

**ETHNO-CULTURAL FACTORS THAT INFLUENCE INFANT FEEDING
AMONG SOUTH ASIANS IN THE REGION OF PEEL:
FINDINGS FROM STAKEHOLDER CONSULTATIONS**

Sharon DaCosta
Health Promotion Officer
Region of Peel – Public Health
Family Health Division

March 2012

TABLE OF CONTENTS

KEY MESSAGES	4
EXECUTIVE SUMMARY	5
1.0 THE ISSUE	7
2.0 BACKGROUND AND CONTEXT	7
3.0 PURPOSE	9
4.0 METHODOLOGY	9
4.1 Ethics	10
4.2 Sampling and Recruitment	10
4.3 Data Collection Methods	11
4.4 Data Analysis	12
5.0 DEMOGRAPHICS	12
6.0 FINDINGS	12
6.1 Breastfeeding is Highly Valued	12
6.1.1 Special Foods Increase Breast Milk	13
6.1.2 Breastfeeding Duration	13
6.2 Cultural Shift towards Mixed Feeding	14
6.3 Early Introduction of Formula Feeding	14
6.3.1 Beliefs about Colostrum	15
6.4 Deferring to Health Care Professionals	15
6.4.1 Hospital Practices	16
6.4.2 Free Formula Samples	17
6.5 Maternal Care after Childbirth	17
6.5.1 Resting	17
6.5.2 Rest Periods and Formula Supplementation	19
6.5.3 Rest and Cesarean Deliveries	19
6.5.4 Rest Periods and Access to Services	19
6.5.5 Special Foods and Recovery	19
6.6 Family Influences	19
6.6.1 Postpartum Mood Disorders (PMD)	21
6.6.2 Prelacteals	21
6.7 Discomfort with Public Breastfeeding	21
6.8 Acculturation	22

7.0	DISCUSSION	22
8.0	CHANGES IN THE LOCAL ENVIRONMENT	23
9.0	RECOMMENDATIONS AND NEXT STEPS	25
10.0	LIMITATIONS	26
	REFERENCES	28
	APPENDICES	30

KEY MESSAGES

- ◆ Breastfeeding is highly valued, encouraged and supported within the local South Asian community and families usually intend to breastfeed.
- ◆ There is a strong shift towards mixed feeding and early supplementation with infant formula, particularly within the first three to five days after birth, is prevalent. Key factors influencing this shift are inconsistent breastfeeding messages by hospital staff, inadequate in-hospital breastfeeding support, and the perception that the colostrum and/or mother's breast milk supply is insufficient to meet the infant's needs.
- ◆ Health care professionals are highly respected and their recommendations to formula feed are typically followed without question. The promotion of formula supplements in medical facilities is interpreted as endorsement of formula feeding.
- ◆ Maternal care after childbirth is very important culturally. Specific periods of rest or healing, believed to promote speedy recovery, are commonly observed. Mothers-in-law exert strong influences on postnatal care and often encourage formula supplementation to ensure adequate rest for the mother.
- ◆ Innovative and culturally sensitive public health policy and health promotion strategies will promote and normalize exclusive breastfeeding within the local South Asian population. Such strategies should include initiatives to target local hospitals, South Asian physicians and the South Asian public. These strategies should:
 - i. advocate for changes in local hospital formula supplementation policies and the implementation of consistent, culturally sensitive messaging to support exclusive breastfeeding,
 - ii. engage local South Asian physicians to promote exclusive breastfeeding in client care and in population health approaches targeting South Asian residents,
 - iii. identify and target the determinants of mixed feeding and reduce its prevalence,
 - iv. target and engage mothers-in-law and other extended family members in pre and postnatal education,
 - v. provide education on the importance and benefits of colostrum and baby's early feeding needs,
 - vi. normalize breastfeeding as the "Canadian" way,
 - vii. collaborate with the Postpartum Mood Disorder Program and community partners to explore and increase awareness of postpartum mood disorders and their impact on breastfeeding,
 - viii. collaborate with the Supportive Environment Healthy Weights and Nurturing the Next Generation strategies to support the ongoing promotion of exclusive breastfeeding including the development of culturally appropriate designated 'breastfeeding spaces' within the community.

EXECUTIVE SUMMARY

Exclusive breastfeeding for the first six months of life is recommended by the World Health Organization and is a part of the mandate of the Family Health Division as outlined in the Ontario Public Health Standards (1, 2). Current data for the region of Peel show that approximately 77 percent of families do not exclusively breastfeed at six months postpartum and 54 to 72 percent of mothers introduce formula feeding to their newborn infants before discharge from local hospitals (3, 4). Concerns were raised by local health care professionals that the high rates of formula supplementation were associated with the cultural milieu and beliefs of Peel's diverse population. This was the catalyst for launching a qualitative research study to explore the ethno-cultural factors which may influence infant feeding practices. Immigrants comprise half of the region's population with the largest minority group being South Asian (5). The Family Health Division therefore decided to limit the scope of this study to the local South Asian population.

In a descriptive qualitative study, fifteen semi-structured interviews and five focus groups (55 participants) were conducted. Participants included a cross-section of South Asian women, including pregnant and perinatal mothers and mothers with older children, breastfeeding peer support volunteers, lactation consultants, and service providers.

Summary of Findings

- ***Breastfeeding is valued:*** Breastfeeding is highly valued within the South Asian culture and is promoted and encouraged widely by immediate and extended family members. Special foods and beverages are commonly given to mothers to increase breast milk supply. Long durations of breastfeeding are not uncommon.
- ***Cultural shift to mixed feeding:*** There appears to be a strong cultural shift toward supplementation with infant formula. This trend is believed to be evident both in India and here in Peel, and is perceived to be influenced by the marketing and normalizing of infant formula.
- ***Formula feeding perceived as the Canadian way:*** For many South Asian families, formula feeding is perceived as the modern, westernized and superior infant feeding method. This view may be more prevalent among newer immigrants, especially those from large urban centres.
- ***Early formula supplementation:*** Early supplementation with infant formula, especially during the first three to five days, is commonly practiced. The perception that mothers have insufficient breast milk to meet the infant's needs is prevalent and is often cited as a key reason for formula supplementation during this time. Newborn crying is usually interpreted as a signal for hunger.
- ***Hospital Practices:*** Inconsistent messaging and support for breastfeeding by local hospital staff are described as common occurrences. Personal examples of hospital nurses recommending formula feeding and/or offering infant formula to babies against the mothers' wishes were shared.
- ***Deference to Health Care Professionals:*** Health care professionals are highly respected and their advice is often followed without question. Recommendations to formula feed and the distribution of formula samples by medical professionals encourage formula

supplementation. Formula promotional materials in medical offices and hospitals are perceived as endorsement of these products.

- **Maternal care:** Strong values are placed on maternal care after childbirth and practices related to mothers' care often encourage formula supplementation. Although some variation exists, specific rest periods, designed to facilitate speedy recovery, are commonly practiced. During this time mothers are required to stay indoors and refrain from strenuous activities. Formula feeding is often encouraged during rest periods, especially for nighttime feedings, to ensure that mothers receive their required rest. For some mothers, accessing breastfeeding and public health services during the rest period is not encouraged, posing a significant barrier to families for whom breastfeeding is challenging.
- **Family influences:** Grandmothers, particularly mothers-in-law, play a crucial role in the postnatal care of mothers. Their opinions are highly valued and they are believed to be experienced and knowledgeable in childbirth and postnatal care. Mothers-in-law often encourage formula supplementation to ensure adequate rest for mothers, to encourage babies to sleep through the night and to promote infants' rapid weight gain. It is important to target extended families, particularly mothers-in-law in breastfeeding health promotion strategies, as they could become strong advocates for breastfeeding.
- **Public Breastfeeding:** Breastfeeding in public environments is culturally unacceptable and violates beliefs of modesty. Some mothers are comfortable with covering their breasts while breastfeeding in public but most prefer a privately designated area for breastfeeding. Even in their own homes, mothers are uncomfortable with breastfeeding in front of guests and sometimes their mothers-in-law. Pumping and storing breast milk for public feedings is cumbersome and time consuming for many mothers and they will simply opt to formula feed to prevent the embarrassment of public breastfeeding. The reticence to breastfeed in the hospital may be partially due to the perception of the hospital as a public sphere and requires further exploration.
- **Beliefs about colostrum:** The belief that the colostrum, the first milk produced by the mother's body, is unhealthy for the newborn infant is a traditional held by many South Asian groups. The degree to which this belief is currently upheld by South Asians living in Peel is unclear. However, findings indicate that remnants of this belief may still be prevalent among some families and this topic requires further exploration. At the very least, the importance and adequacy of colostrum to meet the newborn infant's needs is not well understood.
- **Acculturation:** The degree of acculturation is implicated as a factor that influences infant feeding choices but its role is unclear. Length of time living in Canada, as a factor on its own, does not influence infant feeding choices, but appears to be mediated by the amount and proximity of family members living in Canada, ongoing relationships with families in the countries of origin and the degree to which family members follow traditional practices. Prenatal breastfeeding education is also identified as a mediating factor which helps to normalize breastfeeding as "Canadian" and increase breastfeeding duration and exclusivity.

Implications for Public Health Practice

Effectively meeting the needs of an ethno-culturally diverse population is a key strategic priority for Peel Public Health. These findings provide the Family Health Division with an understanding of some of the key ethno-cultural factors that influence infant feeding patterns among its South Asian population and will inform the department in developing culturally sensitive programs and services while addressing barriers to exclusive breastfeeding.

1.0 THE ISSUE

Peel Public Health actively promotes exclusive breastfeeding for the first six months of life with continued breastfeeding up to two years and beyond, a position which is recommended by the World Health Organization (WHO) (1), the Canadian Paediatric Society (CPS) (6) and the Breastfeeding Committee for Canada (7). The Ontario Public Health Standards also target exclusive breastfeeding up to six months as a key factor in the optimal health and development of Ontario's children (2). Exclusive breastfeeding is defined by the WHO as feeding only breast milk, with no other foods or drinks, except vitamin and mineral supplements or medicines (1). Research links exclusive breastfeeding to numerous health benefits for both infants and mothers (8). For example, exclusive breastfeeding is associated with a reduction in ear, lower respiratory and diarrheal infections and sudden infant death syndrome for infants and lowered risk for obesity in later life (8).

Annually, approximately 16,000 babies are born in Peel region (9). Breastfeeding initiation rates are high at approximately 94% and 97% in 2005 and 2010 respectively (10, 3). The exclusive breastfeeding rate at six months postpartum, which was 10% in 2005, has shown a dramatic improvement to 23% in 2009-2010 (10, 3). While this rate compares favourably to the national and provincial exclusive breastfeeding rates of 17% and 23%¹ respectively, there is much room for improvement (11). Exclusive breastfeeding is an important public health issue for Peel Public Health because of its role in healthy early child development, which is a key strategic priority for the Health Department. It is therefore critical to identify, explore and address the underlying factors which influence formula supplementation among mothers living in Peel region. As part of this process, Peel Public Health conducted a survey of new mothers to identify hospital practices regarding formula supplementation and distribution in local hospitals. Findings revealed very high pre-discharge formula supplementation rates (range, 54%-72%) as well as rates of take-home formula samples (range, 24-44%) at all three Peel region based hospitals (4).

Discussions with hospital personnel revealed a strong perception that the high rates of in-hospital formula supplementation of newborns and the observed differences between hospitals are strongly influenced by patients' ethno-cultural beliefs. Peel is culturally diverse with approximately half of its population belonging to a visible minority group (12). The Family Health Division decided to examine the role of ethno-cultural factors in breastfeeding exclusivity through a two-part process. A rapid review of the scientific evidence will be undertaken to determine if there is empirical support for this position. Additionally, a series of stakeholder consultations, using a descriptive qualitative design, will be conducted to explore ethno-cultural factors that influence infant feeding practices from a local perspective. The scope of the qualitative research was limited to the local South Asian population because they represent the largest visible minority group and a significant proportion of the annual births in Peel (5, 12). This report summarizes the findings of the stakeholder consultations.

2.0 BACKGROUND AND CONTEXT

The region of Peel is culturally diverse and has experienced rapid population growth due to both immigration and new births. Between 1986 and 2006 there was a 59% increase in the number of

¹ Data collected in 2003 for the previous 5 years.

babies born in Peel (9). According to the 2004-2005 Breastfeeding Duration Survey, approximately 94% of mothers in the region initiated breastfeeding, 58% breastfed (combined mixed and exclusive) until six months and 10 % breastfed exclusively to 6 months (10). Preliminary findings from the 2009-2010 Breastfeeding Duration Survey reveal that the breastfeeding initiation rate remained high at 97%, breastfeeding at six months (combined mixed and exclusive) is relatively unchanged at 58%, and exclusive breastfeeding at six months postpartum more than doubled to 23%. The most common reason for discontinuing breastfeeding was insufficient breast milk (10).

The *Formula Supplementation for Newborns in Peel Region Hospitals Survey* was developed by Peel Public Health in order to assess breastfeeding exclusivity among new mothers during their hospital stay. Specifically, the purpose of the survey was to estimate the proportion of mothers who exclusively breastfed at hospital discharge, the proportion who were given formula to take home and mothers' perceptions of the reasons for formula feeding their newborns. The results showed in-hospital formula supplementation rates of 54% at both Credit Valley Hospital and Trillium Health Centre and 72 % at Brampton Civic Hospital (4). Demographic breakdown of this data was unavailable. The report cited 'client decision' (range 34% - 41%) as the most common reason given for pre-discharge supplementation of formula, at all three hospitals (4).

Ethno-cultural beliefs and practices have been anecdotally implicated by both Peel Public Health breastfeeding staff and local hospital personnel as possible contributors to the observed differences in pre-discharge hospital formula supplementation rates and to mixed and formula feeding rates in the region. The determinants of breastfeeding are multi-causal and multi-factorial. In one review², Thulier and Mercer grouped the variables associated with breastfeeding duration into four broad categories: demographic, biological, social and psychological (13). A conceptual map of the variables associated with breastfeeding (Appendix 1) was developed by adapting a model from Lee, Elo, McCollum and Culhane, who expanded demographic and socioeconomic factors into cultural context, social and political environments, and maternal and infant characteristics (14).

Culturally, the region of Peel is very diverse, with immigrants comprising 49% of the population (12). The three main minority groups in the Region are South Asians (23.6%), Blacks (8.3%), and Chinese (4.7%) while the top three minority ethnicities of women of child bearing age (15-49 years) are South Asian (26.3%), East/Southeast Asian (10.9%), and Blacks (9.5%) (5). Brampton Civic Hospital, which had the highest pre-discharge hospital supplementation rate, is geographically situated in an area which is densely populated by South Asians (45-77 % of the population in adjacent census tracts) (5, 15). It is unclear at this time if, or how, this strong cluster of South Asians has impacted the higher pre-discharge supplementation rates at this hospital or if and how the cultural milieu of the Region's population affects breastfeeding exclusivity.

While regional breastfeeding initiation, duration and exclusivity rates have been available for some time, data on ethnic variation or immigration status were unavailable until the 2009-2010 cycle of the Breastfeeding Duration Survey. Preliminary findings from this survey are summarized in Appendix 2. The findings reveal that the majority of mothers initiate

² Quality assessment of this review, using the Health Evidence Review Article tool yielded a 'weak' rating.

breastfeeding; however mothers who reported their ethnic origin as Canadian are significantly less likely to initiate breastfeeding than mothers who are recent immigrants (less than 5 years) (96% versus 100%) (3). Recent immigrants are also significantly more likely to report breastfeeding at six months than non-immigrant mothers (66% versus 53%), with the percentage declining as length of time in Canada increased (3). There were no significant differences in breastfeeding initiation, duration and exclusivity rates between South Asian and non-South Asian women (3).

National and/or provincial breastfeeding initiation, duration and exclusivity rates specific to South Asian women living in Canada are unavailable. The 2007-2008 Canadian Community Health Survey (CCHS) provides data on various ethnic groups, specifically, that 96.2 percent of Asian women in Canada initiate breastfeeding but the survey does not provide breastfeeding duration and exclusivity data for this group (16). Additionally, this category is very broad and includes women of Korean, Filipino, Japanese, Chinese, South Asian or South East Asian backgrounds.

Globally, South Asian countries have the highest prevalence of exclusive breastfeeding. UNICEF reports that 44 percent of South Asian infants are exclusively breastfed at five months postpartum and the World Breastfeeding Trends Initiative (WBTi) reports exclusive breastfeeding rates of 46.5 percent in India and 37 percent in Pakistan in 2008 (17, 18). There are some indications that migration to developed countries such as Canada and the United States is associated with a reduction in breastfeeding and it is posited by some researchers that immigrant mothers may decrease breastfeeding in order to conform to perceived westernized infant feeding norms (19, 20). For example, in one study, South Asian women living in the United Kingdom had lower breastfeeding initiation and duration at four weeks when compared to Caucasian mothers (21).

As South Asians comprise the largest minority group in Peel Region, it is essential that the Family Health Division explore how cultural values, attitudes and/or beliefs among this group influence breastfeeding exclusivity and/or formula supplementation of infants. Preliminary literature searches using the Rapid Review methodology reveal a dearth of high quality evidence addressing this issue and further exploration is warranted. A descriptive qualitative approach, through a series of stakeholder consultations, was chosen to investigate and understand the role of culture in infant feeding decisions from the perspective of the local South Asian population in Peel Region. The findings from this descriptive study will be used to guide future program planning.

3.0 PURPOSE

The purpose of the qualitative study was to explore and identify ethno-cultural factors that could influence breastfeeding practices among South Asian families living in the Region of Peel.

4.0 METHODOLOGY

A qualitative, descriptive approach was used as this methodology is well suited to explore, describe and explain social and cultural phenomena and is a recognized method to inform and broaden understanding of a particular concept (22, 23). It provides a useful framework to

examine, through a local lens, the ethnic and/or cultural factors that could influence infant feeding among the Region’s South Asian population.

4.1 Ethics

It was determined that the nature of this project did not warrant a formal review by the Region of Peel Public Health Ethics Committee. However, every effort was made to ensure that all dealings with interviewees and focus groups’ participants were done transparently and ethically. Informed consent forms were completed and interviewees’ names were excluded from the notes, recordings, transcripts, and results in order to ensure confidentiality.

4.2 Sampling and Recruitment

Purposeful sampling, a process whereby individuals with specific characteristics, experience and/or knowledge germane to the research question are recruited, was used to procure participants (23). The individuals of interest to this study were South Asian new mothers living in the region of Peel, and the professionals and peers who support them through this parenting transition, specifically through breastfeeding support.

Triangulation of the data, a technique that collects data from multiple sources, and/or using multiple data collection strategies was used to increase the rigour of the study design and the validity of the research findings. Data sources (Appendix 3) were recruited for a series of interviews and focus groups and included South Asian breastfeeding and prenatal mothers, breastfeeding peer support volunteers and community service providers working with South Asian breastfeeding and/or prenatal mothers. Inclusion criteria for the interviews and focus groups are outlined in the table below:

Table 1: Inclusion Criteria

	Inclusion Criteria
Interviews #1	South Asian mothers living in Peel and who are exclusively or partially breastfeeding
Interviews #2	South Asian mothers who provide voluntary breastfeeding support to breastfeeding South Asian women
Focus Groups 1 & 2	Prenatal or early postnatal South Asian women living in Peel
Focus Group 3	South Asian mothers with older children living in Peel
Focus Group 4	Lactation consultants who work with South Asian mothers in a local hospital setting
Focus Group 5	Service providers who work with pregnant and/or breastfeeding South Asian mothers

Consultations with the Peel Public Health Breastfeeding staff led to the conclusion that it would be extremely challenging to recruit South Asian mothers due to the demands of caring for their newborns, recovery from the birthing process and the cultural requirement to limit leaving the home shortly after childbirth. It was therefore decided to recruit eligible South Asian mothers who were attending existing Peel Public Health services and programs, such as the Breastfeeding Clinics, Prenatal Classes and/or the Healthy Start Programs.

Precise targets were not set for the ideal number of interviews and focus groups. Instead the principle of saturation, the point where no new theme emerges was used to determine the need for more interviews (22).

4.3 Data Collection Methods

Semi-structured interviews and focus groups of approximately 45 minutes to an hour were chosen as the data collection methods. Fifteen interviews and five focus groups with a total of 55 participants, were conducted. A breakdown of the participants is shown in Tables 2 and 3 below. The purpose of the interviews and focus groups was to gain a better understanding of the cultural and traditional beliefs and values among South Asian mothers on the subject of feeding their babies. Questions focused on feeding practices during the newborn transition and the first few months of life and factors surrounding the decision-making to breastfeed and/or formula feed.

Table 2: Interview Recruits

Participating Organizations and/or Service	Participant Type	# of Interviewees
Peel Public Health - Breastfeeding Clinic	South Asian new mothers	10
Peel Public Health - Breastfeeding Companion Program	Breastfeeding Peer Support Volunteers	5
Total Interviewees		15

Table 3: Focus Groups Recruits

Participating Organizations and/or Service	Participant Type	# of Participants
Peel Public Health - Healthy Start, Chelsea Gardens Site	South Asian women in prenatal or early postnatal stages	19
Peel Public Health - Healthy Start, Malton Site	South Asian women in prenatal or early postnatal stages	17
Punjabi Community Health Services (PCHS)	South Asian mothers with older children	12
Malton Neighbourhood Services	Service providers working with prenatal and/or postnatal South Asian women	5
Brampton Civic Hospital	Lactation consultants	2
Total Focus Group Participants		55

Consultations with Peel Public Health breastfeeding team staff identified perceived cultural factors that influence infant feeding among South Asian clients. This information was used to develop the interview guides, questions and probes. The questions were kept open-ended in order to allow for in-depth exploration of the concepts, but specific probes were used to generate discussion as needed. The same interview guides were used for all interviews and focus groups to maintain consistency. (Refer to Appendix 4 A-D for Interview Guides.)

Interviews and focus groups were conducted in English but translation was provided by service providers at one focus group and by the participants' partners in two client interviews. All participants, except service providers, were offered a chance to win one of three \$100.00 gift certificates from a local mall as an incentive.

Consultations with such a wide cross section of South Asian parents and service providers, using two qualitative approaches to gathering data, allowed for triangulation of the data, thereby increasing the quality and credibility of the findings. It also provided insight from multiple perspectives and ultimately added richness to the data.

4.4 Data Analysis

Data saturation, the point where no new theme emerges, was evident approximately half-way through the data collection process (22). Data analysis was conducted using the inductive analytical process. Commonly used in qualitative research, inductive analysis uses the collected data to create, test and generate themes to understand and interpret the data (24). The specific method used in this case was thematic analysis. The interview transcripts and summaries were read through to gain an overall understanding. Next, they were re-read and codes were assigned to key ideas and concepts. Next, the coded ideas were grouped together to identify categories, which were finally grouped into emerging themes and sub-themes. The findings are discussed in detail in Section 6.

5.0 DEMOGRAPHICS

Breastfeeding Clinic Interviewees

Basic demographic data was collected only from the interviewees recruited through the Breastfeeding Clinics. Information included cultural background, age of baby, age of mother, mothers' birth place and, if born outside Canada, the length of time living in Canada. Of the ten interviewees, five self-identified as Punjabi, two Pakistani, one Indian, and two Sri Lankan. Six individuals reported religious affiliation which included Sikh (4), Muslim (1) and Hindu (1). Eight of the interviewees were born outside of Canada. Of these, one lived in Canada less than 6 months, one six months to 1 year, one 1-3 years, one 3-5 years, and four more than 5 years.

Mothers' ages were reported as follows: two between 20-25 years, three between 25-30 years and five between 30 to 35 years. All babies were less than a month old.

6.0 FINDINGS

Across participants, it emerged that breastfeeding is highly valued, supported and encouraged within the South Asian population. However, participants also indicated that the practice of formula feeding is increasing and that it is often considered a viable alternative or addition to breastfeeding. Formula supplementation within the first few days after birth evolved as another key theme, and appears to be influenced by the high cultural value and respect for the medical profession, compounded by inconsistent in-hospital breastfeeding messages and supports, and the distribution of formula samples by hospital and health care professionals. Other cultural factors which impact this shift include post delivery care for mothers and resting periods, misconceptions about colostrum and breast milk supply, and the influence of mothers-in-law.

6.1 Breastfeeding is Highly Valued

The most common and recurring theme which emerged during the consultations was that breastfeeding is highly valued within the South Asian community both in their country of origin and here in the region of Peel. Participants indicated that "back home in India", breastfeeding is the norm. Some referenced a common Punjabi saying or joke, which asked if you were breastfed

by your mother, which implies strength and vigor in an adult. Many considered it “a gift from God” or “nature’s way” for the feeding of infants. Participants stated that breast milk is believed to be the best food for infants and many indicated that it was their preferred choice for infant feeding. They also reported that they were encouraged by their extended family members to breastfeed their babies.

Although the perceived benefits of breastfeeding were not explicitly explored, focus group participants described breast milk as nutritious, easy to digest and containing antibodies that are essential to the development of an infant’s healthy immune system. Some participants also described breastfeeding as symbolic of the bonding between a mother and her baby. In the words of one mother, “it promotes love between mother and child and builds the relationship between [them].”

The value placed on breastfeeding is evident in the degree to which breastfeeding is promoted within families. Participants described extended family members as being supportive of breastfeeding and encouraging them to breastfeed. This is true even when formula is being used as a supplement.

6.1.1 Special Foods Increase Breast Milk

The cultural belief about the importance of breastfeeding is demonstrated by the strong emphasis placed on special foods that mothers are encouraged to eat to support breastfeeding. Participants discussed a variety of different foods and drinks which are believed to increase their supply of breast milk. The most common belief discussed is that drinking a lot of milk will help the new mother to produce more breast milk. Variations of this include drinking malted milk and boiled water with fennel seeds. As one breastfeeding mother explained:

I wasn't drinking milk because I'm not fond of milk.... When he was born, I tried to pump the milk on the second or third day. The milk is not coming; it was coming just like drops.... So I said to mom, 'Mom the milk is not coming' and she said, 'You are not drinking milk, how's it going to come?' So I started drinking milk two times a day and the breast milk is coming. So I don't know if it is true or not, but the milk is coming and it applies on me.

Breastfeeding mother

6.1.2 Breastfeeding Duration

Participants reported that long durations of breastfeeding are prevalent in their culture. Traditionally, breastfeeding continues for lengthy periods of time and it is not unusual for mothers in India to breastfeed a child until he or she is ready to start school. Many individuals stated that they were encouraged to breastfeed for up to two years and more and that this is a common practice among South Asians living in Canada. Those of Muslim faith believed that breastfeeding should continue for two years but not beyond. One lactation consultant also noted that, in her experience, when breastfeeding is chosen in the South Asian community, duration is longer relative to women of other ethnic origins. She states:

Yet (with) these women, it is usually the South Asian women, who breastfeed longer. They breastfeed into year one, two and three. They usually breastfeed longer when they do breastfeed...

Lactation consultant

6.2 Cultural Shift towards Mixed Feeding

Although breastfeeding is highly valued, formula supplementation is very prevalent. Key informants discussed a paradigm shift towards formula feeding in India, especially in urban centres, and identified the marketing and advertising of formula as a key factor driving this change. This has resulted in the perception by many that formula feeding is the modern, westernized approach to infant feeding and therefore a superior choice. The image of the modern mother as one who provides formula to her baby is described here:

... Now that it [India] is more modernized, formula is being promoted. From the commercials that I have seen... you are more of a modern mom if you are not breastfeeding. You are more of the hip kind of gal to be formula feeding. Babies that are formula fed are healthier. That is the perception that young girls are getting in India with the formula ads.

Breastfeeding peer support volunteer

Participants believed that this trend to formula feed infants is prevalent among the local South Asian population in Peel, particularly among newer immigrants. They suggest that it is precipitated by the perception that formula feeding is the 'Canadian' way.

A lot of the new immigrants... want to be more Canadian and want to feed their babies like Canadians..... A lot of them think that the Canadian culture is to bottle feed your baby.

Breastfeeding peer support volunteer

Among new immigrants, the practice of formula feeding may be mediated by the proximity of family members, close relationships with family members in the country of origin and may reflect an urban-rural disparity. It was suggested that individuals from the cities have increased exposure to formula companies' marketing techniques and were more susceptible to the messages. They were therefore more likely to opt to formula feed relative to individuals from rural areas who tend to be more traditional and choose to breastfeed more often.

I do believe that this is true for newer immigrants here in Canada. But it depends on where they are from. If you are from the smaller villages and rural areas there is more of the tendency to breastfeed, but if you are from the bigger cities, if you don't breastfeed there is that belief that it is okay; formula is just as good.

Breastfeeding peer support volunteer

6.3 Early Introduction of Formula Feeding

Early introduction of formula, particularly during the first three to five days immediately after birth, appears to be a common occurrence. Eight out of the ten participants (who were breastfeeding at the time of the study) spoke to this issue and of these, six indicated that even though they valued breastfeeding, they had supplemented with formula in the hospital. This supports previous findings by Peel Public Health that there are high rates of formula supplementation during hospitalization for childbirth in Peel (4).

The most common reason cited for early supplementation of formula was the perception that the mother had insufficient breast milk to meet the needs of the baby in the early postpartum period. Some participants described the amounts of breast milk that are produced as "just a few drops." One mentioned frustration when she tried to pump her breast milk but only being able to express

a few drops. Newborn crying was also interpreted as hunger and therefore evidence of insufficient quantities of breast milk.

We give the baby formula in the hospital. We are in the hospital for four days and the milk came on day three. The colostrum was not enough.

Breastfeeding mother

Yes, I gave my baby formula twice. The first time in the hospital, right after he was born. I had a C-section. We were worried he was not getting enough milk.

We gave [the baby] powdered milk when we came home from the hospital. We gave it to him before we came to the Breastfeeding Clinic. At home, he was not sleeping, he was crying too much....

Breastfeeding mother

6.3.1 Beliefs about Colostrum

Beliefs about the value of colostrum were probed during the consultations in order to assess if, and to what extent, these beliefs might be implicated in the early formula supplementation of infants. The feedback was mixed. Interviewees recruited from the Breastfeeding Clinic and the Healthy Start programs indicated that they believed that colostrum was healthy and good for the baby, and that the cultural practice was to put the baby to the breast immediately. There is a possibility that these responses were a reflection of the education they received at the programs as opposed to cultural beliefs. Other participants indicated that, in the past, in India, colostrum was believed to be “dirty milk,” and the custom was to discard it. One older participant referred to it as “poison” and stated that the custom is to avoid putting newborns to the breast during the first two or three days in order to prevent the ingestion of colostrum. Cow’s milk and/or glucose water was often given as an alternative. Some participants indicated that the belief that colostrum is unhealthy for the baby is still quite prevalent among many South Asians living in Canada and may be partly responsible for the high rates of formula supplementation in Peel hospitals. They suggested that South Asian women may be too embarrassed to, or are unable to articulate these beliefs openly and explicitly with hospital or public health personnel.

One lactation consultant shared her experience and perspective:

They are not telling me directly; their emotions are. The first couple of days, they keep saying ‘no milk, no milk’ and they feel that in a couple of days, when they go home they will breastfeed. No-one actually told me, but I know through reading that they feel that during the first couple of days that the colostrum is not good for the baby...

Lactation consultant

6.4 Deferring to Health Care Professionals

Another salient theme that emerged is that health care professionals are respected and held in high esteem among this population. South Asian patients have a tendency to place a high value on the advice and instructions provided by doctors and nurses. The assumption is that medical professionals are correct and many parents will follow their advice without question. For instance, if physicians or nurses suggest formula feeding or supplementation, many South Asian families will not challenge this position. This may be especially true for newer immigrants.

In our culture, a lot of emphasis is placed on whatever the doctors say you should do and the nurses and other health professionals as well. Especially for new immigrants; physicians are seen as a person of authority and they may not push back even if they want to breastfeed. It depends on how informed they are, if they are informed [they] might push back. Not formal education, but more prenatal education and education about breastfeeding.

Breastfeeding mother

This strong respect for the medical profession may make South Asian families more susceptible to formula companies' promotional messages when displayed in medical offices.

... Another reason is the huge formula ads and displays in the doctors' offices. I think these are brain-washing techniques used by marketing companies that tells moms that formula is just as good as breast milk.

Breastfeeding peer support volunteer

6.4.1 Hospital Practices

Participants described inconsistent messaging about infant feeding from hospital nurses. They suggested that nurses who are pro-breastfeeding will actively promote, encourage and support them in breastfeeding, while many others will recommend giving formula. "They bring their own cultural nuances and understanding to this issue," stated one breastfeeding peer support volunteer.

A lot of times it is the message you receive at the hospital and it switches with the nurses. It is such a mixed message that you get. Some of them really push breastfeeding but others come back and say that you have this issue going on, and the baby needs to be fed, so here you go, here's the formula. And you are a new parent... you are literally laying your trust in them and looking for their lead.

Service provider

Several participants described personal experiences where the nurse gave the baby a bottle, without their permission, and when it was not their intention to formula feed their infants. Two mothers stated that the nurse formula-fed their babies, after cesarean deliveries, without permission, while they were still groggy and sleepy. One of these mothers stated that she experienced this with both of her children. Some breastfeeding peer support volunteers indicated that, based on conversations with their clients, this is not an uncommon occurrence.

A few of my clients, they were actually really upset. One of them, she tried to breastfeed and eventually the nurse just came and gave the baby the bottle. You have to remember that the nurse is an authority figure and giving a bottle, she [the mother] will just think it is OK, instead of saying let's try the breast or... another technique.

Breastfeeding peer support volunteer

Other mothers who cited insufficient milk as their reason for formula supplementation in the hospitals stated that their decisions were based on the recommendations of hospital nurses.

Another perspective, shared by a hospital lactation consultant, is that many South Asian mothers were reticent to breastfeed in the hospital, choosing instead to wait until they get to their homes, to initiate breastfeeding. A possible explanation is that the hospital may be viewed as a public

environment for these women. (Please refer to section 6.7 – Discomfort with Public Breastfeeding). According to this key informant, hospital policy is that parents must feed their babies before discharge, and therefore, under these circumstances, the nurses have no option but to suggest formula feeding.

6.4.2 Free Formula Samples

Some participants believed that the distribution of free samples of formula in the hospitals or physicians' offices normalizes formula feeding and may increase formula feeding or supplementation.

Mothers will give the babies formula if they are given free samples in the hospitals.

Breastfeeding mother

Seeing it [formula supplements] in the hospitals and doctors' offices reinforces it. A lot of folks, when they come from India, when they see an authority figure doing something, to them it is right.

Breastfeeding peer support volunteer

6.5 Maternal Care after Childbirth

Another theme that emerged is that maternal care after birth is especially important in the South Asian culture. The birthing process is believed to be very traumatic to the new mother and it is believed that she needs plenty of care, support, rest, and special healing foods to facilitate speedy and optimal recovery.

6.5.1 Resting

Traditionally, specific periods of rest are recommended for women after childbirth during which they are required to stay indoors and refrain from strenuous activities. Participants described this as "healing time" for the new mother, a time devoted to her recovery from the trauma of giving birth. Many described it as protective of both maternal and child health. In the strictest sense, mothers spend the bulk of the time in bed and even television watching and computer use is restricted. However, participants indicated that the practice is somewhat flexible and the degree to which mothers observe this custom often depends on the individual family. Some variation in the duration of the rest period was reported by interviewees and key informants, with periods ranging from 15 days to eight weeks. However, the most commonly cited period was 45 days.

It is very important in the culture to take good care of the new moms and allow her to rest....

Breastfeeding peer support volunteer

Resting is a very big part of the culture. When you have a child you are not supposed to leave the house for about eight weeks. You are not supposed to leave the house, except for doctor's appointments. It depends on your own beliefs if you follow. It is more the individual, but it is a cultural thing to not go out. ...The belief is that mothers will get up and do too much, too soon, and they need that time to recover from the birthing process.

Breastfeeding peer support volunteer

6.5.2 Rest Periods and Formula Supplementation

There were mixed responses as to whether periods of rest contributed to formula feeding of infants. Some participants indicated that the practice encouraged breastfeeding while others

disagreed with this position. Participants stated that in India, the practice tended to support breastfeeding, as the extended family would be available to assist with household chores and caring for other children, so that the mother can focus on caring for herself and her newborn baby. Participants believed that while the principle of the 'rest period' is still widely upheld locally, the actual practice varies considerably depending on the family's personal beliefs, the amount of family support available to the mother, and the family's financial circumstances. They indicated that the pace and demand of the Canadian lifestyle may limit the extent to which this cultural belief is practiced.

Back home, the first 40 days you just take care of yourself and the baby. You don't cook or do normal duties. This rest period would encourage breastfeeding because that is all the mother has to focus on. The grandparents would stay for at least six months and help out with other children.

Service provider

Some participants also described their own personal experience with the rest period as supportive of breastfeeding. They stated that they can devote more time to caring for the baby and breastfeeding because they do not have to worry about normal household responsibilities during this time.

My family, they support me, they do all the housework. They completely give me all time to just [breast] feed. I get to rest a lot and give a lot of time to the baby.

Breastfeeding mother

Others believed the cultural value placed on maternal care contributes to the early introduction of formula feeding. New mothers are believed to be exhausted from the labour and delivery process and require additional rest during the first few days immediately after birth. During this time, family members may feed the baby formula and this practice is likely to continue throughout the entire designated rest period. Grandmothers and extended family members may encourage formula feeding to get infants to sleep longer, especially through the night. In fact, many participants stated that night time formula supplementation is commonly used to ensure that mothers get sufficient rest.

Family members believe that this is the time we take care of her [the mother]. We take care of her and give her rest, so we give the formula milk. This is the way they show that they are taking care of the mom. If the mother starts breastfeeding right away, it may be perceived as the family is not taking care of the mom, they are just thinking of the baby. So for this reason, they suggest mom take rest and [they] have the substitute, [they] can give the baby some formula.

Breastfeeding peer support volunteer

This belief about rest could possibly contribute to giving formula....My sister-in-law, when she had her baby stayed in bed for a few weeks because my mother looked after the baby. And that was because of that cultural belief that you need to stay in bed and rest and we will look after the baby, and they were formula-fed. It may have some link to giving formula.

Breastfeeding mother

6.5.3 Rest and Cesarean Deliveries

Cesarean section deliveries were identified as another common factor in the early formula supplementation of infants. This type of birth is believed to be more traumatic to the mother than vaginal deliveries, and she requires prolonged rest, recovery time, and care from family members to recuperate. One service provider indicated that culturally, a cesarean section is represented more as an illness among the South Asian population, relative to other ethnic groups, and many mothers will not breastfeed immediately after this type of delivery.

I feel they are not able to do as much, or won't do as much, relative to other populations. Sometimes they feel the C-section is an illness when it is not. A lot of times they don't start to breastfeed until they get home....

Lactation consultant

I gave formula twice. The first time in the hospital, right after he was born. I had a C-section and I was worried about him getting enough milk.

Breastfeeding mother

6.5.4 Rest Periods and Access to Services

Medical appointments are allowed during 'rest periods'. However, many respondents believed that public health services did not fall under the category of medical appointments for many South Asian families. Interviewees from the Breastfeeding Clinic believed that accessing breast feeding clinic service was allowed, but this may be biased by their own personal values and beliefs.

It would be a barrier. Most of my clients, I am surprised by the questions they ask. I would have thought they would know more.... They are going by what they hear [because] they can't leave the house for those two months. It really is a barrier for those mothers.

Breastfeeding peer support volunteer

Participants suggested home visiting services to meet the needs of women who do not access the Breastfeeding Clinics during this time. Some of these indicated that it was essential for Peel Public Health to target the entire family, especially the mothers-in-law, if efforts to reach new mothers are to be successful.

6.5.5 Special Foods and Recovery

Along with the specified period of rest, new mothers are encouraged to eat a variety of special foods, which are believed to have healing properties, so that they can experience a speedy recovery. Some variation in types of foods exists, based on country of origin, region or province, and religious beliefs. However, examples included cumin seeds, clarified butter (ghee), dry brown sugar, and panjiri, an Indian sweet made with ghee, nuts, and a variety of seeds. Mothers are also advised to stay away from spicy foods that may give the baby colic.

6.6 Family Influences

Although the traditional family structure is generally patriarchal, interviewees stated that men have limited involvement in prenatal and postnatal care of mothers. While all the immediate and extended family female members get involved and offer advice and suggestions, the bulk of the responsibility is left mainly to the older women in families, usually the mothers-in-law and/or

older sisters-in-law from the husband's side of the family. Culturally, these family members are believed to be experienced and very capable of providing advice and guidance to mothers. Many of the mothers interviewed recognized their own lack of experience and stated that they valued and relied on the experience of these "elders" in the family.

She [the grandmother] can tell you because she is experienced.... This is important to us; we are new parents. We have to listen to the older people [because] they know better than us.

Breastfeeding mother

They [the grandparents] do influence us because they are experienced. They give advice especially when the baby is not taking the breast...

Breastfeeding mother

... My mother and older sister sometimes influence me. The influence on young mothers is strong sometimes. She is inexperienced and must rely on the elders who have more experience. This is common.

Breastfeeding peer support volunteer

Culturally, mothers-in law exert strong influence on mothers who have recently given birth. In some cases, the mothers-in-law can be strong advocates for breastfeeding, but often they push for formula supplementation. As discussed in the previous sections, they may encourage formula supplementation to ensure sufficient rest for the mother and increased sleeping time for the infant. Some mothers-in-law may "insist on giving the baby formula" if the baby is perceived to be under-weight and some find it satisfying to actually observe that quantities of formula that the baby ingests. Interviewees indicated that culturally, the 'chubby baby' is believed to be healthy and is highly valued.

For me, the mother-in-law plays a big role. If the mother-in-law believes in breastfeeding it goes better... Often she (the mother) is living with the mother-in-law who plays a big role. Often she has no other family here.

Lactation consultant

My mother-in-law, with my first baby... brought a bottle of formula to the hospital. They often pack a bottle for the hospitals. They are very curious to buy formula milk, because they can see how much the baby is taking, but with breast milk they cannot tell.

Breastfeeding peer support volunteer

Participants also suggested that sometimes, mothers who want to exclusively breastfeed will give in to pressures from their mother-in-law and supplement with formula. In some cases, husbands will pressure their wives to follow the advice of their mothers in an effort to in an effort to limit household conflict.

Some key informants discussed experiences where mothers-in-law screen their telephone calls and do not put the call through to the new mothers. They believe it is important to target the entire family, especially the mothers-in-law, with health promotion strategies, to engage them and build their trust, if efforts to promote exclusive breastfeeding are to be successful.

6.6.1 Postpartum Mood Disorders (PMD)

A few key informants and mothers discussed ignorance or reticence to acknowledge PMD among South Asian families as a barrier to breastfeeding. They described PMD as being associated with “a lot of stigma” and therefore, open discussions about it are usually avoided. For mothers who are dealing with PMD, problems with breastfeeding further increase their anxieties and it is often easier to supplement with formula or quit breastfeeding completely.

It [PMD] is very hushed up and extended families don't acknowledge it, and they say things are OK, we did it, and we did not have all these options that you have. There are two levels; they (mothers) have the mood disorder that they are fighting and then the anxiety [of] breastfeeding.

Service provider

6.6.2 Prelacteals

The use of prelacteals, foods or beverages offered to babies before breastfeeding initiation, was prevalent among families. Prelacteals offered to infants can vary widely but typically include plain or sugar water, juice, teas, and milk. In these consultations, participants described the practice as a single ceremonial act, involving placing a small amount of honey or ground dates on the infant's lips. It is usually offered by someone highly respected in the family or community and it is believed that the infant will grow up to have the characteristics of this person. Although there was some variation in the timing of this act, it is most commonly performed immediately after birth and is currently allowed by local hospitals as a sign of cultural respect. There was no indication that the offering of prelacteals had any impact on breastfeeding initiation or duration.

6.7 Discomfort with Public Breastfeeding

Another potent theme is that most South Asian mothers are extremely uncomfortable with the practice of breastfeeding in a public environment as it violates their values and beliefs about modesty. Although some variation exists, the general belief is that exposing oneself in order to breastfeed in a public place is inappropriate. Some mothers stated that they will breastfeed publicly if they are able to cover themselves and their babies, while others are only comfortable within the confines of a private space. In the absence of privacy, many mothers will opt to formula feed. Some service providers believed that there are insufficient private places to breastfeed in the region of Peel, even in medical facilities, and suggested that this increases formula feeding.

In the South Asian community, they never expose their bodies to breastfeed in public. It's a huge issue. Mothers are embarrassed to show their nipples, even to the nurses. It is not culturally acceptable to expose her body. We do not have access to public feeding [places].... When they are out in public, there are not places to breastfeed.... So they carry a bottle [so they] can feed without exposing themselves.

Service provider

Breastfeeding in public is a really huge cultural thing. When you are out as an Indian woman, and you need to breast feed, you have to be really discreet. You have to find a corner to go in or find a room. If we were sitting here and this is a community centre, you wouldn't just breastfeed. Breastfeeding is accepted, but it's not accepted to be done in public.

Some indicated that even in their homes, if there are visitors, they will leave and breastfeed in a separate room. In some cases, breastfeeding in the presence of a mother-in-law is considered inappropriate behavior.

6.8 Acculturation

Acculturation is defined as:

The process by which members of one group adopt the cultural traits of another group with whom they are in contact. It is both a group and an individual phenomenon.... Acculturation is never automatic, wholesale, or equal across groups, but is first, selective and piecemeal, second, more likely under some circumstances, and third, more prevalent among some groups than others (25).

Interviewees believed that the acculturation of South Asian families to Canada influenced their infant feeding choices and practices but suggested that it is non-linear and disproportionate to the length of time living in Canada. Details on pathways and processes were unclear, but individuals believed that acculturation and its effects on infant feeding are often mediated by proximity and relationships with family and friends both here in Canada and in their country of origin. Examples were shared of South Asian family members and relatives who have been living here for decades but still hold firmly to their traditional beliefs and values. For newer immigrants, it was suggested that having fewer relatives in Canada and maintaining close connections with family members in their country of origin often insulated them from acculturation and may increase the likelihood of exclusive breastfeeding. On the other hand, others tended to supplement with formula in their eagerness to embrace the Canadian culture, specifically the perceived association with formula feeding as the preferred Canadian method of infant feeding.

A lot of new immigrants are more modern and [want to] align with the western world. When they come, they want to be more Canadian, they want to feed their babies like Canadians, to be more a part of the Canadian culture. A lot of them think that the Canadian culture is to bottle feed your baby.

Breastfeeding peer support volunteer

Understanding the role of acculturation in infant feeding decision-making and practices is critical to developing effective strategies to promote exclusive breastfeeding among the region's diverse population and warrants further investigation.

7.0 DISCUSSION

This consultative process has provided evidence that breastfeeding is highly valued among South Asian women residing in Peel. This high cultural value placed on breastfeeding is supported by the high prevalence of exclusive breastfeeding reported for South Asian countries (17, 18). Mavinder Tung Mann, in her qualitative Master's Thesis, examined factors which influenced breastfeeding initiation among South Asian women living in British Columbia and reported similar findings. In her study, breastfeeding was reported as normal, practical, convenient, best for maternal and infant health, and essential for mother-child bonding (26).

The consultative process has also identified many health beliefs, preferences and practices that influence infant feeding behaviours among the local South Asian population. A significant, over-arching theme is that while the community exhibits strong pro-breastfeeding values and beliefs, the tendency to supplement with formula, particularly in the early neonatal period, is very prevalent. A lack of understanding of the benefits and adequacy of colostrum to meet the newborn infant's needs, the strong cultural emphasis on maternal care and rest after childbirth, and the role of mothers-in-law in providing such care were identified as instrumental in formula supplementation of infants.

Health care professionals are highly respected within this population and explicit or implicit direction to formula feed is often followed without question. Mann's thesis found a similar high regard for physicians' opinions (26). She found that South Asian immigrant women trust their doctors and will follow their directions, including infant feeding advice, even if it conflicts with personal, traditional and/or familial beliefs. Inconsistent messaging from hospital and medical personnel, hospital practices such as recommending formula feeding or giving formula to infants without parental consent, and the promotion of formula products in hospital and medical facilities were identified as contributory factors to the early formula supplementation of infants.

Breastfeeding in public environments is a cultural taboo and families report resorting to formula feeding to avert the discomfort associated with this practice. Finally, the perception that formula feeding is the modern, Canadian method of infant feeding was identified as influential in formula supplementation.

8.0 CHANGES IN THE LOCAL ENVIRONMENT

The local community and political contexts surrounding any public health issue is dynamic and evolving. Recent developments, both within the Peel Public Health Department and in Peel hospitals, have provided additional information on the issue of formula supplementation as a local public health concern. For instance, recent epidemiologic data has shown substantial improvement in the six-month exclusive breastfeeding rate, which increased from 10% to 23% between 2005 and 2010 (3). There are no statistically significant differences in breastfeeding initiation, six-month duration and six-month exclusivity rates between South Asian women and their Canadian counterparts, but recent immigrants are significantly more likely to breastfeed at 6 months when compared to non-immigrants (3).

Changes in local hospital policies and practices, after the release of the Formula Supplementation for Newborns in Peel Region Hospitals Report was published, is expected to translate into decreases in the rate of pre-discharge formula supplementation of newborns and the increase in exclusive breastfeeding rate. All three local hospitals are considering the adoption of the Baby Friendly Initiative (BFI), a World Health Organization initiative, designed to encourage and support women to successfully initiate and continue breastfeeding. Currently, Credit Valley Hospital has started the BFI accreditation process and Trillium Health Centre plans to begin in 2012. Credit Valley Hospital has already experienced a reduction in formula supplementation at hospital discharge, with an average rate of 32% per month between April and September, 2011, a substantial decrease from the 54% previously reported in 2009-10 (4). Brampton Civic Hospital has developed and implemented a multi-tiered strategy called "Excellence in Breastfeeding –

Nothing but the Breast”, which aims to increase exclusive breastfeeding rates to 60% and discontinue the practice of distributing formula samples to new mothers at hospital discharge.

9.0 RECOMMENDATIONS AND NEXT STEPS

A key strategic priority for Peel Public Health is to develop innovative and culturally appropriate strategies to effectively meet the needs of an ethno-culturally diverse population. Although positive changes are being made by local hospitals and epidemiologic data suggest no significant difference in breastfeeding initiation, duration and/or exclusivity between the South Asian community and the general population, there is need for culturally appropriate interventions to improve these rates across the population. The findings in this report have provided a deeper understanding of cultural preferences, beliefs, and health behaviours that relate to infant feeding among the local South Asian population. While the Family Health Division must persist in developing innovative initiatives to promote exclusive breastfeeding across all ethnic groups, it must tailor its key messages and health promotion strategies to specific sub-populations in order to yield more effective outcomes.

The findings outlined in this report are consistent with the experiences of the Family Health Division's staff. Recommendations were developed in collaboration with representatives of management, supervisors and staff from the various programs and aim to support the promotion of exclusive breastfeeding among South Asians living in Peel.

Recommendations:

- Develop culturally appropriate key messages and population health strategies that target the determinants of mixed feeding in order to reduce its prevalence.
- Continue to advocate for changes to hospital policies and practices as outlined in the *Formula Supplementation for Newborns in Peel Region Hospitals* while encouraging the development and implementation of culturally sensitive hospital practices and consistent messages to support exclusive breastfeeding.
- Develop strategies to engage local South Asian physicians as proponents of exclusive breastfeeding both in client care and in population health approaches to South Asian residents.
- Develop strategies to engage and collaborate with South Asian community leaders to effectively promote exclusive breastfeeding messages and increase reach among South Asian residents.
- Complete an assessment of the marketing and promotion of infant feeding, including formula products, in the local South Asian media and develop strategies to actively promote exclusive breastfeeding through these media.
- Develop and implement targeted, culturally appropriate educational strategies, during the antenatal and prenatal periods, to improve knowledge and awareness of:
 - neonatal feeding needs,
 - breast milk production,
 - the impact of formula supplementation on breast milk supply,
 - the health benefits of colostrum, and

- the adequacy of colostrum to meet the needs of the newborn.
- Develop innovative health promotion strategies to:
 - promote breastfeeding after cesarean births,
 - challenge the myth that formula feeding is the ‘Canadian way’ and normalize breastfeeding,
 - re-frame the resting period as a time not only for healing and recovery, but as an opportunity to practice exclusive breastfeeding,
 - create awareness of, and increase access to, culturally competent breastfeeding services,
 - target and engage mothers-in-law and extended family members in pre and postnatal education, to build their trust and engage them as advocates for exclusive breastfeeding.
- Collaborate with the PMD Program and community partners to explore and increase awareness of PMD and its impact on breastfeeding.
- Collaborate with the Supportive Environment Healthy Weights and Nurturing the Next Generation strategies to support the promotion of exclusive breastfeeding including development of culturally appropriate designated ‘breastfeeding spaces’ within the community.

Suggested Next Steps:

- Develop and implement a communication plan to disseminate the findings of this report, the rapid review and the 2009-2010 Breastfeeding Duration Survey to internal staff and to community partners.
- Explore collaborative opportunities with the academic community to address gaps in the literature on the role and impact of ethnicity, culture and acculturation on infant feeding choices.
- Develop an implementation plan to roll-out the recommendations outlined in this report.

10.0 LIMITATIONS

The findings from this qualitative study provide valuable insight into cultural factors that impact formula supplementation among South Asians living in the region. It is, however, subject to several limitations. First, this study assumed that there were differences in breastfeeding initiation, duration and exclusivity rates between South Asian women and the general population in the Region, but preliminary findings from the 2009-2010 Breastfeeding Duration Survey failed to support this position.

The validity of the findings was increased through triangulation of the data sources by recruiting participants from a variety of sources and data saturation was achieved in the data collection phase. However, South Asian prenatal and postnatal mothers were largely recruited from Peel Public Health Breastfeeding clinics and Healthy Start programs and therefore the views of women and families living in Peel who do not access or link with Peel Public Health and/or main-stream services are under-represented. Additionally, the majority of mothers self-identified

as Punjabi, and therefore findings strongly reflect the views and practices of this sub-population. Transferability of the findings should be done with caution and themes should be re-validated when working with women of similar backgrounds and characteristics.

Limitations are also inherent in the data gathering and analytical processes. The focus group sessions were not recorded due to large group sizes and logistical concerns and key themes were recorded via hand notes. As a result, some details and verbatim comments may have been lost. Also, data collection and analysis was completed by one individual and the process did not include the checks and balances associated with having a second researcher. Social desirability bias may have been introduced into the interviewing process as participants might have answered questions based on what they thought the interviewer wanted to hear or refrained from providing all relevant information because of the fact that the interviewer is associated with the local public health unit.

Although subject to limitations, these findings are valuable in informing future planning and will enable the Family Health Division to work towards culturally sensitive approaches to promote exclusive breastfeeding among its South Asian residents.

REFERENCES

1. WHO, *Nutrition Topics- Exclusive Breastfeeding*. Available at http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/.
2. Ministry of Health and Long Term Care. Ontario Public Health Standards. 2008. Available at: http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds/pdfs/ophs_2008.pdf.
3. Region of Peel Public Health. *Breastfeeding Practices in the Region of Peel 2009/2010*. Unpublished.
4. Region of Peel Public Health. *Formula Supplementation for Newborns in Peel Region Hospitals: A 2009 Survey of New Mothers*. 2010.
5. Canadian Community Health Survey Cycle 4:1. Ontario Share File, distributed by the Ministry of Health and Long-Term Care. 2007-8.
6. Canadian Pediatric Society. *Paediatric Child Health 2005;10(3):148*. Available at <http://www.cps.ca/english/statements/n/breastfeedingmar05.htm>.
7. Breastfeeding Statement of the Breastfeeding Committee for Canada. Available at: <http://breastfeedingcanada.ca/documents/webdoc5.pdf>.
8. Ip S., Raman M., Chew P., Mangula N., Devine R., Trikalinos, T. *Breastfeeding and maternal and Infant Health Outcomes in developed countries*. Evidence Report/technology Assesment, 2007; 153, 1-186.
9. Region of Peel Public Health. *Born in Peel: Examining Maternal and Infant Health*, 2010.
10. Region of Peel Public Health. *Breastfeeding Practices in the Region of Peel 2004/2005*. Available at peelregion.ca/health.
11. Millar, W.J. & Maclean H. *Breastfeeding Practices, Health Reports*, March 2005, 16(2). Available at <http://publications.gc.ca/collections/Collection-R/Statcan/82-003-XIE/0020482-003-XIE.pdf#page=25>.
12. Region of Peel Public Health. *A Picture of Health: A Comprehensive Report on Health in Peel*, 2005.
13. Thulier Diane & Mercer Judith. Variable associated with breastfeeding duration. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 2009; 38, 259-268.

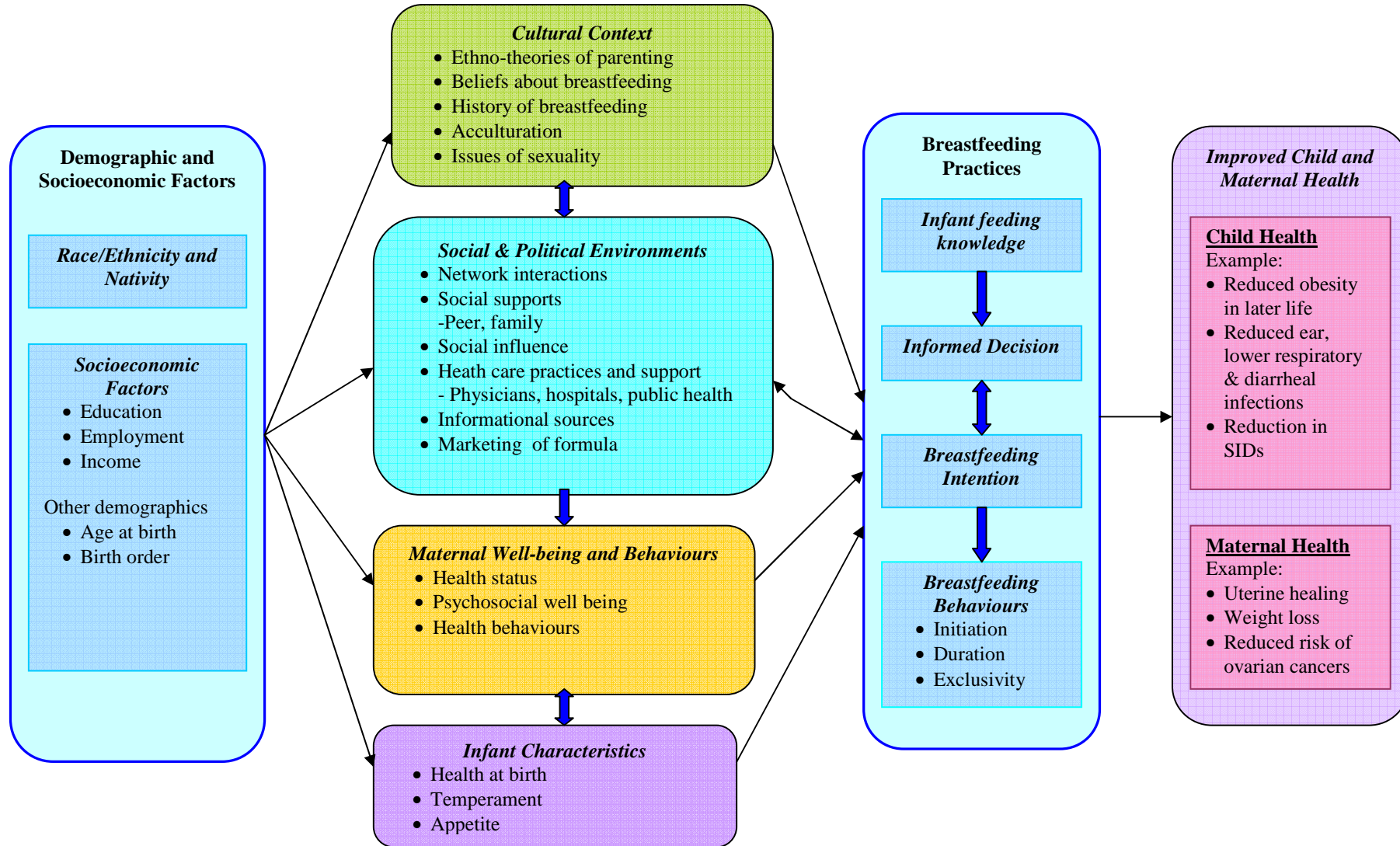
14. Lee, H.J, Elo, I.T., McCollum, K.J. & Coulhane, J.F. Racial/ethnic differences in breastfeeding initiation and duration among low-income, inner-city mothers. *Social Science Quarterly*, 2009 Dec 1;90(5):1251-1271.
15. Statistics Canada. 2006 Census Profiles.
16. Health Canada. *Breastfeeding Initiation in Canada: Key Statistics and Graphics (2007-8)*. Available at: <http://www.hc-sc.gc.ca/fn-an/surveill/nutrition/commun/prenatal/initiation-eng.php>.
17. UNICEF, ChildInfo. *Monitoring the Situation of Children and Women*. 2009. Retrieved from http://www.childinfo.org/breastfeeding_overview.html.
18. World Breastfeeding Trends Initiative. South Asia Report 2005-2008. Retrieved from <http://www.worldbreastfeedingtrends.org/report/southasia-report-2005-2008.pdf>.
19. Gibson-Davis C. & Brooks-Gunn J. Couples Immigration Status and Ethnicity as determinants of breastfeeding. *American Journal of Public Health*. 2006; 96(4). 641-646.
20. Sharma A., Lynch M. & Irvine M. The availability of advice regarding infant feeding to immigrants of Vietnamese origin: a survey of families and health visitors. *Child: Care, Health and Development*, 1994. 20, 349-354.
21. Choudhry, Kubra & Wallace, Louise. 'Breast is not always best'; South Asian Women's Experiences of Infant Feeding in England within an Acculturation Framework. *Maternal & Child Nutrition*, 2012. 8: 72-87. doi: 10.1111/j.1740-8709.2010.00253.x.
22. Ploeg, Jenny L. Identifying the best research design to fit the question. Part 2: qualitative designs. *Evidenced-Based Nursing*, 1999; 2, 36-37
23. Thompson, Carl. If you could just provide me with a sample: examining sampling in qualitative and quantitative research papers. *Evidenced-Based Nursing*, 1999; 2, 68-70.
24. Thorne, Sally. Data analysis in qualitative research. *Evidenced-Based Nursing*, 2000; 3, 68-70.
25. Henderson, S.M. & Brown, J.S. Infant feeding Practices of Vietnamese immigrants to the Northwest United States. *Scholarly Inquiry for Nursing Practice: An International Journal*, 1987; 1(2). 153-169
26. Mann, Mavinder Tung. An exploration of factors influencing the initiation of breastfeeding among South Asian immigrant women. Unpublished Thesis. 2008. Available at: https://circle.ubc.ca/bitstream/handle/2429/2332/ubc_2008_fall_mann_manvinder_tung.pdf?sequence=1

APPENDICES

Appendix 1

CONCEPTUAL MAP – FACTORS THAT INFLUENCE BREASTFEEDING

(Adapted from Lee, Elo, McCollum & Culhane, 2009)

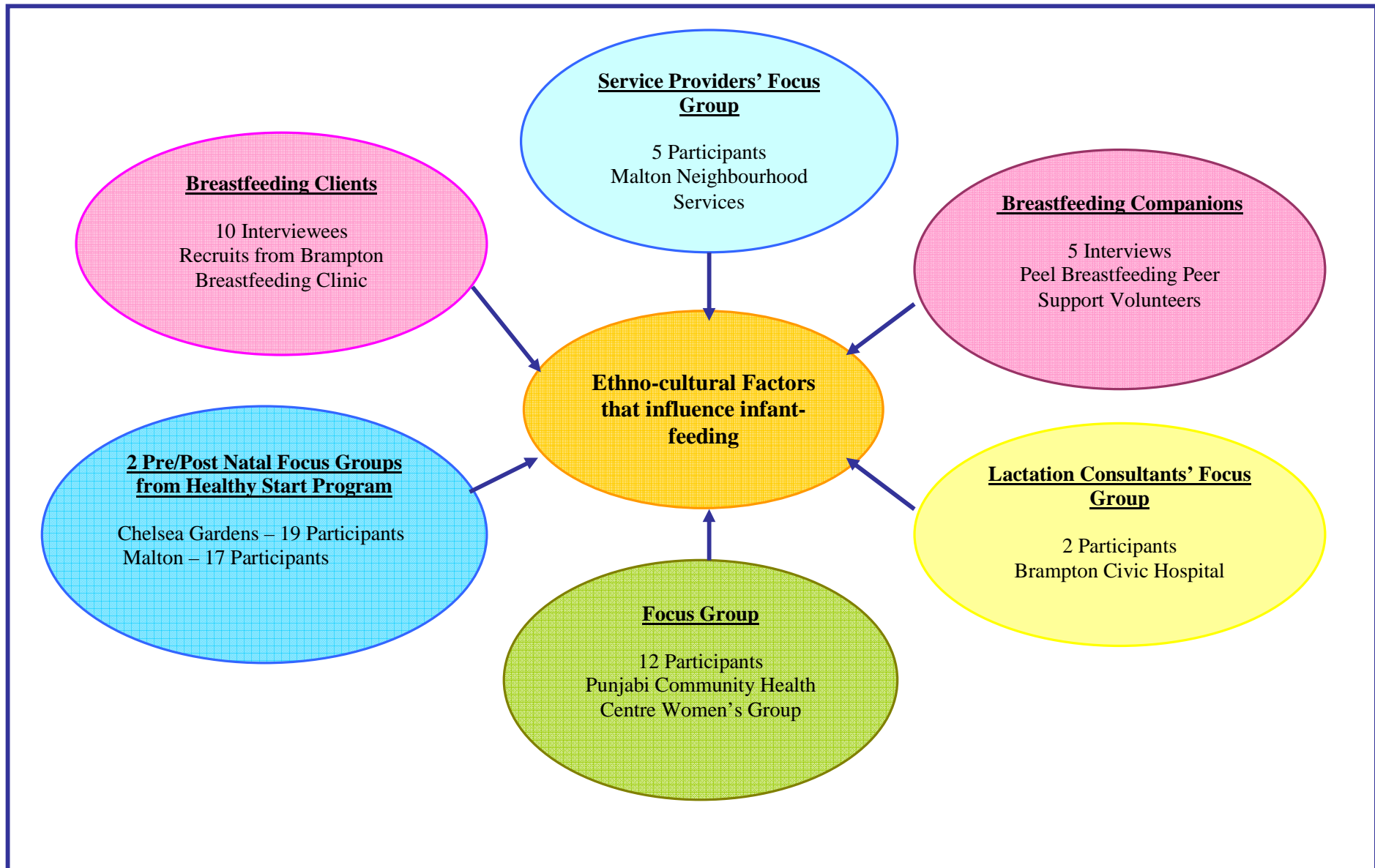


Appendix 2

Region of Peel Breastfeeding Rates (Source: 2009-2010 Breastfeeding Duration Survey)

	Breastfeeding Initiation		Exclusive Breastfeeding at 6 months		Any Breastfeeding at 6 months	
	Percent	95% Confidence Interval	Percent	95% Confidence Interval	Percent	95% Confidence Interval
Region	96.7	95.1 - 97.8	23	18.9 – 24.7	57.6	54.1 – 61.1
Non-immigrant	95.7	92.8 - 97.6	26.1	21.4 – 31.4	53.4	47.8 – 58.8
Immigrants: All	97.4	95.4 - 98.6	20.8	17.2 – 25.1	60.6	56.0 – 65.1
Immigrant: 0-5 years	100.0	97.4 - 99.9	25.9	19.5 – 33.5	66.1	58.6 – 72.9
Immigrant: 6-10 years	96.0	90.5 - 98.5	22.7	15.7 – 31.5	61.1	52.0 – 69.5
Immigrant: 11 years and over	95.6	90.8 - 98.1	13.7	8.8 – 20.6	54.1	46.0 – 61.9
Canadians	92.9	86.1 - 96.7	26.6	18.8 – 36.1	58.4	48.7 – 67.5
South Asian	98.3	95.4 - 99.5	18.5	13.8 – 24.3	57.0	50.4 – 63.3
East Asian	98.5	90.6 - 99.9	12.7	5.7 – 25.1	70.8	58.0 – 81.5

Appendix 3
Data Sources



**Appendix 4A
INTERVIEW GUIDE
CLIENTS AT BREASTFEEDING CLINIC**

Preamble for Breastfeeding Clients

Peel Public Health is trying to get a better understanding of the South Asian culture and beliefs about feeding babies. I am going to ask you to answer a few questions about yourself, your own beliefs about infant feeding and your culture.

The information you share is very important to us. It will be put together in a report for Peel Public Health and will help us to plan better services for our clients.

There are a few key things that I need to share before we begin:

- The session will take between 20 minutes and half an hour.
- You do not have to answer any questions that you do not feel comfortable answering.
- You do not have to give a reason if you choose not to answer.
- You can fill out a ballot for a chance to win 1 of 3 \$100.00 gift certificate at a local mall.

Permission to record:

I am asking your permission to record this interview. The reason we do this is to make sure that I don't miss anything you say when I am writing it down. We will not include your name on the tape and everything you say is private.

Client Interview Questions

Part A: Demographics

- 1) What is your ethnic background?
- 2) Were you born outside of Canada?
 - YesIf yes, how long have you lived in Canada?
 - Less than 6 months
 - 6 months – 1 year
 - 1 – 3 years
 - 3 – 5 years
 - More than 5 years
 - No

3. What is your age?
 - Less than 16
 - 16-19 years
 - 20 – 25 years
 - 25-30 years
 - 30 – 35 years
 - Over 35

4. How old is your baby
 - Less than 2 weeks
 - 2-4 weeks
 - 1-3 months
 - 3- 6 months

Part B: Client Questions...

- 1) In your culture, are there special beliefs about how to feed babies?

Probes:

- Are there any special cultural or religious practices that are celebrated that involve giving newborn babies any food or drink other than breast milk?
 - Are there any cultural beliefs on when mothers should start breastfeeding?
 - Are there any cultural beliefs that may influence a mother to feed her baby formula?
- 2) Do you follow the beliefs about infant feeding of your culture?
- *If yes, how?*
 - *If no, why not?*
- 3) Have you ever given your baby any food or drink other than breast milk? Please explain.
- 4) What is the role of other family members in making decisions on how to feed newborn babies in your culture?
- Probes: grandparents, mother-in-law, husband?
- 5) Do you believe different groups of South Asians have different beliefs about feeding babies? Please describe.
- 6) In your opinion, do South Asian families who live in Canada for longer periods change the way they feed their babies?
- *If yes, how?*
 - *If no, why not?*
- 7) What other reasons may cause mothers to give formula to their babies?
- 8) Research says that feeding babies only breast milk until the baby is 6 months old is best for the baby. What can Peel Public Health do to help South Asian mothers exclusively breastfeed up to 6 months?

Appendix 4B
INTERVIEW GUIDE
BREASTFEEDING COMPANIONS

Section 1: Preamble for Breastfeeding Companions

Peel Public Health is trying to get a better understanding of the cultural and traditional beliefs and values among *South Asians* on the subject of feeding babies.

There are a few key points that I need to share before we begin:

- The session will take about 30 minutes.
- You do not have to answer any questions that you do not feel comfortable answering.
- You do not have to give a reason if you choose not to answer.
- You can fill out a ballot for a chance to win 1 of 3 \$100 gift certificates.

We believe that your knowledge of the South Asian culture and your work as a Breastfeeding Companion is important in helping us to understand cultural beliefs of our South Asian families.

The information you share is very important to us. It will be put together in a report for Peel Public Health and will help us to plan better services for our clients.

Permission to record session:

I am asking your permission to record this interview. The reason we do this is to make sure that I don't miss anything you say when I am writing it down.

Section 2: Questions

- 1) Based on your understanding of the South Asian culture and your experiences working with South Asian mothers, are there special beliefs about how to feed babies? Please explain.

Probes:

- a. Are there any special cultural or religious practices that are celebrated that involve giving newborn babies any food or drink other than breast milk?
(*E.g. offering sweets such as honey*)
 - b. Are there any cultural beliefs on when mothers should start breastfeeding?
(*Colostrum or first milk*)
 - c. What about periods of rest? Do these affect how babies are fed? (access to services)
 - d. Are there any cultural beliefs that may influence a mother to feed her baby formula?
 - e. What is the role of other family members in making decisions on how to feed newborn babies?
- 2) Do you believe that different groups of South Asians have different beliefs? Please describe.
(*E.g. formula ads, association with wealth or status*)
 - 3) In your opinion, do South Asian families who live in Canada change the way they feed their babies?
 - a. If yes, how?
 - b. If no, why not?
 - 4) What other reasons may cause mothers to give formula to their babies?
 - 5) Research says that feeding babies only breast milk until the baby is 6 months old is best for the baby. What can Peel Public Health do to help South Asian mothers exclusively breastfeed up to 6 months?

Appendix 4C
INTERVIEW GUIDE
KEY INFORMANTS

Section 1: Preamble for Breastfeeding Companions

Peel Public Health is trying to get a better understanding of the cultural and traditional beliefs and values among *South Asians* on the subject of feeding babies.

There are a few key points that I need to share before we begin:

- The session will take about 30 minutes.
- You do not have to answer any questions that you do not feel comfortable answering.
- You do not have to give a reason if you choose not to answer.

We believe that your knowledge of the South Asian culture and your work as a Breastfeeding Companion is important in helping us to understand cultural beliefs of our South Asian families.

The information you share is very important to us. It will be put together in a report for Peel Public Health and will help us to plan better services for our clients.

Permission to record session:

I am asking your permission to record this interview. The reason we do this is to make sure that I don't miss anything you say when I am writing it down.

Section 2: Questions

- 1) Briefly describe your role and the extent to which you work with the South Asian community.
- 2) Based on your understanding of the South Asian culture and your experiences working with South Asian mothers, are there special beliefs about how to feed babies? Please explain.
- 3) Are there any special cultural or religious practices that are celebrated that involve giving newborn babies any food or drink other than breast milk?
(*E.g. offering sweets such as honey*)
- 4) Are there any cultural beliefs on when mothers should start breastfeeding? (*e.g. Colostrum or first milk*)
- 5) What about periods of rest? Do these affect how babies are fed? (access to services)
- 6) Are there any cultural beliefs that may influence a mother to feed her baby formula?
- 7) What is the role of other family members in making decisions on how to feed newborn babies?
- 8) Do you believe that different groups of South Asians have different beliefs? Please describe.
(*E.g. formula ads, association with wealth or status*)
- 9) In your opinion, do South Asian families who live in Canada change the way they feed their babies?
 - a. If yes, how?
 - b. If no, why not?
- 10) What other reasons may cause mothers to give formula to their babies?
- 11) Do you have any ideas and/or suggestions that we at Peel Public Health can do to help South Asian mothers exclusively breastfeed up to 6 months?

Appendix 4D
INTERVIEW GUIDE
CLIENTS' FOCUS GROUPS

Section 1: Preamble

The reason for this focus group is to talk about your cultural beliefs about feeding babies. I will ask you about yourself and your cultural and traditional beliefs about infantfeeding. The information you share is very important to us. It will be put together in a report for Peel Public Health and will help us to plan better services for our clients.

There are a few key points that I need to share before we begin:

- The session will take about 1 hour.
- You do not have to answer any questions that you do not feel comfortable answering.
- You do not have to give a reason if you choose not to answer.
- You can enter to win a \$100 gift certificate from a local mall.

Section 2: Focus Group Questions

- 1) Please provide a brief description of your cultural background. In your culture, are there special beliefs about how to feed babies? Please describe.

(How important is breastfeeding?)
- 2) Are there any special cultural or religious practices that are celebrated that involve giving newborn babies any food or drink other than breast milk?
- 3) Are there any cultural beliefs that affect when mothers start breastfeeding? (e.g. colostrum)
- 4) Are there any cultural beliefs that may influence a mother to feed her baby formula? (e.g. periods of rest)
- 5) What is the role of other family members in making decisions on how to feed newborn babies?
- 6) Do you believe that different groups of South Asians have different beliefs? Please describe.

(Different religious background, language, countries of origin)
- 7) In your opinion, do South Asian families who live in Canada change the way they feed their babies? (Living here for a long time, grew up and went to school here)
 - If yes, how?
 - If no, why not?
- 8) What other reasons may cause mothers to give formula to their babies?
- 9) Research says that feeding babies only breast milk until the baby is 6 months old is best for the baby. What can Peel Public Health do to help South Asian mothers exclusively breastfeed up to 6 months?