches worked faster but created more adverse side effects than did Chinese traditional approaches. Thus, Chinese people tended to believe that, where problems are not serious, Western medicine is to be avoided. For the Chinese, both avoidance of adverse side effects and prevention of disease are gained from adhering to cultural approaches. These are the ideas behind the practices of cultural postpartum care, all of which is conducted to support optimal breastfeeding practices and ultimately optimal health for mother and baby.
Understanding the Decision-Making of Chinese Mothers in the Context of Breastfeeding Practices

Finally, the way in which Chinese cultural and philosophical beliefs influence these women's breastfeeding practices is the focus of this final aspect of the discussion. In this context, ideas emerging from the findings related to beliefs about breastfeeding and infant health, social support, and breastfeeding practices will be discussed in the context of the writings of other authors in this and related fields.

The Context of Beliefs about Breastfeeding and Infant Health

Beliefs about breastfeeding

The mothers in this qualitative study believed breastfeeding to be common sense. They thought of breastfeeding as the natural work of the mother and felt all women shared this duty and responsibility when they become mothers. The natural work they spoke of is a reflection of natural body processes: that women have breast milk for their babies after delivery means they should naturally offer it to their babies. All these notions are related to Confucianism, which emphasizes an ethical and social order seen to exist in the human world, particularly that order governing the individual and society within the central theme of benevolence (Hsieh, 1967). Confucianism proposes that every individual in society has certain obligations, things that must be done because they are morally right. The essence of such duties for individuals is thought of the "oughtness" of a duty; but duties that ought to be done should be done as labours of love (Feng, 1948, p. 42). This adherence to what ought to be done emphasizes that the love toward one's own children is "innate"; it is not something we need to acquire through study or advice (Hsieh, 1967, p. 70). These ethical-social orders of Confucian thought might reflect why these mothers considered breastfeeding a natural
duty and responsibility; it may not so much reflect the notion proposed by Western scholars that emphasizes the emotional satisfaction and enormous sense of fulfillment that nursing a baby can bring (Roger et al., 1997; Dusdieker et al., 1985; Janke, 1994; Leff, Jefferis, & Gagne, 1994). As well, while Western biomedicine distinguishes the body from the mind in assessment and treatment, Chinese medicine does not distinguish these in the same way (Barnes, 1998; Beinfelid & Korngold, 1991).

Mind and body are "polar opposites" in Western thinking and are "dualistic" in Eastern philosophy, the two concepts functioning together (Ames, 1984). To illustrate this, a study by Schmied and Lupton (2001) which qualitatively investigated the breastfeeding experiences of Caucasian Australian women revealed that those mothers who experienced breastfeeding as a connected, harmonious, and intimate relationship between themselves and their baby (p. 234) also described their experiences about mind and body separately. The Chinese women in this study did not describe it separately but always spoke of them together.

Imbalances occurring in any area of the human connect to and/or are indicative of imbalances in other, complimentary areas of the human and/or in the individual's environment - thus the resistance of Chinese mothers to see symptoms in their infants treated directly (such as an ointment to the face) and without thought to where subsequent imbalances might then occur. In that mothers believe breastfeeding to be a natural process for women, the inability to produce breast milk for one's baby would signify disharmony of the body, such as can result from being too "hot" or too "cold" (and here the quotation marks remind us that the terms do not refer to temperature). These interpretations of Confucianist thought are related by the mothers to breastfeeding practices with respect to the ways the
body and mind are related to the traditional Chinese beliefs about the formulation of breast milk. These women believed breast milk to be produced out of a dynamic balance between the complementary forces of Blood (yin) and Chi (yang) (Gartner & Stone, 1994; Hsiung, 1995).

Gartner and Stone (1994) reviewed classical Chinese writings ranging over 2000 years on the subject of medical advice on breastfeeding. They found Chinese writers believed that, if a child is being fed milk by the biological mother, what she “naturally” does or does not do is not thought to require further elaboration: it is hers to decide what is best. On this point, Western biomedical approaches reflect a similar view. Western health professionals also offer the advice that breastfeeding is the natural choice if and when the mother and baby are healthy and in a position to choose breastfeeding (Lawrence & Lawrence, 1999; Riordan & Auerbach, 1999; World Health Organization, 1998).

The mothers in this study all emigrated from Chinese communities. Those from China related the perception that Caucasian women in Canada are not likely to breastfeed, saying that their bodies are “too cold” in the Chinese and traditional sense of the word. In contrast, those in the study who emigrated from Hong Kong and Taiwan perceived that most Caucasian women in Canada do breastfeed their babies, saying that Canada is a country wherein breastfeeding is actively promoted. My own study reveals that a variation exists in the ways various Chinese immigrants view Canadian infant feeding practices. Examining these issues further, studies were conducted to determine whether immigrating to Western communities precipitates a change in breastfeeding practices for Chinese women. While many studies have confirmed such a relationship, my own qualitative research revealed that women from China perceived women in China as more likely to breastfeed than women in
Canada, and that women from Hong Kong and Taiwan perceived Canadian women as more likely to breastfeed than women from those countries. It seemed that decisions around whether and how long to breastfeed, for all the women interviewed, were related not to immigration and/or a change of mind but to a complex assessment of the baby’s and the mother’s needs.

The responses mothers gave about their beliefs regarding the advantages of breastfeeding tended to focus on breastfeeding promotion, which they identified as being based on Western biomedical thinking; they learned from such promotion that breastfeeding practices promote health for the mother (by aiding bodily recovery from delivery and by decreasing the incidence of breast cancer) and for the baby (by increasing antibody production and aiding immunity). The promotion of breastfeeding also touched on protecting both the natural environment and the larger economy (since breastfeeding requires fewer resources than bottle feeding). Research underlying breastfeeding promotion was successful in demonstrating to these women the significant nutritional, developmental, psychological, immunological, social, economic, and environmental benefits of breastfeeding (Rogers et al., 1997; Riordan & Aurebach, 1999; Who Health Organization, 1998). While traditional Chinese classical writings mention the advantages of breastfeeding only scarcely and even then indirectly, mothers still perceive these writings, or the knowledge that enters then culture through these writings, as describing breast milk as the baby’s natural food, the best source of food, and as a gift from God (Gartner & Stone, 1994; Hsiung, 1995).

Breastfeeding promotion is far less direct and far more symbolic in the Chinese culture than in Western cultures. Thus, this small qualitative study raises questions about the
interpretations that have been made on the basis of more superficial survey research with this population.

The qualitative aspect of this study sheds particular light on what is at the heart of Chinese women’s beliefs about breastfeeding practices; breastfeeding, for them, is based on the notion of harmony. The cyclic and dynamic processes of the body together support the health of the body, and breastfeeding is one of these processes. Governed by natural laws, the practice of breastfeeding is an act that is in harmony with healthy living. For the mothers in this study, this harmony reflects the optimal balance of interrelations between the elements of the human body as they interact with the external environment, which is to say that harmony arises from a complex interplay of the elements in the microcosm (the human body, for example) as they exist in the macrocosm (the environment, for example). When the interplay of these elements functions according to natural laws, then a state of harmonious balance within those dynamic patterns is achieved.

In this context, any difficulty in one area will naturally affect all areas. During a process which changes and evolves, such as in the practice of breastfeeding, one must consider everything that may dispose one to disharmony, including physical and emotional forces. All that influences the state of harmony affects both the mother and the baby in the practice of breastfeeding. Thus breastfeeding itself is seen as a reflection of the dynamic and natural laws all humans must live by. Harmony between mother and infant with regards to breastfeeding has also been noted in studies conducted in Western culture. Leff, Gagne, and Jefferis (1994) identified that breastfeeding satisfaction was based on the harmony between the mother and infant dyad, defined as a balance of the mother’s view of the positive and negative aspects of breastfeeding. This use of harmony focuses directly on the interaction
and activities of the breastfeeding mother and infant which is more specific than the Chinese perspective of harmonious balance.

This perspective - that actions fit within a larger understanding of the cosmology - influences our appreciation for mothers’ breastfeeding choices as they deal with breastfeeding situations and manage difficulties that arise. The interaction of mother and infant is as the interaction between yin and yang, with all the complexity of the interplay among the elements of the five forces theory. What the yin-yang theory offers is a constant reminder of the interdependence of systems within the body, of individuals, and of elements within the environment; this interdependence plays out as a dynamic interplay of opposites existing in a continuum, always seeking a balance of both opposites. This interdependence creates a kind of unity among elements at play and occurs with the mother’s and the baby’s bodies, and with the body and the environment of the body. By contrast, Western biomedical thought holds that the baby is dependent on the mother and that the two are largely discrete beings.

Mothers in this study demonstrated their adherence to Eastern philosophy by speaking of their breastfeeding practice as connected to their own and their baby’s physical condition, and all the elements of the environment, including socio-economic elements. For them, decisions which presented themselves had to be considered as aspects of the whole picture, and the harmony that could be achieved within their environment. The mothers in this study remind us that no element of infant feeding practices is fully predictable and that a position of openness to all possibilities is a position of continual assessment and of strength in readiness for all possibilities.
In the Chinese context, to examine the success of breastfeeding in a given situation, the mothers revealed that they tended to consider the harmonious balance between the mother’s bodily health after delivery and the baby’s bodily health. To understand this better, health care professionals must consider just how Chinese mothers’ interact with their babies, evaluate their needs, and decide on infant feeding practices.

**Beliefs about infant health**

The mothers tended to consider any and all physical changes their babies. To observe their babies well, they combined beliefs about infant health in traditional Chinese medical thought with Western biomedical knowledge; their personal beliefs about infant health reflected these different worldviews. In general, when looking at their baby’s developmental growth or any signs of illness, mothers adhered to Western biomedical approaches; when evaluating the baby’s state of “harmony” (within itself, the relationship with its mother, and within the environment,) mothers adhered to traditional Chinese views of medicine. To observe such harmony, they looked signs and symptoms known traditionally to indicate imbalance, such as crying. At the second month postpartum, Mothers often looked at their baby’s size as an indicator of whether breast milk was sufficient in quality and amount for the baby. In other words, the indicators of baby’s health are for these women based on observable evidence, while the interpretation of evidence is based on a combination of Western and Chinese medical thought.

With critical attention to all possible indicators of ill health, these mothers were open to shifts in food therapy, the need for rest, and breastfeeding decisions as the situation seems to them to indicate. The mothers in this study all stated they believed breastfeeding to be the most natural of interactions between a mother and a baby: the image is of two bodies in a
dynamic pattern of harmony within the larger dynamic patterns within natural law. They believed that the practice of breastfeeding naturally belongs within their role as women and mothers, that it is their duty and responsibility, and that breastfeeding is synonymous with the nurturing of one’s baby. These mothers believe “natural human milk” is built upon the balance of a mother’s body in a dynamic situation of harmony. For them, the harmony of the mother’s health, of her diet, and of her successful breastfeeding practice all lend to further success in the health and strength of the baby. Thus, we can best understand the notion of breastfeeding for these Chinese women and all of the decisions they make within its practice in the context of their particular comprehension of infant health as they see it existing within the context of a set of natural laws. We must consider in depth these mothers’ beliefs about breastfeeding as depending on a combined critical interest in Western biomedicine, traditional Chinese medicine, and personal beliefs, experience, and bias.

The Context of Social Support

Social support emerged as a key aspect of the findings from both the qualitative and quantitative findings in this study. The two methods yielded somewhat inconsistent ideas about the mothers’ social supports in that the former suggested that friends were a significant variable (friends influenced mothers to bottle-feed) whereas the latter revealed no such finding. Other researchers also have similarly found friends to influence mothers to bottle-feed (Byrant, 1982; Dusdieker et al., 1985; Freed et al., 1992; Hewat et al., 1994; Ko et al., 1985; Rossister, Ledwidge, & Coulon, 1993). These studies found that non-family members, in general, tended to favour bottle-feeding and/or early termination of breastfeeding. Indeed, Hewat et al. (1994), in a qualitative study of Chinese women’s attitudes, suggested that women who have heard negative stories about breastfeeding from friends and family
members from the beginning of their pregnancies tend to choose bottle-feeding over breastfeeding. In contrast, a qualitative study of British first-time mothers in exploring antenatal expectations and postnatal experiences by Hoddinott and Pill (1999) suggests that the advice friends give may be the most significant factor influencing the positive choice to breastfeed. In the qualitative findings of this study, the mothers expressed the opinion that they received assistance from a much wider group and that they considered the information and comments offered by health professionals, family members, and friends during pregnancy and in the postpartum period. In their subjective accounts, they did not identify one kind of supporter being more influential than others in facilitating their choices around breastfeeding.

In qualitative studies, mothers have expressed that health professionals give information and advice that sometimes contradicts the advice of others (Simmons, 2002). In this study, these conflicts occurred across a specific boundary, both sides of which I have termed expert opinion and layman’s opinion and which they have identified as Western health professionals and “cultural care”. The following discussion focuses on the ways mothers interacted with social supporters and how they deal with the contradictions they perceived in the advice given to them.

**Interacting with social supporters**

While mothers were facing the new challenges of breastfeeding, they commonly interacted with supporters: From health professionals, they related receiving a great deal of help in the form of information, practical skills, and the answers to all the questions they had, all of which, they said, improved their handling of breastfeeding practices. From family members and friends, they received substantial assistance with tasks, such as housework,
taking care of the baby, and cooking specific foods, all of which brought them the harmony, rest, and strength they required to be successful in breastfeeding. They did not reveal a particular sense of who was most helpful to them. Similarly, in the study by Isabella and Isabella (1994) researchers indicated that mothers perceived family members as providing the greatest degree of emotional and instrumental support (housework) and health care professionals as providing the most information associated with success at establishing lactation. Again, neither in this study nor in my own did mothers identify which kind of help was the most significant or which has the most bearing on her choices toward breastfeeding or bottle-feeding.

*Dealing with contradictions of beliefs and world views*

As they received information about body care and breastfeeding practices from many their supporters, the mothers indicated that the opinions of physicians and nurses had a kind of authority they associated with a Western and medical belief system while the opinions of family and friends had a different kind of authority - that representing a cultural knowledge common to most Chinese people. Both positions uphold a worldview that entails a complex belief system, but the former is experienced as expert and the latter is experienced as layman’s opinion - that based upon a varied mixture of personal experience, folk knowledge, and personal bias. Mothers identified the tensions they experienced when negotiating among various opinions and positions of authority. They felt that Chinese cultural care tended to emphasize the mother’s bodily care while Western biomedical care emphasized baby care and focused less on the mother. They perceived and commented on the differences among the belief systems and the approaches to breastfeeding practices.
These two different worldviews are based on different premises of what the human body is. In the Western view, humans are an autonomous system within nature and the world can be discussed in terms of its constituent parts. In this view, reality is located in the tangible structure of matter. By contrast, the Chinese view humans as a microcosm of nature. Reality is one unified matrix within which all things are interconnected and within which cogeneration occurs (Beinfield & Korngold, 1991). The following discussion includes two themes which portray the conflicts these mothers identified, first, in the relationship between the mother’s body and breastfeeding practices, and, second, in the relationship between the baby’s body and breastfeeding practices.

Mothers recalled that, immediately after delivery, they were encouraged to establish lactation. This, it was told them by nurses and physicians, was to start producing milk. These mothers held lay beliefs that were in strong contradiction to this emphasis on immediate breastfeeding. Their belief was to allow the mother’s body to rest after delivery and to take in tonic foods in order for her to replenish enough energy to easily and quickly establish successful lactation. Mothers also recalled tension around the issue of break milk availability. They remarked that while nurses intervened, when breast milk was perceived to have been inadequate, with artificial instruments such as breast milk pumps and breastfeeding tubes, family members and friends also intervened at such times with special foods thought to enhance breast milk production. The mothers then had to carefully consider whose approach to support.

Another topic causing similar tension was what mothers should eat while lactating. While Western opinions tended to call for “healthy foods” such as fruits, vegetables, and dairy products such as cheese and yogurt, the Chinese opinions tended to call for “tonic
foods” supporting vitality, few of which were cold or raw. The former group called for cold crunchy vegetables and fruits which were seen as foods producing “cold” chi by the latter; the latter supported a diet strong on ginger root and chicken - “hot” foods. As food therapy varies with Chinese customs and geographical origin (Anderson, 1988), mothers tended to believe the ideas underlying diet therapy in the manner in which it was offered by their own mothers and mothers-in-law. In turn, the mothers sometimes tried to share these ideas with health professionals; however, they most often received confusing responses or disinterest. Only one mother related sharing her diet ideas with a Chinese doctor who both supported the diet and could acknowledge its importance.

Each of these conflicts highlights an aspect of the two distinct belief systems. In relation to the mother’s body and breastfeeding practices, the Western biomedical view holds that lactogenesis or milk production is initiated by the abrupt fall of progesterone and estrogen levels in blood plasma that occurs when the placenta is delivered, and correspondingly increasing levels of prolactin, the hormone that initially stimulates milk production. Beyond two or three days, nipple stimulation and removal of the milk from the breast is needed to continue milk production (Lawrence & Lawrence, 1999; Riordan & Auerbach, 1999). To facilitate the process and because breast milk is understood as best for the baby’s health, mothers are encouraged to maintain skin to skin contact with their infant following delivery, to feed their infants within two hours and to continue frequent feedings as the infant shows readiness. Yet the Chinese traditional view holds that postpartum prolactin secretion is built up as a result of the mother’s vitality, the strength of her Chi and Blood, and that these depend on her having rest after delivery and the tonic foods specific to this event (Gartner & Stone, 1994; Hsiung, 1995).
In relation to the baby's body and breastfeeding practices, contradictions occurred on two issues. First, when babies cried frequently in the first few days after delivery, health professionals stated that the baby did not always require milk supplement to soothe his/her hunger; they stated that the baby had brown fat, which is to the baby a major source of energy, heat production, and heat regulation (Marsha, 1997). They believed that allowing the baby to suckle was good for bonding and that resisting formula milk at this time was better for initiating lactation. Yet, the Chinese family and friends need the position that crying was a sign that the baby needed milk, even if it was formula milk. They did not see such supplemental feeding as hindering lactation. Indeed, the ability to observe that milk was being consumed by the baby was a comfort to them. Here, it is important to shed light on the concept behind the need perceived by Chinese family members to respond to the baby's open and crying mouth: the image is a sign that wind is entering the baby's body and causing it to become cold, more susceptible to disease.

Second, when health professionals suggested vitamin supplements (Vitamin D drops given by mouth to the baby), a conflict of opinion was apparent to the mothers. The Western view is that breast milk is best for the baby but it contains minimal amounts of fat soluble vitamin D (Riordan & Aurbach, 1999). The Chinese view, however, is that breast milk is fine without any vitamin supplement for baby or mother.

Similarly, the prescribing of drugs for babies (such as hydrocortisone ointment) revealed to mothers the Western tendency to treat the signs and symptoms of such problems as eczema. In contrast, according to their understanding, the symptoms experienced by the infant called for treatment of the mother, and only by extension of the baby. In doing so, they were responding to a perceived need and also actively resisting any side effects which
might occur as a result of biomedical treatments. In following the logic that made most sense to them, these mothers had to shoulder the possible impression by health professionals that they were refusing care for the baby.

In the period immediately after delivery and in the days to follow, when the mothers and infants were most in the public eye, the mother received a great deal of assistance and information that was informed by specific world views. She had to absorb the information and assistance given to her and make difficult decisions, often in contradiction to a view of the right course of action. Amid expert and layman's opinions, amid personal beliefs and cultural and medical values, the mothers sorted through complex ideas and social tensions to find the way best for their babies. They sought to turn social disharmony into a complex pattern of harmonious relationships within which she would experience a truly supportive environment.

The Context of Breastfeeding Practices

In this study, most women who intended to breastfeed prenatally did in fact breastfeed at discharge and continued to breastfeed at least up to the second month postpartum. However, there were inconsistencies related to factors which influenced a mother's decisions to breastfeed and the relationship between breastfeeding and self-confidence. In addition, the qualitative aspect of the study further illustrated the process by which mothers made decisions regarding breastfeeding practices. The context of breastfeeding practices is discussed here in the light of intention and breastfeeding practices, factors influencing decision-making, self-confidence and breastfeeding, body and breast milk, the value of empirical knowledge, and finding practice in harmony.
Intention and breastfeeding practices

The mothers who intended to breastfeed were handling the practices of breastfeeding before their discharge, and they continued to breastfeed through the second month postpartum. Other studies have already demonstrated a significant positive association between a woman’s intention to breastfeed and both the initiation and duration of actual breastfeeding (Grossman et al., 1990; Lawson & Tulloch, 1995; Leu & Lee, 1995; Quarles, Williams, Hoyle, Brimeyer, & Williams, 1994).

Factors influencing decision-making about breastfeeding

The quantitative findings in this study revealed that friends and self-decision were less likely than other factors to influence the mothers’ choice of breastfeeding practices. Indeed, other studies have had similar findings, revealing husbands, relatives, and/or friends as significantly influential (Bar-Yam & Darby, 1997; Hewat et al., 1994; Rossiter et al. 1993; Scott, Binns, & Aroni, 1997; Teng et al., 1993). Yet, the qualitative findings revealed a different picture: that mothers were not likely to be influenced by husbands, relatives, or friends. Rather, mothers thought of themselves as the main decision-makers regarding issues of breastfeeding. While they allowed and welcomed information from all supporters, they thought through their decisions based on a complex and dynamic process, a process of understanding their social role and their responsibility to their infant. While they indicated that others had been a help, they felt no one could substitute for the job of actually breastfeeding the infant, and thus no one but they could ultimately make decisions regarding breastfeeding. Similar to the findings of Hewat et al. (1994), the mothers’ perception was that they had made a decision to breastfeed by themselves.
Self confidence and breastfeeding

The quantitative findings in this study revealed that the mothers' confidence positively influenced the continuation of breastfeeding at the second month postpartum. Other studies too have discovered a consistent association between self-confidence and breastfeeding (Buxton, Fielen, Faden, et al., 1991; Dennis & Faux, 1999; Laufer, 1990; Lee & Leu, 1995; Loughlin et al., 1985; Virden, 1988). Yet the qualitative findings of this study revealed that mothers were less concerned with confidence in breastfeeding; rather, their measure of success in breastfeeding was related to whether they felt "comfortable". These mothers did not perceive any important relationship between comfort and confidence. This may relate to the collectivist value system of traditional Chinese culture, in which mothers would emphasize the relationship between body and environment rather than their own individualistic situation (Pan, Chaffee, Chu, & Ju, 1994). For them, the notion of self-confidence did not speak to whether they had sufficient milk for their babies, or whether they were successfully breastfeeding. The term “comfort” better encompassed the interaction they perceived occurring between the mother’s body and the baby's body and the interaction occurring between mother/baby dyad and their environment, all of which to them described a dynamic process within natural laws.

The qualitative findings also revealed that mothers needed and were willing to account for the many factors and possibilities that they could not predict during the whole breastfeeding process. Thus, for them, self-confidence was not the appropriate term to describe successful breastfeeding practices. An association may indeed exist between self-confidence and comfort, which further research may illuminate.
Body and breast milk

In the qualitative research interviews, mothers expressed the new that after delivery they experienced the relationship between their own body and their breast milk as occurring in a dynamic process. To them, their own body was "the foundation" for producing breast milk; the production of breast milk must be built up out of a harmonious balance of the mother’s body. One must expect this to be a different experience with each birth. Also, to them, a relationship exists between the environment itself and the mother’s body, her baby’s body, and her breast milk. They expressed this by saying that, when they felt weak or tired, they were out of balance and that having milk for the baby was improbable at such a time as immediately after or during the first couple of days following delivery. Once they felt that their energies were replenished - that their bodies were harmonized again by tonic foods and a good sleep - then they had sufficient breast milk for their baby. The mothers expressed the need to balance the body in order to have sufficient breast milk. They expressed the belief that the volume and composition of breast milk varies with each individual birth, over the course of the day, and according to the baby’s sucking. This finding is similar to that in a report by Emmett and Rogers (1997), who reviewed the relationship between human milk and maternal nutrition.

With regards to the perceived relationship that mothers saw existing between their own and their baby’s bodies, mothers spoke of the effects of their breast milk on the baby, saying that disharmony in the mother’s body could be transmitted in breast milk to the baby. Signs of discharge from eyes or pimples on the baby’s skin meant that a “hot qi” was being transmitted. Indeed, such signs were proof of an imbalance in their own bodies and something they would have to do something about. Mothers termed this kind of assessment
“interdependence.” They would work immediately, usually with family helping, toward achieving balance again with proper foods and rest.

The notion of the relationship between the mother’s body and her breast milk is related to traditional Chinese medicine. In traditional classical writings, the mothers’ *xueqi* (Blood and vital energy) becomes breast milk; milk is blood transformed (Gartner & Stone, 1994; Hsiung, 1995). Furthermore, the production of breast milk is thought to be built upon the foundation of the mother’s body, and this is why Chinese mothers indicate they do not have breast milk when their bodies are weak or tired. The imbalance revealed by such tiredness, such as occurs after delivery, is indication that that foundation of their body is not yet stable. Thus, replenishing the body is the priority for them – and this means taking a rest and eating tonic food. According to the findings of this study, this may well be the main reason why Chinese mothers do not intend to breastfeed their baby immediately after delivery, although few studies have clearly illustrated this as a possible reason. In most instances, the analysis is limited to the concept of yin-yang as influencing Chinese mothers’ attitudes about breastfeeding. However, it appears from these findings that these beliefs about the body exist within the different worldviews that comprise Chinese cultural tradition. It seems clear that Chinese mothers emphasize replenishing the energy of their body, and only then start to breastfeed their baby.

*The value of empirical knowledge*

Studies have revealed that Chinese people, in general, prefer traditional cultural care, such as food therapy, over Western medical care (Chappell & Lai, 1998; Ma, 1999). While the Chinese mothers in this study listened carefully to both expert and laymen’s opinions, they too preferred to choose the knowledge they felt was closest to their beliefs about life
style and breastfeeding, particularly that which related to traditional Chinese medicine used to treat the functional disorders of the body understood to be a matter of disharmony (Beinfield & Korngold, 1991). Similar to a study by Hoddinott and Pill (2000), the mothers in this study preferred to be shown practical skills rather than to be told by health professionals how to do the skills. For them, evidence-based information was relevant information, especially when they could apply such information to their present situations.

Finding practice in harmony

In dealing with breastfeeding practices, these Chinese mothers negotiated their way through complex and contradictory information and a number of challenges with regards to their body and their breastfeeding practices; their body and their environment; and their desire for a place of comfort. In each of these ways, mothers were seeking to find a harmonious balance in the practice of breastfeeding.

Balancing between information from a variety of sources and perspectives, these women attempted to maintain the production of breast milk and allow themselves comfort in the breastfeeding experience. They sought ways to maintain harmony in their relationships with the various people involved in supporting their infant feeding choices despite the challenges of responding to conflicting advice. They applied the notions of Confucianism in maintaining a proper social-ethical order with harmony between people as a central principle in their social relationships. In this study, this occurred not only with parental figures but also with those perceived to have expert authority, balancing respect for the wisdom that each perspective represented with a desire to make the choices that would produce comfort and harmony. Further, they attempted to find ways to balance the perspectives of Western biomedical understandings of breastfeeding with those deriving from their understanding of
Chinese traditional philosophical assumptions. The information that they took in and made decisions about, the relationships they maintained with all supporters, the strategies they employed toward improving the quality and quantity of their breast milk, and the new skills they engaged in toward successful breastfeeding practices all represented a balance between perspectives to obtain harmony within a constantly changing set of circumstances for themselves and their infants.

**Summary**

The findings of this study reveal a number of inconsistencies related to ways of understanding the phenomenon of infant feeding practices among immigrant Chinese women as they appear in the research literature deriving from qualitative and quantitative studies. Quantitative studies ask questions that may overly simplify and distort the understandings of the experience that are relevant to this experience, although they may contribute greatly to an appreciation for population patterns within a phenomenon. In this instance, the qualitative findings created a mechanism by which to raise questions about what we think we understand about these women, to reflect on the ways in which the various medical and cultural traditions to which they are exposed may influence their decision making, and to better appreciate the complexities inherent in the decisions that they make.
CHAPTER SEVEN: SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary of the Study

The purpose of this study was to explore how immigrant Chinese mothers living in Canada make choices about infant feeding. This study was conducted in a sequential and mixed-method design; it combined two separate phases of research with qualitative methods following quantitative ones. The first phase, based on quantitative research methods, examined the factors that influenced these mothers' decisions to breastfeed and the relationships among those influences; the factors examined focused on the Chinese mothers' attitudes toward breastfeeding, their social supports, and their self-confidence. This quantitative analysis was based on secondary analysis of a data set derived from a survey conducted of Chinese women's preferences for mode of delivery and infant feeding in BC, Canada (1997).

The second phase, utilizing qualitative research methods, explored the immigrant Chinese mothers' experiences in making their infant feeding choices. Interpretive description methodology was used to produce themes conducive to understanding what the mothers dealt with as they made their breastfeeding practice choices. Fifteen Chinese immigrant mothers, each of whom had a new baby and infant feeding experiences, were nominated and invited to participate in this study. The study was conducted by interviewing the mothers' at a place of their preference and in their preferred language. All interviews were transcribed verbatim. Analysis occurred both concurrently with and following the data collection period.

The findings of this study create a portrait of the breastfeeding practices of immigrant Chinese mothers made more accessible by the combined use of quantitative and qualitative
research approaches. That the two research approaches reflect very different paradigms leads the study to different findings than would have resulted from only one approach. Where results were found to be congruent with one another, then the validity of findings was assured. Where results were inconsistent with one another, then the researcher was offered an opportunity to reflect on the implications of methodological approaches for understanding such phenomena and to appreciate some of the complexities inherent in the ways immigrant Chinese mothers' make breastfeeding decisions. Through the course of comparing the findings from quantitative and qualitative research methods, the study has illuminated much about how mothers employ their beliefs about breastfeeding and infant health to guide their decisions. In particular, I have learned that immigrant Chinese mothers make breastfeeding decisions about breastfeeding and infant health based on integrating Western biomedical thought, traditional Chinese medicine, and personal experiences. However deeply or superficially embedded in Chinese philosophy they may feel themselves to be, the tenets of Confucianism, Taoism, Yin-yang, and the Five Forces theory seem to have been incorporated into their language and ritual, as well as into their cultural care and tendencies. In addition, despite some commonalities associated with shared philosophical understandings, they negotiate breastfeeding practice by combining traditional Chinese medical care, Western biomedical care, and personal experience to develop appropriate strategies for their own unique situations.

The findings of this study have implications for clinical practice with a population of Chinese immigrant mothers. Further, the insights that can be derived from a combination of qualitative and quantitative methods produce implications for the use of survey instruments,
for sample selection, and for the conceptual definition underlying the methods by which such research is conducted in the future.

**Conclusions of the Study**

The primary conclusions of this study are those that have emerged from the analysis of congruencies and incongruencies between the qualitative and quantitative findings, and it is these that I claim to be of notable relevance to nursing.

- A relationship between intention to breastfeed and breastfeeding practices exists. Mothers who intend to breastfeed engage in the practices of breastfeeding before their discharge from hospital, and they seem to continue to breastfeed through at least the second month postpartum.

- The decision-making of Chinese mothers about infant feeding practices is a complicated and dynamic process. Not only does each mother consider the interactions that occur between her own body, her baby's body, and her breastfeeding practices, but she also considers the interactions occurring between her own body and the environment.

- From the perspective of the Chinese mother, all that naturally, socially, physically, spiritually, and economically surrounds the mother/baby dyad is relevant to feeding decisions. In order to make decisions, immigrant Chinese mothers combine all that they know, including some Western biomedical perspectives.

- Chinese immigrant mothers may resist Western medical interventions when they believe these interventions are contrary to their perspective.
Mothers think of themselves as the main decision-makers regarding issues of breastfeeding. While they allow and welcome information from all supporters, they think through their decisions based on a complex and dynamic process, a process of understanding their social role and their responsibility to their infant. While Chinese mothers are engaged in relationships with a variety of social supporters, whose beliefs about breastfeeding differ as their worldviews differ, they feel that their decisions about breastfeeding are ultimately their own and the infant feeding practices they put in place are based on informed and yet flexible decisions. While they indicate that others are a help, they feel no one can substitute for the job of actually breastfeeding the infant, and thus no one but they can ultimately make decisions regarding breastfeeding.

The notion of "self-confidence" as a predictor for breastfeeding may not be as relevant to this population as is the notion of "comfort." Although the quantitative findings reveal a relationship between breastfeeding and self-confidence at the second month postpartum, the qualitative findings of this study suggest that mothers’ measure of success in breastfeeding is more usefully related to whether they feel "comfortable". The term, comfort, better encompasses the interaction they perceive occurring between the mother’s body and the baby’s body and the interaction occurring between mother/baby dyad and their environment, all of which to them describes a dynamic process within natural laws.

The mothers’ beliefs about breastfeeding tend to be based on Traditional Chinese cultural beliefs - Confucianism, Taoism, Yin-yang theory, and Five Forces theory. The mothers believe breastfeeding to be common sense. They think of breastfeeding
as the natural work of the mother and feel all women share this duty and responsibility when they become mothers. This notion is related to Confucianism. In addition, they believe breastfeeding to be the most natural of interactions between a mother and a baby: the image is of two bodies in a dynamic pattern of harmony within the larger dynamic patterns that are embedded in natural law. The interdependency creates a kind of unity among elements at play and occurs with the mothers and the baby’s bodies, and with the body and the environment of the body. These mothers believe “natural human milk” is built upon the balance of a mother’s body in a dynamic situation of harmony. For them, the harmony of the mother’s health, of her diet, and of her successful breastfeeding practice all lend to further success in the health and strength of the baby.

- When they deal with breastfeeding practices, immigrant Chinese mothers receive assistance, information, and opinions from both health care professionals, family and friends. These individuals offer both “expert’s” and “laymen’s” opinions. The mothers not only balance these different opinions, but also they balance the personal relations with these supporters.

- While mothers value both as empirical knowledge, since the former offers Western medical thinking and the latter offers knowledge available from personal experience and traditional Chinese cultural care, mothers relate that they determine for themselves the best course of action amid the possibilities presented and according to their particular situations. When dealing with the supporter’s opinions, the mothers prefer practical skills which adhere as closely as possible to their own beliefs and
which suit the situation as they perceive it. Information supported by theoretical knowledge seems less important to them.

- These mothers try to achieve balance in the relationships among supporters by using various combinations of direct and indirect communication to deal with different worldviews of the supporters. The mothers do not tend to explain folk or cultural ideas to Western authoritative figures, nor do they know how to communicate their beliefs to Western health care providers.

- Immigrant Chinese mothers perceive that the relationship between their own body and their breast milk occurs in a dynamic process. To them, their own body is “the foundation” for producing breast milk; the production of breast milk must be built up out of a harmonious balance of the mother’s body. One must expect this to be a different experience with each birth. Also, to them, a relationship exists between the environment itself and the mother’s body, her baby’s body, and her breast milk. When they feel weak or tired, they are out of balance, so that having milk for the baby is improbable at such a time as immediately or during the first couple of days after delivery. Once they feel that their energies are replenished - that their bodies are harmonized again by tonic foods and a good sleep - then they have sufficient breast milk for their baby.

- With regards to the perceived relationship that mothers see existing between their own and their baby’s bodies, mothers speak of the effects of their breast milk on the baby, saying that disharmony in the mother’s body can be transmitted in breast milk to the baby. Signs of discharge from eyes or pimples on the baby’s skin means that a “hot chi (or Qi)” is being transmitted. Indeed, such signs are proof of an imbalance
in their own bodies and something about which they are required to take action. Mothers term this kind of assessment “interdependence”; they work immediately, usually with family helping, toward achieving balance again with proper foods and rest.

- Immigrant Chinese mothers who emigrate to Canada and who come from different Chinese communities tend to hold different perceptions about appropriate Chinese cultural care and its relationship to Western approaches. They also hold differing views about the promotion of breastfeeding in Canada. Mothers from China perceived that Caucasian women in Canada are not likely to breastfeed because their bodies are “too cold” based on traditional Chinese views. But those who emigrate from Hong Kong and Taiwan perceive that most Caucasian women in Canada do breastfeed their babies and that Canada is, in general, a breastfeeding promotion country. These various impressions of the cultural context of their adopted country may play a role in their interpretations of how Traditional Chinese approaches and Western biomedical approaches to a phenomenon such as breastfeeding can be reconciled.

**Implications for Practice, Education, Research and Health Policy**

The results of the study have implications for nursing practice and education, and help to identify appropriate directions for further research and policy planning in this field.

**Implications for Practice**

The findings of this study give rise to a number of implications for nursing practice. In particular, it is noteworthy that immigrant Chinese mothers hold beliefs about
breastfeeding and infant health which combine traditional Chinese medicine, Western biomedical medicine and personal experience. They manage their breastfeeding decisions and practices not only by their use of these various forms of knowledge but also by dealing with the contradictory world views of the various persons supporting their breastfeeding practices, negotiating the processes associated with breastfeeding practices and finally developing appropriate strategies for their own unique situations.

In this study, it became apparent that Chinese mothers are concerned not only about traditional Chinese medical care but also about Western medical knowledge as it applies to understanding the advantages of breastfeeding. Thus it seems critical that nurses remain attentive to the complexities within and across world views that these mothers may be struggling with. From a practical perspective, nurses must develop complex strategies for assessing the specific beliefs and expertise that each Chinese immigrant mother brings to her own breastfeeding experience so that they incorporate them into clinical practice. The findings of this study have illustrated that stereotypic views of what Chinese mothers believe will be misleading and insufficient in informing culturally sensitive and appropriate practice. Consequently, there is no doubt that further work at the theoretical and empirical level is needed to more fully understand the effects of beliefs and expertise on breastfeeding, particularly as it relates to the decision-making about breastfeeding. In the meantime, nurses need to remain open to the idea that the beliefs and opinions their patients hold may represent a form of expertise with which they are unfamiliar.

The findings of this study revealed that the mothers considered not only the interaction between their body, their baby’s body and their breastfeeding practices, but also the interaction between the body and the environment. Understanding these interactions can
contribute to health professionals’ understanding of Chinese mothers breastfeeding practices after delivery and particularly their complaints about insufficient milk. For Chinese mothers, the production of breast milk is thought to be built upon the foundation of the mother’s body, and this is why Chinese mothers indicate they do not have breast milk when their bodies are weak or tired. The imbalance revealed by such tiredness, such as occurs after delivery, is an indication that that foundation is not yet stable. Thus, replenishing the body is a priority for them - and this means resting and eating tonic food. These beliefs about the body reflect different worldviews than those assumed in conventional Western biomedical understandings. Nurses need to be aware of the implications of these differing worldviews so that they can move beyond simply encouraging new mothers to breastfeed and begin to appreciate the implications of a worldview that emphasizes an essential interdependence between the body and breastfeeding behavior.

The findings also revealed that Chinese immigrant new mothers held a strong preference for practical skills rather than theoretical knowledge. The mothers tendency to choose traditional Chinese medical care rather than Western biomedical care in support of their breastfeeding practices may have been related to the relatively rich practical information that the Chinese approach provides. Traditional Chinese medical care is not only about how to replenish their body but also included health promotion and illness prevention. As health care professionals, we have a responsibility to sensitively assess the clients’ knowledge preferences, and to creatively balance our recommendations with the culturally relevant ideas that these mothers bring to the infant feeding situation. From an attitude of creatively integrating Western understandings with cultural care practices, we create the conditions under which our suggestions can be integrated and applied in a meaningful way.
Implications for Education

Client education

Findings from this study support the notion that immigrant Chinese mothers’ decision-making about breastfeeding is based on their beliefs about traditional Chinese care and Western biomedical care as well as personal experience. Health care professionals need to consider effective ways in which they might integrate traditional Chinese medical and Western biomedical views to develop clients educational programs that are relevant to this population group. In particular, although both health care systems have different paradigms and approaches, it is important to remember that they have the same goal - to support successful breastfeeding experiences.

Knowledge deriving from studies such as this one may be a valuable resource for nurses wishing to develop client education strategies for other immigrant Chinese mothers to support their decision-making. Such strategies might usefully involve both patient education programs and peer support groups.

Nursing education

Although this study’s direct implications for nursing education may be limited, I believe it is crucial for nursing educators and students to consider the impact of cultural beliefs and practices on patient decision-making in breastfeeding as in all other health care contexts. It would seem that basic and advanced nursing education programs should include in their curricula a recognition that cultural differences influence patient experiences as well as appropriate nursing actions. Specifically, given the extensive population of Chinese immigrants in the cities of the Pacific Rim of North America, it would seem appropriate for nursing educational programs to include explicit content on the philosophical underpinnings
of Chinese traditional medicine. Although specific cultural practices may be various, these core understandings may be helpful to students and new nurses as they begin to negotiate effective care relationships with diverse clients in various clinical settings. Clearly, stereotypic understandings of ethnic health beliefs will be insufficient to guide nursing practice, and clinicians will require an understanding that permits them to consider the relative impact of such knowledge sources as traditional Chinese medical care, personal experiences, and Western biomedical care within the same context.

Implications for Further Research

Given the findings from this study, it seems that the topic of immigrant Chinese mothers decision making on breastfeeding remains a credible objective for further knowledge development and refinement.

The combination of findings from two different research approaches presents a picture of the state of breastfeeding in immigrant Chinese mothers in Vancouver, Canada and identifies gaps between the mothers’ and social supporters’ beliefs and practices, indicating their different worldviews (holistic views and conventional views). The use of a broad range of research methods will be needed to understand the mothers’ breastfeeding choices because decision-making on breastfeeding is a dynamic complex process in a multidimensional domain. The dominant mode of breastfeeding research has been survey methods and epidemiological analysis that have produced and will continue to produce - important insights. However, it is critical to also utilize a range of qualitative methods that will contextualize breastfeeding and help us understand how personal and socicultural factors interact to shape behavior. In particular areas for further exploration suggested by this study include: beliefs about breastfeeding practices; the relationship between comfort,
confidence and breastfeeding practices; and the mothers’ experiences about the integration of their personal beliefs’ about traditional Chinese cultural care, Western biomedical care, and personal experiences of the process of decision making to develop appropriate strategies for their breastfeeding practices. Decision-making on infant feeding is clearly worthy of research attention, especially among women who formula feed and women who changed their infant feeding practices to formula feeding after they have moved to Canada. It would be useful to explore in greater depth the personal determinants of breastfeeding within the social context, including their beliefs about breastfeeding practices, what they deal with in their practices and how they negotiate their infant feeding practices. Research on decisions related to these factors will be critical both to understand the mothers’ experiences, to better determine the significant factors that may influence their infant feeding decisions, and to identify those factors that may be most amenable to intervention in the interests of more effective infant feeding practices.

The contradictions inherent in the support provided by health professionals and lay persons who are influential in the women’s lives have not been sufficiently examined. An ideal study might use participant observation to examine the interactions between health professionals, members of the lay public, and mothers, and to analyze patterns within the contradictions between the various kinds of expertise.

Finally, it is important to make a few comments about the matter of language as it influences the study of clinical populations whose language is not that of the dominant culture. In this study, advantage was taken of the researcher’s fluency in several languages, and even so, complexities inherent in the interpretation of various linguistic cues and terminological choices were problematic and difficult. Clearly, it is necessary to use
participants' preferred language to collect data in order not to threaten the validity of that
data. If translators and/or interpreters are used to collect data, the researcher must consider
their language ability and their cultural sensitivity as they influence data collection,
interpretation and analysis. If the researcher uses questionnaires to collect data, back
translation of questionnaire should be used. From this study, the implications of the language
variation within the Chinese community became apparent. While it was not within the scope
of this study to delve further into this fascinating issue, it seems apparent that additional
methodological guidance in relation to such work would be a useful addition to the health
research literature.

Implications for Policy and Programming

Policies attempting to increase both the frequency and duration of breastfeeding
operate on many levels, including those of the hospital and the community. Probably the
most difficult area in which to intervene is that of the sociocultural environment. In order to
promote breastfeeding for the immigrant Chinese mother, the findings of this study suggest
that health professionals would have to consider integrating a combination of Western
biomedical knowledge and traditional Chinese medical knowledge in order to develop
effective client educational programs and also to develop any print or other media resources
that might be of value.

Health care policies should reflect sensitivity to cultural difference and diversity in
order to ensure the best possible equitable care for our immigrant Chinese mothers. Policies
attempting to enhance the incidence and duration of breastfeeding can operate on hospital
and community levels. In order to promote breastfeeding for the immigrant Chinese mother,
the findings of this study suggest that it is important to integrate Western biomedical
knowledge and traditional Chinese medical knowledge to develop effective client educational programs and also to develop any print or other media resources that might be of value. The findings of this study reveal that integrating traditional Chinese medicine and Western biomedical care was useful for these immigrant Chinese mothers. However, the diversity between these paradigms may be difficult for health professionals who are not familiar with holistic views. Developing policies to supportive of cultural diversity in breastfeeding practices should be grounded in systematic and indepth study of the experience of these mothers from their perspective.

Summary

Although this study has addressed some of the limitations of the currently available body of knowledge about immigrant Chinese mothers' decision making about breastfeeding, it seems clear that there is much more that we should know in order to ensure that these women receive appropriate care for themselves and their babies. From the findings of this study, we have learned not only about how immigrant Chinese mothers make decisions about their breastfeeding, but also how they deal with their situations in a manner that combines of traditional holistic Chinese medical and conventional Western biomedical care. This study has begun to clarify ways in which these two divergent worldviews about health and healing practices must be considered together in order to provide appropriate clinical support to optimize breastfeeding practice within the Chinese immigrant community. From these findings, it becomes possible to begin to understand not only the essential differences between traditional Chinese care and Western biomedical care, but also their fundamental common objective – in this instance, a successful breastfeeding experience. The findings
challenge us to continue to work toward finding creative ways within the Canadian health care system to integrate holistic and conventional therapies and practices. Much more research will be required in order to extend our understandings beyond discrete cultures and contexts and into the larger domain of a system-wide approach to the care of a diverse population of Canadians.
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APPENDIX A

Questionnaires of Preference for Mode of Delivery and Infant Feeding Among Chinese Women
Is there a better time for me to contact you?

IVa) if yes... (to question IIIb)
Make arrangements to call back

IVb) If no....
Thank you very much. Good-bye.

IIIb) If no, (doesn't remember getting sheet)

Dr. ___________ (patient's doctor) has given permission for me to ask if you would be willing to participate in this project. Women in the last month of their pregnancy are usually given an information sheet at their doctor's office. I'm sorry you didn't receive one.

Continue as per 2 (a)

1. Mrs. __________, are you attending or do you plan to attend prenatal classes?
   1. Yes  2. No

2. How many weeks pregnant are you now? ________ weeks

3. Where will you attend prenatal classes?

   __________________________________________

4. How many children have you given birth to? ________

5. If 2nd (or more) baby

   Did you attend prenatal classes with your first baby?
   1. _____  2. _____

6. If so, where did you attend those prenatal classes?

   __________________________________________

7. What information you were given about breastfeeding or bottle feeding?

   __________________________________________
8. About vaginal birth vs cesarean section?

9. If you could choose how your baby would be delivered would you choose a cesarean section or a vaginal delivery?

What would be your reason?

(May prompt with the following reasons if can't think of an answer)

- Don't want to experience the pain of childbirth
- Want the baby born on a lucky day
- Need to have the birth at a scheduled time because of work demands
- C-Section is better for the woman's body (ask to elaborate)

10. How important is it for you to have a vaginal birth/cesarean section?

   1. Extremely important
   2. Very important
   3. Somewhat important
   4. Slightly important
   5. Not important at all

(if prefers vaginal delivery skip to #12)

11. Have you specifically asked your doctor for a c-section?

   1. Yes 2. No

12. Do you feel you should be able to choose whether or not to have a c-section or should your doctor make the decision?

   1. self 2. doctor

13. Which do you think is the better mode of delivery?

   1. c-section 2. vaginal
14. Are you aware of any advantages of c-sections/vaginal deliveries? (Whichever they chose)

____________________________________

____________________________________

15. Are you aware of any advantages of c-sections/vaginal deliveries? (Whichever they didn't choose)

____________________________________

____________________________________

16. Who has influenced your thinking regarding preferences for c-section vs vaginal delivery?

- if respondent can't think of an answer - may prompt with the following list:

  Self  Prenatal Classes  Friends
  Husband/partner  Siblings  Mother
  Mother-in-law  Grandmother  In-laws
  Other relatives  Books  Nurses
  T.V. Radio, Newspaper  Doctor

Who has had the most influence? __________

2nd most influence? __________

3rd most influence? __________

17. Thinking now about feeding your baby, what do you think is the best way to feed your baby?

1. Breast  2. Bottle

18. Do you plan to start with breastfeeding or bottle feeding?

1. Breast  2. Bottle
19. (If breast) Do you plan to do some bottlefeeding?
   1. Yes  
   2. No

20. (If yes) When do you think that you would you start bottlefeeding? ________ months.

21. When do you plan to introduce solid foods? ________ months.

22. How long will you take maternity leave from work? ________ months.

23. Do you have help at home to look after yourself and the baby?
   1. Yes  
   2. No

24. Who will be helping you? ________

   (if bottle feeding, skip to question 28)

25. How many months do you plan to breastfeed? ________

26. How important is it for you to breastfeed?
   1. extremely important
   2. very important
   3. somewhat important
   4. not very important
   5. not sure

27. How confident do you feel about your ability to breastfeed your baby?

   1. extremely confident
   2. very confident
   3. somewhat confident
   4. not very confident
   5. not sure

28. Are you aware of any advantages of bottlefeeding/breastfeeding?(Whichever they chose)
29. Are you aware of any advantages of bottlefeeding/breastfeeding? (Whichever they didn't choose)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

30. Who has influenced your thinking most regarding your choice on the method of infant feeding?

- if respondent can't think of an answer - may prompt with the following list:

Self     Prenatal Classes     Friends
Husband/partner  Siblings    Mother
Mother-in-law    Grandmother    In-laws
Other relatives    Books    Nurses
T.V. Radio, Newspaper    Doctor

Who has had the most influence? ____________
Who had the 2nd most influence ____________
3rd most influence ____________

(If this is the first baby skip to question 32)

31. How did you feed your first(other) baby (babies)?

Youngest _______
2nd youngest _______
3rd youngest _______

(if all babies were bottlefed skip to question 33)

32. How many months did you breastfeed your first(other) baby(babies)?

Youngest _______
2nd youngest _______
3rd youngest  ________

Now I would like to finish by asking some general questions about yourself so that we can know about some other factors which may influence decision-making.

33. What country were you born in?
   1. Canada  2. China  3. Hong Kong
   4. Taiwan  5. Vietname/Laos/Cambodia
   6. Other  (if not born in Canada)

34. How many years have you lived in Canada?
   ____________________

35. Which country were your parents born in?
   Mother:  Father:  
   1. Canada  2. China  3. Hong Kong
   4. Taiwan  5. Vietname/Laos/Cambodia
   6. Other

36. Is your ethnic origin Chinese?
   1. Yes  2. No

37. What is your age?
   _______ yrs

38. How many years of education did you complete?
   ______________

39. Do you have a job outside the home?
   1. Yes  2. No
40. (if yes) What is your occupation?

________________________

41. How many years of education did your husband complete?

_______________________

42. What is your husband's occupation?

________________________

43. What country was your husband born in?

1. Canada 2. China 3. Hong Kong
4. Taiwan 5. Vietnam/Laos/Cambodia
6. Other________________________
(if not born in Canada)

44. Who lives in your home with you?

Self 1. Yes 2. No
Husband 1. Yes 2. No
Children Number_____
Parents Number_____ Parents-in-law Number_____
Sisters/Brothers Number_____
Grandparents Number_____

45. Will your baby share a room with someone when he/she comes home from the hospital?

1. Yes 2. No

46. Who would that be?

________________________

47. Have you given birth by cesarean section before?

1. Yes 2. No

48. How many cesarean sections have you had?_____

8
49. What is the ethnicity of your physician?

1. Chinese
2. Caucasian
3. Other

50. What method of receiving information about childbirth and infant feeding would you prefer?

May prompt with the following list:

Posters, pamphlets/books, video, T.V., radio, lecture, prenatal class

51. Where would you like to receive this information?

May prompt with the following list:

Doctor's office, prenatal class, from nurses in the hospital, community health department, home, SUCCESS, pharmacy

Mrs./Ms. _________ thank you very much for your time. I will be calling you again once when your baby is about 2 months old for another telephone interview. I will give you a number to call in the meantime if you have any questions about the study. My name once again is _________. I hope all goes well during your labour and delivery. I look forward to hearing about it.
PREFERENCE FOR MODE OF DELIVERY AND INFANT FEEDING AMONG CHINESE WOMEN

Study ID # __ __ __

FORM 2 Postnatal Telephone Survey

Hello, this is ______ speaking, from the SUCCESS, B.C.'s Women's Hospital and Community Physicians project.

May I speak to ________?

la) if not home..... [ ] English [ ] Cantonese [ ] Mandarin

When would be a good time to call back?

lb) if home....

Hello, Ms/Mrs ______ this is ______ speaking. I am a research nurse working with SUCCESS, B.C.'s Women's Hospital, and a group of physicians on a project called "Preferences for mode of delivery and infant feeding among Chinese women". Would you prefer me to speak in English, Cantonese or Mandarin? Do you remember speaking to me before your baby was born?

lla) if yes....

As the second part of the study I would like to spend 10-15 minutes asking you about your delivery and about how you are feeding your baby now.

The survey is anonymous. You are identified by a number only and only the researchers see the results of your questionnaire. You may choose not to answer some of the questions.

Would you be willing to take 10-15 minutes to try to answer these questions?

llla) if yes....

Would you like to ask me any questions about the survey before we start?

lllb) if no....

Is there a better time for me to contact you?

lVa) if yes....

Make arrangements to call back

lVb) if no....

Thank you very much. Good-bye.

llb) (if doesn't remember the initial interview)
I spoke with you on the telephone about your preferences for type of delivery, vaginal or cesarean, and your preferences for how you would feed your baby, either breast or bottlefeeding. This interview is part of a study being carried out with SUCCESS, B.C. Women's Hospital, and a group of family doctors who are interested in learning more about how women make these choices. Do you remember now or would you like to ask me some more questions about the study?

1. Firstly, I'd like to say congratulations on the birth of your baby. Was your baby born by vaginal delivery, forceps, vacuum suction cup, or cesarean section?

   Vaginal delivery    Forceps    Vacuum    C/S

   If delivery was vaginal, skip to question 3

2. What was the reason for the (forceps, vacuum, C/S) delivery as you understand it?

   ________________________________________________________________

3. Did you have any complications of labour or delivery that you are aware of?

   Yes            No

4. If yes, what were the complications?

   ________________________________________________________________
   ________________________________________________________________

5. Is your baby a boy or a girl?

   Boy            Girl

6. When was your baby born? _____dd/_____mm/_____yr

7. Was your baby born early? (before 37 weeks gestation)

   Yes            No

   If yes, how many weeks early? ____________

8. At any time during your labour or in the final weeks before labour, did you ask your doctor for a C-section?

   Yes            No
9. Did any other family members or friends ask your doctor for a C-section during labour?
   Yes   No

   If yes, who? ____________________________
   if "no" to questions 8 and 9, go to question 11

10. What was the reason that you or others asked your doctor for a C-section?
    ____________________________

11. At the time you came in to hospital were you expecting that you would probably have a
    C-section for any reason?
    Yes   No

12. If yes, what was the reason?
    ____________________________

13. Was this reason given to you by your family doctor, obstetrician, or was it something
    that you yourself were thinking about?
    Family  Doctor  Obstetrician  Self

    (If vaginal delivery, skip to question 17)

14. What was the reason (to your knowledge) that you had a C-section?
    ____________________________
    ____________________________

15. Did you think this was an appropriate reason at the time?
    Yes___________  No___________  Don't know_________

16. Do you feel that the C-section was done at
    about the right time
    too soon
    too late/waited too long
    should not have been done at all
17. Let's talk about feeding your baby now. How did you initially start to feed the baby in hospital?

Breast only
Bottle only
Combination of breast/formula

18. Is the method of feeding that you started in hospital different than what you had planned before pregnancy?

Yes  No  
If no, skip to question 20

19. What was the reason that your choice of feeding after baby's birth changed from what you had originally intended?

________________________________________

20. How were you feeding your baby when you left the hospital?

Breast only
Bottle only
Combination of breast/formula
If the mother did not attempt breastfeeding, (bottle only for question 17 and question 20) skip to question 26

21. Are you still breastfeeding?

Yes  No  
If no, go to question 28

22. How long do you plan to continue to breastfeed? ________ months.

23. If breastfeeding, have you introduced the bottle?

Yes  No  
If no, skip to question 31

24. When did you start giving the bottle? ____________ weeks

25. What were your reasons for supplementing with formula?

________________________________________
(Skip to question 31)

26. Why did you choose to formula/bottle feed your baby? (If necessary can prompt with
27. The following are reasons that some women choose to bottlefeed. Were any of these other reasons important in your decision to bottlefeed?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Important factor</th>
<th>Somewhat of a factor</th>
<th>Not a factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>dieting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>too much effort or trouble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not enough milk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>can't tell how much milk baby is getting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>milk gives baby problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>breasts too small</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>can't be bothered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>too inconvenient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>formula is better for baby</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>return to work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>embarassed about breastfeeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other people can feed the baby</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>worried about figure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not wanting to wake up at night</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>taking Chinese herbs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>illness of mother (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>told to bottlefeed (specify who)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no particular reason</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other reason (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*If the mother did not attempt to breast feed, go to termination of interview.*

*If breastfeeding and introduced bottle, go to question 31.*

28. If not, how long did you breast feed?

__________ weeks
29. What were your reasons for stopping breastfeeding?

30. The following are reasons that some women choose to stop breastfeeding. Were any of these other factors important in your decision-making?

<table>
<thead>
<tr>
<th>Important factor</th>
<th>Somewhat of a factor</th>
<th>Not a factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Mother-related:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dieting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>too much effort or trouble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>not enough milk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>can't tell how much milk baby is getting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mild gives baby problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>breasts too small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>can't be bothered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>too inconvenient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sore or cracked nipples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>return to work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>embarassed about breastfeeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>other people can feed the baby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>worried about figure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>not wanting to wake up at night</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Important factor</th>
<th>Somewhat of a factor</th>
<th>Not a factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Infant-related:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>formula is better for baby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>taking Chinese herbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>illness of mother (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
31. Was anything or anyone helpful in encouraging you to breastfeed?

32. Did you have any problems with breastfeeding?
   Yes  No
   *If no, skip to termination of interview.*

33. What problems have you had with breastfeeding?

   

34. If you have had some difficulty with breastfeeding, who did you ask for advice or help?

<table>
<thead>
<tr>
<th>Doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse at hospital</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Lactation consultant</td>
</tr>
<tr>
<td>Breastfeeding clinic at hospital</td>
</tr>
<tr>
<td>Drop-in clinic at health department</td>
</tr>
<tr>
<td>24 hour telephone help line</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Mother-in-law</td>
</tr>
<tr>
<td>Sister</td>
</tr>
<tr>
<td>Friend</td>
</tr>
<tr>
<td>Husband</td>
</tr>
<tr>
<td>Books/magazines/pamphlets</td>
</tr>
<tr>
<td>La Leche League</td>
</tr>
<tr>
<td>Didn't know who to ask</td>
</tr>
<tr>
<td>Other (Specify)</td>
</tr>
</tbody>
</table>

Thank you very much for your time, Mrs. ____________________________. If you have any further questions about the study you can reach me at ____________________________. We will make the results of the study available to your doctor if you wish to see them. Good luck with your new baby and congratulations!
APPENDIX B

Letter of Information to Participant
APPENDIX C

Patient Consent Forms
APPENDIX D

Personal Background Forms
Study Title: Exploring the Chinese Mother's Experiences Related with Infant Feeding Choice.

Personal Background Forms

Case: #
Interviewing time:
Timing:

About your baby information:
1) What is baby's gender?
   □ Boy
   □ Girl
2) What is your baby's birth date?
3) What is your baby birth length? cm (inches).
4) What is your baby birth weight? lbs.
5) When was the first time you fed your baby?
6) What type of infant feeding did you feed your infant at first time?
   □ Breast milk
   □ Breast milk and Formula milk
   □ Formula milk
   □ Others
7) This is your
   □ First baby
   □ Second baby
   □ More
8) What type of delivery did you have?
   □ Cesarean section
   □ Normal vaginal delivery
   □ Forceps
   □ Breech
   □ Others complication

About your personal backgrounds:
1) What is your country of origin?
2) What is your husband's country of origin?
3) What was *the first language* that you spoke? ______________________________

4) What is your age? ______________________________ years

5) How long have you lived in Canada? ______________________________

6) How many *years of schooling* do you have? This includes the total of grade school, high school, vocational, technical, and university. ______________________________ years.

7) How many *years of schooling* does your husband have? This includes the total of grade school, high school, vocational, technical, and university. ______________________________ years.

8) How many other children have you had? ______________________________
   Did you breastfeed or formula feed these babies?
   □ Yes (what kinds of feeding pattern do you used? ______________________________)
   □ No

9) How were you fed as an infant?
   □ Breastfeeding
   □ Breastfeeding and formula feeding
   □ Formula feeding
   □ Other ______________________________

10) How was your husband fed as an infant?
    □ Breastfeeding
    □ Breastfeeding and formula feeding
    □ Formula feeding
    □ Other ______________________________

11) In what range does your family income fall?
    □ ≤ $19,999
    □ $20,000 - $39,999
    □ $40,000-59,999
    □ ≥ $60,000

   In six months, your mailing address and telephone will be:

   Address: ______________________________

   Telephone: ______________________________

Thank you for your cooperation!
個人資料

No. __________________

訪談時間：____年____月____日____時
訪談次數：________________

一、 嬰兒資料:
1. 性別：□男；□女。
2. 出生日期：____年____月____日。
3. 身高：______公分（英吋）；體重：______磅（Gram）。
4. 第一次哺餵寶寶的時間是開始在產後何時？________________。
5. 您是以何種方式開始的？□母乳 □母乳與牛乳 □牛乳
□其他（請說明）________________。
6. 這是您的 □第一胎 □第二胎 □其他（請說明）________________。
7. 您的分娩方式是 □自然分娩 □剖腹產 □合併症 □產鉗
□其他（請說明）________________。

二、 母親資料：
8. 您的原居地是：
□ 中國________省________縣________村。
□ 台灣________市________縣________村。
□ 香港，何地？________。
9. 您居住在加拿大的時間大約有______年______月。
10. 您的年齡______歲。
11. 您先生（或同居人）的年齡______歲。
12. 您接受教育的時間總共大約有______年（包括小學、中學、職業、技術、專科、大學以上的教育時間）。
13. 您先生（或同居人）接受教育的時間總共大約有______年（包括小學、中學、職業、技術、專科、大學以上的教育時間）。
14. 您在嬰兒時期以何種方式哺餵長大的？□母乳 □母乳與牛乳 □牛乳 □其他，請描述________________________________________。

15. 您的先生（或同居人）在嬰兒時期以何種方式哺餵長大的？□母乳 □母乳與牛乳 □牛乳 □其他，請描述________________________________________。

16. 目前，您的家庭收入大約是：
□ ≤$19,999
□ $20,000–39,999
□ $40,000–59,999
□ ≥$60,000

17. 在六個月內，您的聯絡地址：________________________________________
    電話：________________________________________

    謝謝您的資料！
APPENDIX E

Sample Questions for Initial Guide
Sample questions for initial interview guide

1. How is your feeding your baby right now?

2. Can you tell me about your decisions regarding breast or bottle feeding:
   1) What did you think you would do before the baby was born?
   2) When did you make a decision as to how you would feed this baby?
   3) What influenced your decision to _________(breast or bottle) feed?
   4) Who influenced your decision to _________(breast or bottle) feed?

3. What is it like for you to be breast (or bottle) feeding now?
   1) Do you feel confident?
   2) Do you feel you have support from the people around you?

4. Do you think this is the best form of feeding for your baby?

5. In what ways, if any, have your decisions about infant feeding changed since you moved to Canada?

6. Is there anything more you would like to say?

Prompts

Can you tell me more about...

In what way...

So what you're saying is...

What were your feelings...

What were you thinking...

What was that like for you...

How do you manage...

What helps you cope...

What is it like for you right now...
會談指引

1. 目前，您是以何種方式哺餵您的小孩？

2. 您是否可以談談（或告訴我）有關於您選擇餵食方式的經驗與整個的過程？

3. 在嬰兒出生以前，您對嬰兒餵食方式的看法與想法是如何？您是在何時決定要以目前的方式餵食您的寶寶的？

4. 在整個的過程中，您是如何做決定的？您的經驗像是什麼樣子？

   在整個的過程中，是否有哪些因素影響您在做決定？像是，一些有關的人、事、物是如何影響您的決定選擇嬰兒餵食方式。

5. 請描述您目前的餵食經驗像是？

6. 您對母乳與牛乳的看法？母乳與牛乳對寶寶的影響與您的影響是什麼？

7. 您對餵食寶寶的自信？

8. 您對周圍的支持系統的感覺？像是，您周圍的人、事、以及物。

   您是否認為這是最好的方式餵食您的寶寶？

9. 自從您搬到加拿大之後，您對哺乳的看法與經驗是否有改變？如果有，可能是一些什麼方面的改變？為什麼？

10. 是否您還有其他事情想要多談談？
提示語

您是否能夠多談一些有關於⋯⋯⋯

怎麼呢⋯⋯⋯

所以，您在說您⋯⋯⋯

您的感覺是⋯⋯⋯

您的想法是⋯⋯⋯

對您而言，那像是什麼⋯⋯⋯

您是如何處理?應付?管理?⋯⋯⋯

哪個幫助您處理與應付⋯⋯⋯

現在對您來說，像是什麼⋯⋯⋯