



INTERLAKE REGIONAL  
HEALTH AUTHORITY

## Community Health Assessment Phase Three

# Interlake Infant Feeding Survey Report

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## INTERLAKE INFANT FEEDING SURVEY REPORT

### Introduction

“There is encouraging evidence that good nutrition, nurturing and responsive caregiving in the first years of life, linked with good early child development programs, improve outcomes for all children’s learning, behaviour and physical and mental health throughout life.” (8)

Infant feeding choices contribute to healthy early child development and breastfeeding is the optimal feeding method. The benefits are extensive for both mother and baby and include reduced childhood illnesses and hospitalization. (10)

A lack of regional based information about the number of mothers breastfeeding, the duration of breastfeeding and the factors that influenced these rates was identified during Community Health Assessment Phase One (1998). In order to establish a better understanding for program planning, the Infant Feeding Survey was developed and implemented during the summer of 1999. The regional Maternal / Child Planning Team has identified breastfeeding as one of their priorities. This group is developing a breastfeeding strategy to assist mothers in their feeding choices, and to ensure adequate supports are available to help mothers and babies have a satisfactory experience with breastfeeding. The results of the infant feeding survey will serve as a baseline on which to measure, in part, the impact of the breastfeeding strategy.

#### **The breastfeeding benefits for baby:**

“Breastfeeding protects against gastrointestinal and respiratory infections and decreases the risk of otitis media.” (10)

“There is an association between breastfeeding and protection against sudden infant death syndrome.” (10)

“For infants at increased risk because of a positive family history of allergies, exclusive breastfeeding for at least 4 months does appear to have a protective effect.” (10)

“Although the mechanism is unknown...cognitive development in populations of children who are breastfed is slightly higher compared to bottle-fed infants from similar environments.” (10)

This infant feeding report describes the infant feeding practices of a sample of Interlake mothers who gave birth in 1998. The report describes the initiation and duration of breastfeeding, the reasons for the mothers’ choices and other feeding practices. As there has been a shortage of information on breastfeeding duration, further analysis has been done in this area.



## A. The Survey And The Participants

The infant feeding survey was a telephone survey completed by a university student hired for the summer of 1999.

The target population for the survey included 682 mothers who had given birth in 1998, living in the Interlake Region, off reserve, whose postpartum referral forms were available.

Of the 682 women with whom contact was attempted, 54% participated in the survey. The reasons for non-participation in the survey were either refusal of respondent (7%), or unavailability of respondent (40%) often due to invalid telephone numbers (possibly due to change of residence) or respondent not home.

The ages of mothers participating in this survey ranged from 14 to 43 years old, with an average of 29 years of age. This is an older than average group of mothers in the region.

### **The breastfeeding benefits for moms:**

Breastfeeding enhances the mother-infant relationship. (13)

A significant difference in mothers' weight loss was seen between 3 and 6 months postpartum in breast feeding mothers as compared to those not breastfeeding (3)

Breastfeeding reduces the risk of ovarian cancer (12). Women who had breastfed were at reduced risk for premenopausal breast cancer. (9)

Postpartum diabetic women who breastfeed reduced their insulin requirements by 27%. (2).

Prior to menopause, bone mass is enhanced by lactation. (11)

Breastfeeding saves money.

Breastfeeding is convenient – ready any time and any place.

The low and high birth weight rates of the babies of the survey participants are lower than those reported in the total population. This may be related to the age group variation of mothers participating in the survey and the exclusion of “on-reserve” babies.

Prenatal classes were attended by 78% of the mothers who participated in the survey. There were significant differences in attendance by age group of mother. There is a trend where younger mothers are less likely than older mothers to attend classes.

At the time of the survey, the babies ranged in age from 7 to 19 months with an average of 12 ½ months.

## B. Feeding Practices

### 1. Initiation of Breastfeeding

Overall, 86% of the mothers initiated breastfeeding their babies.

Information regarding supplementation in hospital was available on 62% of the forms. According to these forms approximately 12% of mothers supplemented in hospital.



Respondents were asked about previous breastfeeding experience; 85% of mothers of two or more children indicated that they had previous breastfeeding experience. Of these respondents, 90% indicated they initially breastfed this baby, 9% indicated formula and 0.5% <sup>(1)</sup> indicated a mix of breastfeeding and formula.

Initiation of breastfeeding was statistically associated with both age group of mother and whether the mother attended prenatal classes. The following tables show the relationship where, older mothers (Table 1), and mothers that have attended prenatal classes (Table 2), are more likely to breastfeed.

**Table 1.** Association between age group of mother and initial feeding type.

Age Group	Breastfeed	Formula Feed
<20	10 (50%)	10
20-24	52 (79%)	14
25-29	90 (84%)	17
30-34	86 (82%)	19
35+	54 (93%)	4

**Table 2.** Association between prenatal class attendance and initial feeding type.

	Breastfeed	Formula Feed
Prenatal Classes	198 (86%)	31
No Prenatal Classes	41 (65%)	22

## 2. Duration of Breastfeeding

There were 316 mothers that initiated breastfeeding and 58 of these women were currently breastfeeding at the time of the interview.

In the analyses presented in this section, statistical methods were applied which could use the information from women *currently* breastfeeding when calculating the duration rates.

The factors that were analyzed in relation to duration of breastfeeding include parity (the number of pregnancies /mother), mother's age, in-hospital supplementation, previous breastfeeding experience, number of problems reported by the mother, satisfaction with breastfeeding, and planned length of breastfeeding.



## **Duration of breastfeeding - How many infants are breastfed at given time points?**

The percent of the total infant sample, as well as the percent of breastfed infants, who were still breastfeeding at different time points is presented in Figures 1 and 2.

## **Factors associated with the duration of breastfeeding**

The following figures show the proportion of infants breastfeeding over time according to the following factors:

- level of satisfaction with breastfeeding,
- number of reported problems with breastfeeding,
- parity,
- previous breastfeeding experience,
- in-hospital supplementation of the breastfed baby,
- maternal age, and
- planned length of breastfeeding.

For public health policy and practice, it is important to note that each of these factors was associated with the duration of breastfeeding. Clients at “high risk of weaning” could be described as those who:

- were unsatisfied (neutral, unsatisfied, or very unsatisfied) with breastfeeding
- have two or more self-reported breastfeeding problems
- are primiparous, or have had no previous breastfeeding experience
- had an infant who was supplemented in hospital
- is less than 25 years old
- planned to breastfeed 6 months or less



Figure 1: Overall proportions of breastfed infants in the survey, by time periods

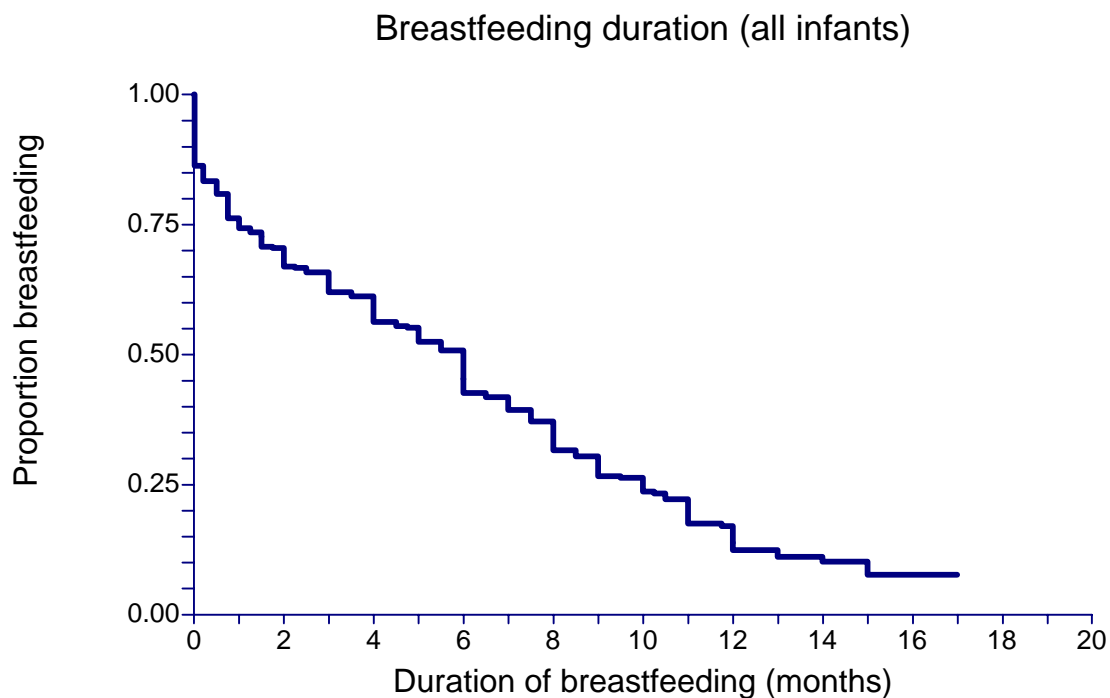


Figure 2: Proportion of breastfed babies still breastfeeding at various time points

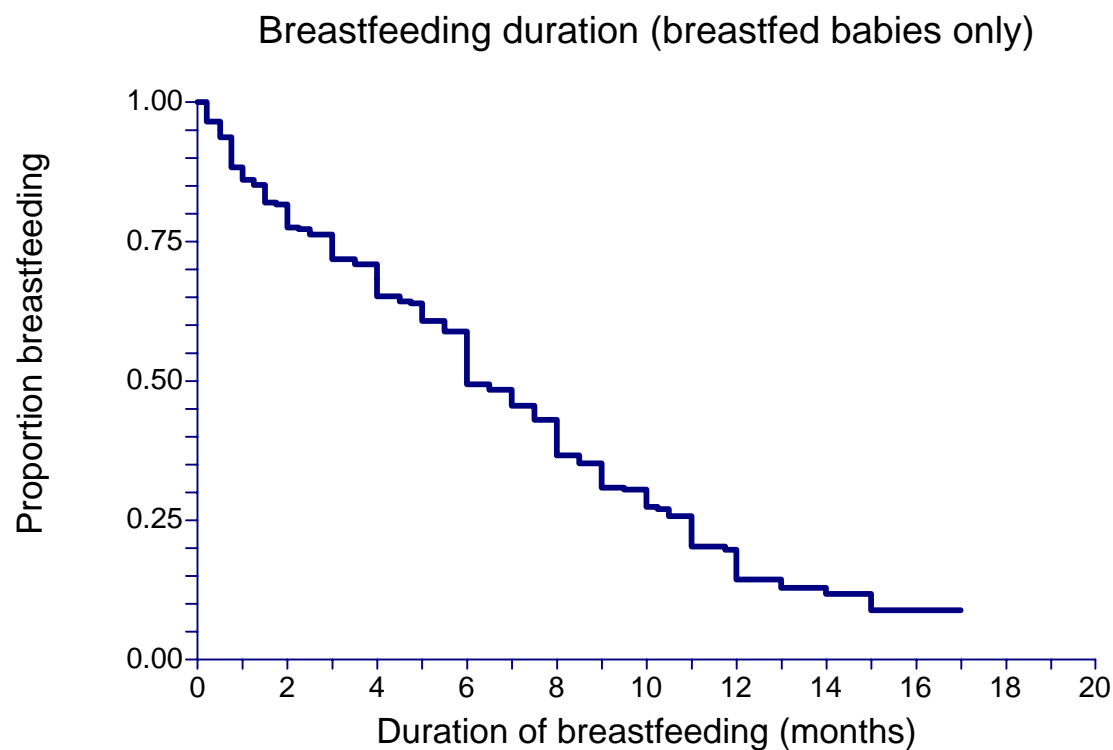




Figure 3: Breastfeeding duration by level of satisfaction (“satisfied” being very satisfied and satisfied; “unsatisfied” being neutral, unsatisfied and very unsatisfied)

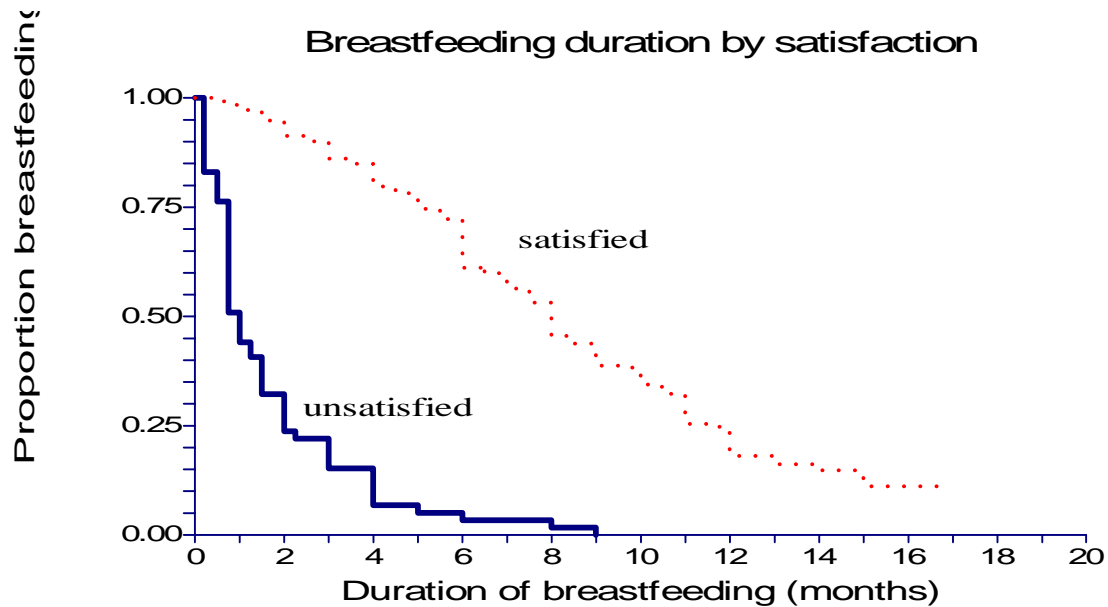


Figure 4: Breastfeeding duration by the number of reported breastfeeding problems (0 or 1 problem versus 2 or more problems)

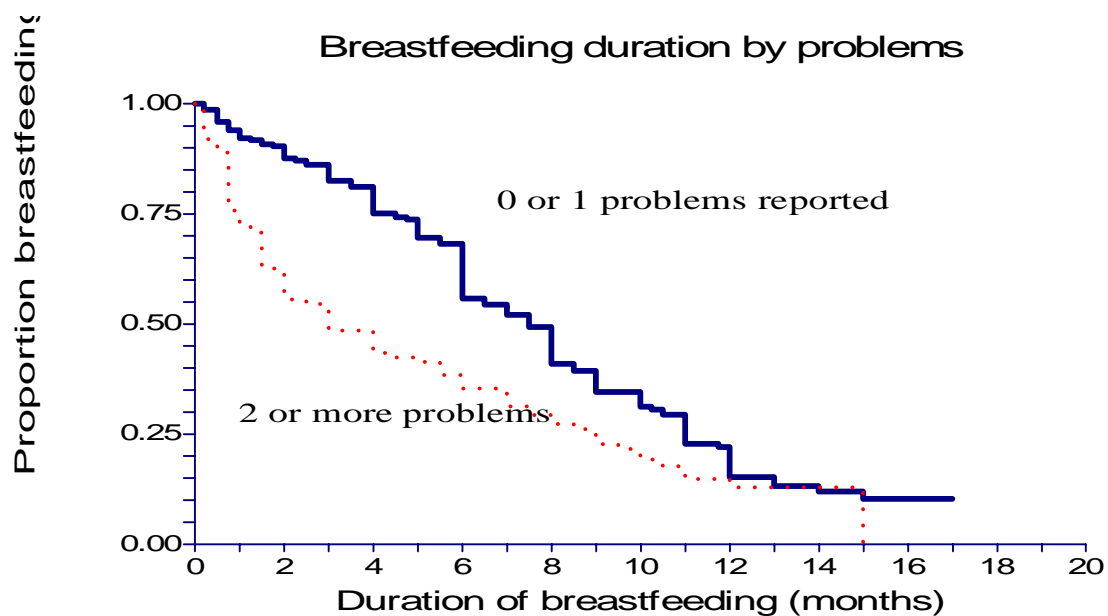




Figure 5: Breastfeeding duration by parity

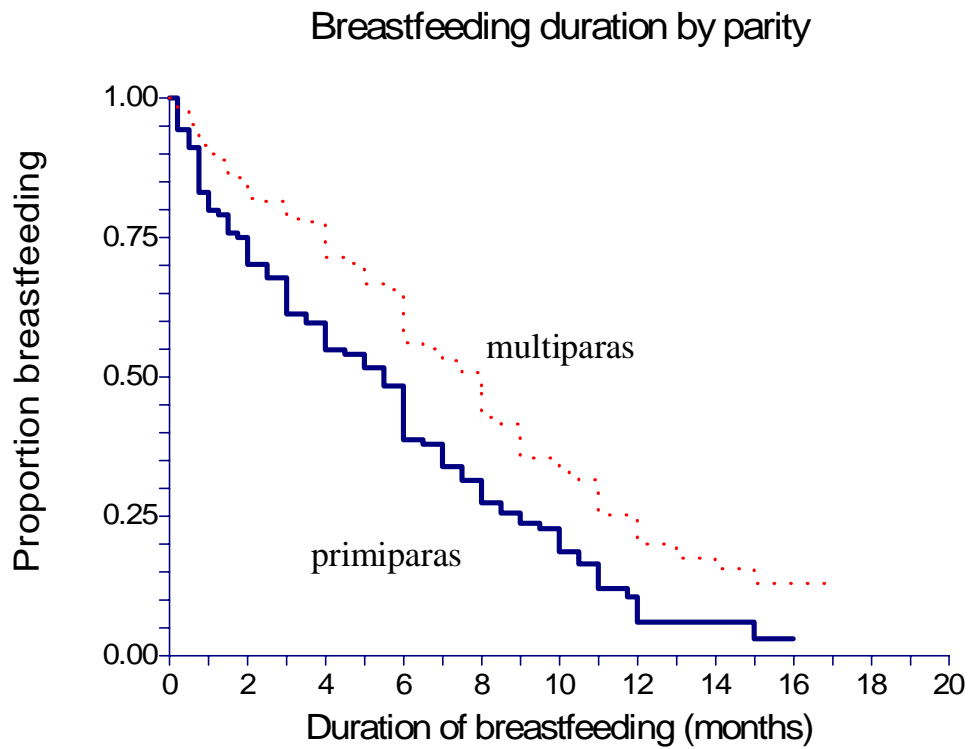


Figure 6: Breastfeeding duration by previous breastfeeding experience

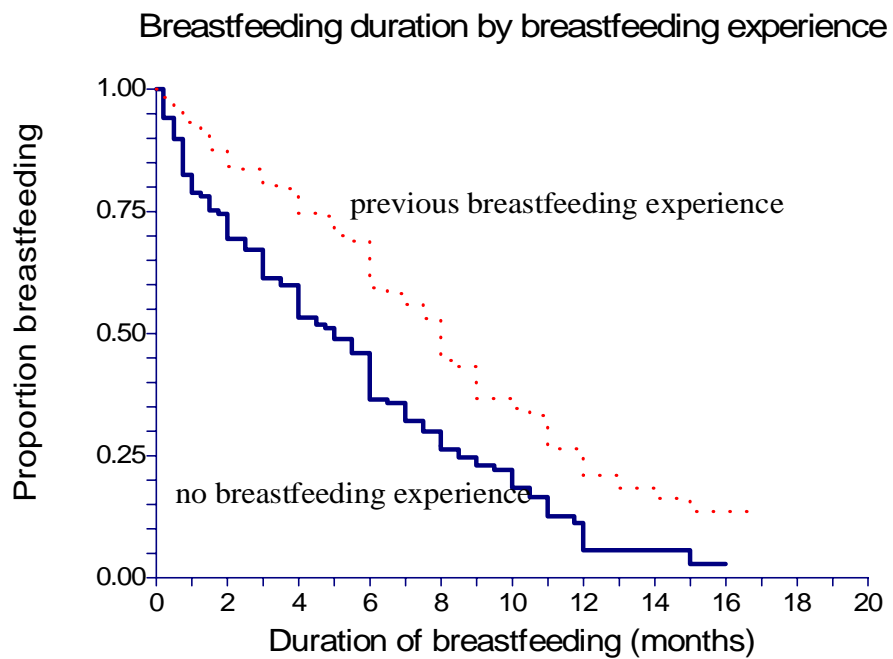




Figure 7: Breastfeeding duration by maternal age (25 years of age or older versus less than 25 years old)

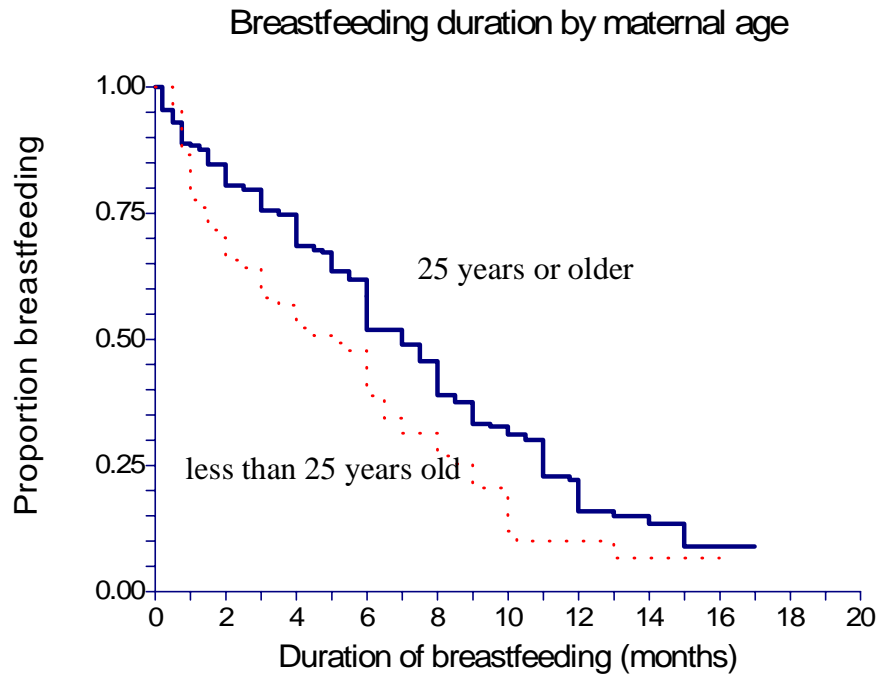


Figure 8: Breastfeeding duration by the status of in-hospital supplementation of the breastfed baby

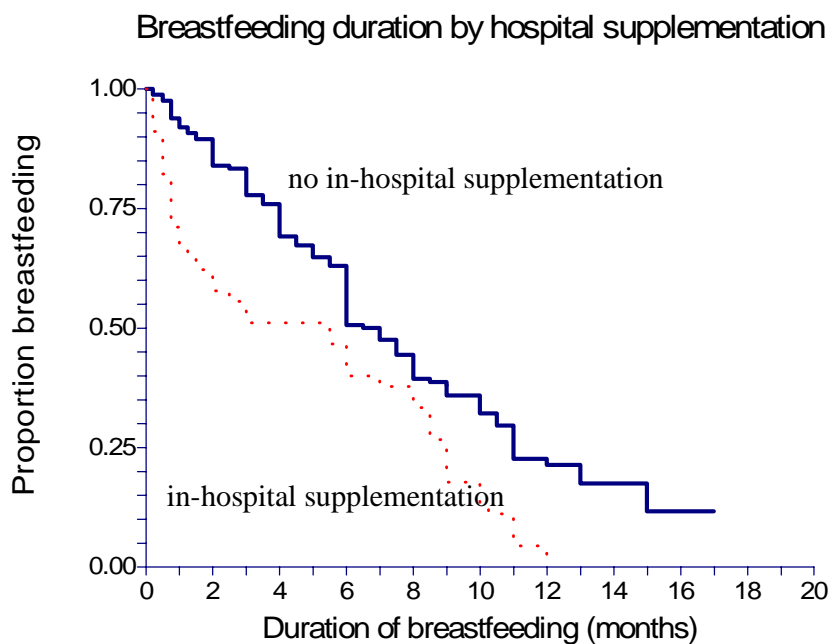
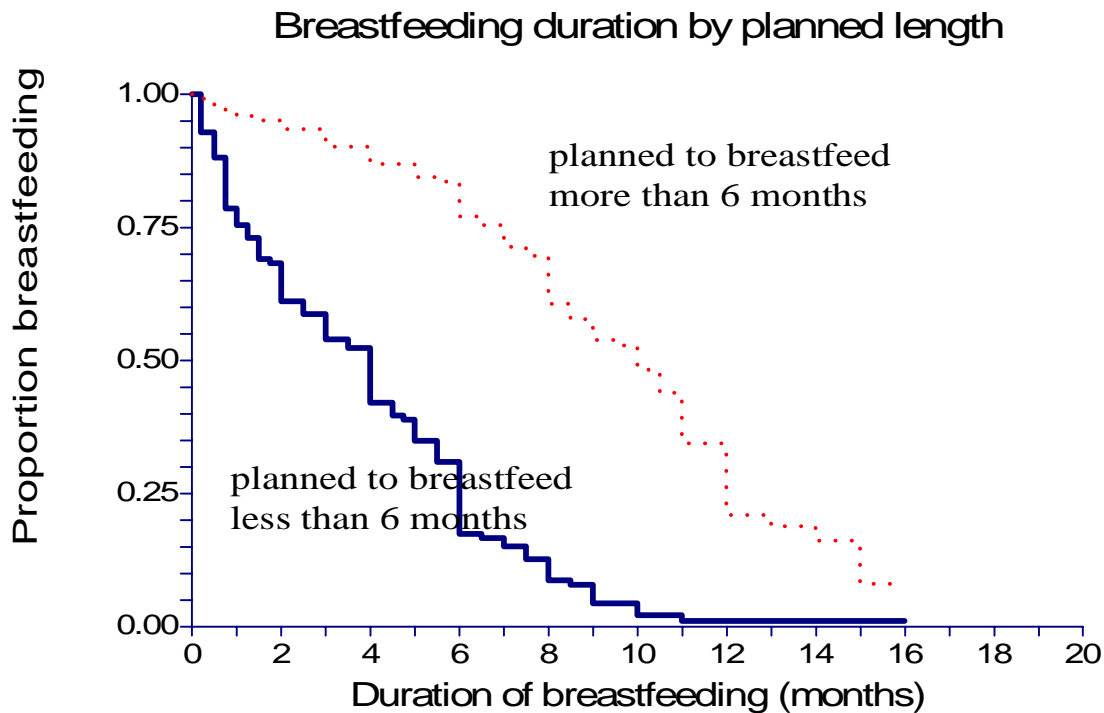




Figure 9: Breastfeeding duration by maternal report of planned length of breastfeeding



### 3. Mothers' Reasons For Feeding Choices

The respondents' top reasons for deciding to breast feed included: "best for baby", cheaper, convenience, good for mother, easier, and bonding.

The main reasons that some of the respondents chose to formula feed included "breastfeeding didn't go well or was too difficult" and that they were uncomfortable with breastfeeding.

The most frequently cited reasons for weaning baby were "not enough milk", "baby ready to wean", and "returning to work".

### Satisfaction with Breast Feeding

Satisfaction with breastfeeding varied based on parity or mother's experience. Overall, 80% of first time mothers indicated they were either "satisfied" or "very satisfied" with breastfeeding. This is lower than rates of mothers of a second baby (86%) and mothers of three or more children (83%). Approximately 55% of first time mothers indicated that they were "very satisfied" with breastfeeding.



When asked for comments about satisfaction with breastfeeding, 78 comments were positive, 47 were negative and 42 were a mix of positive and negative. With respect to the positive comments, frequently used words were “went well”, “enjoyed”, “recommend”, “bonding”, “easy” and “relaxing/rewarding”. In terms of negative comments respondents indicated: “difficult”, “embarrassing or uncomfortable”, “not enough milk”, “pain”, “didn’t work”, “latching problems”, and “trapped”.

Largely mothers expressed problems with breastfeeding that occurred in the first month. The most frequently cited problems included: concern about milk supply, problems latching, and sore nipples.

Respondents were asked to rate the supportiveness of their community for breastfeeding women. Only about one-third of the women found their community very supportive of breastfeeding, one-third “pretty supportive”, and one-third neutral or non-supportive. However, it was frequently mentioned that it was difficult to breastfeed in public (14 respondents). On a positive note, the most common comment was about the helpfulness of public health nurses (30 respondents). Comments about physicians and hospitals were mixed with some respondents indicating that they found them to be supportive while others felt that hospitals could increase support.

#### **4. Introduction of Other Feeding Choices**

##### **Introduction of Formula or Other Liquids**

According a national group of dieticians and pediatricians, if an infant is not exclusively or is partially breastfed, then commercial formulas are the most acceptable alternative to breast milk. The nutrient content of iron-fortified infant formulas is designed to meet the nutritional needs of healthy term infants until 9 to 12 months of age.<sup>(10)</sup>

Overall, 62% of respondents who breastfed indicated that they did give their baby formula or another liquid while breastfeeding. When asked what kind of other fluids the baby was given, 133 respondents indicated formula, and 52 other responses indicated a range of water, milk and juice.

151 respondents indicated the age at which they regularly gave the baby formula or other liquid. The average age was 4.8 months of age with a range of less than one month to twelve months.

Respondents were asked their reasons for providing formula or other liquids. The most common response was “not enough milk” followed by “baby ready to wean” and “return to work/school”.

Respondents were asked to consider the first six months and indicate how many ounces of formula or other liquid was given per day and at what age. (Table 3)



**Table 3 .** Quantity of formula / liquid by age of infant.

Age of infant	Number of infants	Range (ounces)	Average (ounces)
Less than 1 month	8	0.75 - 32	6.1
1-3 months	30	1 - 39	11.8
3.5-5.5 months	32	3.5 - 28	10.
6 months	20	1.5 - 44	11.75

### Introduction of Solids

It is generally recommended that solids be introduced within the age range of 4 to 6 months as infants are physiologically and developmentally ready for new foods, textures and modes of feeding at this age. Most evidence suggests that introduction before 2 to 3 months has more risks than benefits.<sup>(10)</sup> Early exposure to a diet diverse in potential food antigens may act to predispose susceptible children to recurrent or chronic childhood eczema.<sup>(4)</sup>

The average age for the respondents to introduce solids was 4.7 months with a range of less than one month to 12 months. (Table 4)

**Table 4.** Age at introduction of solids.

Age of infant	Number of infants
< 1 month	1
1-3.5 months	76
4-6 months	257
7-9 months	21
10-12 months	5

Reasons cited for introducing solids are listed in Table 5. Although “other” is listed as the most common reason, a review of the specific comments indicate that with few exceptions almost all of these comments fit into the category of “recommended age to do so” or “baby seemed ready”.

**Table 5.** Reasons for introducing solids.

Reason	Number of Respondents
Doctor’s Advice	42
Recommended age to do so	11
Family member’s advice	3
Other	322

### Introduction of Juice

While fruit juices provide a source of vitamin C and variety in infants’ diet, the volume of juice should be limited to avoid interfering with the intake of breast milk or infant formula.<sup>(10)</sup> For the exclusively breastfed baby, no juice or water is necessary until the introduction of solid foods, about the middle of the first year of life or beyond.

The average age for the respondents to introduce juice was 7.0 months with a range of 1 month to 18 months.



## Vitamin Supplementation

It is recommended that a vitamin D supplement be provided to all breastfed infants starting at birth and until the diet provides a source of vitamin D because this deficiency is a health concern in Canada. <sup>(10)</sup> This remains controversial. INFACT Canada (Infant Feeding Action Coalition) reports that only a very small number of infants who are breastfed are at risk for Vitamin D deficiency and suggest that supplementation is *not* recommended.

54% of the respondents indicated that they had given their baby vitamins. Types of vitamins given included Vitamin D preparations and various multivitamin preparations.

## Help Regarding Infant Feeding

Respondents indicated that they had received information or help regarding infant feeding from a variety of sources. (Table 6)

**Table 6 .** Sources of information on infant feeding.

Source	Number of Respondents
Public health nurse	283
Other mothers	261
Family	254
Doctor	252
Friends	237
Hospital nurse	222
Lactation consultant	62
Breast feeding hotline	39
La Leche League leader	34
Other	49

## C. Discussion

The survey results reflect the infant feeding practices of mothers (largely those over 20, and only including those not living in a First Nations community), that live in the Interlake Region of Manitoba. Many variables may have affected the participation of younger mothers in the target sample, including changing life circumstances common to this age group.

The breastfeeding initiation rate for Interlake women was 86%. The Interlake mothers' initiation rate reflects a rate that is higher than the rate reported in national studies. National studies have had some inconsistencies in their results. The National Population Health Survey (1994/5) found an 86% initiation rate for the Prairie region, with an overall Canadian initiation rate of 73%. <sup>(1)</sup> Although the Interlake mothers'



initiation rate was good compared to national studies, they have room to improve, as breastfeeding has many health benefits and very few contraindications.

Information about initiation rates of First Nations women in Interlake was not sought, primarily because the sample was taken from postpartum referral forms that were available from the Interlake Regional Health Authority community health offices. Postpartum care of First Nations' women is under the jurisdiction of the First Nations communities. Breastfeeding in Canada: A Review and Update (1999) indicates that a 1990 Canadian study showed that 61% of First Nations women initiated breastfeeding. <sup>(1)</sup> A more recent study in one hospital of Interlake RHA (Arborg and Districts Health Centre) found a 69.7% breastfeeding initiation rate in 1997. This study included women living both on-reserve as well as off-reserve <sup>(6)</sup>.

Research has shown that women make their decision to breastfeed before conception or during the first three months of pregnancy<sup>(1)</sup>. However, younger women may differ. In one study of First Nations women in southern Manitoba <sup>(7)</sup>, only 22% had decided prior to pregnancy, and 36% of the women still had not decided in their third trimester of pregnancy. The window of opportunity for teaching may be wider than is sometimes believed, especially for adolescent mothers. This indicates opportunities for the health care providers to give breastfeeding education throughout the pregnancy, and possibly even when a woman is in the maternity hospital for delivery. Generally, efforts to improve initiation rates need to reach young women early.

The respondents who attended prenatal classes were more likely to breastfeed than those that didn't attend classes. Other studies have shown that older mothers with higher education and higher incomes are more likely to breastfeed. This may be the same group that more frequently attends prenatal classes. Considering the health and economic benefits of breastfeeding, there is a need to explore ways to reach lower income mothers with breastfeeding information and supports.

The reasons women gave for choosing breastfeeding were largely because it was 'best for baby'. An awareness / marketing campaign can capitalize on this understanding. The facts that breastfeeding is cheaper and convenient were also influential in their decision.

Almost 50% of the respondents that initiated breastfeeding, breastfed for 6 months. This is a higher duration rate than that reported by a National Population Health Study that indicated 31% of women were still breastfeeding at 6 months. The World Health Organization recommends women breastfeed exclusively to the age of about 6 months, then continue breastfeeding and complementary foods for up to 2 years of age or beyond, as the optimal method for feeding infants and young children. <sup>(1)</sup>

Breastfeeding takes about two months to become fully established. <sup>(1)</sup> Over 22% of mothers weaned baby from breast before this time. This supports the need for more early nursing intervention.



An analysis of the factors affecting the duration of mother's breastfeeding has practice and policy implications for health care. Early intervention strategies need to be in place when women are younger than 25 years old; when women do not have experience with breastfeeding, when women plan to wean early, when there is in-hospital supplementation, and when there are low levels of satisfaction with breastfeeding or when the mother is reporting two or more problems with breastfeeding.

The most frequent reasons expressed by the mothers in relation to weaning from breastfeeding were - 'not enough milk', 'baby ready to wean' and 'returning to work'. Increasing the mothers' understanding of the "supply and demand" mechanism of breast milk production, as well as norms for breastfed babies, may assist some women in breastfeeding for longer periods of time. Giving information to women as to how to continue breastfeeding when they return to the workplace may help increase duration rates. Longer maternity leaves may also assist mothers to extend breastfeeding. It will be interesting to see the effect of the federal policies of one-year maternity leaves on breastfeeding duration rates.

Formula or other liquids were frequently introduced at an early age during breastfeeding. The common perception that they 'did not have enough milk' was the most frequently cited reason for introducing formula or other liquids. This also suggests that increasing mothers' understanding of breast milk "supply and demand" mechanism, and teaching women about the norms of breastfeeding (including information on growth spurts and on the frequency of feedings) may increase duration. It also behooves the maternity hospitals to examine their policies on supplementing breastfed babies, since this was a factor in duration rates. A 1997 study of one maternity hospital in the Interlake <sup>(6)</sup> indicated that over half of breastfed babies were supplemented while in hospital.

A review of the quantity of formula given per day during the first three months of breastfeeding may reflect another reason that 'not enough milk' may have been a factor in eventual weaning. Table 3 indicates a 'full feeding' or the equivalent of 'two full feedings' of formula (6-12 ounces) was given per day. As this would reduce the demand on the breast milk it would also decrease the mother's supply and may also cause some babies to suck incorrectly at the breast.

The respondents report public health nurses, other mothers, family, doctors, friends, and hospital nurses to be their sources of information on infant feeding. Efforts to enhance breastfeeding experiences for young families need to consider awareness and education for all these resource people in order to provide consistent information and support for breastfeeding. The community also needs to be supportive and protective of the breastfeeding mother and baby, making breastfeeding the cultural norm.



## Conclusion

The survey results provide the Interlake Region with baseline information from which to measure progress in the promotion of healthy infant feeding choices. The results will also help guide health care practice and policy development. Further monitoring of the breastfeeding rates and associated factors, as planned by the Maternal / Child Planning Team, will continue to give our region a better understanding of our young families' needs and practices in relation to their infants' nutrition.

## Addendum

Further to this survey's completion the Maternal/Child Planning Team of the Interlake Regional Health Authority has provided health staff with inservicing on basic breastfeeding knowledge. Policies which support breastfeeding are presently being developed for our health care system. The aim of this breastfeeding initiative is to give every baby the best start in life by ensuring a health care environment where breastfeeding is the norm.



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